BIOGAS RENEWABLE GENERATION PROJECT
ADMINISTRATIVE DRAFT INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

Lead Agency:
City of Glendale Community Development Department
Planning Division
633 E. Broadway, Room 103
Glendale, California 91206

Proponent
City of Glendale
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Glendale, California 91206

Consultant:
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July 31, 2017

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Abbreviations

AAQS	Ambient Air Quality Standards
ACM	Asbestos-Containing Materials
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AER	Annual Emission Report
afy	acre feet per year
AIP	Achieved in Practice
AMSL	Above Mean Sea Level
A-P Zone	Alquist- Priolo Earthquake Special Studies Zone
AQMP	Air Quality Management Plan
ARM2	Ambient Ratio Method Version 2
ASSFC	Amalgamated System Sewage Facilities Charge
BACT	Best Available Control Technology
BAGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BMP	Best Management Practices
BP	Before Present
BSA	Biological Survey Area
BTU	British Thermal Unit
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CadnaA	Computer Aided Noise Abatement
Cal OWA	California Oak Woodlands Act
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
CalOSHA	California Occupational Safety and Health Association
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAS	Chemical Abstracts Service
CATEF	California Air Toxics Emission Factors
CCR	California Code of Regulations
CD	Control Delay
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDWR	California Department of Water Resources

CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH4	Methane
CHP	California Highway Patrol
City	City of Glendale
CIWMB	California Integrated Waste Management Board
CMP	Congestion Management Program
CNDDB	California Department of Fish and Wildlife's California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Equivalent Amount of Carbon Dioxide
CPT	Cone Penetration Test
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSUF	California State University Fullerton
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWC	California Water Code
dB	decibel
dBA	A–weighted decibel
DOC	Department of Conservation
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EA	Enforcement Agency
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ERC	Emission Reduction Credits
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
ft	feet or foot
FHWA	Federal Highway Administration

FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
FSZ	Farmland Security Zone
g/bhp-hr	grams per brake horsepower-hour
GCP	General Construction Permit
GFD	Glendale Fire Department
GGP	Glendale General Plan
GHG	Greenhouse Gases
GLA	Geo-Logic Associates
GMC	Glendale's Municipal Code
gpd	gallons per day
GPD	Glendale Police Department
GUSD	Glendale Unified School District
GWP	Glendale Water and Power
GWP	Global Warming Potentials
GWTP	Glendale Water Treatment Plant
H_2S	Hydrogen Sulfide
HAP	Hazardous Air Pollutant
HARP2	Hotspots Analysis Reporting Program Version 2
HC	Hazard Controls
HCM	Highway Capacity Manual
HCS	Hazard Communication Standard
HFC	Hydrofluorocarbons
HI	Hazard Index
HNO_2	Nitrous Acid
HNO_3	Nitric Acid
HRA	Health Risk Assessment
Hz	Hertz
ICE	Internal Combustion Engine
IS	Initial Study
JPA	Joint Powers Agreement
kV	kilovolts
kW	kilowatt
L	sound level
LACSD	Los Angeles County Sanitation District
LADPH	Los Angeles Department of Public Health
LADPW	Los Angeles Department of Public Works
LAUSD	Los Angeles Unified School
lb/mmcf	pounds per million cubic feet
lbs	pounds

LCA	Land Conservation Act
Ldn	Day-Night Sound Level
LEA	Local Enforcement Agency
LEL	Lower Explosive Limit
Leq	Equivalent Sound Level
LFG	Landfill Gas
LOS	Level of Service
LORS	Laws, Ordinances, Regulations and Standards
LST	Localized Significance Threshold
m	meter
MBTA	Migratory Bird Treaty Act
MCE	Maximum Credible Earthquake
MICR	Maximum Individual Cancer Risk
MND	Mitigated Negative Declaration
MPE	Maximum Possible Earthquake
MRP	Monitoring and Reporting Program
MRZ	Mineral Resource Zone
MSDS	Material Safety Data Sheets
MSWLF	Municipal Solid Waste Landfill
MT	Metric Tons
MW	Megawatt
MWD	Metropolitan Water District
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAD 83	North American Datum of 1983
NAHC	Native American Heritage Commission
NESHAP	National Emission Standards for Hazardous Air Pollutants
NMOC	Non-Methane Organic Compounds
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOV	Notices of Violation
NPDES	National Pollution Discharge Elimination System
NSR	New Source Review
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration
Pb	Lead

PCE	Passenger Car Equivalent
PFC	Perfluorocarbons
PM	Particulate Matter
ppb	parts per billion
ppm	parts per million
ppmv	parts per million by volume
Proposed Project	Biogas Renewable Generation Project
PRC	Public Resource Code
PSD	Prevention of Significant Deterioration
PTC	Permit to Construct
PTO	Permit to Operate
R1R	Restricted Residential
RCRA	Resources Conservation and Recovery Act
RECLAIM	Regional Clean Air Market
REL	Reference Exposure Level
RICE	Reciprocating Internal Combustion Engines
ROW	Right-Of-Way
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
Sanitation Districts	Sanitation District of Los Angeles County
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCEC	Southern California Edison Company
scfm	standard cubic feet per minute
SCLF	Scholl Canyon Landfill
SCR	Selective Catalytic Reduction
SEA	Significant Ecological Area
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SO_2	Sulfur Dioxide
SO_4^{-2}	Sulfates
SO_x	Sulfur Oxides
SPCC	Spill Prevention, Control and Countermeasure
SR	Special Recreation
SRA	Source Receptor Area
SSC	Species of Special Concern
SWFP	Solid Waste Facility Permit

SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
T-BACT	Best Available Control Technology for Toxics
TCMs	Transportation Control Measures
TCR	Tribal Cultural Resources
TPAs	Transportation Planning Agencies
TPZ	Tree Protection Zone
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
UWMP	Urban Water Management Plan
V/C	volume to capacity ratio
VOCs	Volatile Organic Compounds
vphpl	vehicles per hour per lane
WRP	Water Reclamation Plants
WUI	Wildland-Urban Interface
µg/m^3	micrograms per meter cubed

1.0 INTRODUCTION

1.1 OVERVIEW

This document is a Draft Initial Study/Mitigated Negative Declaration (IS/MND) prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Sections 21000 et seq., and the State CEQA Guidelines, Sections 15000 et seq for the Biogas Renewable Generation Project (Proposed Project).

Under California law, each public agency must adopt local implementation guidelines to establish objectives, criteria, and specific procedures for administering its responsibilities under CEQA and CEQA Guidelines. This IS/MND has been prepared pursuant to the City of Glendale's adopted Procedures for Preparation and Processing of Environmental Documents (Glendale CEQA Guideline, 2016). The City of Glendale is the CEQA lead agency for all projects implemented within the City limits.

An Initial Study is prepared by a lead agency to determine if a project may have a significant effect on the environment. The determination may be based on City regulations, practices, standards or thresholds, and policies in place. If the IS shows that there is no substantial evidence that the project may have a significant environmental effect, a Negative Declaration shall be prepared. If the project would cause significant environmental effects, but mitigation measures are available to reduce impacts to a less than significant level, a Mitigated Negative Declaration (MND) shall be prepared. If the IS shows that the project would cause significant environmental effects that cannot be reduced to a less than significant level with mitigation, an Environmental Impact Report (EIR) shall be prepared. The Director of Planning reports to the lead agency's decision-making bodies for determining the significance level of environmental impacts and what environmental document is required for a project under CEQA.

The purpose of the Project is to beneficially utilize the methane-rich renewable landfill gas (LFG) as fuel to generate electricity on-site at the source of the LFG instead of transferring it off-site to the Grayson Power Plant.

The Biogas Renewable Generation Project has the following objectives:

- Provide beneficial use of naturally occurring LFG as fuel for power generating equipment;
- Utilize this renewable energy resource to help the City meet its California mandated Renewable Energy Portfolio;
- Use the existing transmission system to deliver generated electricity into the electrical grid without a need for transmission facility upgrades;

- Build an on-site power plant utilizing LFG as fuel; and
- Abandon the existing pipeline between the landfill and Grayson Power Plant, which would in turn allow the South Coast Air Quality Management District (SCAQMD) to make priority reserve offsets available and offsets would not have to be purchased on the open market.

1.1 PROJECT TITLE

Biogas Renewable Generation Project

1.2 PROPONENT

The City of Glendale (City) is the Proposed Project proponent.

1.3 LEAD AGENCY

The City of Glendale is the Lead Agency. The Project is located entirely within the City but is primarily accessed from Figueroa Street in the City of Los Angeles. The City has the authority for design review, issuance of a Conditional Use Permit and is funding the Proposed Project. For this reason, the City is the public agency in the position to act as lead agency for the Proposed Project (CEQA Guidelines §15051(b)). Pursuant with the City of Glendale's adopted Procedures for Preparation and Processing Environmental Documents (Glendale CEQA Guideline, 2016), CEQA processing is the responsibility of the City Planning Division for all projects where the lead agency is the City of Glendale or Glendale Housing Authority.

1.4 INTENDED USES OF THE INITIAL STUDY/MITIGATED NEGATIVE DECLARATION AND PERMIT REQUIREMENTS

This IS/MND is an informational document intended to inform the lead agency, other responsible or interested agencies, and the general-public of potential environmental effects of the Proposed Project. The environmental review process has been established to enable public agencies to evaluate potential environmental consequences and to examine and implement methods of eliminating or reducing any potentially significant adverse impacts. This document is intended to be used for the following activities and permits, as described in Table 1.5-1, below:

Table 1.5-1 Agency Permits and Environmental Review Requirements

Agency	Permits and Other Approvals	Environmental Review/Consultation Requirements
FEDERAL		
United States Environmental Protection Agency (USEPA)	• Spill Prevention Control and Countermeasure Plan (40 Code of Federal Regulations [CFR] 112)	• None
U.S. Department of Transportation (USDOT)	• Compliance with U.S. DOT regulations regarding transportation of hazardous substances on public highways (49 CFR)	• None
STATE		
California Air Resources Board (CARB)	• None	• Reviews Draft Initial Study / Mitigated Negative Declaration
California Occupational Safety and Health Association (CalOSHA)	• Injury and Illness Prevention Program (8 CCR 3203)	• None
California Natural Resource Agency	• Assembly Bill 52 (Chapter 532, Statutes 2014)	• None
LOCAL		
City of Glendale	• Notice of Completion • Design Review Board Approval • Conditional Use Permit • Grading Permit • Fire Department Permit • Industrial Waste Permit • Electrical Permit • Building Permit • Mechanical Permit • Plumbing Permit • Hazardous Materials Business Plan • Provide notification of project to County of Los Angeles and County Sanitation District pursuant to the Scholl Canyon Joint Powers Agreement (JPA)	• CEQA lead agency responsible for processing and adopting the IS/MND.
South Coast Air Quality Management District (SCAQMD)	• SCAQMD Regulation XXX: Title V Permits (Permit to Construct (PTC) and Permit to Operate (PTO)	• Responsible Agency
Los Angeles County Department of Public Health	• None	• Responsible Agency
Los Angeles Regional Water Quality Control Board (RWQCB)	• California's General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities	• Stormwater Pollution Prevention Plan approval.

Agency	Permits and Other Approvals	Environmental Review/Consultation Requirements
Los Angeles County Department of Public Works	• None	• Reviews Draft Initial Study/ Mitigated Negative Declaration

Responsible agencies that may have discretionary approval authority over the Proposed Project, and trustee agencies having jurisdiction over natural resources affected by the Proposed Project which are held in trust for the people of the State of California, would have the opportunity to review and provide comments during the review period. Other agencies and the public may also provide comments.

2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The Proposed Project would be located at Scholl Canyon Landfill (SCLF), an existing Class III nonhazardous landfill facility that accepts municipal solid waste and is not a generator of, or repository for, hazardous wastes. The landfill site occupies approximately 535 acres with portions owned by the City of Glendale, Los Angeles County and by Southern California Edison Company (SCEC; AECOM, 2014). The proposed approximately 2.2-acre power plant would be located on a portion of an approximately 95-acre site owned by Los Angeles County within the City of Glendale's land use and zoning jurisdiction. At the current fill rate, the closing date of the landfill is estimated to be in the mid 2020's. A proposed but not yet approved expansion of the landfill may increase the life of the landfill up to an additional 22 to 32 years (AECOM, 2014). The landfill's permitted capacity is based on volume; therefore, the closing date of the landfill, including the request for increased life, could be sooner or later depending on disposal rates as well as regulatory approval for expansion. However, the Proposed Project has independent utility, and is not dependent on expansion of the existing landfill. LFG is and would be generated by the existing landfill operation and closed portion of the existing landfill for many years, whether or not an expansion of the landfill is approved and implemented. The Proposed Project would beneficially use the LFG and would provide environmental and economic benefits regardless of the ultimate capacity of the landfill.

The SCAQMD requires the installation of a LFG collection system to minimize the emissions of LFG from the surface of the landfill. Currently there are two options available for disposing the collected LFG. At most landfills, the LFG is simply combusted in flares and not utilized for beneficial use. The second option is to remove moisture and impurities from the LFG and utilize the LFG in power generation equipment as fuel.

2.1.1 Existing Facility

The current LFG collection system at SCLF conveys the collected LFG to a central location within the landfill property where the LFG is compressed, liquids are removed and the raw LFG is piped to Glendale Water and Power's (GWP) Grayson Power Plant via an underground dedicated pipeline. At the Grayson Power Plant, the LFG is mixed with natural gas and is combusted in boilers to make steam for electricity generation. With the proposed Grayson Repowering Project LFG would no longer be needed. Thus, the most viable beneficial use of the LFG generated and collected at SCLF is to use it as fuel for generation of electricity at the site.

Sanitation District of Los Angeles County has portable and temporary offices, and landfill condensate and groundwater collection systems located adjacent to where the Proposed Project would be located. These facilities would not be disturbed.

Photographs of the existing facility are provided in the following pages.

Photo1: View west of existing facility from east of the Project site within active landfill property.

Photo 2: View west of existing facility with landfill pipeline in foreground. Trailers in center are temporary and not part of Project.

Photo 3: Existing LFG processing facility to be demolished.

Photo4: Existing flare system to remain.

2.2 PROJECT LOCATION

The Project site is located completely within the boundaries of the existing SCLF, in Los Angeles County, at 3001 Scholl Canyon Road, Glendale, California, 91206. Regional access to the landfill is from the Ventura Freeway (State Route 134) at the Figueroa Street exit. Figure 2.2-1 shows the location of the landfill and Proposed Project.

2.3 PROJECT ELEMENTS

The Proposed Project would involve new construction activity on approximately 2.2 acres of land. This would include the proposed power plant facility, natural gas pipeline, water pipeline and two water tanks. A breakdown of temporary and permanent disturbances can be found in Table 2.3-1 below.

Table 2.3-1 Proposed Project Temporary and Permanent Site Modification

Proposed Project Components	Temporary Disturbance (acres)	Permanent Disturbance (acres)
Power Plant Facility	0.00	1.73
Natural Gas Pipeline (above and below ground)	0.75	0.01
Water Pipeline (above and below ground)	1.40	0.10
Water Tank Graded Area	0.00	0.35
Water Tank Pipelines (underground)	0.01	0.00
Total Disturbance:	**2.16**	**2.19**
Cleared/Developed Areas		
Previously Cleared/Developed	1.13	1.45
Not Previously Cleared/Developed	1.03	0.74

The Proposed Project includes the following components, which can be found in Figure 2.3-1:

2.3.1 Power Generation Facility

The Proposed Project includes construction and operation of an approximately 12 megawatt (MW) power generation facility that would utilize landfill gas as fuel to generate renewable energy.

The majority of the existing equipment owned and operated by GWP required to treat the LFG prior to sending it to the Grayson Power Plant would be demolished; only the existing blowers and LFG flaring station would remain. Existing equipment to be demolished or removed is shown on Figure 2.3-2. The Project would be located adjacent to the existing LFG flare station and would include the following equipment and systems:

- LFG compressors to increase the LFG pressure so that the LFG can be treated and conveyed to the electrical generation equipment.

- LFG treatment system to prevent damage to the electrical generation equipment and would consist of vessels, coolers, heat exchangers and control systems designed to remove moisture and impurities from the LFG. The treatment system would also include a regeneration ground flare to assure that the LFG treatment system is performing efficiently and continuously.

- Condensate treatment system to allow collected condensate to comply with the City's existing Industrial Waste Discharge requirements prior to disposing the condensate into the existing sewer system.

- Electrical generating equipment consisting of reciprocating engine generators to produce electricity using the LFG as fuel. Each of the electrical generating equipment would be self-contained and located in individual enclosures.

- Combustion exhaust gas cleanup system to comply with SCAQMD regulations, consisting of reactive catalyst using 19 percent Aqueous Ammonia as reactant to minimize the emissions of nitrogen oxides (NOx) and a Carbon Monoxide (CO) catalyst to minimize the emissions of CO.

- Continuous emission monitoring systems installed on the engines to assure that the exhaust gas emissions comply with SCAQMD regulations.

- Electric switchgear to allow connection of the produced electricity to the existing GWP electrical system. No electric transmission system modification is anticipated.

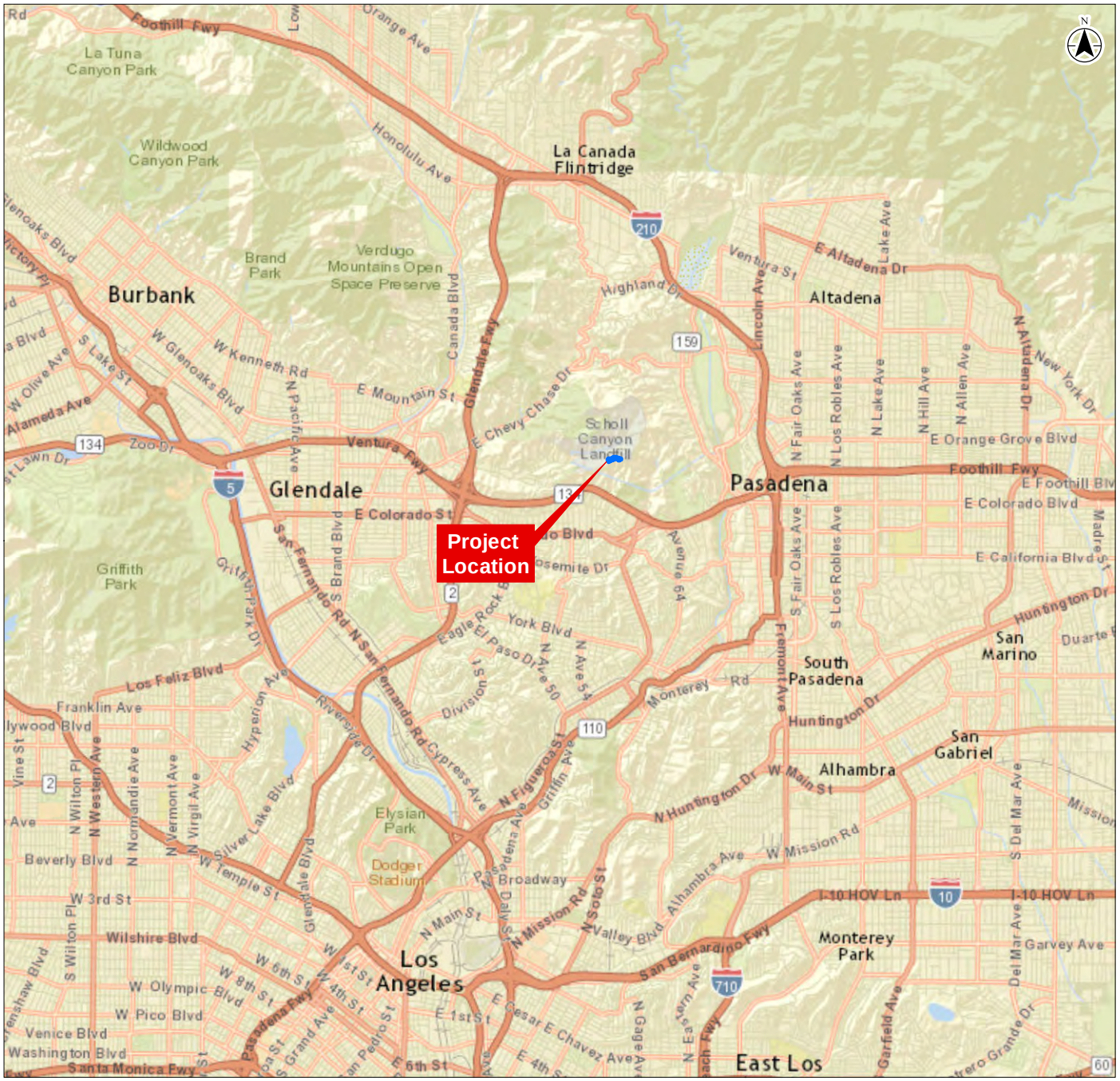
- Small office and small storage building, less than 1,000 square feet each, required for operating and maintaining the Project.

- Fire protection and safety system to comply with National Fire Protection Association and Glendale Fire Department requirements.

- A new 60,000-gallon fire water tank would be constructed to provide water for fire protection. In addition, a new approximately 10,000-gallon water storage tank would be provided for domestic purposes.

- The entire facility would be enclosed in fencing, and area lighting for safety and security would be provided.

Figure 2.3-3 shows the location of major equipment.



Stantec

Legend

Proposed Power Plant Facility Boundary

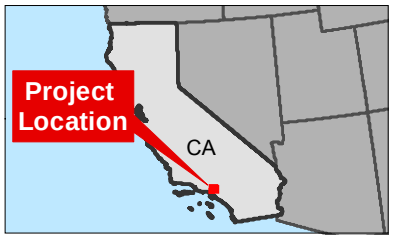
0 1 2 Miles

1 in = 2 miles (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 11N

2. Basemap: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



Project Location Glendale, CA	Project No.: 2057123300 Prepared by JT on 2017-06-27 Technical Review by CH on 2017-06-27

Client/Project

City of Glendale
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure Number/Title:

Figure 2.2-1
Project Location

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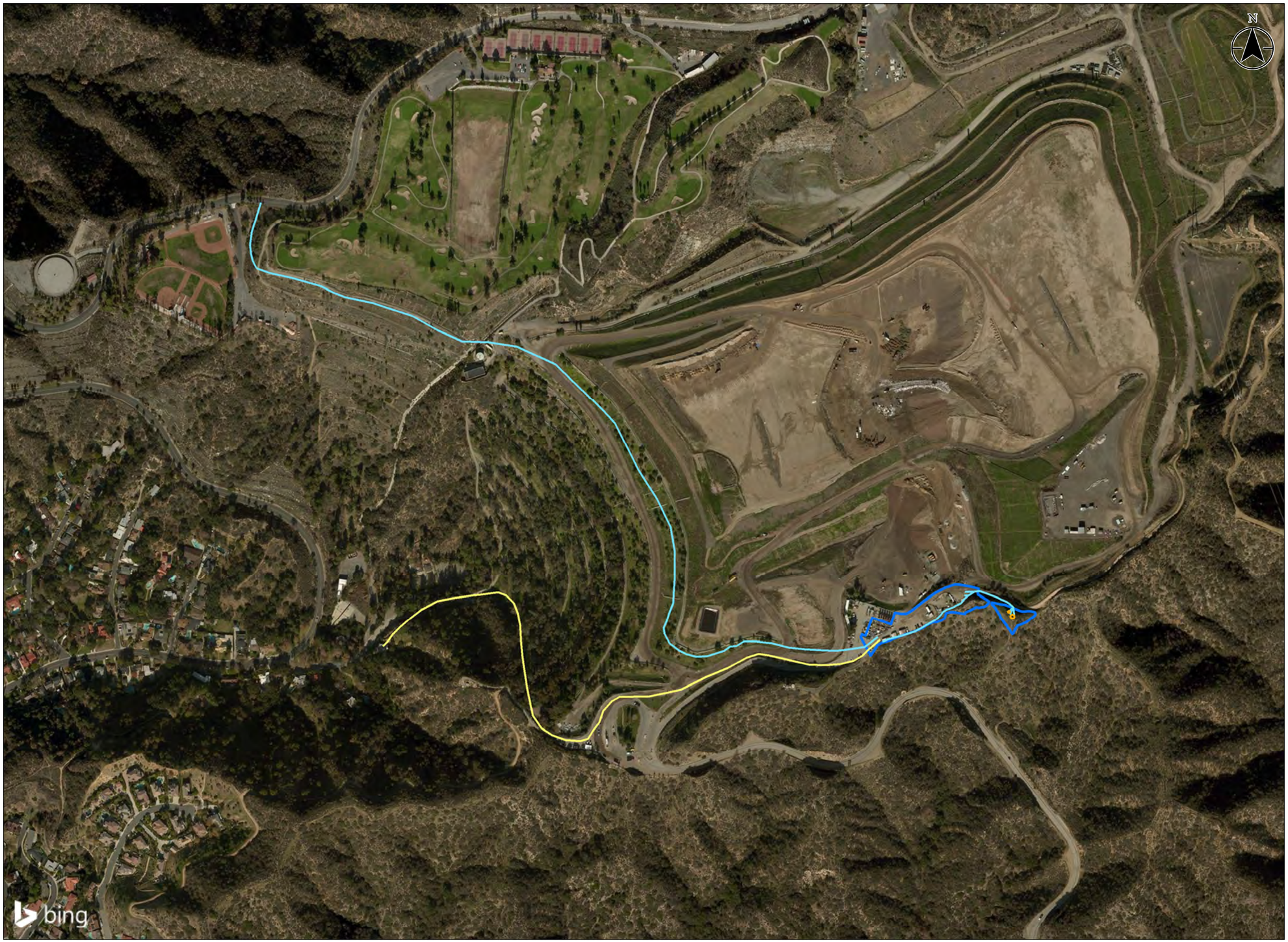

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Legend

- Proposed Gas Pipeline
- Proposed Water Pipeline
- Proposed Power Plant Facility Boundary
- New Water Tank

0 250 500 Feet

1 in = 500 feet (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

2. Basemap: Image courtesy of USGS Image courtesy of LAR-IAC Earthstar Geographics SIO © 2017 Microsoft Corporation

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand),

Project Location:
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-24
Technical Review by CH on 2017-07-24

Client/Project:
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure Number/Title:

Figure 2.3-1
Proposed Project Elements

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Legend

- Proposed Power Plant Facility Boundary
- Area to be Demolished

0 80 160 Feet

1:961 (At original document size of 11x17)

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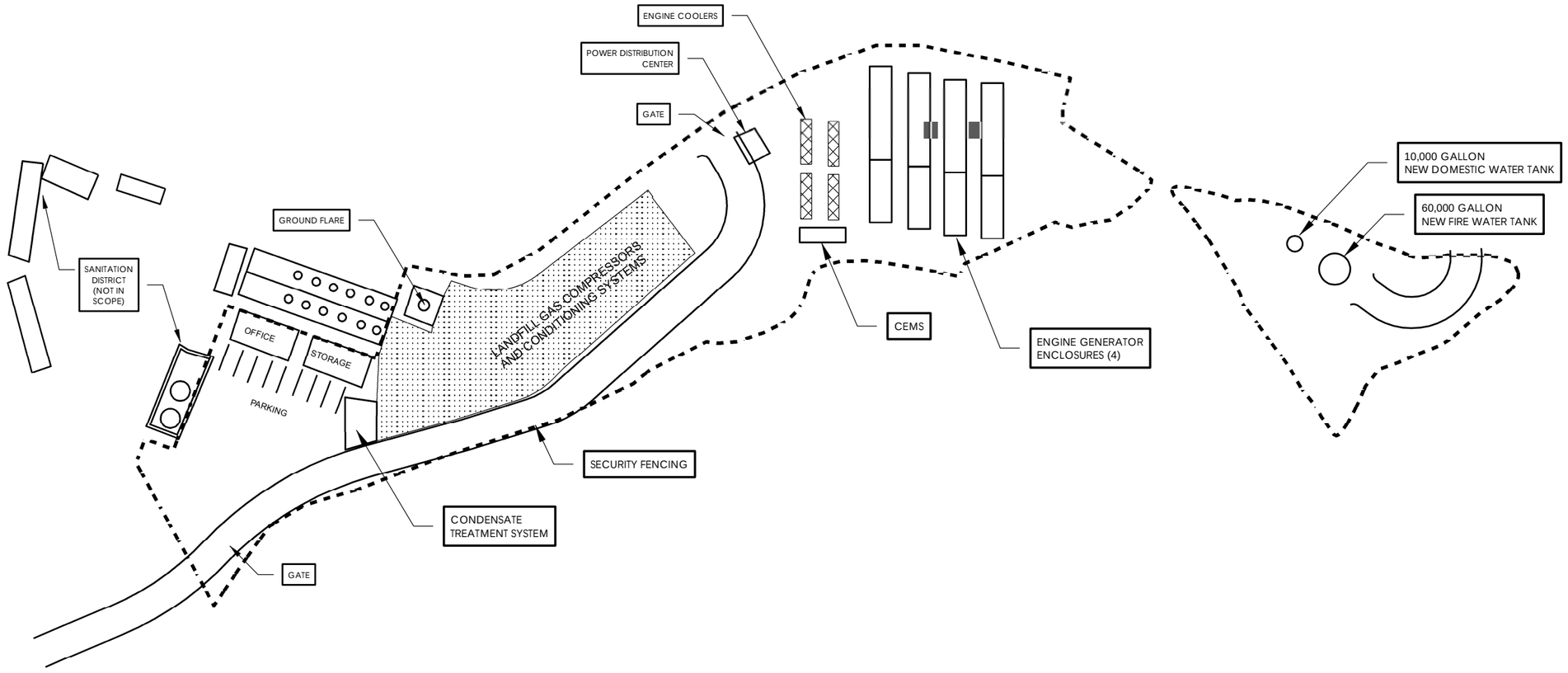
Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-21
Technical Review by CH on 2017-07-21

Client/Project
City of Glendale
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
2.3-2

Title
Existing Facility Demolition Plan



Legend

Proposed Power Plant Facility Boundary

0 80 160 Feet

1:961 (At original document size of 11x17)

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Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-25
Technical Review by CH on 2017-07-25

Client/Project
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
2.3-3

Title
Major Equipment Location Plan

2.3.2 Natural Gas and Water Pipelines

Approximately two-thirds of a mile (3,500 lf) of natural gas pipeline would be constructed to connect the facility to the existing Southern California Gas Company pipeline system located at the eastern end of Scholl Canyon Drive. This three-inch, schedule 40 steel gas pipeline would be located within the boundary of the landfill, aboveground except for at road crossings. The natural gas would be utilized to assure continuous operations of the internal combustion engines on the naturally occurring landfill gas. SCAQMD regulations allow the LFG to be augmented by up to a maximum of ten percent of the total fuel consumed by the engines to be natural gas.

A new 60,000-gallon water storage tank for fire protection and a new approximately 10,000-gallon domestic water storage tank would also be installed.

During construction, water would be used for dust control, soil compaction, concrete curing, and other construction activities. All cooling systems would be closed circulating glycol type with no open cooling towers required. Besides using water for domestic purposes, fire protection and construction, no other water consumption is contemplated.

To provide water to the Project an approximately one-mile-long, 12-inch steel pipeline would be connected to an existing 16-inch pipeline located north of the landfill on Glenoaks Blvd. This water line would also be aboveground except for road crossings. The water line would be connected to fire hydrants as required by the City of Glendale Fire Department. Additional water pipelines would be installed belowground to connect the power plant facility with the new fire protection and domestic water tanks, which would be located just east of the facility. A water fill-line would be installed belowground extending across the Project facility from a water tie-in at the southwest portion of the Project site to facilitate the new water tanks. The water and natural gas pipelines are shown on Figure 2.3-1.

The unprocessed LFG as it comes from the landfill is saturated with liquids. The liquids would be separated from the LFG, collected, and piped to a condensate treatment system where impurities of the condensate would be removed, collected, and disposed of in accordance with required rules and regulations. The remaining liquids would be piped to the existing sewer system located nearby.

2.3.3 Existing Pipeline Decommissioning

The existing approximately five-mile-long six-inch diameter underground pipeline currently used to carry LFG to the Grayson Power Plant would be abandoned in place. As part of the abandonment process, the line would be purged with an inert gas such as nitrogen, and capped with cement plugs or similar items on each end. The existing line follows surface streets within an existing utility corridor.

2.4 PROJECT OPERATIONS

The Project would be constructed and operated adjacent to the existing LFG collection and LFG flaring systems. There are two existing LFG blowers delivering LFG to the LFG flaring system consisting of 12 existing eight-foot diameter, 16-foot high ground flares. The blowers and the flares would remain, and would be operating and disposing LFG during the construction of the Project. After the power plant is in operation, the flares would only operate as required during maintenance or in the unlikely event that there is excess LFG being produced that cannot be used for generating electricity.

A total of four operators and two technicians would be responsible for operations and routine maintenance of the facility. Personnel would be available and on call during non-business hours. Periodic maintenance would be performed by qualified personnel that would travel to the Project site during business hours as needed to perform the required maintenance. Consumables such as lube oils, filters, cleaning media, 19 percent Aqueous Ammonia, and other similar materials would be delivered to the Project as they become depleted. Restroom facilities would be provided and the existing sewer system would be utilized.

For security, the entire Project site would be enclosed within an eight-foot-high security fence with automatic gates. Security and safety lighting systems would be provided.

The life of the Project is anticipated to be 20 years, or as long as the LFG can be used to generate electricity; after which time equipment and equipment foundations would be removed and the area would become part of the landfill reclamation plan.

2.5 PROJECT SCHEDULE

Project construction would occur in three phases over an approximately 15- to 18-month period. Parking for construction workers would be provided on-site within the boundary of the landfill. The laydown and equipment storage area would also be within the boundary of the landfill. No offsite parking or material storage would be required.

2.5.1 Phase I – Demolition and Removal of Existing Equipment

Phase I would be implemented over four to five months and would entail demolition and removal of existing equipment from the site to make room for the new power plant. Tanks, piping, electrical systems, fencing, containers, office buildings, and other facilities would be dismantled and removed. The existing concrete foundations and existing asphalt roads would be demolished. Both concrete and asphalt would be crushed on-site and transferred to the adjacent landfill by dump trucks. Figure 2.3-2 shows the demolition plan. During this four to five-month period, approximately five trucks and ten worker vehicles would be driven each way to the Proposed Project location each work day.

2.5.2 Phase II – Site Grading and Construction

After Phase I is complete, Phase II would be implemented over the next nine to ten months. Earth moving equipment would be brought to the site for grading, excavation and site preparation and civil construction. The facility area where the existing equipment and systems are located would be expanded in size, to approximately 1.73 acres.

It is anticipated that during the grading process approximately 20,000 cubic yards of soil would be excavated, of which 6,000 cubic yards of soil would be used on-site as fill and 14,000 cubic yards of clean soil would be used as cover at the landfill. Figure 2.3-3 shows the extent of grading.

Phase II would also entail building concrete foundations, delivering, and installing electrical generating equipment located within individual enclosures, compressors, LFG and condensate conditioning and treatment systems, electrical switchgear and other equipment and construction materials required to build the power plant. Existing landfill condensate and groundwater collection system, piping systems and power lines located within the facility would be relocated. A single, less than 1,000 square foot storage building, and a less than 1,000 square foot office building would be constructed; pipes, conduits, and wires would be delivered and installed; and, security, and fire protection system would also be installed. LFG, natural gas, and water pipelines, and the new water tanks would be installed and access roads would be constructed (Figure 2.3-1 and 2.3-3). During this nine to ten-month period, approximately ten trucks and 12 vehicles would be driven each way to the Proposed Project location each work day.

2.5.3 Phase III – System Startup

After Phase II is complete, Phase III would be implemented over the next two to three months. Phase III would entail sandblasting, priming and painting the facility, delivery of consumables/materials, and verifying the operational capabilities of all systems required to make the facility safe and operational. During this two to three-month period, approximately three trucks and 20 worker vehicles would be driven each way to the Proposed Project location each work day. A project schedule is provided as Figure 2.5-1.

	Month																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE I Demolition and Removal of Existing Equipment																		
Remove tanks, piping, electrical systems, office building & fencing	X	X	X															
Demolish existing foundations and asphalt				X	X													
PHASE II Site Grading & Construction																		
Cut slope, grade and compact soil, install asphalt for facility						X	X	X										
Build new foundations and access road								X	X									
Install new water tank and water line for fire protection									X	X	X	X						
Install new equipment, piping and electrical,												X	X	X	X			
Install new gas pipeline											X	X	X					
Install new office and storage buildings												X	X	X				
PHASE III Startup and Commissioning																		
Equipment commissioning																X	X	X

Stantec

Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-21
Technical Review by CH on 2017-07-21

Client/Project
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
2.5-1

Title
Project Schedule

3.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

This project is evaluated based upon its effect on eighteen (18) major categories of environmental factors. The environmental factors checked below would be potentially affected by the Proposed Project, as indicated by the resource checklists in this IS/MND.

☐	Aesthetics	☐	Mineral Resources
☐	Air Quality	☐	Noise
☒	Biological Resources	☐	Population and Housing
☐	Cultural Resources	☐	Public Services
☐	Geology and Soils	☐	Recreation
☐	Greenhouse Gas	☐	Transportation and Traffic
☐	Hazards and Hazardous Materials	☐	Tribal Cultural Resources
☐	Hydrology and Water Quality	☐	Utilities and Service Systems
☐	Land Use and Planning	☐	Mandatory Findings of Significances

A detailed analysis of environmental impacts will be presented for each resource area (listed above) utilizing the model Environmental Checklist Form found in Appendix G of the CEQA Guidelines Section 15063(f). Impacts to the environment for construction and operation of the project will be assessed and described, and the level of significance of impacts will be measured against criteria that have been established by regulation, accepted standards, or other definable criteria. The use of a MND is only permissible if all potentially significant environmental impacts assessed in the IS are rendered less than significant with incorporation of mitigation measures.

Each environmental resource area is reviewed by analyzing a series of questions (i.e., Initial Study Checklist) regarding level of impact posed by the project. Substantiation is provided to justify each determination. One of four following conclusions is then provided as a determination of the analysis for each of the major environmental factors.

No Impact. A finding of no impact is made when it is clear from the analysis that the project would not affect the environment.

Less than Significant Impact. A finding of a less than significant impact is made when it is clear from the analysis that a project would cause no substantial adverse change in the environment and no mitigation is required.

Less than Significant Impact with Mitigation Incorporated. A finding of a less than significant impact with mitigation incorporated is made when it is clear from the analysis that a project would cause no substantial adverse change in the environment when mitigation measures are successfully implemented by the project proponent. In this case, the City of Glendale is the project proponent and would be responsible for implementing measures identified in a Mitigation Monitoring Program.

Potentially Significant Impact. A finding of a potentially significant impact is made when the analysis concludes that the Proposed Project could have a substantially adverse change in the environment for one or more of the environmental resources assessed in the checklist. In this case, typically preparation of an Environmental Impact Report (EIR) would be required.

3.1 AESTHETICS

3.1.1 Setting

The existing visual characteristics of the Project site and the surrounding area are described in the following paragraphs.

Scenic Vistas

The City of Glendale ("City") is bordered on the north by the San Gabriel Mountains, on the northwest by the Verdugo Mountains, and on the east by the San Rafael Hills. The easternmost edge of the Santa Monica Mountains, in Los Angeles's Griffith Park, lies just beyond the City's boundary to the southwest.

According to the Open Space and Conservation Element of Glendale's General Plan, the Verdugo Mountains and the San Rafael Hills are the most significant physical landmarks in the community because these topographic features flank the central portion of the City. These landforms are important in that they create a dominant visual and physical resource that can be seen throughout the community. In the San Rafael Hills the overall ridgeline form is less definitive in that it is separated by numerous, well developed canyon areas such as Scholl Canyon. Within this area, however, the ridgelines can be readily identified (City of Glendale, 1993).

The Open Space and Conservation Element further identifies visual and scenic resources as aesthetic functions that contain natural beauty, such as lush or colorful vegetation, prominent topographical stature, unique physical features, and an interesting visual effect (City of Glendale, 1993). There are no designated scenic vistas near the Proposed Project or within other parts of the existing SCLF, nor are there any designated scenic vistas from which the Proposed Project would be visible.

Scenic Highways

There are no state-designated scenic highways in the City of Glendale (Department of Transportation, 2011).

Light and Glare

Perceived glare is the unwanted and potentially objectionable sensation experienced from looking directly into a light source (e.g., the sun, its reflection, automobile headlights, or other light fixtures or sources). Reflective surfaces on existing buildings, car windshields, and so forth also can expose people and property to varying levels of glare.

A significant light impact would typically occur if a project would cause (1) a substantial increase in ambient illumination levels beyond the property line and (2) visible glare from either fixtures or illuminated surfaces.

Existing sources of light and glare in the Proposed Project vicinity include automatic night lighting in the equipment and scales facility and portable light towers at the adjacent SCLF. Existing light and glare sources at the Project site consist of security lighting located at the Sanitation District office trailers and overlooking the chemical storage areas. The lights are hooded and pointed downward in order to minimize glare. LFG flaring is contained within open cylinder flares, which have no direct flame and are not a source of light or glare.

Existing Views

The Proposed Project is located at 3001 Scholl Canyon Road, within the inactive portion of the Scholl Canyon Landfill. The property is located approximately one-half mile north of the 134 Freeway in the City of Glendale. Public access to the SCLF is via Scholl Canyon Road, the northern extension of North Figueroa Street, and Highway 134. The SCLF and the Project site are surrounded by multiple jurisdictions: Glendale to the north, south, east, and west; La Cañada Flintridge to the northeast; Pasadena to the east; South Pasadena to the southeast; Los Angeles to the south, southwest, and west. The site is also located west of Highway 210 and east of State Route 2.

The SCLF property consists of a total of 535 acres, 440 acres of which are designated for landfill operations and 95 acres of which are designated for related operations (site access). The 440-acre operation area includes 314 acres of active area (Scholl Canyon) and 126 acres of inactive area (northern canyon). Most of the 314 acres have been graded and/or excavated for landfill purposes, filled with solid waste, and covered with soil. Some areas have been vegetated. The currently permitted height of the landfill is 1,525 feet above mean sea level (AMSL), with an average top deck elevation of approximately 1,500 feet AMSL (AECOM, 2014). The Proposed Project will be located on an approximately 2.2-acre segment of land within the inactive portion of the landfill at an elevation of approximately 1,410 feet AMSL. It is located along the southern boundary of the SCLF, bordering Scholl Canyon Road.

Lands surrounding the Project are primarily residential, with some open space, special recreation (parks, golf course), and commercial development. The Rose Bowl and the Arroyo Seco are located approximately 1.4 miles to the east, separated by the ridge adjacent to the eastern boundary of the SCLF. The Scholl Canyon Golf and Tennis Complex is located on fill on the northwest closed portion of the landfill. Scholl Canyon Ballfields are located midway up Glen Canyon Road, below the Golf and Tennis Complex. Scholl Canyon Park is located to the west at the base of the landfill along Glenoaks Boulevard.

The following text describes views from nearby the Proposed Project site that could potentially be affected by the proposed development.

Figure 3.1-1: View 1

View 1 was taken from a turnout adjacent 1531 Glen Oaks Estate Drive, within the Glen Oaks Estates region in the City of Pasadena. The existing landfill boundaries are within 500 feet of this location, and the active operating area is clearly visible. However, the Proposed Project site is approximately 0.6 miles to the southwest of this location. Perimeter landfill access roads and high tension power lines and towers are visible, as is the downtown Los Angeles skyline in the distance. However, the existing facilities at the Project site are not visible from this location. The Proposed Project facility will also not be visible from this location.

Figure 3.1-2: View 2

View 2 was taken from the intersection of Colorado Boulevard and Hartwick Street, approximately one mile directly south of the Project site, in the Eagle Rock district of Los Angeles. Highway 134 is between this location and the Project site but is obscured by trees. Trailers associated with the existing Project site are visible in the center of the photo along the ridgeline. Because the facility design calls for the access road to be located below the ridgeline on the South side of the facility, where the visible trailer is now located, the proposed facility will not be visible from this location.

Figure 3.1-3: View 3

View 3 was taken from the parking lot of the Scholl Canyon Ballfields on Glenoaks Road. The view in this photo is directly east toward the active landfill. The existing site is not visible from this location due to the active landfill.

Figure 3.1-4: View 4

View 4 was taken looking east from the Scholl Canyon Golf and Tennis Club, adjacent the parking lot and driving range. The active landfill is intermittently visible through the trees. The Project site could be partially visible from some locations on the golf course. However, the active landfill would likely obstruct most views from the golf course.

Views of the Project site from most developed residential, recreational, and commercial land uses are primarily obscured by topography, including natural ridgelines, the active landfill, and large trees at the golf course.

None of these locations are defined by the City as designated scenic vistas.

Regulatory Setting

California Environmental Quality Act (CEQA)

CEQA (Pub. Resources Code, §21000 et seq.) case law has established that only public views, not private views, need be analyzed under CEQA. For example, in *Association for Protection etc. Values v. City of Ukiah* (1991) 2 Cal. App. 4th 720 [3 Cal.Rptr.2d 488] the court determined that "We must differentiate between adverse impacts upon particular persons and adverse impacts upon the environment of persons in general. Therefore, for this analysis, only public views will be considered when analyzing the visual impacts of implementing the Proposed Project.

General Plan Policies, Goals, and Objectives

The Open Space and Conservation Element of the City's General Plan Goal #2 specifies the following: Protect vital or sensitive open space areas including ridgelines, canyons, streams, geologic formations, watersheds, and historic, cultural, aesthetic and ecologically significant areas from the negative impacts of development and urbanization.

Ridgelines are the linear tops or crests or major hills that form a continuous horizon line against the sky against other hillside features. The visual resources of ridgelines are represented by the aesthetic quality of these areas as a component of the region's viewshed as seen from offsite locations. The major ridgelines can be further classified as either primary or secondary. Primary ridgelines are the highest undeveloped and visually dominant ridgelines in a viewshed, and secondary ridgelines are the lower branches or fingers of the primary ridgelines. Terrain can also have the following visual sensitivity ratings:

Low Visual Sensitivity – Those areas screened or nearly screened from view from vantage points and/or without features of special visual interest. These areas are generally located in the low-lying interior of the city; in canyons and watersheds where local east-west and north-south ridges or existing development blocks views.

Moderate Visual Sensitivity – Includes areas where local views are partially blocked by secondary ridgelines, middle and distant views are unobstructed and there are points of visual interest. Such areas include foothill areas of steep slopes within watersheds and ridge faces.

High Visual Sensitivity - Includes areas that are in plain view of local, middle and distant viewsheds audiences. A majority of the areas included in the undeveloped areas of the City area within this classification due to the high elevations of the mountains and hills. These areas are identified as major peaks, primary and secondary ridgelines and upper slopes.

According to Map 4-25, "Ridgelines and Streams of the San Rafael Hills", Scholl Canyon is not a primary or secondary ridgeline (City of Glendale, 1993), and therefore is characterized as an area of "low visual sensitivity."

Notes

Photo 1: View southwest from adjacent 1531 Glen Oaks Estates drive within the City of Pasadena. Project site is blocked by topography in foreground.

Stantec

Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2016-02-22
Technical Review by DR on 2016-02-22

Client/Project
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
3.1-1

Title
View 1

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Notes

Photo 2: View north from intersection of Colorado Blvd and Hartwick Avenue in the City of Eagle Rock. Existing site trailers are visible along ridgeline in center of photo.

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Figure No.
3.1-2

Title
View 2

Notes

Photo 3: View to the east from the Scholl Canyon Ballfields parking lot on Glen Canyon Drive. Project site is blocked by active landfill from this location.

Stantec

Project Location
Glendale, CA

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City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
3.1-3

Title
View 3

Notes

Photo 4: View east from the Scholl Canyon Golf and Tennis Club, adjacent the parking lot and driving range. The active landfill is intermittently visible through the trees.

Stantec

Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2016-02-22
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Initial Study/Mitigated Negative Declaration

Figure No.
3.1-4

Title
View 4

3.1.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) Have a substantial adverse effect on a scenic vista?

No impact

There are no designated scenic vistas near the Proposed Project site or within other parts of the existing SCLF, nor are there any designated scenic vistas from which the Proposed Project would be visible. Therefore, the Proposed Project would have no impact on a scenic vista.

Mitigation Measures

None required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No impact

There are no state-designated scenic highways in the City of Glendale (California Scenic Highway Mapping System, 2017). Therefore, the Proposed Project would not damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. There would be no impact.

Mitigation Measures

None required.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No impact

The Proposed Project would include expansion of and interconnection to the existing facility, which is located within the boundaries of an inactive portion of an existing landfill. The tallest features will be approximately 40 ft (four exhaust stacks) aboveground surface. Equipment height will be approximately 25 ft. Office and warehouse space will be approximately 12 feet high. The Proposed Project would be consistent with the industrial character of the existing LFG collection system facility and the SCLF, which has numerous temporary structures, trailers, and equipment interspersed throughout the facility. Furthermore, due to natural features between the Proposed Project site and public viewing areas, the Project would not likely be visible. Therefore, there would be no impact.

Mitigation Measures

None required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact

The Proposed Project would represent an expansion of an existing use which is presently a limited source of nighttime light and glare from the existing LFG collection facility. Shielded area lighting with light switch and motion sensors would be provided for safety at the Proposed Project facility. Lighting would be pointed downward and inward to minimize offsite impacts. All construction activities would be performed during daylight hours and would not result in an increase in offsite light or glare.

The incremental amount of light and glare generated by the Proposed Project would be minimal due to the design measures incorporated into the Project, and because the Project site is located in a portion of the existing landfill that is negligibly visible from public viewing locations. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

3.2 AGRICULTURE AND FORESTRY RESOURCES

3.2.1 Setting

Regional

Los Angeles County agricultural production value is 32nd in the State, with a reported value of $230,068,000 in 2014, a 14.6 percent increase from 2013. Los Angeles County's leading agricultural commodities in 2014 included nursery woody ornamentals and plants, onions, hay, and alfalfa (California Department of Food and Agriculture, 2015).

Local

The Project consists of approximately 2.2-acre power plant project site within the SCLF facility, a proposed three-inch diameter natural gas pipeline approximately 0.67 miles long, and a proposed 12-inch diameter water pipeline approximately one mile long to be constructed within the City of Glendale, Los Angeles County, California. The site is depicted in Township 1 North, Range 13 West of the United States Geological Survey (USGS) Burbank 7.5-minute topographic quadrangle (Figure 2.2-1). The proposed approximately 2.2-acre power plant subarea, proposed gas pipeline subarea, and proposed water pipeline subarea occur within an inactive portion of the existing SCLF permitted facilities boundary. The terminus of the proposed water pipeline extends to Glenoaks Blvd., directly north of the northwest corner of the facility boundary.

Lands within the Proposed Project area are within the City of Glendale, which are zoned as Special Recreation and Restricted Residential. No agricultural use zone currently exists within the City of Glendale, nor are any agricultural zones proposed. There are no agricultural or farmland areas on or within the vicinity of the Proposed Project area.

Regulatory Setting

Federal

Farmland Protection Policy Act (7 U.S.C. Section 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It additionally directs federal programs to be compatible with State and local policies for the protection of farmlands. The FPPA does not authorize the Federal Government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners of such land.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance, defined as follows in 7 U.S.C. Section 4201:

- Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion;

- Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, fruits, and vegetables; and

- Farmland, other than prime or unique farmland, that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, and that the Secretary determines should be considered as farmland for the purposes of this chapter.

Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency (NRCS, 2008).

State

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was created by the California Legislature in 1982. It requires the Department of Conservation (DOC) to prepare, update, and maintain Important Farmland Series Maps and other soils and land capability information. Under the FMMP, the DOC categorizes land into the following categories:

Prime Farmland - This has the best combination of physical and chemical characteristics for crop production. It has the soil quality, growing seasons and moisture supply needed to produce sustained high yield crops when treated and managed, including water management, according to current farming methods.

No FMMP- designated Prime farmlands are located within the Proposed Project area.

Farmland of Statewide Importance - This is land other than prime farmland that has a good combination of physical and chemical characteristics for the production of crops, and has been used for the production of irrigated crops within the four years prior to the mapping date.

No FMMP- designated Farmland of Statewide Importance are located within Proposed Project area.

Unique Farmland – This is land that does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, and land that is currently used for the production of specific high economic value crops. This category excludes abandoned orchards or vineyards. Land must have been cropped at some time during the four years prior to the mapping date.

No FMMP- designated Unique Farmland are located within the Proposed Project area.

California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, also known as the Williamson Act, was established to encourage the preservation of the state's agricultural lands in view of the increasing trends toward their "premature and unnecessary" urbanization. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments. Williamson Act contracts must have an initial term of at least ten years, and are available only when the land is located within an established agricultural preserve. Every year, absent a notice of nonrenewal, the contract is automatically extended, or "renewed" for an additional year.

No Williamson Act designated lands are located within the Proposed Project area.

The Land Conservation Act (LCA) consists of two primary enrollment categories: Prime and Non-Prime. A third category, Mixed Enrollment Agricultural Land corresponds to lands containing a combination of Prime, Non-Prime, Open Space Easement, or other contracted or enrolled lands not yet delineated by the county, as described below.

Prime Agricultural Land – Land that meets specified soil quality, forage production, or income criteria under Government Code Section 51201. Under the Land Conservation Act, the Prime Agricultural Land designation impacts what uses are considered compatible, eligible parcel sizes, and other factors including the amount of open space subventions payable to the participating city or county.

No LCA Prime Agricultural Lands are located within or adjacent to the Proposed Project area.

Non-Prime Agricultural Land - Land enrolled under a California Land Conservation Act contract but not defined as "prime agricultural land" under Government Code Section 51201 (c) or as land that is not classified as "agricultural land" under Public Resources Code Section 21060.1 (a). Non-prime agricultural land is also defined as open space uses of statewide significance under Government Code Section 16143(b), and may be identified as such in other documents.

No LCA Non-Prime Agricultural Lands are located within or adjacent to the Proposed Project area.

Mixed Enrollment Agricultural Land – Enrolled lands containing a combination of Prime, Non-Prime, Open Space Easement, or other contracted or enrolled lands not yet delineated by the county.

No Mixed Enrollment Agricultural Lands are located within or adjacent to the Proposed Project area.

Farmland Security Zone Act

The Farmland Security Zone (FSZ) Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy (Government Code sections 51296-51297.4).

None of the lands within or adjacent to the Proposed Project area are located within a FSZ.

3.2.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
AGRICULTURE AND FORESTRY RESOURCES: Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526, or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact

There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within or adjacent to the Proposed Project area. No agricultural use zone currently exists within the City of Glendale, nor are any agricultural zones proposed. Therefore, no impacts related to the conversion of farmland to non-agricultural use would occur.

Mitigation Measures

None required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact

The Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract because no agricultural zones exist within the City of Glendale, nor is the Proposed Project within or adjacent to agricultural land that would require a Williamson Act contract. Therefore, no impacts related to existing agricultural zone use or Williamson Act contracts would occur.

Mitigation Measures

None required.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526, or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?

No Impact

The Proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Protection because none of the lands within or adjacent to the Proposed Project are identified as “forest land,” “timberland,” or “Timberland Protection” as defined in the Public Resources Code Section 12220(g) and Section 4526, or Government Code Section 51104 (g). Therefore, no impacts related to zoning of forest land, timberland, or Timberland Protection would occur.

Mitigation Measures

None required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact

The Proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use because none of the lands within and adjacent to the Proposed Project are identified as forest land as defined in the Public Code Section 12220(g). Therefore, no impacts related to loss or conversion of forest land would occur.

Mitigation Measures

None Required.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact

The Proposed Project would not involve other changes in the existing environment that could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use because there is no farmland or forest land within or adjacent to the Proposed Project area. Therefore, no impacts related to conversion of farmland to non-agricultural use or conversion of forest land to non-forest use would occur.

Mitigation Measures

None required.

3.3 AIR QUALITY

An analysis was conducted to determine the potential air quality impacts resulting from the Project. The analysis includes an evaluation of criteria pollutants and toxic air contaminants (TAC) from the construction and operation of the Project.

3.3.1 Setting

Existing Site Conditions

The power generation equipment will be constructed entirely within the existing Scholl Canyon Landfill, which is located in the central San Rafael Hills. The landfill surrounding the Project site is flanked to the west by two parks – Lower Scholl Canyon Park and Eagle Rock Hillside Park; to the north by Scholl Canyon Golf and Tennis Club; to the south by the Ventura Freeway (California State Route 134); and to the east by the Rose Bowl Stadium.

The power generation site will be located on the southern side of the landfill. The latitude and longitude coordinates of the power plant is 34.153425°, -118.192518° with an elevation of 1,416 feet above the sea level. The Scholl Canyon Landfill site is located within the South Coast Air Basin (SCAB), which is regulated by the South Coast Air Quality Management District (SCAQMD).

Regional Climate

The Scholl Canyon Landfill is located on the western side of the San Gabriel Valley of the SCAB. The basin is a coastal plain with the Pacific Ocean to the southwest, and enclosed by mountains to the north and east which trap air and pollutants in the valley. The regional climate is considered semi-arid and characterized by hot summers, mild winters, and infrequent seasonal rainfall. Glendale is located inland, where the temperatures are generally higher than along the coast due to the lack of sea breezes, with average monthly highs from 65°F to 91°F and lows from 44°F to 62°F. The relative humidity inland is also lower than along the coast (Western Regional Climate Center, 2015).

Due to the topography and weather conditions of the basin, temperature inversions that prevent the vertical mixing of warm and cooler layers of the air tend to form and allow pollutants to remain at ground level. The coastal location of the basin also creates a wind pattern that blows offshore at night and onshore during the day, so that air pollutants formed in the heat of the day tend to stay inland. Major cities like Los Angeles with high population density and heavy vehicular traffic, combined with the climate and geographical configuration, influence air quality in the basin.

Ambient Air Quality

Overview of Air Quality Standards

The U.S. Environmental Protection Agency (EPA) establishes national ambient air quality standards (NAAQS) to regulate the concentration of six criteria pollutants in the atmosphere: ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), sulfur oxides (SOX), particulate matter (PM10 and PM2.5), and lead (Pb). These pollutants are considered harmful to the public health and the environment.

The EPA designates the attainment status of areas in the nation for each criteria pollutant, based on whether NAAQS are met. A "non-attainment area" does not meet the standard and is subject to a State Implementation Plan to attain the standard. Similarly, the California Air Resources Board (ARB) has set its own stricter ambient air quality standards for California, and designates regions in the state as attainment or non-attainment based on those standards. The California ambient air quality standards (CAAQS) include sulfates as a criteria pollutant, which is not addressed in the federal standards.

Both state and federal ambient air quality standards are provided as the maximum allowable concentration over an averaging time of measurement. Maximum concentrations reflect levels of pollutants that can adversely affect human health. The averaging times reflect the potential for short-term or long-term effects. Table 3.3-1 shows the NAAQS and CAAQS.

Table 3.3-1 Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	Federal Standards
Ozone	1-Hour (ppm)	0.09	--
	8-Hour (ppm)	0.070	0.070 [a]
Carbon Monoxide	1-Hour (ppm)	20	35
	8-Hour (ppm)	9	9
Nitrogen Dioxide	1-Hour (ppm)	0.18	0.100 [b]
	AAM (ppm)	0.03	0.053
Sulfur Dioxide [c]	1-Hour (ppm)	0.25	0.075
	3-Hour (ppm)	--	0.5
	24-Hour (ppm)	0.04	--
PM10	24-Hour (µg/m^3)	50	150
	AAM (µg/m^3)	20	--
PM2.5	24-Hour (µg/m^3)	--	35 [d]
	AAM (µg/m^3)	12	12 [e]
Lead	30-Day (µg/m^3)	1.5	--
	Rolling 3-Month (µg/m^3)	--	0.15
Sulfate	24-Hour (µg/m^3)	25	--
Hydrogen Sulfide	1-Hour (ppm)	0.03	--
Vinyl Chloride	24-Hour (ppm)	0.010	--

Notes:
AAM = Annual Arithmetic Mean
µg/m3 = microgram(s) per cubic meter
ppm = parts per million

Pollutant	Averaging Time	California Standards	Federal Standards

a) On October 1, 2015, EPA established a new 8-hour ozone standard of 0.070 ppm, effective December 28, 2015.
b) Based on the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area.
c) On June 2, 2010, EPA established a new 1-hour SO2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The EPA also revoked both the 24-hour SO2 standard of 0.14 ppm and the annual primary SO2 standard of 0.030 ppm, effective August 23, 2010.
d) Based on 98 percent of the daily concentrations averaged over 3 years.
e) Based on the 3-year average of the weighted annual mean concentrations.

Source: California Air Resource Board, 2016. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf (CARB 5/4/2016)

Table 3.3-2 provides the attainment status of the SCAB relative to federal and California ambient air quality standards. The SCAB is currently not in attainment with federal or California Ozone standards, California PM10 standards, and both federal and California PM2.5 standards.

Table 3.3-2 State and Federal Air Quality Designations for South Coast Air Basin

Pollutant	Averaging Time	State Designation	Federal Designation
Ozone	1-Hour	Non-attainment	N/A
	8-Hour	Non-attainment	Non-attainment (Extreme)
Carbon Monoxide	1-Hour	Attainment	Attainment
	8-Hour	Attainment	Attainment
Nitrogen Dioxide	1-Hour	Attainment	Attainment
	Annual	Attainment	Attainment
Sulfur Dioxide	1-Hour	Attainment	Attainment
	24-Hour	Attainment	N/A
PM10	24-Hour	Non-attainment	Attainment
	Annual	Non-attainment	N/A
PM2.5	24-Hour	N/A	Non-attainment (Serious)
	Annual	Non-attainment	Non-attainment (Serious)
Lead	30-Day	Attainment	N/A
	Quarter	N/A	Non-attainment (Partial)
Sulfate	24-Hour	Attainment	N/A

Notes:
N/A = not applicable
Lead is in partial non-attainment on the Los Angeles County portion of the Basin.

Sources: SCAQMD: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2
ARB: www.arb.ca.gov/desig/changes.htm#summaries;
EPA: http://www3.epa.gov/airquality/greenbook/

Criteria Pollutants

Ozone (O_3) is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X) react with heat and sunlight. Exposure to ground-level ozone can trigger coughing and shortness of breath. It can also aggravate asthma and other lung diseases. Ground-level ozone can also damage sensitive vegetation and ecosystems.

The SCAB is currently designated as non-attainment for ozone by both EPA and ARB. SCAQMD, as the local air district governing SCAB, has developed an USEPA approved 8-hour ozone control plan (Air Quality Management Plan or AQMP) with new emission reduction commitments to meet the attainment of federal 8-hour standard by 2023. The AQMP will also demonstrate attainment with the revoked 1-hour ozone attainment. Construction of new emission sources such as those proposed for the Project that are in compliance with the New Source Review (NSR) and applicable local, state and federal air quality regulations would be in conformance with the AQMP.

Carbon monoxide (CO) is a colorless, odorless gas formed by incomplete combustion processes. Most CO emissions come from mobile sources. CO reduces oxygen delivery to organs and tissues, resulting in detrimental effects on body systems. With extremely high exposure, CO can cause death. The SCAB is designated as attainment with CO standards by both the EPA and ARB.

Nitrogen dioxide (NO_2) is used as the indicator for the larger group of nitrogen oxides (NO_X). Other nitrogen oxides include nitrous acid (HNO_2) and nitric acid (HNO_3). Nitric oxide (NO) produced from combustion reacts with oxygen in the atmosphere to form NO_2. Health effects from exposure to NO_2 include airway inflammation and aggravated respiratory ailments in sensitive groups. The SCAB is currently designated as attainment for NO_2 by the EPA and ARB.

Sulfur dioxide (SO_2) is part of a larger group of gases known as sulfur oxides (SO_X). SO_2 is formed from the combustion of sulfur-containing fossil fuels, mainly from power plants and other industrial facilities. Exposure to SO_2 can have an adverse effect on the respiratory system. SO_2 emissions in the basin are low due to the use of natural gas by stationary sources and low sulfur transportation fuels. The SCAB is designated as attainment for SO_2 by both the EPA and ARB.

Particulate matter (PM) is a mixture of extremely small solid and liquid particles, including soil, dust, metals, acids (such as nitrates and sulfates), and organic chemicals. The EPA classifies PM into two categories: PM10 and PM2.5. PM10 consists of coarser particles smaller than 10 micrometers in diameter, which is generally found in dusty areas like roadways and construction sites. PM2.5 is a subset of PM10 and consists of finer particles 2.5 micrometers and smaller in diameter, which are generally found in smoke and haze. Exposure to PM can lead to damaging health effects on the respiratory system.

The SCAB is designated as attainment by the EPA and non-attainment by ARB for PM10 standards. The SCAB is designated as non-attainment by the EPA and ARB for PM2.5 standards. SCAQMD adopted an AQMP to meet attainment status for the federal 24-hour PM2.5 standard by 2014; however, since the attainment has not yet been achieved due to the impacts of recent drought conditions, a new PM2.5 control strategy is developed to ensure attainment status of the federal 24-hour PM2.5 standard by 2019. The construction of new emission sources such as those proposed for the Project that are in compliance with NSR and applicable local, state and federal air quality regulations would be in conformance with the AQMP.

Lead (Pb) is a metal that can be found naturally in the environment and in manufactured products. Historically, the major source of lead emissions was from the use of leaded-fuels. Motor vehicle gasoline fuels no longer contain lead, which significantly decreased lead levels in the atmosphere. Today, the major sources of lead emissions are from lead smelters, battery manufacturing operations, and piston-engine aircraft using leaded gasoline. Lead exposure can result in adverse health impacts to the nervous, kidney, immune, reproductive, developmental, and cardiovascular systems.

EPA revised the federal lead standard from 1.5 ug/m^3, which was established in 1978, to 0.15 ug/m^3 on October 15, 2008. A portion of Los Angeles County was designated as non-attainment in the year 2010. In response to the non-attainment designation, the State submitted *the Final 2010 Lead State Implementation Plan – Los Angeles County to EPA*, which provides steps taken that brought Los Angeles County into attainment by December 31, 2015.

Sulfates (SO_4^{2-}) are an oxidized form of SO_2 in the atmosphere. This conversion takes place quickly especially in urban areas of California due to regional meteorological features. High exposure can increase respiratory stress and cardio-pulmonary disease. Sulfates can also lower visibility and damage the environment and property. The SCAB is designated as attainment for sulfates by ARB.

Existing Air Quality

The region surrounding the Project site has shown a general improvement in air quality with decreasing concentrations of most pollutants throughout the years. Existing air quality in the area complies with state ambient air quality standards for 8-hour CO, 1-hour NO_2, 1-hour SO_2, and 24-hour sulfate; and federal ambient air quality standards for 8-hour CO and 24-hour PM10. Existing air quality in the area is not in compliance with state standards for 1-hour and 8-hour ozone, 24-hour PM10, and annual PM2.5; and federal standards for 8-hour ozone and annual PM2.5.

The closest monitoring station to the Proposed Project site is located in Pasadena, approximately four miles southeast in Los Angeles County. Data for pollutants that are not monitored at this station, such as sulfur dioxide, PM10, and lead, are taken from the Los Angeles-North Main Street monitoring station. The second site was chosen based on proximity and general wind direction

in relation to the Scholl Canyon Landfill. The Los Angeles-North Main Street monitoring station is located approximately six miles south of the Project site.

SCAQMD and ARB publish information for ambient air quality data on both sites. The SCAQMD data summary is used as the primary source, and the ARB database is used when information is not available on the SCAQMD data summary. Table 3.3-3 presents a five-year background of the criteria pollutants monitored at both the Pasadena and Los Angeles-North Main Street monitoring stations through the year 2015. Monitoring data for the year 2016 have not been fully compiled and released by SCAQMD or CARB.

Table 3.3-3 Background Pollutant Concentrations and Exceedances of State/Federal AAQS

Pollutant	Averaging Time	2011	2012	2013[e]	2014	2015
Ozone	1-Hour (ppm)	0.107	0.111	0.099	0.124	0.111
	State Standard	(5)	(8)	(2)	(6)	(12)
	8-Hour (ppm)	0.084	0.086	0.075	0.096	0.084
	State Standard	(13)	(20)	(2)	(13)	(18)
	Federal Standard	(5)	(9)	(0)	(7)	(18)
Carbon Monoxide	1-Hour (ppm)	2.9[a]	2.4 [a]	2.5 [a]	3.1 [a]	2.6
	8-Hour (ppm)	2.2	1.6	2.0	1.8	1.6
	State Standard	(0)	(0)	(0)	(0)	(0)
	Federal Standard	(0)	(0)	(0)	(0)	(0)
Nitrogen Dioxide	1-Hour (ppm)	0.087	0.071[c]	0.09	0.075	0.075
	State Standard	(0)	(0) [c]	(0)	(0)	(0)
	AAM (ppm)	0.0203	0.0172 [c]	0.0218	0.0166	0.015
	98th Percentile 1-Hour (ppm)	0.0728	0.0558	0.0603	0.0601	0.056
Sulfur Dioxide	1-Hour (ppm) [d]	0.019	0.0052 [c]	0.0063	0.0054	0.0126
	State Standard [d]	(0)	(0)	(0)	(0)	(0)
	24-Hour (ppm) [d]	0.0054[a]	0.0018[a]	0.0017[a]	0.0014[a]	0.0011

Pollutant	Averaging Time	2011	2012	2013[e]	2014	2015
	99th Percentile 1-Hour (ppm) d	0.011	0.005	0.0052	0.0044	0.0063
PM10	24-Hour (µg/m³) [d]	53	80	57	87	88
	State Standard [d]	(2%)	(6.7%)	(2%)	(9%)	(8%)
	Federal Standard [d]	(0%)	(0%)	(0%)	(0%)	(0)
	AAM (µg/m³) [d]	29.0	30.2	29.5	35.4	33.0
PM2.5	24-Hour (µg/m³)	43.8	30.5	43.1	38.8	48.5
	Federal Standard	(1.0%)	(0%)	(0%)	(0.9%)	(0.8%)
	AAM (µg/m³)	10.8	10.12	11.95	11.29	9.57
	98th Percentile 24-Hour (µg/m³)	29.8	24.2	29.0	26.3	29.7
Lead	30-Day (µg/m³) [d]	0.012	0.014	0.013	0.013	0.013
	Quarter (µg/m³) [d]	0.011	0.011	0.011	0.01	0.01
Sulfate	24-Hour (µg/m³)	8.0d	5.7[d]	5.8	--[b]	6.1
	State Standard	(0%)d	(0%)[d]	(0%)	(--)[b]	(0%)

Notes:
ppm = parts per million of air by volume
µg/m3 = micrograms per cubic meter
AAM = annual arithmetic mean
(#) = Number of days exceeding the federal or state standard
(%) = Percentage of samples exceeding the federal or state standard

a) Data obtained from ARB, all unmarked data from SCAQMD
b) Pollutant not monitored, data not available00
c) Less than 12 full months of data, may not be representative
d) PM10, SO2, Pb and Sulfates from Los Angeles monitoring station (Station No. 087) when not available for Station 88 (Pasadena)
e) The higher readings between the Pasadena and Los Angeles monitoring Station were utilized because the 2013 data from Pasadena monitoring station were marked as incomplete.

Sources:
South Coast Air Quality Management District - Historical Air Quality by Year, Data Tables 2011-2015 (www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year)
California EPA (Air Resources Board) - Air Quality and Meteorological Information System (www.arb.ca.gov/aqmis2/aqdselect.php?tab=daily)

Laws, Ordinances, Regulations, and Standards (LORS)

EPA implements the federal Clean Air Act (CAA), a law that regulates air emissions from stationary and mobile sources. NAAQS were established under the CAA to regulate pollutants considered harmful to public health and the environment. Areas that are in attainment of the NAAQS are regulated under the Prevention of Significant Deterioration (PSD) program, while areas that are not in attainment of the NAAQS are regulated under the nonattainment NSR program. The NSR and PSD requirements apply to new construction or modification of industrial sources that emit air pollutants.

The ARB implements the California CAA which precedes the federal CAA and establishes stricter ambient air quality standards (AAQS). Each of the 35 local Air Pollution Control Districts in California has its own NSR program and issues permits for the construction and operation of stationary emission sources. Depending on the amount of pollutants that will be emitted from a source and the area designation for that pollutant, the source may be required to install Best Available Control Technology (BACT). In addition, sources may also be required to mitigate or "offset" the increases in emissions.

This Project is subject to SCAQMD rules and regulations. SCAQMD has the principal responsibility for developing plans to meet the NAAQS and CAAQS; implementing permit programs for the construction, modification, and operation of air pollution sources; and enforcing air pollution regulations for non-mobile sources. The nonattainment NSR program has also been delegated by EPA to SCAQMD and implemented through SCAQMD Regulation XIII.

Applicable Federal Regulations

Title 40 CFR, Part 52, Subpart A, Section 52.21 – Prevention of Significant Deterioration (PSD) of Air Quality

This subpart of the Code of Federal Regulations sets forth requirements when a significant increase of attainment air contaminants occurs at an existing major stationary source of criteria pollutants, or when a new facility is considered a major source. PSD applies when the region is in attainment with federal ambient air quality standards for a pollutant. In the South Coast Basin, attainment with federal air quality standards has been reached for CO and NO_2 and PM10. The Proposed Project is not expected to emit more than 250 tons per year for CO and NO_2 and 15 tons per year for PM10; therefore, not classified as a major source. PSD permitting for the Project is not required.

Title 40 CFR, Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines; Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills; Proposed Subpart XXX – Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or After July 17, 2014.

These subparts are applicable to the Proposed Project. SCAQMD has been delegated the authority to implement and enforce these federal regulations. Under SCAQMD Regulation IX, these subparts were adopted and made part of the Rules and Regulations of the SCAQMD. The Proposed Project is expected to meet the standards set by SCAQMD Rules and Regulation and the implementation of BACT for new sources, SCAQMD Rule 431.1 - Sulfur content of gaseous fuels, Rule 1110.2 - Emissions from Gaseous and Liquid Fueled Engines, and Rule 1150.1 – Control of Gaseous Emissions from Municipal Solid Waste Landfills). Table 3.3-4 shows the comparison the applicable federal and SCAQMD standards.

Table 3.3-4 40 CFR Part 60 Applicable Emission Standards and Complementing SCAQMD Regulation

Federal Regulation	Type of Pollutant	Emission Standards	SCAQMD Regulation	Emission Standards
NSPS Subpart JJJJ (Landfill Gas Engines)	NO_X	150 ppmv @ 15% O_2	Rule 1110.2	11 ppmv @ 15% O_2
	CO	610 ppmv @ 15% O_2	Rule 1110.2	250 ppmv @ 15% O_2
	VOC	80 ppmv @ 15% O_2	Rule 1110.2	30 ppmv @ 15% O_2
NSPS Subpart WWW (Landfill)	$NMOC_a$	98% reduction efficiency or 20 ppmv as hexane @ 3% O_2	Rule 1150.1	98% reduction efficiency or 20 ppmv as hexane @ 3% O_2
Proposed NSPS Subpart XXXb (Landfill)	$NMOC_a$	98% reduction efficiency or 20 ppmv as hexane @ 3% O_2	Rule 1150.1	98% reduction efficiency or 20 ppmv as hexane @ 3% O_2

Notes:
ppmv: parts per million by volume
NMOC: Non-Methane Organic Compounds
EPA is proposing to establish a new NMOC emission threshold for requiring installation of a gas collection and control system (GCCS). The proposed 40 CFR 60 subpart XXX reduces the NMOC emissions threshold from 50 Mg per year to 34 Mg per year. The proposed NSPS will not affect Scholl Canyon Landfill since the landfill NMOC emissions exceed 50 Mg per year. SCAQMD Regulation IX currently does not include 40 CFR 60 Subpart XXX; however, Regulation IX is expected to include this subpart once it's adopted.

Title 40 CFR, Part 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

This subpart establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste landfills. To demonstrate compliance with this subpart, the facility must comply with the requirements of 40 CFR Part 60 Subpart WWW. As discussed previously, the Proposed Project is expected to comply with the subpart WWW; therefore, compliance with subpart AAAA is expected.

Title 40 CFR, Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

This regulation establishes national emission and operating limitations for Hazardous Air Pollutant (HAP) emissions from stationary internal combustion engines. Compliance with this subpart is achieved by meeting the emission standards of 40 CFR Subpart JJJJ. Subpart JJJJ specifies that new area sources of HAPs comply with the Subpart by complying with the new source pollution standards of 40 CFR 60 Subpart JJJJ. As discussed in the above section, the proposed engines are expected to meet the emission standards of Subpart JJJJ; therefore, compliance with subpart ZZZZ is also expected.

Title 40 CFR, Part 70 – State Operating Permit Programs

The requirements of the operating permit program under this regulation apply to facilities that are classified as major sources or subject to certain NSPS requirements. The operating permit program implements Title V of the federal CAA and is carried out at the regional level under SCAQMD's Regulation XXX. All applicable federal performance standards, operating, monitoring, recordkeeping, and reporting requirements have to be issued for permits under this regulation.

A facility in SCAB is subject to Title V requirements if it has the potential to emit greater than 10 tons per year of NO_X or VOC, 100 tons per year of SO_X, 50 tons per year of CO, or 70 tons per year of PM10; 25 tons per year for combined HAPs or 10 tons per year for individual HAP.

Since the Scholl Canyon Landfill Power Project will exceed the thresholds above for NO_X and VOCs, a Title V application for this Project will be submitted to comply with this regulation. The resulting Title V permit may also incorporate operations from the adjoining landfill that are under the City of Glendale's control.

Applicable State Regulations

California Code of Regulations, Section 41700

This regulation prohibits the discharge of air contaminants from a facility in quantities that will negatively affect the health and safety of the public, businesses, or properties. The Project will be subject to permit conditions that ensure no adverse public health effects or nuisance will result from the facility.

Applicable Local Regulations

SCAQMD Rule 403 – Fugitive Dust

The purpose of this rule is to reduce PM emissions from anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. During the

construction phase of the Proposed Project, the following control measures as listed in Table 1 of Rule 403 will be taken to reduce the fugitive dust emissions:

- Apply sufficient amount of water to prevent the generation of visible dust plumes during demolition and earth-moving activities.
- Stabilize material while loading, transporting, and unloading to reduce fugitive emissions.
- Establish traffic and parking areas for construction activities by using road barriers.

SCAQMD Rule 407 – Liquid and Gaseous Air Contaminants

This rule limits CO emissions to 2,000 ppm and SO_X emissions to 500 ppm, averaged over 15 consecutive minutes. The proposed equipment will meet the CO limit. The proposed equipment is exempt from the SO_X limit of this rule because it complies with the sulfur content requirements of Rule 431.1 for gaseous fuels.

SCAQMD Rule 409 – Combustion Contaminants

This rule prohibits contaminant emissions of more than 0.1 grain per cubic foot of gas at 12 percent CO_2 at standard conditions, averaged over 15 consecutive minutes. Emissions from internal combustion engines are exempt from this rule, and the proposed engines and existing flares are expected to comply with the emission limits of this rule.

Rule 431.1 – Sulfur Content of Gaseous Fuels

This rule limits the sulfur content of landfill gas to less than 150 ppmv averaged over 24 hours, calculated as hydrogen sulfide (H_2S). A sulfur removal system will be installed to reduce the sulfur content of landfill gas fuel used in this Project to the levels below this limit; thus compliance with the rule is expected.

SCAQMD Regulation IX – Standards of Performance for New Stationary Sources

This regulation incorporates Title 40 CFR, Part 60 of the Code of Federal Regulations (CFR), and is applicable to all new, modified, or reconstructed sources of air pollution. Subparts JJJJ of this regulation apply to the proposed stationary engines. These subparts establish emission limits, monitoring, and test method requirements. Compliance with Subpart JJJJ will be achieved through the application of BACT and compliance with SCAQMD Rule 1110.2.

SCAQMD Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines

Rule 1110.2 sets emission standards for engines that combust 90 percent or more landfill gas based on the higher heating value of the fuels. The applicable standards for biogas engines are

11 ppmv NO_X, 30 ppmv VOC, and 250 ppmv CO (all at 15 percent O_2). Emission control systems such as the proposed selective catalytic reduction (SCR) and CO oxidization systems are needed in order for the proposed landfill gas engines to meet these emission standards.

Rule 1150.1 – Control of Gaseous Emissions from Municipal Solid Waste Landfills

This rule requires landfill gas control devices to be operated continuously to reduce methane by at least 99 percent by weight and NMOC by at least 98 percent by weight or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3 percent oxygen. If lean burn engines are utilized as the gas control units, the engines shall reduce the outlet methane concentration to less 3000 ppmv, dry basis, corrected to 15 percent oxygen. An initial source test for the proposed equipment will be required to demonstrate compliance with this rule.

SCAQMD Regulation XIII – New Source Review (NSR)

The SCAQMD regulatory framework includes two options for implementing new source review. Certain facilities included in the Regional Clean Air Market (RECLAIM) cap and trade program for NO_X and SO_X are subject to the new source review requirements of Regulation XX. Facilities that are not part of RECLAIM are subject to the NO_X and SO_X new source review requirements of Regulation XIII. New source review for VOC, CO and PM is administered through Regulation XIII for all facilities. The Proposed Project is to construct and operate a new landfill gas energy recover facility; therefore, the Proposed Project is exempted from the RECLAIM program. The Project is instead subject to the new source requirements of Regulation XIII for all criteria pollutants.

SCAQMD Rule 1303 – NSR Requirements: Best Available Control Technology (BACT)

Rule 1303(a) requires any new or modified source which results in an emission increase of any nonattainment air contaminant, any ozone depleting compound, or ammonia to meet the BACT requirement. BACT is the most stringent emission limitation or control technology which has been achieved in practice (AIP), is contained in any state implementation plan (SIP) approved by the USEPA, or is another technology that has been found to be technologically feasible and cost effective by the Air District. Table 3.3-5 provides a summary of recent BACT determination for the proposed equipment. The BACT determinations for NO_X, VOC, and CO for reciprocating internal combustion engines reflect compliance with emission standards in Rule 1110.2.

Table 3.3-5 BACT Determinations for Diesel and Landfill Gas Combustion Equipment

Equipment Type	Pollutant	BACT Emission Rate
Internal Combustion Engines	NO_X	11 ppmv at 15% O_2
	VOC	30 ppmv at 15% O_2
	CO	250 ppmv at 15% O_2
	PM10/2.5	0.066 g/bhp-hr
	SO_X	60 ppmv of sulfur content in the landfill gas
	NH_3 (Slip)	5 ppmv at 15% O_2

SCAQMD Rule 1303 – NSR Requirements: Air Quality Modeling

Rule 1303(b)(1) requires an analysis to demonstrate compliance with ambient air quality standards. An air quality dispersion analysis must be conducted using a mass emissions-based analysis or an approved dispersion model to evaluate the impacts of the Project.

SCAQMD Rule 1303 – NSR Requirements: Emissions Offsets

Rule 1303(b)(2) requires emission increases to be mitigated through one of several offset programs. For this Project, emission mitigation can be accomplished by Emission Reduction Credits (ERC) approved pursuant to Rule 1309, allocations from the Priority Reserve pursuant to Rule 1309.1 for essential public services, or allocations from the Offset Budget pursuant to Rule 1309.2 for small sources. Priority Reserve established to provide credits for specific priority sources, such as innovative technology, research operations, and essential public service. Similar to ERC, Priority Reserve credits are real, quantifiable, and permanent credits.

Since construction and operation of a landfill gas processing facility is considered to be an essential public service, Priority Reserve credits are expected to be granted for this Project pursuant to Rule 1309.1 for pollutants that exceed small source thresholds.

SCAQMD Rule 1401 – New Source Review of Toxic Air Contaminants (TACs)

Rule 1401 establishes allowable risk thresholds for permit units that emit TACs. Depending on the pollutant, the rule specifies limits for maximum individual cancer risk (MICR), cancer burden, and/or non-cancer acute and chronic Hazard Indices (HI and HC).

Emission controls, which are considered to be T-BACT, will be implemented for the proposed engines to minimize TAC emissions. Sources that include the utilization of T-BACT may be subject to a slightly less stringent MICR threshold that is equivalent to State standards for new sources.

SCAQMD Regulation XVII – Prevention of Significant Deterioration (PSD)

Pursuant to Rule 1704(a)(1) and (4), the Proposed Project is exempt from the requirement of PSD analysis per Rule 1703(a)(3) since construction and operation of a landfill gas processing facility is an essential public service facility and it is also categorized as a resource recovery project. Potential annual emissions of all criteria pollutants (NO_X, VOC, CO, SO_X, PM10 and PM2.5) are also below the PSD applicability thresholds of SCAQMD Regulation XVII and 40 CFR Part 52, Subpart A.

Regulation XXX – Title V

This regulation implements the operating permit requirements of Title V of the CAA as amended in 1990. U.S. EPA has delegated to SCAQMD implementation authority over the federal program through local regulations that are as stringent, if not more stringent, than the federal

regulations. Therefore, compliance with this regulation will result in compliance with the federal Title V program.

Scholl Canyon Landfill power generation facility will exceed the Title V applicability thresholds listed in this regulation for several pollutants; therefore, a Title V application will be submitted as part of the permitting process. The resulting title V permit may also incorporate operations from the adjoining landfill that are under the City of Glendale's control.

3.3.2 Air Quality Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
AIR QUALITY: **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☐	☒

Significance Criteria

The significance criteria established by the local air pollution control district is used to evaluate this Project. Since the facility location is under SCAQMD jurisdiction, the air quality impacts from the Proposed Project will be compared with the following significance thresholds listed in Table 3.3-6. If the impacts equal or exceed any of the criteria, they may be considered significant.

Table 3.3-6 SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NOx	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM10	150 lbs./day	150 lbs./day
PM2.5	55 lbs./day	55 lbs./day
SOx	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day
Lead	3 lbs./day	3 lbs./day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants		
NO_2 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM10 24-hour average annual average	Increase of 10.4 µg/m^3 (construction) & 2.5 µg/m^3 (operation) 1.0 µg/m^3	
PM2.5 24-hour average	Increase of 10.4 µg/m^3 (construction) & 2.5 µg/m^3 (operation)	
SO2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 µg/m^3 (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 µg/m^3 (state) 0.15 µg/m^3 (federal)	

Localized Significance Thresholds

The SCAQMD has also developed localized significance thresholds (LSTs) to assess the localized air quality impacts from construction and operation based on the project location and distance to the nearest sensitive receptor. LSTs are only applicable for NO_X, CO, PM10, and PM2.5.

SCAQMD has developed screening level emission rate thresholds for each source receptor area (SRA) in the region to aid in determining if a project may generate significant impacts to the localized air quality. These tables are intended to be used for a project with a size less than five acres. Projects with emissions that exceed the screening threshold may be subject to more complex analyses to determine the significance of their impact on air quality.

SCAQMD provides a lookup table for allowable emissions in pounds per day as a function of receptor distance from 25 to 500 meters and the size of the project. The size of the Proposed Project is larger than two acres; however, LST threshold for two acres project is used to provide a more conservative analysis. The nearest SRA is West San Gabriel Valley (SRA8) located at 752 S. Wilson Avenue in Pasadena. The nearest sensitive receptor is located approximately 843 meters from the emission sources. Table 3.3-7 shows the localized air quality significance threshold based on 500 meters receptor distance and a project size of two acres.

Table 3.3-7 SCAQMD Localized Air Quality Significance Thresholds at SRA8

Pollutant	Construction	Operation
NOx	175 lbs./day	175 lbs./day
CO	7,957 lbs./day	7,957 lbs./day
PM10	160 lbs./day	39 lbs./day
PM2.5	82 lbs./day	20 lbs./day

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact

Impact Discussion

The Proposed Project is located in the Los Angeles County, and is under the jurisdiction of the SCAQMD. As shown in Table 3.3-2, the South Coast Air Basin (SCAB) is designated as non-attainment for both federal and state ozone standards. One-hour ozone is classified under state standards as extreme non-attainment. 8-hour ozone is classified under federal and state standards as extreme non-attainment. The SCAB is classified as non-attainment for State PM10 standard and as non-attainment for both federal and state PM2.5 standards. NO_2, CO, and SO_2 are considered to be in attainment by the state and unclassified/attainment by EPA. Additionally, the basin is considered to be in unclassified/attainment with federal PM10 standards.

The SCAQMD is the agency responsible for attaining timely compliance with federal standards within the Los Angeles County portion of the South Coast Air Basin. The Air District is responsible for developing those portions of the SIP and AQMP that deal with certain stationary and area source controls in cooperation with the transportation planning agencies (TPAs), the

development of transportation control measures (TCMs). ARB is responsible for submitting the SIP to USEPA.

The Project will be required to comply with all applicable District rules and regulations. The SCAQMD rules and regulations that result from the SCAQMD air quality attainment planning process specify the emissions control and offset requirements for new sources. The Proposed Project will use BACT to control the project's emissions. In addition, the operational emissions of NO_X and VOC are proposed by the proponent to be offset through the allocations from the SCAQMD Priority Reserve account.

To analyze the impact of the Proposed Project to the national and state ambient air quality, criteria pollutant emissions from construction activity of the project and operating the proposed power plant were quantified.

Construction Impacts

Construction Impacts Due to Earth Moving Activity

Construction of the Proposed Project will include the removal and relocation of existing buildings and tanks, landfill gas piping system, and power lines. The onsite construction activities will consist of installing electrical generating units (engines), LFG treatment system, and other buildings, such as office, warehouse, etc.

Emissions from construction activity were calculated using CalEEMod version 2016.3.1. CalEEMod calculates both the daily maximum and annual average emissions for criteria pollutants and annual greenhouse gases (GHG). The model calculates emissions caused by demolition, site preparation, grading, building, coating and paving activities from the following sources:

- Off-road construction equipment
- Fugitive dust from material movement in site preparation and grading, demolition, and vehicle trips
- On-road mobile equipment associated with workers, vendors, and hauling
- VOC emissions associated with architectural coating

For this Project, the model parameters provided in Table 3.3-8 were used to estimate construction emissions. CalEEMod default factors were used for other input parameters such as trips, mileage, and VOC coatings content.

Table 3.3-8 CalEEMod Input Parameters

Input Parameters Type	Specification
Project Location:	Glendale
Land Use Type:	General Light Industry
Total Building Size (est.):	5,500 ft^2 [a]
Construction Schedule (5 days/week working schedule):	
Demolition:	23 days
Site Preparation:	20 days
Grading:	45 days
Building Construction:	195 days
Paving:	20 days
Architectural Coating:	12 days
Dust from Material Movement:	
Total Acres Graded (Site Preparation):	2 acres
Total Acres Graded (Grading):	3 acres
Material Exported during Grading:	14,000 cubic yard[b]
Distance of hauling trip (round trip):	1,400 feet (0.26 miles)[b]
Demolition:	
Amount of material demolished (est.):	24,664 ft^2
Construction Vehicles Trips[c]:	
Demolition:	10 worker trips/day, 5 vendor trips/day, and 112 hauling trips
Site Preparation:	10 worker trips/day and 10 vendor trips/day
Grading:	10 worker trips/day, 10 vendor trips/day, and 875 hauling trips
Building Construction:	10 worker trips/day and 10 vendor trips/day
Paving:	18 worker trips/day
Architectural Coating:	20 worker trips/day and 3 vendor trips/day[d]
Architectural Coating:	
Coated Interior Area:	8,250 ft^2
Coated Exterior Area:	2,750 ft^2
Construction Mitigation:	
Utilize Tier 2 or newer for off-road construction equipment. Water disturbed area three times per day to minimize fugitive dust (PM10 and PM2.5) emissions.	
Note: a) The total building size of 18,000 ft^2 includes all structures will be constructed on the facility site. One office and one warehouse building are the only occupied buildings, which total size is less than 2,000 ft^2. b) Although CalEEMod calculated fugitive emissions from the export of soil offsite to the neighboring landfill, the export of soil and resulting emissions displace what would otherwise result from the import of landfill cover from offsite sources. c) The worker vehicles reflect a mix of light duty autos and light duty trucks. The vendor vehicles reflect a mix of medium and heavy duty trucks. The hauling vehicles include heavy duty trucks. d) The quantity of 3 large truck and 20 cars during architectural coating phase include vehicle trips due to commissioning activity of the electrical generating equipment.	

The Proposed Project will also include construction of natural gas and water pipelines. The natural gas pipeline will be constructed to connect the facility to the existing Southern California

Gas company pipeline system located at the eastern end of Scholl Canyon Drive. The water line will be connected to two fire hydrants located at the western end of Scholl Canyon Golf and Tennis Club. The air quality impacts of these pipelines are negligible because of the following reasons:

- Pipelines will be located above ground except for at road crossings; therefore, minimal excavation activity will be expected.
- Pipelines are short distance (3,500 feet for natural gas pipeline and 5,280 feet for water pipeline).
- No access roads will be built for these pipelines construction.
- Disturbance due to moving vehicles will be minimal because of slow construction vehicle speeds and surrounding vegetation.

No transmission lines will be constructed for the Proposed Project, in effect of existing transmission lines will be utilized to connect the electric generating equipment. CalEEMod model outputs are included in Appendix A.1.

Construction Impacts Due to Landfill Gas Combustion

In addition to emissions due to earth moving activity and building construction, emissions due to landfill gas combustion in the nearby flares will contribute to the air quality impact during construction phase of the Project

The majority of landfill gas produced by the Scholl Canyon Landfill is currently piped and combusted in existing boilers at Glendale Water and Power's (GWP) Grayson Power Plant. The existing flares at the landfill also combust some landfill gas when the boilers are not operating due to an emergency or a maintenance situation. For the baseline analysis, only an average emissions of boilers as reported in SCAQMD Annual Emission Reporting program for 2011 and 2015 were used to estimate the baseline emissions for the construction activity. The Boiler emission inventory is included in the Appendix A.2.2.

During the 15 – 18-month construction phase of Scholl Canyon Landfill Power Plant, the system piping landfill gas to GWP Grayson Power plant will be demolished; therefore, landfill gas will be combusted in the existing flare system at Scholl Canyon to control fugitive VOC and methane emissions.

There are ten primary flares and two backup flares at the Scholl Canyon Landfill facility. These flares are currently permitted by SCAQMD and, according to the permit, are owned and operated by LA County Sanitation District (LACSD). The permit allows for a maximum of 860 scfm landfill gas to be burned in each flare and 8,600 scfm of landfill gas to be burned in the entire system. Based on the current landfill gas production of 5,000 scfm, it is assumed that five flares

will combust a maximum capacity of 860 scfm of landfill gas per flare and one flare will combust the remaining 700 scfm of landfill gas during construction of the facility.

Flare emissions were calculated based on the average of emission factors reported on SCAQMD Annual Emission Reports (AER) for reporting year 2010 to 2014 and the results of source test conducted in May 2015. Table 3.3-9 summarizes the net emissions of the Project during construction phase, including the use of the flares, and Table 3.3-10 compares the net emissions to the mass daily significance threshold for the construction activity. Flare emission inventory is included in the Appendix A.2.

Table 3.3-9 Overall Air Quality Impact Due to the Construction of the Project

Pollutant	CalEEMod Output (Earthmoving Activity) (lb/day)	Flare Emissions During Construction (lb/day)	Less: Existing Baseline Daily Landfill Gas Combustion Emissions (lb/day)	Net Emission Increase [Decrease] (lb/day)
NO_X	41	96	84	53
CO	33	9	60	[18]
VOC	4.5	9	34	[20]
PM10	8.2	46	68	[14]
PM2.5	4.9	46	68	[18]
SO_X	0.05	37	12	25

Table 3.3-10 Comparison of Overall Construction Emissions with Significance Thresholds

Pollutant	Net Construction Emissions (lb/day)	SCAQMD Mass Daily Significance Thresholds for Construction Emissions (lb/day)	Exceed the Threshold (yes/no)
NO_X	53	100	NO
CO	[18]	550	NO
VOC	[20]	75	NO
PM10	[14]	150	NO
PM2.5	[18]	55	NO
SOX	25	150	NO

To comply with SCAQMD Rule 403, actions will be taken to minimize fugitive emissions due to construction activities. As listed in Table 1 of this rule, the following control measures will be conducted to minimize fugitive dust emissions during construction for the Proposed Project:

a) Apply sufficient amount of water to prevent the generation of visible dust plumes during demolition and earth-moving activities.

b) Stabilize material while loading, transporting, and unloading to reduce fugitive emissions.

c) Establish traffic and parking areas for construction activities by using road barriers.

Based on the required Rule 403 actions taken to minimize fugitive emissions during construction activity and calculated emissions summarized in tables 3.3-9 and 3.3-10, the overall air quality impact of construction activity of the Project would be below the applicable SCAQMD regional mass emissions thresholds of significance. The Project would also be in compliance with applicable SCAQMD rules and regulations. Construction of the Project would not conflict with or obstruct implementation of the air quality plan and potential impact would be less than significant.

Operation Impacts

Operational emissions will come mainly from stationary equipment, but some indirect emissions such as those from the daily transportation of employees, visitors, contractors and goods.

Emissions from stationary equipment were calculated using SCAQMD BACT standards, manufacturer guaranteed emission factors, laboratory and source test data, and default emission factors provided by USEPA AP-42 or ARB. The maximum daily emissions were then compared to SCAQMD mass daily significance thresholds.

The emissions produced by the occupants of the facility were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.1.

Operation Impacts due to Facility Occupancy

CalEEMod calculates indirect operational emissions caused by the occupancy of the facility, which include electricity and water consumption, as well as on-road mobile emissions. A total of six employees will be responsible for operations and routine maintenance of the facility and will generate on-road commute emissions in addition to the emissions from material deliveries to the site. Table 3.3-11 summarizes the daily emissions caused by these six employees in operating the facility.

Table 3.3-11 Criteria Pollutant Emission Summary – Facility Occupancy

Pollutant	Area Usage[a] (lbs./day)	Energy Usage (lbs./day)	Mobile Usage (lbs./day)	Total Emissions (lbs./day)
NO_X	0.00001	0.0268	0.0164	0.043
CO	0.00057	0.0225	0.0451	0.068
VOC	0.1229	0.0026	0.0031	0.128
PM10	0	0.0020	0.0126	0.015
PM2.5	0	0.0020	0.0035	0.005
SO_X	0	0.0002	0.0002	0.0003

Notes:
a) Area usages include architectural coating, consumer products, and landscaping.

The daily indirect emissions caused by employees operating the facility are added to plant operations emissions. However, as shown in table 3.3-11, these daily emissions were estimated to be less than one pound and the contribution to the overall operational emissions are expected to be negligible. CalEEMod model outputs are included in Appendix A.1.

Operation Impacts due to Stationary Equipment

The proposed Project is a 12 MW power generation facility, which consists of reciprocating internal combustion engines (RICE) as the electrical generating equipment. The Proposed Project includes a landfill gas siloxane removal system that would be regenerated on site, and a new enclosed flare as the emission control of the waste gas from the siloxane removal system. The proposed flare is very small and will be in service only on an intermittent basis because the waste gas is only produced during periodic regeneration process of the siloxane removal system. The waste gas is expected to contain low concentrations of siloxanes and other organic compounds, similar to the landfill gas that is combusted in the engines, and also in the existing permitted flares that will continue to be used as backup gas incineration devices. In order to incinerate the low heating value waste gas, the flare will be supplemented with a small amount of landfill gas. It is expected that the emissions from this flare are primarily due to the supplemental landfill gas combustion.

Based on the fact that the flare will be fueled by landfill gas and it will be utilized as needed, its emissions will be analyzed as part of the emissions from the existing flares. The existing flares operate will operate intermittently to combust excess landfill gas being produced that is not utilized by the electrical generating units, should one or more generating units be temporarily inoperable.

Landfill gas production at the Scholl Canyon Landfill is predicted to decrease overtime. Natural gas may be utilized to augment combustion if landfill gas production is not enough to fully operate the engines. However, due to the fact natural gas augmentation will occur in the future and natural gas is considered to be a cleaner fuel than landfill gas, it is prudent to analyze the air quality impacts of the proposed engines based on operating emissions using 100 percent landfill gas as the worst-case scenario.

Reciprocating Internal Combustion Engines

Reciprocating Internal Combustion Engine (RICE) technology is proposed for the Project and the City of Glendale is considering the use four GE Jenbacher Model J 620 GS-16 engines. Each engine has the ability to produce 3,018 kilowatts (KW) of power at 39.5 efficiency under ISO conditions. At 100 percent operating load, each engine is estimated to be able to combust 1,383 scfm. With the landfill gas production of 5,000 scfm, small amounts of natural gas will augment the landfill gas to increase intake fuel heating value and to allow all four engines to be operated at 100 percent capacity when needed.

The air quality impacts of the proposed RICE have been analyzed based on 100 percent landfill gas combustion. The following emission factors were used to estimate the criteria pollutant emissions from the engines:

- 11 ppmv at 15 percent O_2 for NO_X and 30 ppmv at 15 percent O_2 emission factors were used based on the required emission limits pursuant to SCAQMD Rule 1110.2.
- The proposed engines will be equipped with oxidation catalysts to reduce the CO emissions. Based on the manufacturer data, uncontrolled CO emission of the engine is 250 ppmv at 15 percent O_2. While CO emission reductions of at least 90 percent can be expected due to the use of an oxidization catalyst, the emissions inventory and air quality analysis assumes a much lower control efficiency and a controlled CO concentration of 130 ppmv at 15 percent O_2.
- The engine manufacturer PM10/2.5 emission rate of 0.066 g/bhp-hr, based upon SCAQMD BACT guidance.
- The SO_X emission factor was estimated based on 60 ppmv of sulfur content of landfill gas measured in H_2S as determined by SCAQMD as BACT.

The proposed engines will be equipped with SCR combined with oxidation catalysts to meet the SCAQMD emission standards. However, uncontrolled emissions can occur during startup, commission, and maintenance activities. To account for the uncontrolled emission rates and estimate maximum daily emissions, the following daily operating schedule is assumed:

- Three engines run 22 hours in normal operation and two hours in startup/shutdown mode.
- One engine runs 12 hours in normal operation, ten hours in maintenance, and two hours for startup/shutdown.

It is unlikely to have more than one engine in maintenance in the 24-hour period. Additionally, this type of operation will likely be limited to commissioning of the Project to ensure the engines and fuel condition skids are operating properly prior to the loading of emission control catalyst.

To comply with SCAQMD Regulation XIII, Priority Reserve credits will be allocated to offset the emission increases of the Proposed Project.

Table 3.3-12 summarizes the daily maximum emissions of the proposed engines, the quantity of Priority Reserve credits to offset the emission increases, and the comparison to the SCAQMD screening level mass-emission significance thresholds. With the mitigation of emissions that occurs through SCAQMD Rule 1303, net emissions of NO_X, VOC, PM10 and SO_X will be below SCAQMD daily mass emission significance thresholds. SCAQMD does not provide Priority Reserve offsets for CO or PM2.5 emissions. As such, daily emissions of these two pollutants are above the SCAQMD daily screening level mass emission significance thresholds. For these two pollutants, a more complex significance determination is made to demonstrate that emissions of CO and

PM2.5 are also below significance thresholds that are based upon net ambient pollutant concentrations. The emission Inventory for the proposed RICE is included in Appendix A.2.1.

Table 3.3-12 Criteria Pollutant Emission Summary – GE J 620 GS-16

Pollutant	Total Proposed Project (Engines Daily Max. Emissions (lbs./day)	Offset Allocations from the SCAQMD Priority Reserve (lbs./day)	Remaining Scholl Canyon Power Generating Facility Emissions (lbs./day)	SCAQMD Mass Daily Significance Thresholds for Operation Emissions (lbs./day)	Exceed Significance Threshold (yes/no)
NO_X	165	165	0	55	NO
CO	919	0	919	550	YES
VOC	114	114	0	55	NO
PM10	58	58	0	150	NO
PM2.5	58	0	58	55	YES
SO_X	81	81	0	150	NO

Without the Priority Reserve credits, NO_X, CO, PM2.5, and VOC emissions of the Proposed Project would exceed the significance thresholds. Air dispersion modeling was conducted to analyze further impact of pollutants emissions. Air dispersion modeling was not conducted for VOC since there is no State or Federal ambient air quality standards. The data inputs for the emission modeling are provided in table 3.3-13.

Table 3.3-13 AERMOD Input Parameters

Input Parameters Type	Specification
Engines Exhaust Information:	
Stack Height:	40 ft.
Stack Diameter:	2 ft.
Stack Temperature:	797 °F
Exhaust Flow (Wet):	481,020 SCFH

Table 3.3-14 summarizes the ambient air quality impacts from operating the proposed engines. As discussed in section 3.3.1, the background concentration is based upon the highest values recorded for the years 2011 through 2015. Model results demonstrate that the Project will not cause an exceedance of NO_2, CO, or PM2.5 ambient air quality standards. PM10 and PM2.5 background ambient concentrations already exceed federal or state standards, but the increase in concentrations resulting from the Proposed Project are below allowable thresholds established by SCAQMD. Detailed model input and output information is provided in Appendix A.3.

Table 3.3-14 AERMOD Model Output

Pollutant	Averaging Period	Project Impact	Background[a]	New Ambient	Limiting Standard	Type of Standard
NO_2[b]	1-HR	0.030 ppm	0.090 ppm	0.12 ppm	0.18 ppm	CAAQS
NO_2[b]	1-HR (98th %)	0.014 ppm	0.073 ppm	0.086 ppm	0.10 ppm	NAAQS
NO2[c]	Annual	0.00015 ppm	0.022 ppm	0.022 ppm	0.03 ppm	CAAQS
CO	1-HR	0.0145 ppm	3.1 ppm	3.24 ppm	20 ppm	CAAQS
CO	8-HR	0.0344 ppm	2.2 ppm	2.23 ppm	9 ppm	CAAQS
PM10	24-HR	1.07 ug/m3	88 ug/m3	89.07 ug/m3	Allowable increase of 2.5 ug/m3	CAAQS/SCAQMD Allowable Increase
PM10[d]	24-HR (6th highest over 5 years)	0.065 ug/m3	88 ug/m3	88.65 ug/m3	150 ug/m3	NAAQS
PM10	Annual	0.118 ug/m3	35.4 ug/m3	35.52 ug/m3	Allowable increase of 1.0 ug/m3	CAAQS/SCAQMD Allowable Increase
PM2.5	24-HR	1.07 ug/m3	48.5 ug/m3	49.57 ug/m3	Allowable increase of 2.5 ug/m3	CAAQS/SCAQMD Allowable Increase
PM2.5	24-HR (8th highest)	0.35 ug/m3	29.80 ug/m3	30.15 ug/m3	35 ug/m3 Below SIL of 1.2 ug/m3	NAAQS EPA Significant Impact Level (SIL)
PM2.5[e]	Annual	0.118 ug/m3	11.95 ug/m3	12.07 ug/m3	Below SIL of 0.3 ug/m3 Allowable increase of 1.0 ug/m3	EPA Significant Impact Level (SIL) CAAQS/SCAQMD Allowable Increase
SO_2	1-HR	0.0026 ppm	0.0126 ppm	0.0152 ppm	0.25 ppm	CAAQS
SO_2[f]	1-HR (99th %)	0.0014 ppm	0.0063 ppm	0.0077 ppm	0.075 ppm	NAAQS
SO_2	24-HR	0.0006 ppm	0.0054 ppm	0.0060 ppm	0.04 ppm	CAAQS

Notes:

a) The background values are based on the highest concentrations monitored during 2011 through 2015, except the year 2013, at West San Gabriel Valley (Pasadena) monitoring station. In 2013, the higher readings between Pasadena and Central Los Angeles monitoring station (Station No. 087) were used because the 2013 Pasadena background data were marked incomplete. Additionally, the background values of PM10 and SO_2 were based on the readings from the Central Los Angeles monitoring station since the Pasadena monitoring station did not record any background data for those pollutants.

b) The NO_2 1-hour modeling was refined using the AERMOD Ambient Ratio Method Version 2 (ARM2) option.

c) The NO_2 annual modeling was refined using the AERMOD ARM option, which assumed an 80% conversion factor of NO_X to NO_2.

d) The PM10 24-hour modeled values were based on the maximum 6th highest concentration over 5 years period.

e) The PM2.5 24-hour modeled values were based on the 8th highest concentration averaged over 5 years period with the background concentrations of 98th percentile of 24-hour data averaged over 5 years period.

Pollutant	Averaging Period	Project Impact	Background[a]	New Ambient	Limiting Standard	Type of Standard

f) The SO_2 1-hour modeled values were based on the 4th highest concentration averaged over 5 years period with the background concentrations of 99th percentile of 1-hour data averaged over 5 years period.
g) There are receptors surrounding the facility at lower and higher elevations than the emission sources. The model was run on non-default option (flat terrain) on all receptors at lower elevations; and a default option (complex terrain) was selected to on receptors above the emission sources base elevation. The project impact values shown in the table above is the highest values from both model runs.

Figures 3.3-1A through L show the maximum concentration readings for criteria pollutants outside the landfill property boundary.

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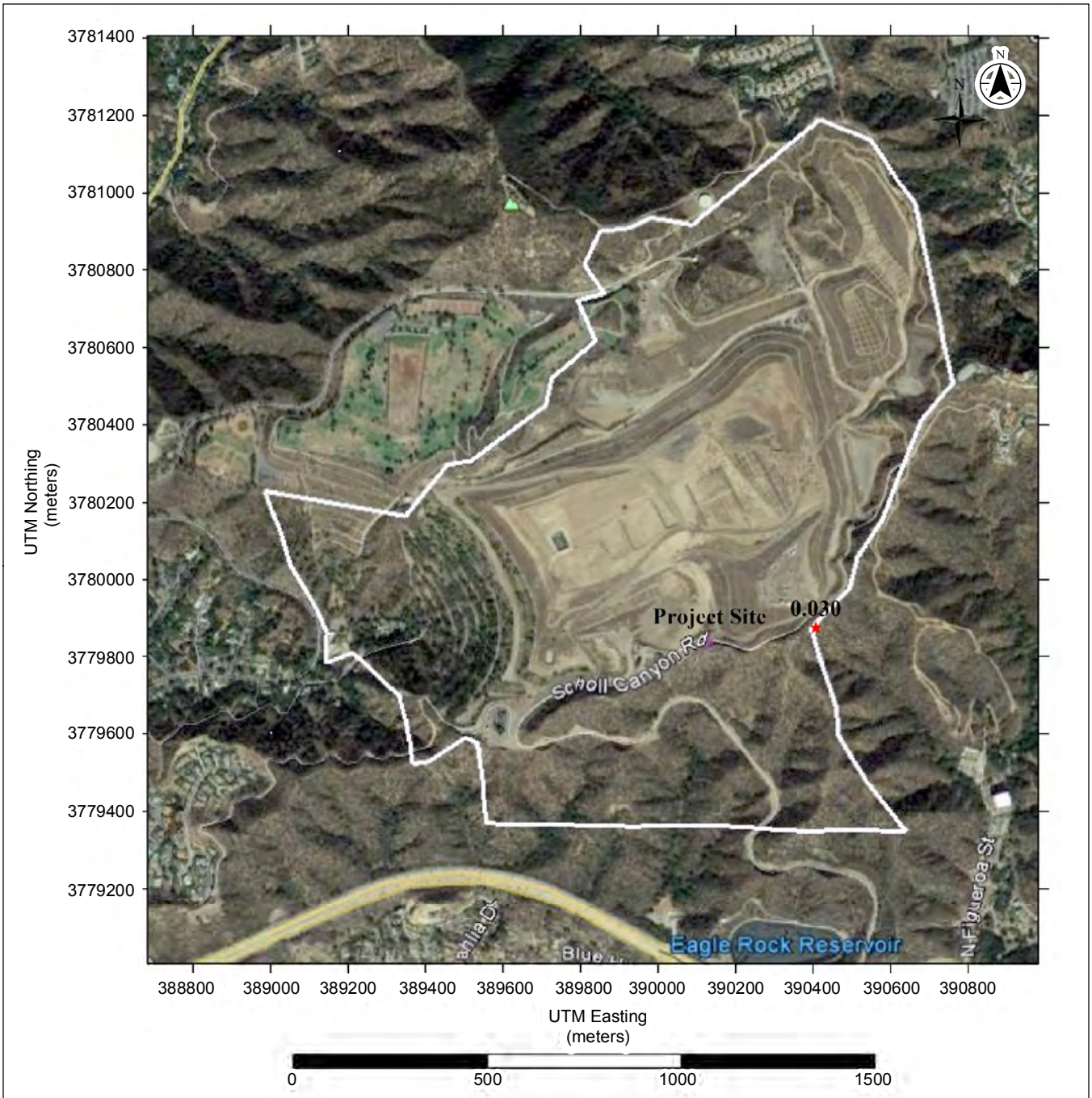

Modeling performed by Montrose Air Quality Services

Stantec

Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-21
Technical Review by CH on 2017-07-21

Client/Project
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
3.3-1A

Title
AERMOD Output for 1st highest 1-hourly NO_2 Concentrations (ppm)

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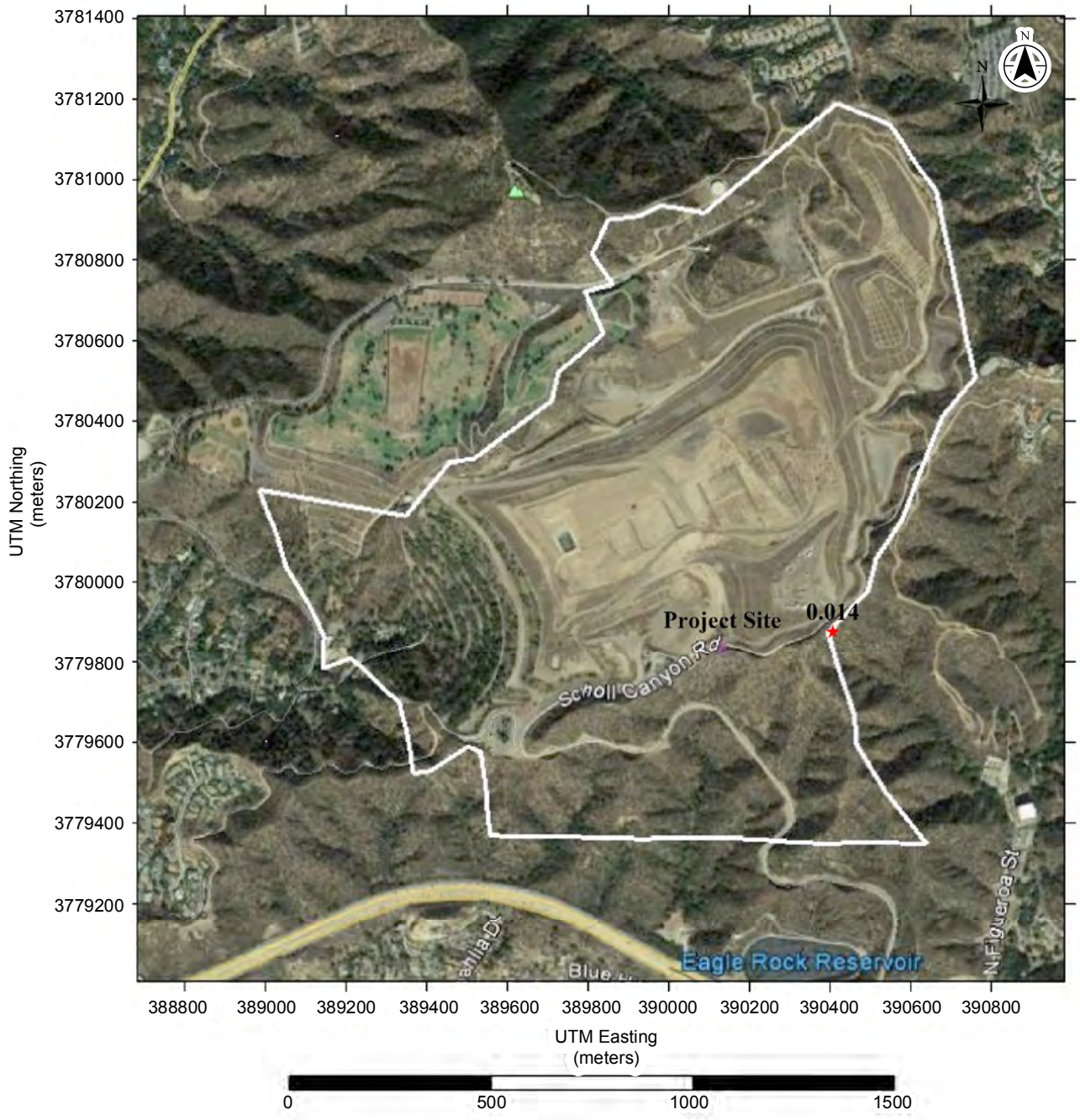

Modeling performed by Montrose Air Quality Services

Stantec

Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-21
Technical Review by CH on 2017-07-21

Client/Project
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
3.3-1B

Title
AERMOD Output for 8th highest 1-hourly NO_2 Concentrations (ppm)

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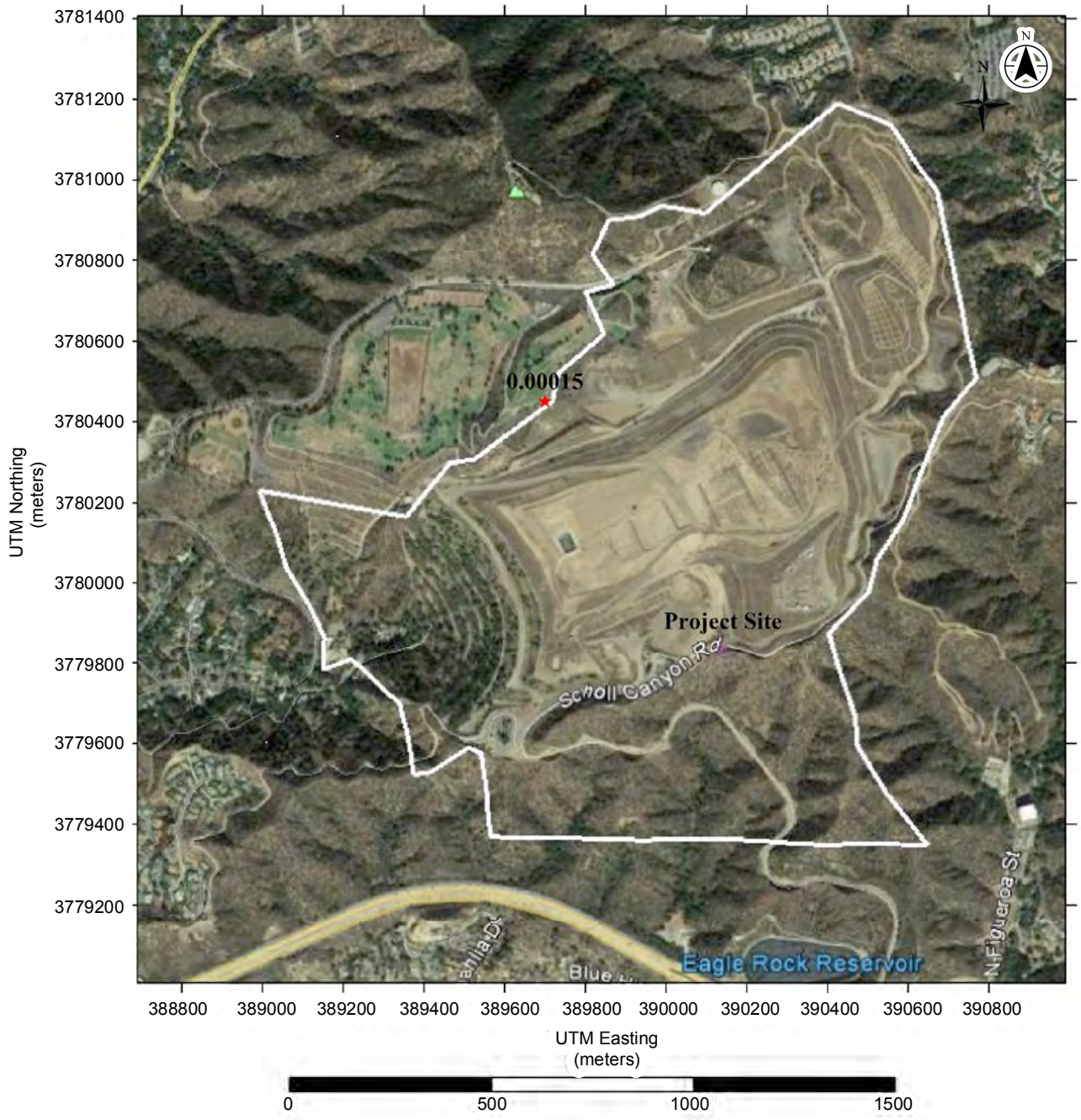

Modeling performed by Montrose Air Quality Services

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Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-21
Technical Review by CH on 2017-07-21

Client/Project
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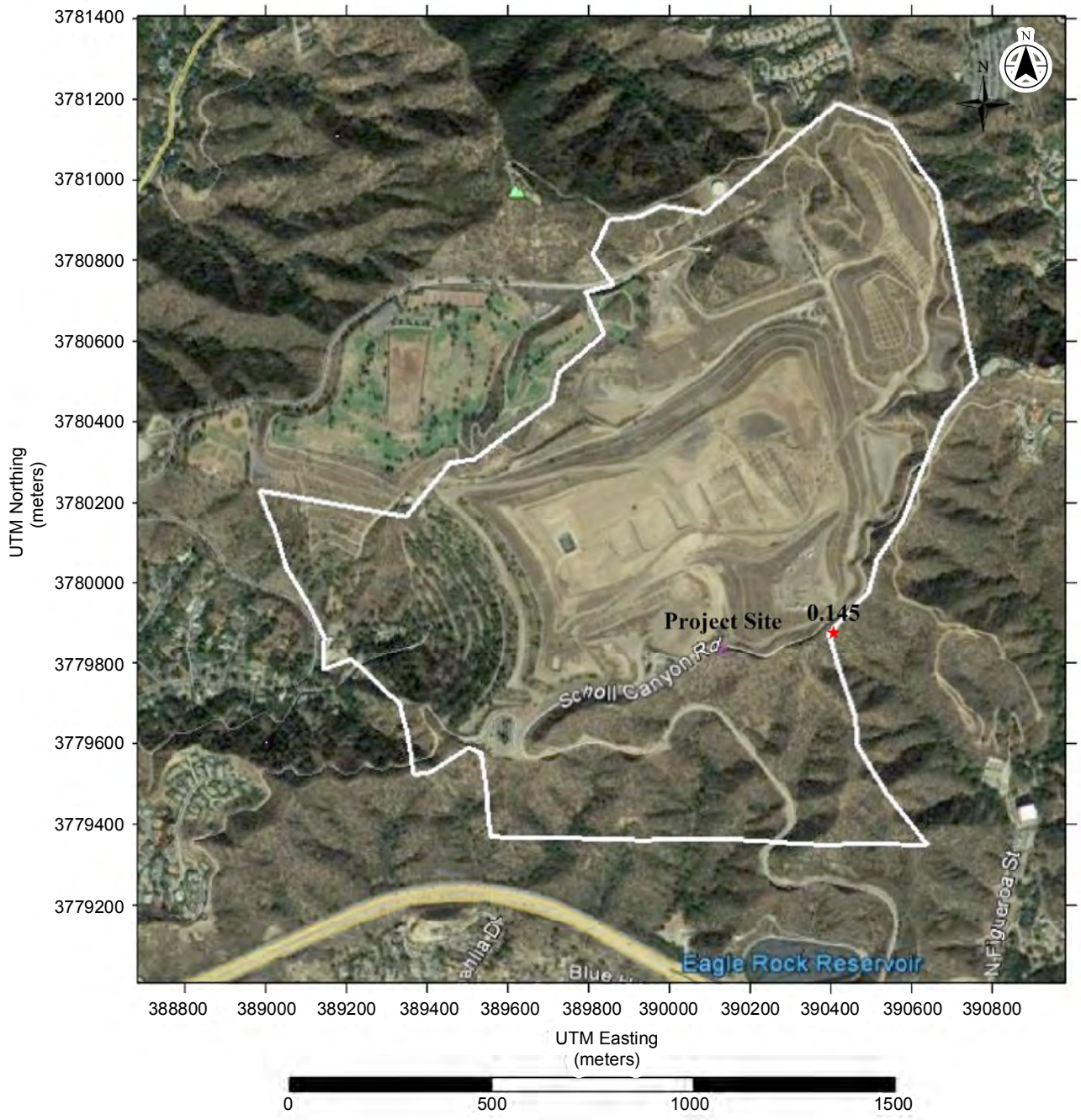
Figure No.
3.3-1C

Title
AERMOD Output for Annual NO_2 Concentrations (ppm)



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Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-21
Technical Review by CH on 2017-07-21

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Figure No.
3.3-1D

Title
AERMOD Output for 1st highest 1-hourly CO Concentrations (ppm)

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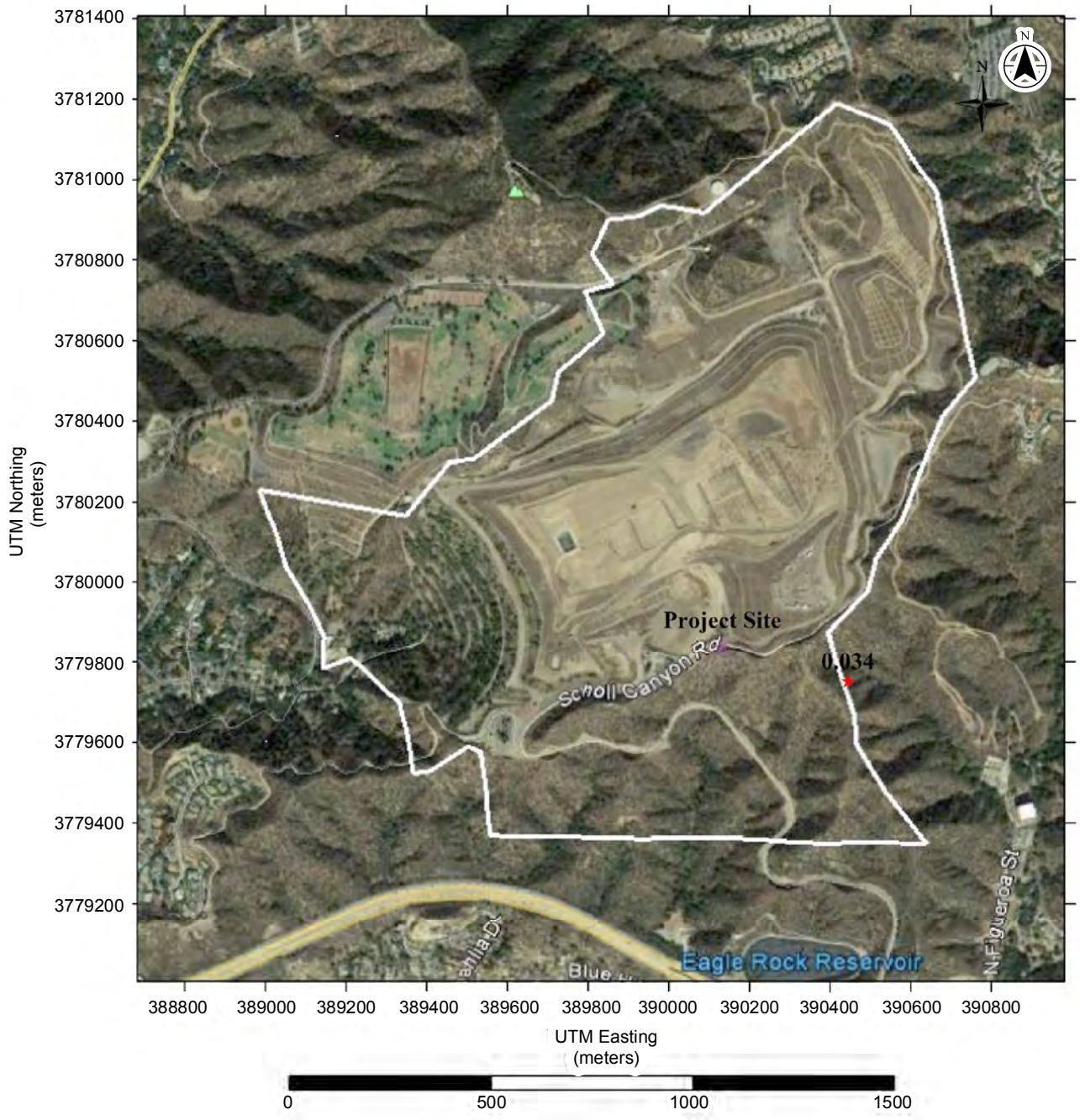

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Figure No.
3.3-1E

Title
AERMOD Output for 1st highest 8-hourly CO Concentrations (ppm)

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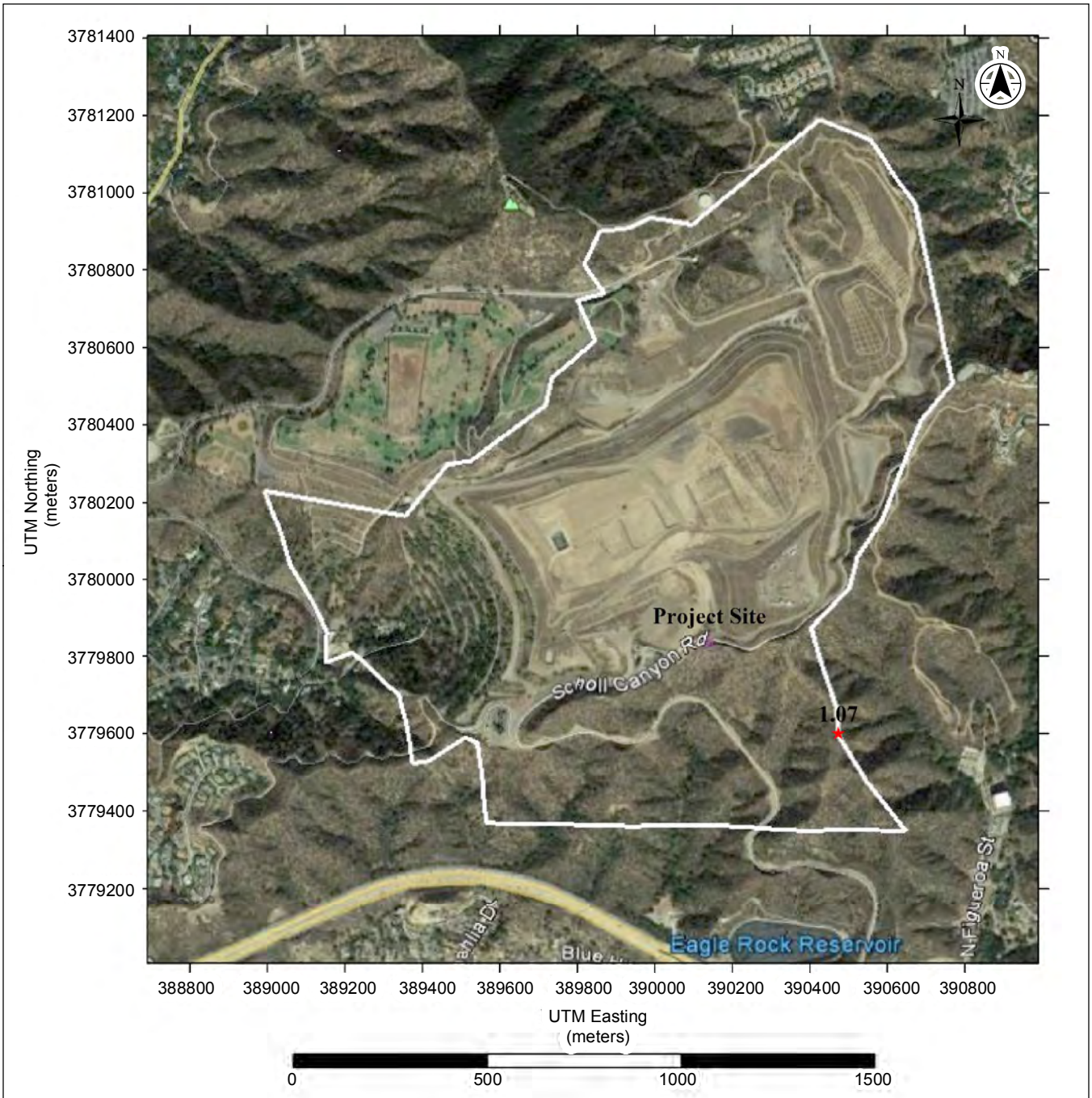

Modeling performed by Montrose Air Quality Services

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Figure No.
3.3-1F

Title
AERMOD Output for 1st highest 24-hour PM10/2.5 Concentrations (ug/m³)

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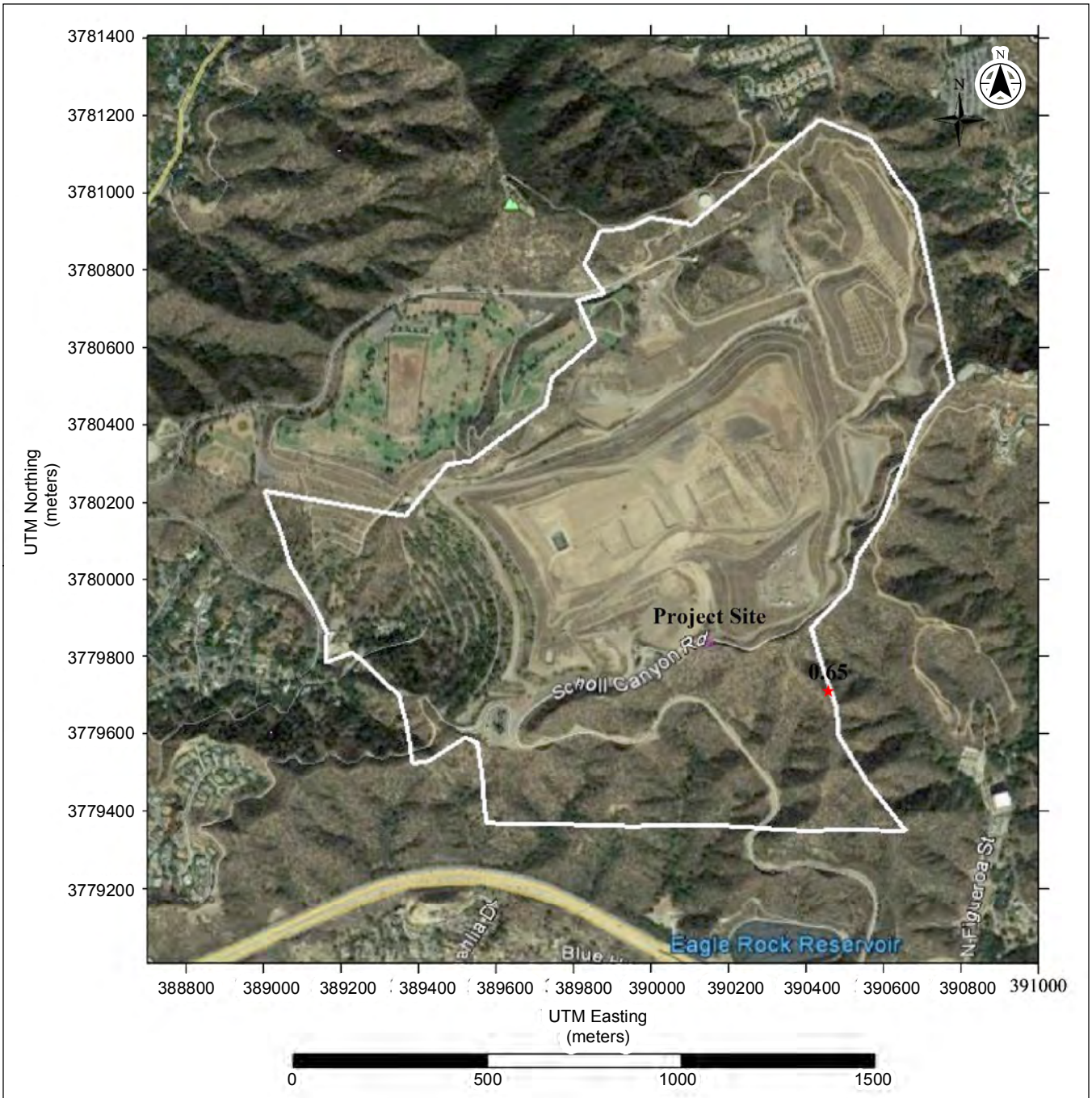

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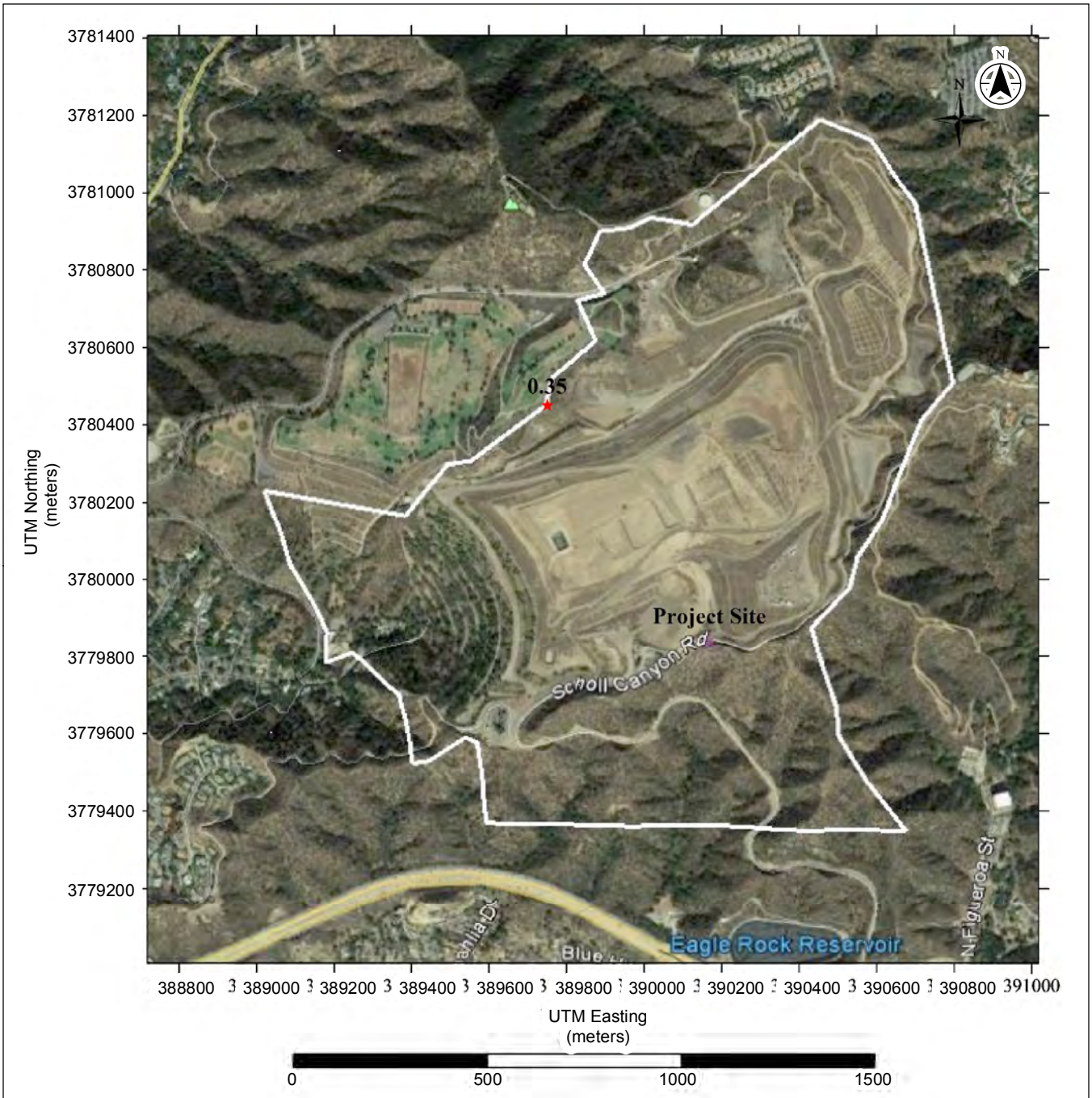
Figure No.
3.3-1G

Title
AERMOD Output for 6th highest 24-hour PM10 Concentrations (ug/m³)

C:\Users\jtrook\Desktop\2057123300\mxd\20170721\Fig3_3.2H_AERMOD_8th_highest_24hr_PM10_25_20170723.mxd Revised: 2017-07-23 By: jtrook



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Glendale, CA

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Figure No.
3.3-1H

Title
AERMOD Output for 8th highest 24-hour PM2.5 Concentrations (ug/m³)

C:\Users\jtrook\Desktop\2057123300\mxd\20170721\Fig3_3_2i_AERMOD_Annual_PM10_25_20170723.mxd Revised: 2017-07-23 By: jtrook

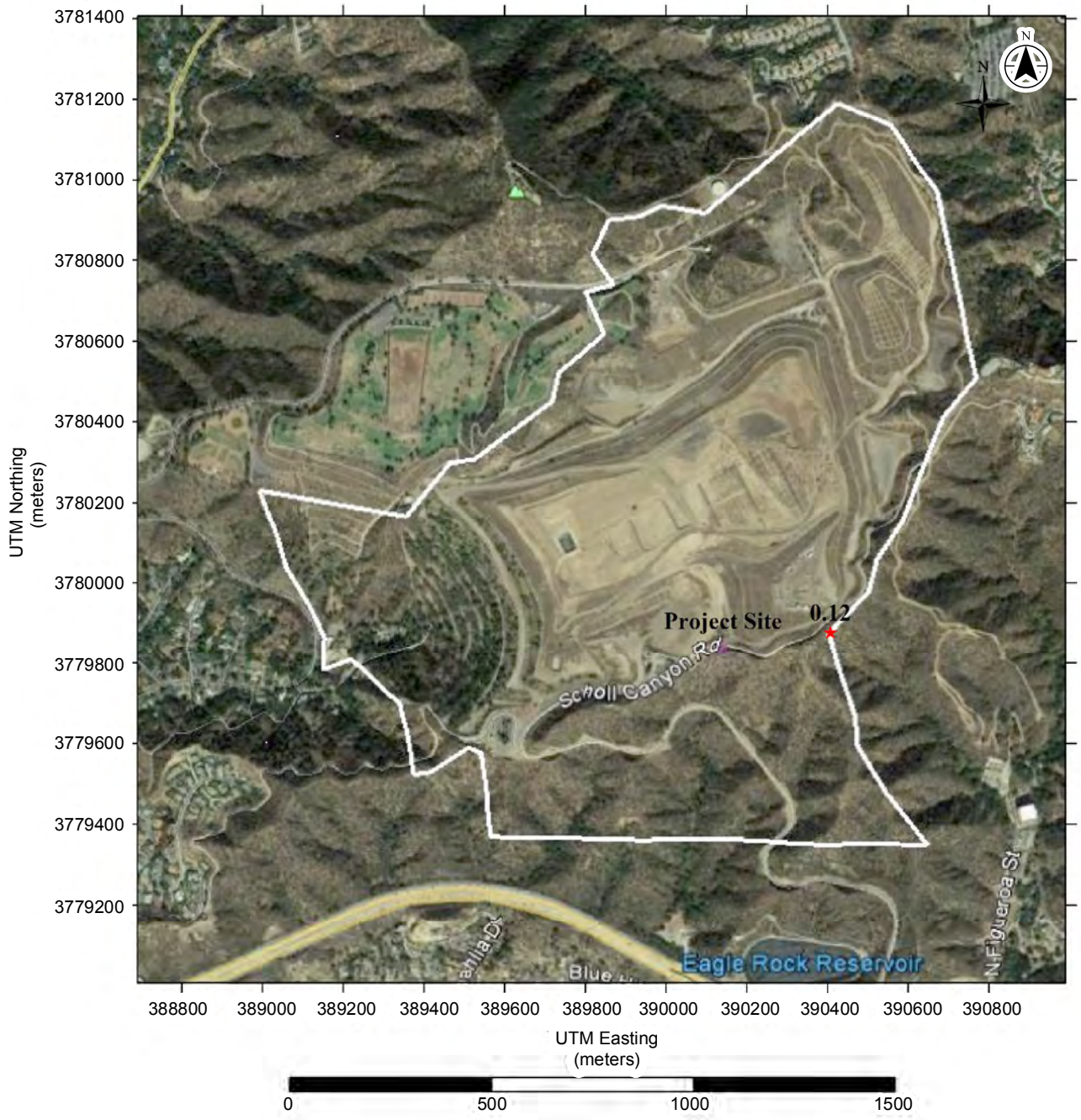

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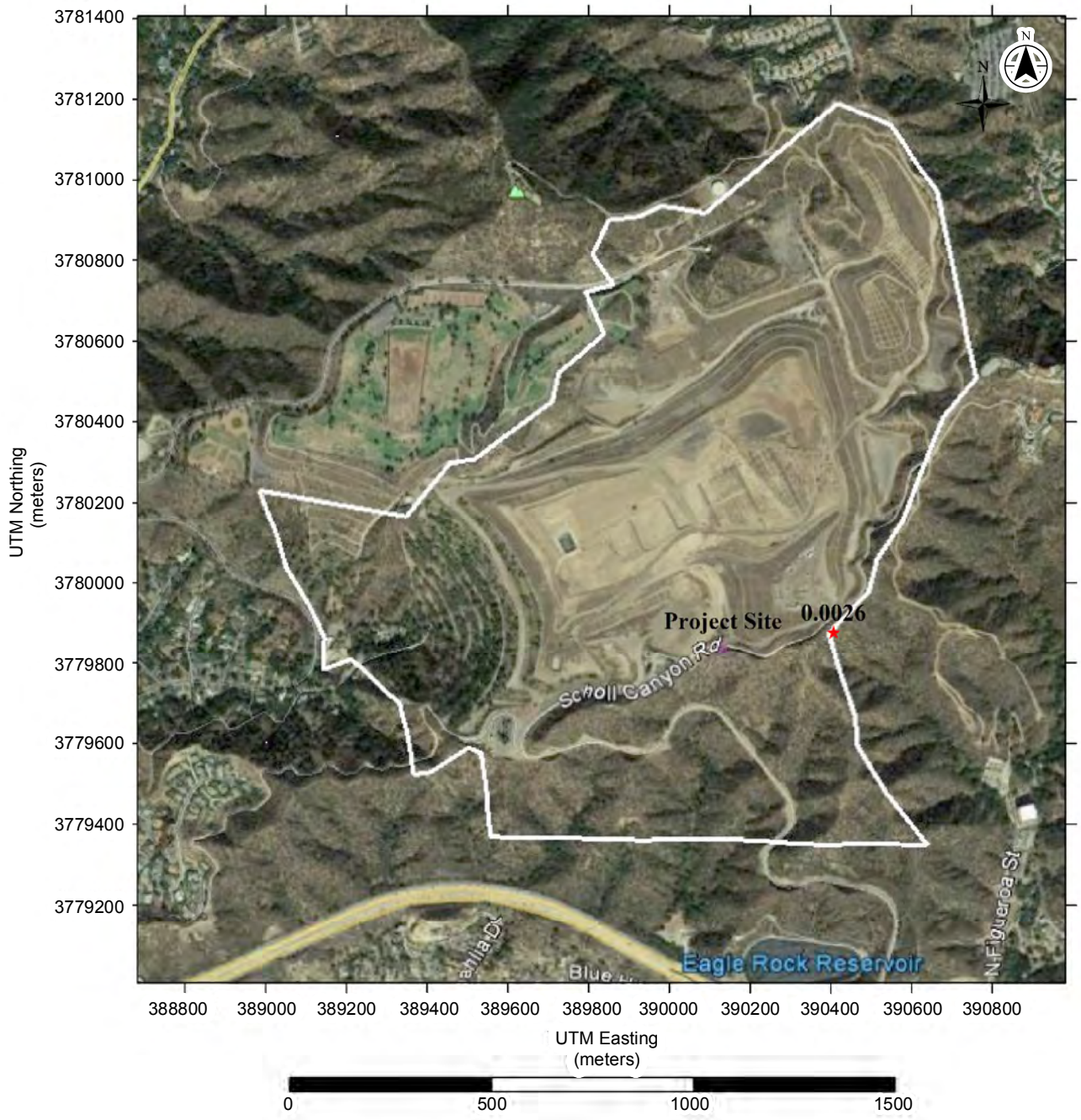
Figure No.
3.3-1i

Title
AERMOD Output for Annual Average PM10/2.5 Concentrations (ug/m³)

C:\Users\jtrook\Desktop\2057123001.mxd\20170721\Fig3_3_2J_AERMOD_1st_highest_1hr_SO2_20170723.mxd Revised: 2017-07-23 By: jtrook



Modeling performed by Montrose Air Quality Services

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Technical Review by CH on 2017-07-21

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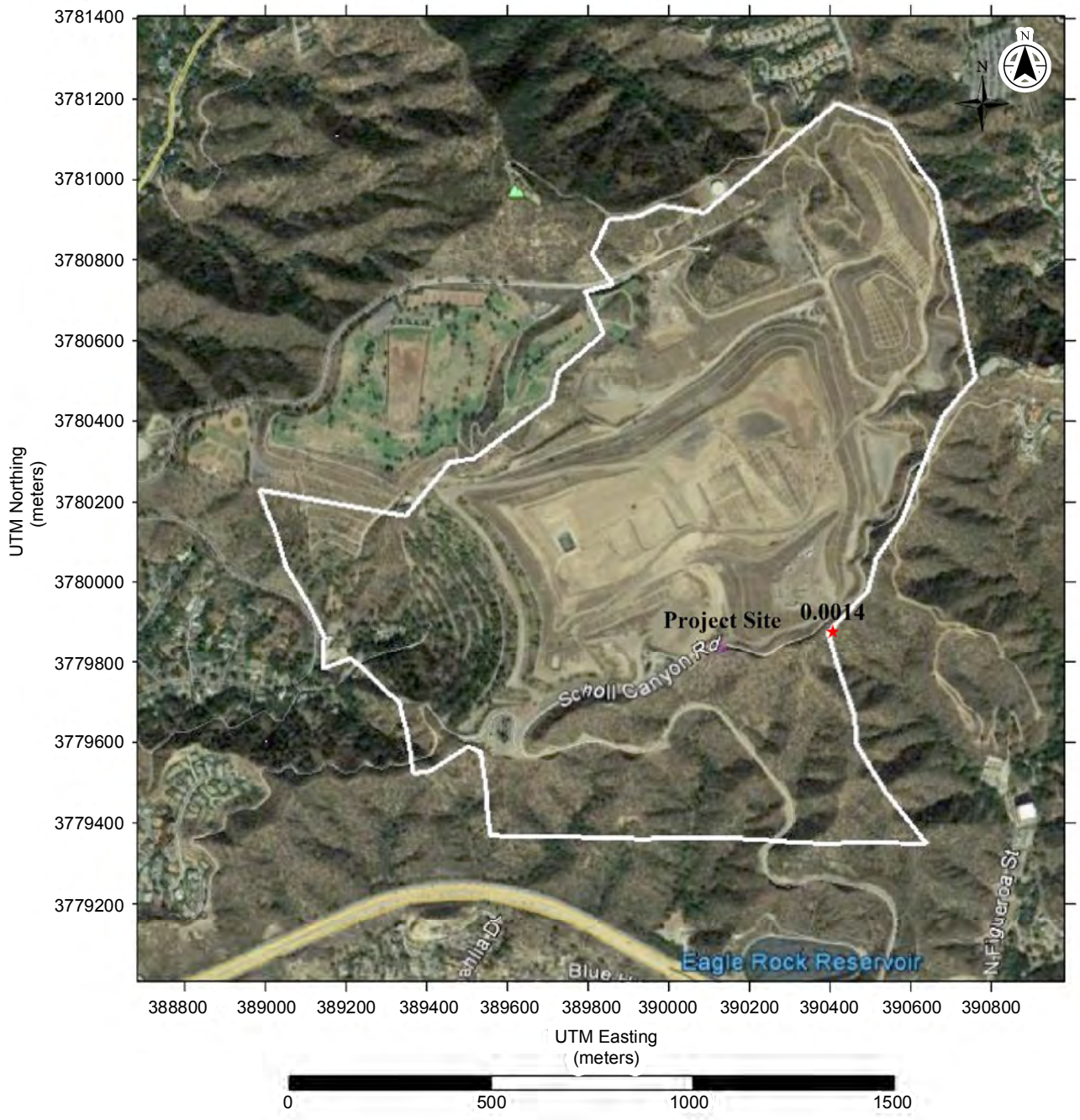
Figure No.
3.3-1J

Title
AERMOD Output for 1st highest 1-hourly SO_2 Concentrations (ppm)



Modeling performed by Montrose Air Quality Services

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Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-21
Technical Review by CH on 2017-07-21

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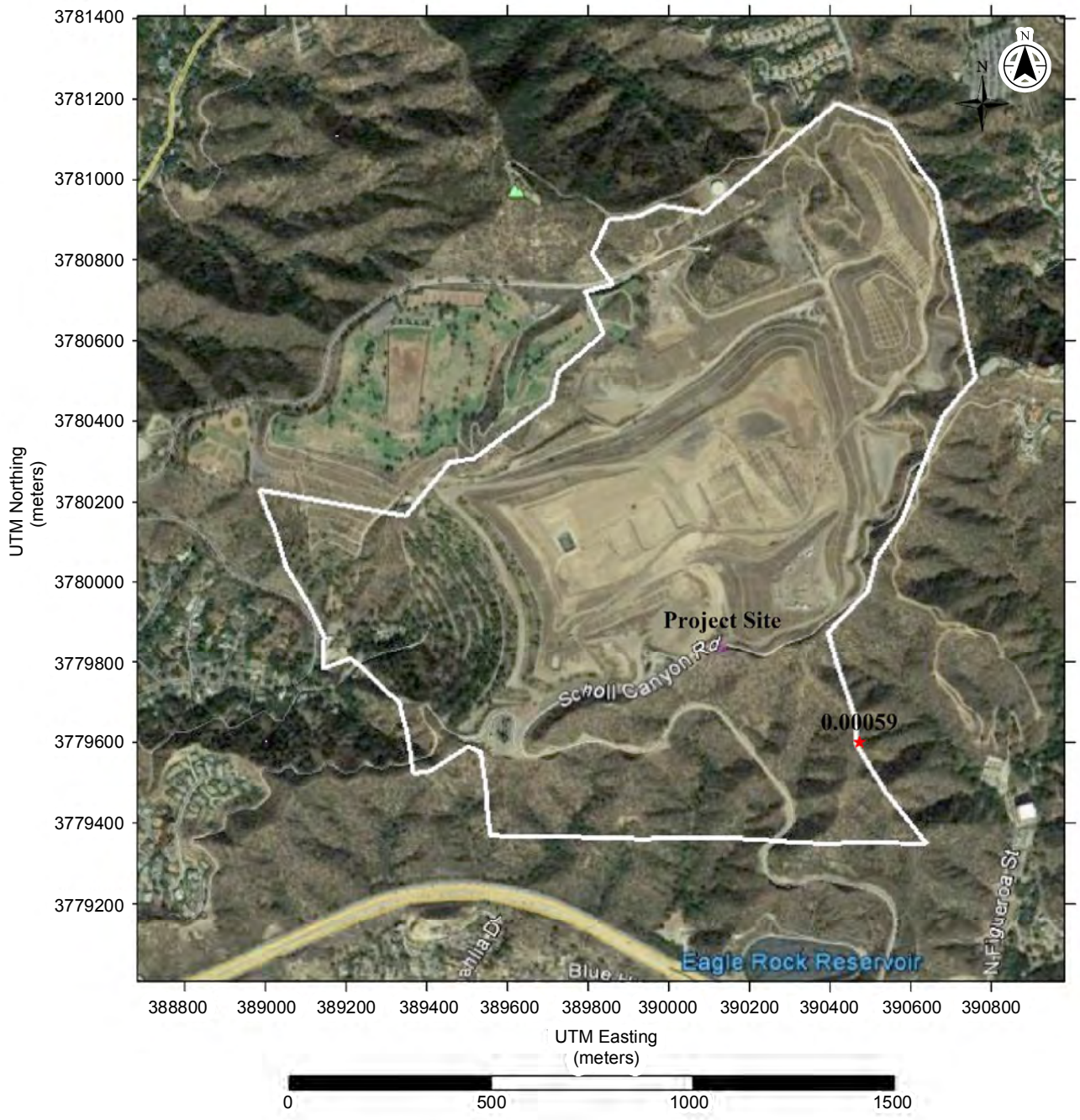
Figure No.
3.3-1K

Title
AERMOD Output for 4th highest 1-hourly SO_2 Concentrations (ppm)

C:\Users\jtrook\Desktop\2057123300\mxd\20170721\Fig3_3_2L_AERMOD_1st_highest_24hr_SO2_20170723.mxd Revised: 2017-07-23 By: jtrook



Modeling performed by Montrose Air Quality Services

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Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-21
Technical Review by CH on 2017-07-21

Client/Project
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
3.3-1L

Title
AERMOD Output for 1st highest 24-hour SO_2 Concentrations (ppm)

By complying with the applicable regulations, the air quality impact from operation of the Proposed Project is expected to be less than significant toward the national and state ambient air quality and would not conflict or obstruct implementation of the air quality plan. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

Residual Impacts

Residual impacts would be less than significant.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact

Impact Discussion

In addition to the regional significance thresholds, SCAQMD has also developed localized significance thresholds (LSTs) to indicate daily emission levels from construction and operation of a project based on the project location and distance to the nearest sensitive receptor. The nearest sensitive receptors are identified to be located approximately 843 meters from the emission sources. Figure 3.3-2 shows the location of the sensitive receptor relative to the Project site.

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Figure No.
3.3-2

Title
Nearest Sensitive Receptor Location

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Localized Construction Impacts

Since the Proposed Project size is evaluated as a two-acre project for a conservative analysis, the mass rate look-up table in the "Finalized Localized Significance Threshold Methodology" document prepared by SCAQMD is used. Table 3.3-15 shows the impacts of project construction emissions to the localized air quality are below the significance thresholds.

Table 3.3-15 Localized Significance Threshold Analysis

Pollutant Type	Max. Daily Emission[a] (lbs./day)	SCAQMD Significance Threshold for Construction (lbs./day)	Exceed Threshold (yes/no)
NO_X	53	175	NO
CO	-18	7,957	NO
PM10	-14	160	NO
PM2.5	-18	82	NO

Notes:
a) The maximum daily emissions for construction activity are the net emissions from the earth-moving activity and LFG combustion in the flare system with LFG combustion in the boilers at Grayson Power Plant.

Based on Table 3.3-15, the air quality impact of construction activity to the nearest sensitive receptor will be less than significant.

Localized Operation Impacts

Air dispersion modeling was performed to estimate the concentrations of NO_2, CO, PM10 and PM2.5 from the operational emissions of the Proposed Project to determine the localized air quality impacts.

Table 3.3-16 summarizes the results of the model and compares with the ambient air quality standards. Detail model input and output information is provided in Appendix A.3.

Table 3.3-16 AERMOD Model Output - Localized Impact

Pollutant	Averaging Period	Project Impact	Background[a]	New Ambient	Limiting Standard	Type of Standard
NO_2[b]	1-HR	0.030 ppm	0.090 ppm	0.12 ppm	0.18 ppm	CAAQS
NO_2[b]	1-HR (98th %)	0.014 ppm	0.073 ppm	0.086 ppm	0.10 ppm	NAAQS
NO2[c]	Annual	0.00013 ppm	0.022 ppm	0.022 ppm	0.03 ppm	CAAQS
CO	1-HR	0.0145 ppm	3.1 ppm	3.24 ppm	20 ppm	CAAQS
CO	8-HR	0.0344 ppm	2.2 ppm	2.23 ppm	9 ppm	CAAQS
PM10	24-HR	1.07 ug/m³	88 ug/m³	89.07 ug/m³	Allowable increase of 2.5 ug/m³	CAAQS/SCAQMD Allowable Increase
PM10[d]	24-HR (6th highest over 5 years)	0.065 ug/m³	88 ug/m³	88.65 ug/m³	150 ug/m³	NAAQS
PM10	Annual	0.118 ug/m³	35.4 ug/m³	35.52 ug/m³	Allowable increase of 1.0 ug/m³	CAAQS/SCAQMD Allowable Increase
PM2.5	24-HR	1.07 ug/m³	48.5 ug/m³	49.57 ug/m³	Allowable increase of 2.5 ug/m³	CAAQS/SCAQMD Allowable Increase
PM2.5	24-HR (8th highest)	0.35 ug/m³	29.80 ug/m³	30.15 ug/m³	Below SIL of 1.2 ug/m³	EPA Significant Impact Level (SIL)
PM2.5[e]	Annual	0.118 ug/m³	11.95 ug/m³	12.07 ug/m³	Below SIL of 0.3 ug/m³ Allowable increase of 1.0 ug/m³	EPA Significant Impact Level (SIL) CAAQS/SCAQMD Allowable Increase

Notes:

a) The background values are based on the highest concentrations monitored during 2011 through 2015, except the year 2013, at West San Gabriel Valley (Pasadena) monitoring station. In 2013, the higher readings between Pasadena and Central Los Angeles monitoring station (Station No. 087) were used because the 2013 Pasadena background data were marked incomplete. Additionally, the background values of PM10 and SO_2 were based on the readings from the Central Los Angeles monitoring station since the Pasadena monitoring station did not record any background data for those pollutants.

b) The NO_2 1-hour modeling was refined using the AERMOD Ambient Ratio Method Version 2 (ARM2) option.

c) The NO_2 annual modeling was refined using the AERMOD ARM option, which assumed a 80% conversion factor of NO_x to NO_2.

d) The PM10 24-hour modeled values were based on the maximum 6th highest concentration over 5 years period.

e) The PM2.5 24-hour modeled values were based on the 8th highest concentration averaged over 5 years period with the background concentrations of 98th percentile of 24-hour data averaged over 5 years period.

f) There are receptors surrounding the facility at lower and higher elevations than the emission sources. The model was run on non-default option (flat terrain) on all receptors at lower elevations; and a default option (complex terrain) was selected to on receptors above the emission sources base elevation. The project impact values shown in the table above is the highest values from both model runs.

The values shown in Table 3.3-16 are the highest pollutants concentration values from operating the proposed electrical generating units at any receptors outside the Scholl Canyon Landfill boundary. These values are below the significance thresholds; therefore, the localized air quality impacts during the operation activities of the proposed Project are expected to be below the significance threshold.

Mitigation Measures

None required.

Residual Impacts

Residual impacts would be less than significant.

c) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?*

Less Than Significant Impact

Impact Discussion

The criteria pollutant emissions caused by the construction of Scholl Canyon Landfill power plant and the operation of the proposed electrical generating equipment are determined to be less than significant by complying with SCAQMD regulations. The Project is required to obtain emission reduction credits, install high efficiency oxidation catalysts as BACT technology and run air dispersion modeling to demonstrate compliance with the regulations. For detailed discussion, please refer to impact discussion under impact topic "b" above. The net increase of any criteria pollutant from the Proposed Project will be less than significant.

Mitigation Measures

None required.

Residual Impacts

Residual impacts would be less than significant.

d) *Expose sensitive receptors to substantial pollutant concentrations?*

Less than Significant Impact

Impact Discussion

The Proposed Project site is located within the boundaries of Scholl Canyon Landfill in Los Angeles County at the northwest of the intersection between Ventura Freeway (State Route 134) and State Route 2. The nearest residence is located approximately one-half mile to the east of the Proposed Project site. The nearest non-residential sensitive receptor, which is Eagle Rock Elementary School, is located more than one and a half mile to the southeast of the Project site.

As discussed in previous section of the report, criteria pollutant concentrations from the Project are expected to disperse substantially before reaching these sensitive receptors. Additionally, based on Tier IV health risk assessment, it is determined the toxic air contaminants (TAC) exposure on the nearest sensitive receptors would be less than significant. The following section provides a detailed discussion of the impact of TAC emissions from the power generation project.

Toxic Air Contaminants

This section discusses whether the toxic air contaminants (TAC) emissions from the Proposed Project will have the potential to cause significant public health impacts in the surrounding area. A detailed Tier IV health risk assessment was performed to quantify and assess potential health risk impacts. The health risk assessment modeling was conducted using the air dispersion model (BREEZE AERMOD) and the ARB Hotspots Analysis Reporting Program Version 2 (HARP2).

The health risk assessment generally consists of the following steps to estimate health impacts:

1. Identify the types and amount of toxic air contaminants generated from the project;
2. Estimate ground level TAC concentrations at each receptor location using air dispersion modeling;
3. Estimate the amount of pollutants to which people could be exposed through inhalation, ingestion, and dermal contact; and
4. Characterize the potential health risks by comparing worst-case exposure to safe standards based on known health effects.

TAC emissions inventory

TAC emissions associated with the Project will consist primarily of combustion byproducts produced by the electrical generating units. TACs are compounds designated by the California Office of Environmental Health Hazard Assessment (OEHHA) as pollutants that may cause a significant health hazard.

TAC emissions were calculated based on the following parameters:

- Concentrations of TAC compounds are based on the average analysis results of landfill gas samples taken in the years 2013 to 2015.
- Concentrations of additional TAC compounds are based on the USEPA AP-42, *Chapter 2.4: Municipal Solid Waste Landfills, Table 2.4-1, Default Concentrations of LFG Constituents*.
- Formaldehyde emission factors are obtained from ARB California Air Toxics Emission Factors (CATEF) database (http://www.arb.ca.gov/app/emsinv/catef_form.html) for engines. For flares, the emission factor is based on SCAQMD *Supplemental Instruction for AB2588 Facilities for Reporting Their Quadrennial Air Toxic Emissions Inventory*
- The control efficiency of ICE is calculated based on the NMOC destruction efficiency of 86.1 percent for non-halogenated species and 93.0 percent for halogenated species per USEPA AP-42, Chapter 2.4, Table 2.4-3 and the catalyst destruction efficiency of 97.7 percent, which is the default control efficiency used in SCAQMD Rule 1401 Calculator.
- An ammonia concentration of 5 ppmv @ 15 percent oxygen is based on the SCAQMD BACT determination for a similar project (LFG-fired IC engines at Frank R. Bowerman landfill).

As discussed in the previous section of this report, the operational emissions from the Biogas Renewable Generation Project are caused by four IC engines, and six flares during construction of electrical generating units. Table 3.3-17 summarizes the TAC emissions for each scenario. Detailed emission calculations for the air toxics are provided in Appendix A.4.

Table 3.3-17 TAC Emission Summary

TAC	CAS	Engines (lb/hr)	Existing Flares – Prior to Engine Commission (lb/hr)
1,1,1 – Trichloroethane	71-55-6	3.87E-06	4.34E-05
1,1,2,2 – Tetrachloroethane	79-34-5	2.57E-04	2.89E-03
1,2 – Dibromoethane	106-93-4	1.06E-05	1.19E-04
1,1 – Dichloroethane	75-34-3	5.33E-06	5.98E-05
1,1 – Dichloroethene	75-35-4	2.54E-06	2.86E-05
1,2 – Dichloroethane	107-06-2	1.39E-05	1.56E-04
1,2 - Dichloropropane	78-87-5	2.81E-05	3.15E-04
2 – Propanol	67-63-0	8.26E-03	4.67E-02
Acetonitrile	75-05-8	1.06E-04	5.99E-04
Acrylonitrile	107-31-1	9.21E-04	5.21E-03
Ammonia	7664-41-7	2.70E-01	0.00E+00
Benzene	71-43-2	3.66E-04	2.07E-03
Benzyl chloride	100-44-7	2.27E-05	2.55E-04

TAC	CAS	Engines (lb/hr)	Existing Flares – Prior to Engine Commission (lb/hr)
Carbon disulfide	75-15-0	1.21E-04	6.85E-04
Carbon tetrachloride	56-23-5	4.46E-06	5.01E-05
Carbonyl sulfide	463-58-1	8.07E-05	4.56E-04
Chlorobenzene	108-90-7	2.47E-05	2.77E-04
Chlorodifluoromethane	75-45-6	1.55E-04	1.74E-03
Chloroethane	75-00-3	1.11E-04	1.25E-03
Chloroform	67-66-3	3.30E-06	3.70E-05
Chloromethane	74-87-3	8.44E-05	9.47E-04
Dichlorobenzene	106-46-7	1.66E-04	1.87E-03
Dichlorodifluoromethane	75-71-8	2.62E-03	2.94E-02
Dichlorofluoromethane	75-43-4	3.72E-04	4.18E-03
Dichloromethane (methylene chloride)	74-87-3	1.40E-05	1.57E-04
Ethylbenzene	100-41-4	8.00E-04	4.52E-03
Ethylene dibromide	106-93-4	2.59E-07	2.91E-06
Formaldehyde	50-00-0	9.85E-03	3.51E-01
Fluorotrichloromethane	75-69-4	1.44E-04	1.62E-03
Hexane, n-	110-54-3	1.55E-03	8.78E-03
Hydrogen chloride	7647-01-0	1.78E+00	1.61E+00
Hydrogen sulfide	7783-06-4	3.15E-03	1.78E-02
Mercury (total)	7439-97-6	5.03E-05	4.54E-05
Methyl ethyl ketone	78-93-3	1.40E-03	7.93E-03
Methyl isobutyl ketone	108-10-1	5.14E-04	2.90E-03
Tetrachloroethylene	127-18-4	3.53E-05	3.96E-04
Toluene	108-88-3	1.37E-03	7.77E-03
Trichloroethylene	79-01-6	1.62E-05	1.81E-04
Vinyl chloride	75-01-4	8.03E-06	9.01E-05
Xylenes	1330-20-7	1.41E-03	7.95E-03

Air Dispersion Modeling of TAC Emissions

The AERMOD dispersion model was used to estimate the ground level TAC concentration resulting from the Project. As discussed in the previous section, the AERMOD settings, equipment exhausts parameters, meteorological data used for the criteria pollutant air quality impact analysis.

A normalized emission rate of one gram per second was used to model each source. Similar to the air quality impact analysis, a uniform Cartesian receptor grid covering an area of 36 square kilometers with 50 meters spacing was used in addition to the identification of discrete fence-line receptors.

Health Risk Characterization

The result of the dispersion modeling analysis was imported to HARP2 to determine maximum individual cancer risk (MICR) and non-cancer acute and chronic health risks. As defined in SCAQMD Rule 1401, MICR is the estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to TAC. Cancer risks were estimated based on 30-year continuous exposure duration for residential and sensitive receptors and a 25 year, 5 day per week, and 8 hours per day exposure duration for worker receptors. Based upon SCAQMD Rule 1401 and the SCAQMD CEQA significance thresholds, a cumulative MICR increase less than 10 in a million is considered to be less than significant when Best Available Control Technology for Toxics (T-BACT) is used. For this Project, the proposed engines and the existing flares are expected to reduce a minimum of 98 percent of NMOC, which would represent T-BACT. Additionally, a cancer burden greater than 0.5 excess cancer cases in areas with an incremental increase greater than one in one million individuals is considered to be significant.

To assess acute and chronic non-cancer exposures, annual and 1-hour TAC ground-level concentrations are compared with the reference (safe) exposure levels (REL), which is developed by OEHHA. A hazard index (HI) is the ratio of TAC exposure of one hour for acute and long-term level for chronic from the facility to the REL. The total HI is calculated separately for acute and chronic effects. A total hazard index of less than one is considered to be below significance. Detail MICR and HI for acute and chronic results are provided in Appendix A.5.

Maximum Individual Cancer Risk (MICR)

Table 3.3-18 summarizes the maximum MICR values of residential and worker receptors for each operating scenario.

Table 3.3-18 Maximum MICR Values

Equipment Scenario	Max. MICR for Residential Receptor	Max. MICR for Worker Receptor	CEQA Significance Threshold
IC Engines[a]	4.74E-08	3.32E-09	10.00E-06
Flares (during construction phase)[a,b]	1.24E-07	1.86E-09	10.00E-06

Note:

a) The MICR values are the highest values of any receptors outside the landfill boundary. Since the values are already below the significance threshold of 10.00E-06, no further analysis was conducted to obtain readings at the nearest residential or worker receptors.

b) The cancer risk of the flares was based on 2 years exposure duration for both residential and worker receptors to reflect impact during construction activities.

Chronic and Acute Hazard Index (HI)

Table 3.3-19 summarizes the overall chronic and acute HI values for each operations scenario. The acute HI values were calculated for each receptor for the combined impact of all chemicals on target organs.

Table 3.3-19 Overall HI Values

Equipment Scenario	Chronic Hazard Index		Acute Hazard Index		CEQA
	Residential (HIC)	Worker (HIC)	Residential (HIA)	Worker (HIA)	Significance
IC Engines[a]	9.52E-03	9.52E-03	2.16E-03	2.16E-03	1.00
Flares (Construction Phase)[a]	1.22E-03	1.22E-03	1.23E-02	1.23E-02	1.00

Note:
a) The HIC and HIA values are the highest values of any receptors outside the landfill boundary. Since the values are already below the significance threshold of 1.00, no further analysis was conducted to obtain readings at the nearest residential or worker receptors.

As shown in Table 3.3-18 and 3.3-19, MICR, HIC, and HIA values of the proposed Project are below the significance thresholds.

Cancer Burden

Pursuant to OEHHA Guideline and SCAQMD policy, if MICR at a representative receptor location is greater than 1.00E-06, an additional analysis must be conducted to determine Cancer Burden. As shown in the Table 3.3-18, the MICR for the Proposed Project is less than 1.00E-06; therefore, Cancer Burden analysis is not necessary.

TAC Emissions Impact Due to Earth Moving Activity during Construction Phase

Toxic air contaminants (TAC) emissions associated with the earth moving activity will consist primarily of combustion byproducts from off-road equipment and vehicles trips. The construction of the facility is anticipated to take place over a period of 18 months. Therefore, TAC emissions from construction activity are not expected to have health significant impacts on cancer and non-cancer chronic risks because these risks are typically occur over continuous exposure for eight to 70 year.

Additionally, the impacts of earth moving activity will typically occur within the fence line of the power plant. The nearest residential and worker receptor is approximately 800 meters to the east of the emission sources. Therefore, the TAC emission impacts from the earth moving activity would to be less than significant.

Mitigation Measures

None required.

Residual Impacts

Residual impacts would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

Less than Significant Impact

Impact Discussion

Even though there are odors associated with LFG, the existing collection system at the site will operate to prevent LFG escape into the atmosphere during construction or after the facility is operational. Additionally, the Project does not result in an increase in LFG or operation of the landfill.

During construction, the existing flares will burn the LFG, which should negate any odors from the LFG. There may be minor odors associated with the use or refuel of the diesel and gasoline powered equipment, or from painting activity or other surface treatments (i.e., building roofing or roadway paving). These minor odors due to construction are expected to disperse substantially before reaching the residential and sensitive receptors that are located over 800 meters from the facility. No significant impacts are expected from the odors associated with construction activity.

Once the Project is operational, most of the LFG will be combusted by the proposed reciprocating engines. The proposed equipment is not expected to create any significant odor and potential impacts would be less than significant.

Mitigation Measures

None required.

Residual Impacts

Residual impacts would be less than significant.

f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutants?

No Impact

Impact Discussion

The proposed electrical generating equipment with the associated air pollution control devices require air permits from the SCAQMD. Before the permit to construct and permit to operate are issued, the facility must demonstrate compliance with all applicable SCAQMD rules and regulations as discussed in Section 3.3.1.6. Therefore, the Proposed Project would not diminish an existing air quality rule or future compliance requirement and there would be no impact.

Mitigation Measures

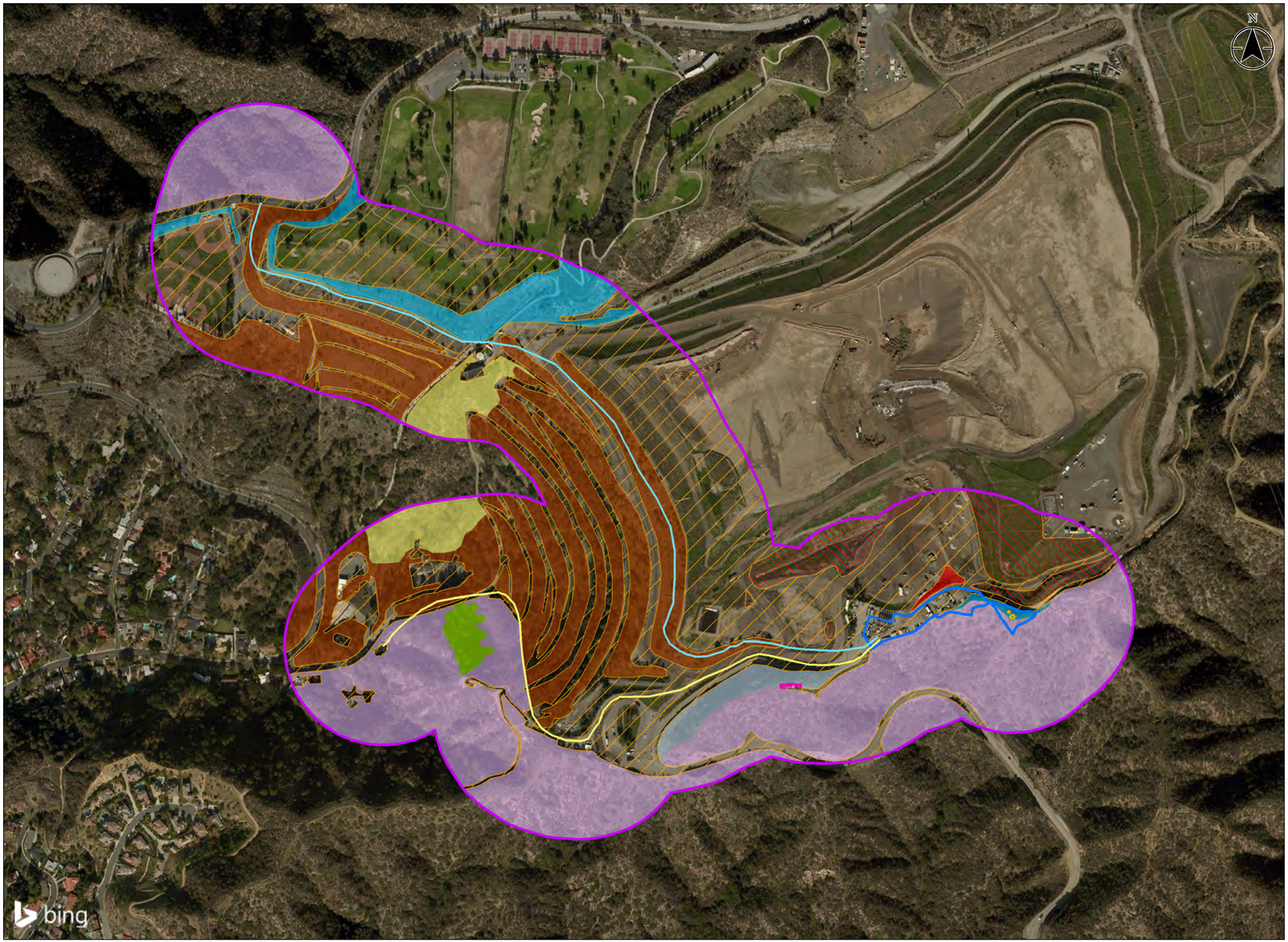
None required.

3.4 BIOLOGICAL RESOURCES

The potential impacts to biological resources by the Project were assessed using a five-tiered methodology.

- The **regulatory setting** for the Project was defined to ensure all regulated resources were assessed.
- The **baseline environmental characteristics** were screened using existing biological Databases (such as the California Natural Diversity Database, the U.S. Fish and Wildlife Service Species database, and the California Native Plant Society database) to identify species and habitats with a potential to occur in the project areas.
- **Field Surveys** were conducted by Stantec of the project areas/Biological Survey Area (BSA) in order to establish a baseline understanding of the BSA, as well as to identify potential biological resources within the BSA. The BSA for the Project footprint totals approximately 201.78 acres, and includes the areas of temporary and permanent Project activities plus a 500-foot buffer around the project area.
- An **impact assessment** was conducted for the special status habitats and species that were documented, or have a potential, to occur within the BSA.
- **Mitigation** was developed to avoid, minimize, or compensate for potential impacts to biological resources.

The BSA boundaries and habitats are depicted in Figure 3.4-1.



Stantec

Legend

- Proposed Gas Pipeline
- Proposed Water Pipeline
- Proposed Power Plant Facility Boundary
- New Water Tank
- Biological Survey Area

Plant Community Types

- California Buckwheat Scrub
- California Encelia-Black Sage Scrub
- California Sagebrush Scrub
- Laurel Sumac-Chamise Scrub
- Oak Woodland
- Ornamental/Non-Native
- Scrub Oak-Chamise Chaparral
- Disturbed Scrub Oak-Chamise Chaparral
- Cleared/Developed Land
- Disturbed

0 250 500 Feet

1 in = 500 feet (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

2. Basemap: Image courtesy of USGS Image courtesy of LAR-IAC Earthstar Geographics SIO © 2017 Microsoft Corporation

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand),

Project Location:
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-19
Technical Review by CH on 2017-07-19

Client/Project:
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure Number/Title:

Figure 3.4-1
Biological Survey Area and Plant Communities Map

C:\Users\jtrook\Desktop\2057123300\mxd\20170718\Fig3_4_1_PlantCommunities_Scholl_Landfill_11x17_20170718.mxd Revised: 2017-07-19 By: jtrook

3.4.1 Setting

The Proposed Project area consists of three sub areas of proposed construction: an approximately 2.2-acre power plant sub area including a graded area for the installation of two new water tanks; a proposed approximately 0.62-mile three-inch diameter natural gas pipeline; and a proposed approximately 0.88 mile 12-inch diameter water pipeline. The site is depicted in Township 1 North, Range 13 West of the United States Geological Survey (USGS) Burbank 7.5-minute topographic quadrangle. The Proposed Project area occurs within the existing SCLF permitted facilities boundary.

Regulatory Setting

Federal

Federal Endangered Species Act (16 U.S.C. 1531–1543)

The United States Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) Fisheries oversee the Federal Endangered Species Act (FESA). The USFWS has jurisdiction over plants, wildlife, and resident fish; NOAA Fisheries has jurisdiction over anadromous fish, marine fish, and marine mammals.

Section 10 (16 U.S.C. § 1539) provides a means whereby a nonfederal action with the potential to result in the incidental take of a listed species while carrying out an otherwise lawful activity may be authorized under a permit. Application procedures are found in 50 C.F.R. Parts 13 and 17 for species under jurisdiction of the USFWS and 50 C.F.R. Parts 217, 220, and 222 for species under the jurisdiction of the NOAA Fisheries.

Consultation with the USFWS would be necessary if a proposed action may affect suitable habitat for a federally listed species such as Nevin's barberry (*Berberis nevinii*). This consultation would proceed under Section 7 of the Endangered Species Act (ESA) if a federal action is part of the proposed action or through Section 10 of the ESA if no such nexus were available (USFWS 1973).

Migratory Bird Treaty Act (16 U.S.C. 703-11) and Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c)

The Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BAGEPA) (16 USC Section 668) of 1918 protect certain species of birds from direct "take". The MBTA states that it is unlawful to pursue, hunt, take, capture, transport, import, or kill any migratory bird (USFWS1918). The BAGEPA makes it illegal to import, export, take (which includes molest or disturb), sell, purchase, or barter any bald eagle or golden eagle or part thereof (USFWS 1940).

State

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) has jurisdiction over species listed as threatened or endangered under Section 2080 of the California Department of Fish and Game (CDFG) Code. The California Endangered Species Act (CESA) prohibits take of state-listed threatened and endangered species. The state Act differs from the federal Act in that it does not include habitat destruction in its definition of take. The CDFW defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CDFW may authorize take under the CESA through Section 2081 (b) incidental take permit. If the results of a biological survey indicate that a state-listed species would be affected by the project, the CDFW can issue an incidental take permit under Section 2081 of the CDFG Code and would establish a Memorandum of Understanding for the protection of state-listed species (CDFW 2016a). CDFW also maintains lists for Candidate-Endangered Species and Candidate-Threatened Species. California Candidate Species are afforded the same level of protection as listed species (CDFW 2016b).

California Special Species of Concern and Fully Protected Species

California designates Species of Special Concern (SSC) as species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational values. These species do not have the same legal protection as listed species, but may be added to official lists in the future (CDFW 2016a). In the 1960's, California created a designation to provide additional protection to rare species. This designation remains today and is referred to as "Fully Protected" species, and those listed "may not be taken or possessed at any time" (CDFW 2016a).

California Department of Fish and Game Code Sections 3503, 3503.5, and 3800: Nesting Migratory Bird and Raptors

Sections 3503, 3503.5, and 3800 of the CDFG Code prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of the take provisions requires that project-related disturbance within active nesting territories be reduced or eliminated during critical phases of the nesting cycle (approximately February 1–August 31). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young), or the loss of habitat upon which birds are dependent, is considered a "taking", and is potentially punishable by fines and/or imprisonment (CDFW 2016b). Such a taking would also violate federal law protecting migratory birds (e.g., MBTA above).

California Environmental Quality Act Guidelines Section 15380

CEQA Guidelines section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet

certain specific criteria. This section was included in the guidelines to deal primarily with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a "candidate species" that has not yet been listed by the USFWS or CDFW. CEQA, therefore, enables an agency to protect a species from significant project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted (California Code of Regulations 2014). Plants appearing on the California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) are considered to meet CEQA's Section 15380 criteria. Ranks include: 1A) plants presumed extirpated in California and either rare or extinct elsewhere, 1B) plants that are rare, threatened, or endangered in California and elsewhere, 2A) plants presumed extirpated in California, but more common elsewhere, and 2B) plants that are rare, threatened, or endangered in California, but more common elsewhere (CNPS 2015). Impacts to these species would therefore be considered "significant" requiring mitigation.

Local

Los Angeles County General Plan

The Los Angeles County General Plan (2008) identifies Significant Ecological Areas (SEAs) containing biological resources and sets forth the goal of conserving these areas. While development within an SEA is not prohibited, the General Plan does require development to be limited and controlled in order to avoid impacting valuable biological resources.

The two SEAs nearest to the Proposed Project are SEA-8 Griffith Park and SEA-27 Verdugo Mountains (Los Angeles County Department of Regional Planning 2008). SEA-8 is approximately five miles west of the Proposed Project; and SEA-27 is approximately 3.5 miles northwest of the Proposed Project.

City of Glendale General Plan

Open Space and Conservation Element

The City of Glendale General Plan Open Space and Conservation Element states that the City's natural resources are assessed with the intent to "comply with the requirements of the California Government Code…to develop strategies for their preservation and utilization." Strategies include development of a program for the on-going monitoring of those natural resources identified by the California Department of Fish and Wildlife Natural Diversity Database and those sensitive habitats identified in the Element's biological assessment report, as well as preventative measures which prevent development that jeopardizes or diminishes the integrity and value of native plant and animal communities (City of Glendale 1993).

City of Glendale Municipal Code

Chapter 12.44 of Glendale's Municipal Code (GMC) states that the removal of indigenous oak (*Quercus* sp.), bay (*Umbellaria* sp.), and sycamore (*Platanus* sp.) trees is prohibited (Ordinance

No. 5719, dated 12-7-2010). The term "remove" includes any act which will cause an indigenous tree to die, including but not limited to acts which inflict damage upon root systems, bark or other parts of the tree by fire, application of toxic substances, operation of equipment or machinery, or by changing the natural grade of land by excavation or filling the drip line area around the trunk. If site development would include the removal of an indigenous oak and/or sycamore tree protected under GMC 12.44, then compliance must be demonstrated. If it is determined that the removal of a local tree is necessary, and it is then discovered that that tree is classified as indigenous, the applicant must file for a permit to remove said tree, pursuant to GMC 12.44.040 (City of Glendale 2010).

Environmental Setting

The Proposed Project is located within the existing SCLF, approximately one-half mile north of the 134 Freeway on Scholl Canyon road within the City of Glendale and the Los Angeles County area. Elevations range from approximately 1100-1450 feet AMSL. The climate is semi-arid and characterized as having long, hot summers and moderately cooler winters. It is a typical Mediterranean type climate. The Proposed Project areas are zoned as Special Recreation (SR) and Restricted Residential (R1R).

The Proposed Project area falls within the Fallbrook sandy loam series. Soils have moderate infiltration rates with moderately coarse textures. Soils are well drained and have intermediate holding capacity (Environmental Data Resources, Inc. 2015).

Biological Databases

The following information was used to identify and screen for potential special- status plant and wildlife species within the Project vicinity:

- California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB) records search of the Project area and a five-mile radius from the Project (CDFW 2015a, b);
- The CNPS online Inventory of Rare and Endangered Plants of California (CNPS 2015); and
- The U.S. Fish and Wildlife Service (USFWS) list of endangered, threatened, and proposed species for California (USFWS 2015).

For each special-status species known to occur within five miles of the BSA, a designated level of "potential for occurrence" was assigned. These levels are defined as follows:

- **No Potential to Occur:** Species have not been documented on or immediately adjacent to the BSA, and there are no known recent or historical appearances within five miles of the BSA. The BSA does not contain suitable habitat for the species and/or lies outside the known range of the species.

- **Low Potential to Occur:** Species have not been documented on or immediately adjacent to the BSA, and there are no known recent or historical appearances within one to two miles of the BSA. The BSA contains little suitable habitat for the species but lies within the known range of the species.

- **Moderate Potential to Occur:** Species have not been documented on or adjacent to the BSA and there are no known recent appearances within one to two miles of the BSA. However, the BSA contains some suitable habitat for the particular species.

- **High Potential to Occur:** Species have not been documented on or adjacent to the BSA, yet species have been documented in similar habitat types within the vicinity of the BSA and ideal habitat conditions exist within the BSA.

- **Known to Occur:** Species have previously been documented on or immediately adjacent to the BSA.

- **Present:** Species were observed within the BSA during field surveys.

For the purpose of this IS/MND, special status species are defined as:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 Code of Federal Regulations [CFR] 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register for proposed species).

- Species that are candidates for possible future listing as threatened or endangered under ESA (67 FR 40657, June 13, 2002).

- Species that are listed or proposed for listing by California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5).

- Plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code 1900 et seq.).

- Plants considered by CNPS to be “rare, threatened, or endangered in California and elsewhere” (CNPS Rank 1 species).

- Plants considered by CNPS to be “rare, threatened, or endangered in California and common elsewhere” (CNPS Rank 2 species).

- Species that meet the definitions of “rare” or “endangered” under State CEQA Guidelines (Cal. Code Regs., tit. 14 § 15380).

- Animal species of special concern to CDFW.

- Plant and animal species that are designated as "special animals" and "those of greatest conservation need" by CDFW through the CNDDB.

Biological Field Surveys

Stantec conducted three biological reconnaissance surveys of the BSA, on October 21, 2015, November 3, 2015, January 15, 2016, and July 11, 2017, in order to establish a baseline understanding of the BSA, as well as to identify potential biological resources within the BSA (Stantec, 2016). Additionally, seasonally timed rare plant surveys were conducted on January 15, April 15 and September 8, 2016 per agency protocol (CDFW 2009). A detailed analysis can be found in the Biological Resources Technical Report in Appendix B.

Vegetation Communities

The BSA supports seven major types of vegetation communities, six of which are native and one is non-native/ornamental. These communities are described below and in greater detail in the Biological Resources Technical Report (Stantec 2016), as well as depicted in Figure 3.4-1. Per CDFW, plant alliances with state ranks of S1-S3 and all associations within them are considered to be highly imperiled (S1) to vulnerable (S3). Impacts to high-quality occurrences of S1, S2 and S3 communities may be considered significant under CEQA. Some S4 communities are also protected.

One sensitive habitat, Coast Live Oak Woodland, is present within the BSA. Individual Scrub Oaks present within the Scrub Oak-Chamise Chaparral plant community are protected from removal, damage, or encroachment under the Indigenous (Protected) Tree Report Program.

Laurel Sumac-Chamise Scrub (*Malosma laurina-Adenostoma fasciculatum* Shrubland Alliance)

Laurel sumac-chamise scrub was observed along the slopes south of the proposed power plant and gas pipeline sub areas, as well as to the north of the proposed water pipeline north of Glenoaks Boulevard. Co-dominant species observed were laurel sumac and chamise. Associated species observed at the time of survey included lemonadeberry (*Rhus integrifolia*), toyon (*Heteromeles arbutifolia*), purple sage (*Salvia leucophylla*), black sage (*Salvia mellifera*), deerweed (*Acmispon glaber*), bush monkeyflower (*Diplacus linearis*), big-pod ceanothus (*Ceanothus megacarpus*), California brickellbush (*Brickellia californica*), and non-native Russian thistle (*Salsola tragus*).

California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)

California buckwheat scrub was observed along portions of the southern border of the proposed power plant sub area, as well as north of the proposed water pipeline sub area. Associated species observed at the time of survey included bush monkeyflower, black sage,

California fuchsia (*Epilobium canum*), sawtooth goldenbush (*Hazardia squarrosa*), and non-native black mustard (*Brassica nigra*).

California sagebrush scrub (*Artemisia californica* Shrubland Alliance)

California sagebrush scrub was observed at the time of survey within a small portion of the proposed power plant sub area in the north corner. Associated species observed at the time of survey included California buckwheat, Russian thistle and non-native grasses.

Scrub Oak-Chamise Chaparral (*Quercus berberidifolia-Adenostoma fasciculatum* Shrubland Alliance)

Scrub oak-chamise chaparral was observed along the northwestern portion of the BSA. Associated species observed at the time of survey included toyon, California buckwheat, bush monkeyflower, California sagebrush, big-pod ceanothus, and hollyleaf cherry (*Prunus ilicifolia*).

Coast live oak woodland (*Quercus agrifolia* Woodland Alliance)

Coast live oak woodland was observed directly south of a small portion of the proposed gas pipeline sub area, approximately 200 feet east of the western terminus of the pipeline. At the time of survey, toyon and laurel sumac were observed interspersed with the oaks.

California encelia-black sage scrub (*Encelia californica-Salvia mellifera* Shrubland Alliance)

California encelia-black sage scrub was observed south of the proposed water pipeline sub area and north of the proposed gas pipeline sub area approximately one half mile northwest of the proposed power plant sub area. Co-dominant species observed were California encelia and black sage. Associated species observed at the time of survey included laurel sumac, chamise, and native and non-native grasses.

Ornamental/Non-native

Ornamental and non-natives were observed between and along portions of the proposed water and gas pipeline sub areas approximately one third mile west of the proposed power plant sub area. Associated species observed at the time of survey included iceplant (*Caprobrotus edulis*), Peruvian pepper tree (*Schinus molle*), Washington fan palm (*Washingtonia robusta*), eucalyptus (*Eucalyptus* sp.), Russian thistle, red stemmed filaree (*Erodium cicutarium*), Lamb's quarters (*Chenopodium album*), fountaingrass (*Pennisetum setaceum*), English plantain (*Plantago lanceolata*), castor bean (*Ricinus communis*), wild oat (*Avena* sp.), pampas grass (*Cortaderia* sp.), and California Encelia.

Cleared/Developed Land

Cleared and developed lands were observed throughout, and were comprised of bare, graded land, soil piles, dirt access roads, paved roads, residential and industrial buildings, a baseball field, and golf course.

Special Status Plants

A species site suitability analysis evaluating the potential to occur within the BSA was completed for all plant species that were documented in the background research data compilation and during biological surveys. This analysis weighed Project ecological characteristic and suitability with individual species suitability requisites; including vegetation community type, habitat availability, elevation, soils, and known occurrences near the BSA documented in CNDDB (CDFW, 2015a), CNPS (CNPS, 2015), and CalFlora (Calflora, 2015). With the analysis results, a level for potential for occurrence within the BSA was applied to each species. Based on desktop research, of the 25-species identified, six special-status plant species have a moderate potential to occur: Nevin's barberry (*Berberis nevinii*), slender mariposa-lily (*Calochortus clavatus* var. *gracilis*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), mesa horkelia (*Horkelia cuneata* var. *puberula*), Davidson's bush-mallow (*Malacothamnus davidsonii*), and white rabbit-tobacco (*Pseudognaphalium leucocephalum*). Additional details are provided below in Table 3.4-1. For a complete list of plants observed within the BSA refer to the table in Appendix B. No special-status plant species were observed within the Project impact areas during the seasonally timed special-status plant surveys conducted on January 15, April 15, and September 8, 2016.

Nevin's barberry (*Berberis nevinii*)

Regulatory Status: Federally Endangered, State Endangered, California Rare Plant Ranking (CRPR) 1B.1.

Nevin's barberry is a native evergreen shrub endemic to California. It grows to a height of 1to4 meters. Its leaves are serrated with spine-tipped edges, and it produces yellow flowers followed by red or yellow-red berries. It blooms between March and June, and is typically found between elevations of 290 to 1575 meters. The species prefers chaparral, cismontane woodland, coastal scrub, and riparian scrub. It occurs on steep, north-facing slopes, or along low grade, sandy washes.

The Project sub areas provide moderately suitable chaparral habitat for the species. Nevin's barberry was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

Slender mariposa-lily (*Calochortus clavatus* var. *gracilis*)

Regulatory Status: California Rare Plant Ranking (CRPR) 1B.2.

Slender mariposa-lily is a perennial bulbiferous herb. It blooms between March and June, and is typically found within an elevation range of 320 to 1000 meters. It has slender, straight stems with yellow flowers that have a reddish-brown line above the nectary. Leaves are not recurved. The species is typically found in chaparral, coastal scrub, valley and foothill grassland, and shady foothill canyons. It prefers grassy slopes within other habitats.

The Project sub areas provide moderately suitable chaparral habitat for the species. Slender mariposa-lily was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

Parry's spineflower (*Chorizanthe parryi* var. *parryi*)

Regulatory Status: California Rare Plant Ranking (CRPR) 1B.1.

Parry's spineflower is an annual herb. It blooms between April and June, and is typically found between 225 to 1220 meters. The species is typically found in coastal scrub, chaparral, cismontane woodland, and valley and foothill grassland. It prefers dry slopes and flats, and is sometimes found at the interface of two vegetation types, such as chaparral and oak woodland. It prefers dry, sandy soils.

The Project sub areas provide moderately suitable chaparral habitat with dry slopes and sandy soil. Parry's spineflower was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

Mesa horkelia (*Horkelia cuneata* var. *puberula*)

Regulatory Status: California Rare Plant Ranking (CRPR) 1B.1.

Mesa horkelia is a perennial herb. It blooms between February and July, and is typically found between 70 to 810 meters. The species prefers chaparral, cismontane woodland and coastal scrub, within sandy or gravelly sites.

The Project sub areas provide moderate chaparral and sandy habitat. Mesa horkelia was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

Davidson's bush-mallow (*Malacothamnus davidsonii*)

Regulatory Status: California Rare Plant Ranking (CRPR) 1B.2.

Davidson's bush-mallow is a shrub with stout stems, rounded leaf blades, and pale pink, purple or white flowers. It blooms between June and January, and is typically found between 185-855 meters. The species prefers coastal scrub, riparian woodland, chaparral and cismontane woodland, and sandy washes.

The Project sub areas provide moderate chaparral and sandy habitat suitable for the species. Davidson's bush-mallow was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

White rabbit-tobacco (*Pseudognaphalium leucocephalum*)

Regulatory Status: California Rare Plant Ranking (CRPR) 2B.2.

White rabbit-tobacco is a perennial herb. It blooms between August and November, and is typically found between 0 to 2100 meters. The species prefers riparian woodland, cismontane woodland, coastal scrub and chaparral within sandy, gravelly sites.

The Project sub areas provide moderate chaparral and sandy habitat suitable for the species. White rabbit-tobacco was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

Special Status Wildlife

A species site suitability analysis evaluating the potential for a species to occur within the BSA was completed for all wildlife species documented during the biological surveys and background research data compilation. In addition, nesting migratory birds are assessed as having a moderate potential to occur (i.e., ground nesting birds). Based on desktop research, of the 21-species identified, two special- status wildlife species were found to have moderate potential to occur within the BSA: coast horned lizard (*Phrynosoma blainvillii*), and silvery legless lizard (*Anniella pulchra pulchra*). Additional detail is provided below in Table 3.4-1. For a complete list of wildlife species observed within the BSA please refer to Appendix B.

Coast horned lizard (*Phrynosoma blainvillii*)

Regulatory Status: California Species of Special Concern.

No coast horned lizard was observed within the BSA during the reconnaissance surveys. Portions of the Project area provides moderate habitat suitability for the species, including open, loose soil areas, presence of grasses, scattered bushes and shrubs, and ants and other prey insects.

Silvery legless lizard (*Anniella pulchra pulchra*)

Regulatory Status: California Species of Special Concern.

No silvery legless lizards were detected during the field reconnaissance survey of the BSA. The species is considered to have a moderate potential to be present within the vegetated portions of the BSA, particularly the gas pipeline sub area due to the presence of suitable moist, loose substrate and leaf litter within the chaparral and woodland habitat communities.

Table 3.4-1 Special- Status Wildlife and Plants Screened for their Potential to Occur in the BSA

Common Name/ Scientific Name	Listing Status	Habitat Requirements	Potential for Occurrence in the BSA
REPTILES			
Coast horned lizard/ *Phrynosoma blainvillii*	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.	**Moderate Potential to Occur** Open areas, scattered bushes and loose soil present within the Project area. The closest documented occurrence (CNDDB) is two and a half miles northwest of the Proposed Project.
Silvery legless lizard/ *Anniella pulchra pulchra*	SSC	Prefers sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	**Moderate Potential to Occur** Sandy loose soil habitat with high moisture content observed in portions of the Project area (gas pipeline sub area and areas within Laurel Sumac-Chamise Plant Community. This species was not observed during surveys, and the closest documented occurrence (CNDDB) is greater than five miles north of the Proposed Project.
PLANTS			
Berberis nevinii/ Nevin's barberry	FE SE 1B.1	Shrub, blooms Mar-Jun. Found on nearly flat sandy washes, terraces, and canyon floors to ridges and mountain summits. Also found in mesic habitats and plant communities such as alluvial scrub, chamise chaparral, coastal sage	**Moderate Potential to Occur** Chamise habitat present in the Project sub areas. This species was not detected during surveys, although there are CNDDB occurrences within five miles of the Proposed Project.

Common Name/ Scientific Name	Listing Status	Habitat Requirements	Potential for Occurrence in the BSA
		scrub, oak woodland, and riparian scrub or woodland. On steep, north-facing slopes or in low grade sandy washes. 290-1575 m.	
Calochortus clavatus var. *gracilis*/ slender mariposa-lily	1B.2	Perennial bulbiferous herb, blooms Mar-Jun. Prefers chaparral, coastal scrub, valley and foothill grassland. Shaded foothill canyons; often on grassy slopes within other habitat. 320-1000 m.	**Moderate Potential to Occur** Suitable chaparral habitat observed in the Project sub areas. This species was not detected during surveys. The closest documented CNDDB occurrence is greater than five miles of the Proposed Project.
Chorizanthe parryi var. *parryi*/ Parry's spineflower	1B.1	Annual herb, blooms Apr-Jun. Prefers coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland; dry, sandy soils. 225-1220 m.	**Moderate Potential to Occur** Suitable chaparral and dry sandy slope habitat observed in the Project sub areas. This species was not detected during surveys. The closest documented occurrence is two miles north of the Proposed Project.
Horkelia cuneata var. *puberula*/ mesa horkelia	1B.1	Perennial herb, blooms Feb-Jul. Prefers chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. 70-810 m.	**Moderate Potential to Occur** Suitable chaparral habitat observed and sandy soils present in the Project sub areas. This species was not detected during surveys. The closest documented occurrence is one and a half miles west of the Proposed Project.
Malacothamnus davidsonii/ Davidson's bush-mallow	1B.2	Shrub, blooms Jun-Jan. Prefers coastal scrub, riparian woodland, chaparral, cismontane woodland. Sandy washes. 185-855 m.	**Moderate Potential to Occur** Suitable chaparral habitat observed in the Project sub areas. This species was not detected during surveys. The closest documented CNDDB occurrence is greater than five miles from the Proposed Project.
Pseudognaphalium leucocephalum/ white rabbit-tobacco	2B.2	Perennial herb, blooms Aug-Nov. Prefers riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 0-2100 m.	**Moderate Potential to Occur** Suitable chaparral habitat observed and sandy soils present in the Project sub areas. This species was not detected during surveys. The closest documented CNDDB

Common Name/ Scientific Name	Listing Status	Habitat Requirements	Potential for Occurrence in the BSA
			occurrence is two miles east of the Proposed Project.

FE = Federally listed Endangered
FT = Federally listed Threatened
FC = Federal Candidate
FD = Federally de-listed
FP = CDFW Fully Protected
S=U.S. Forest Service Sensitive Species (USFS)
WL= USFWS Watchlist
BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern
MBTA = Migratory Bird Treaty Act
BLMS= Bureau of Land Management Sensitive Species
CRPR 1A = Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere
CRPR 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere
CRPR 2A = Plants Presumed Extirpated in California, But More Common Elsewhere
CRPR 2B = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
CRPR 3=Plants About Which We Need More Information- A Review List
CRPR 4 = Plants of Limited Distribution – A Watch List
(CDFW 2015b, CNPS 2015, USFWS 2015)

SR = State Rare Species
SP = State Protected Species
ST = State Listed Threatened
SE = State listed Endangered
SCE=State Candidate Endangered
SCT =State Candidate Threatened
SA = State Special Animal
SSC = CDFW California Species of Special Concern

SD=State de-listed
California Rare Plant Ranking (CRPR) System (Formerly CNPS Lists)
CRPR Threat Ranks

0.1- Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)

0.2- Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)

0.5- Not very threatened in California (<20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

Wildlife Movement Corridors

The SCLF is located within the San Rafael Hills, within the City of Glendale, in the Los Angeles County area. Two other open space areas within the City are the Verdugo Mountains (west and central portion of the City), and the Deukmejian Wilderness Park in the San Gabriel Mountains (northern-most section of the city). Urban development has served to isolate vegetation and wildlife communities within the San Rafael Hills from other open space and park areas.

The Project is approximately five miles southeast from the Verdugo Mountains and approximately eight miles south of the Deukmejian Wilderness Park. Mammalian carnivores are not typically deterred by the open conditions within the landfill areas because they are less dependent on cover. Although some species may use the SCLF for movement, the majority of species have been known to avoid the area and use the more natural adjacent canyons and watersheds. It is likely that the ridgelines on and off the SCLF property would serve as the principal wildlife movement and dispersal corridors for most species found on or in the immediate vicinity of the Proposed Project, and species will not need to cross through open, disturbed areas of the SCLF (Sanitation Districts of Los Angeles County & AECOM 2014).

The Pacific Flyway, a major bird migration route, passes through California from Oregon to the north and Mexico to the south. The Project does not fall within the Pacific Flyway's major or principal bird migration routes.

3.4.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
BIOLOGICAL RESOURCES: Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporated

This section describes direct and indirect impacts to protected biological resources resulting from implementation (construction and operation) of the Proposed Project. From a standpoint of regulatory significance, direct impacts are defined as disturbances and destruction to species or their habitats and are those potential effects that may contribute to a "take" of listed species or critical habitat as a result of the Proposed Project. Specifically, direct impacts are those that are caused by the Proposed Project and occur at the same time and place (40 CFR 1508.8). Direct effects can include direct mortality, removal of foraging habitat, and degradation of habitats.

Indirect impacts are defined as effects that typically occur later in time but are reasonably certain to occur from the Proposed Project (40 CFR 1508.8). Indirect impacts can include degradation of adjacent habitats and fragmentation of habitats. Temporary impacts are defined as those that are short-term in scope and reversible and permanent impacts are those that are generally long-term and irreversible.

Direct and indirect impacts to sensitive biological resources for development of the Proposed Project would be reduced to less than significant levels with implementation of Mitigation Measures listed and described below.

Habitat Loss

The Project area contains undisturbed and disturbed habitat that have potential to support special-status species and nesting birds. Table 3.4-2 indicates the estimated direct impacts to vegetation from Proposed Project implementation.

Table 3.4-2 Summary of Proposed Project Impacts to Land Cover/Vegetation Types

Vegetation Type	Estimated Permanent Impact (acres)	Estimated Temporary Impact (acres)	CDFW Nature Serve Protection Status*
Laurel Sumac-Chamise Scrub	0.39	0.09	G4, S4
California Buckwheat Scrub	0.29	0.02	G5, S5
California Sagebrush Scrub	--	--	G5, S5
Scrub Oak-Chamise Chaparral	--	--	G4, S4
Coast Live Oak Woodland	--	--	G4, S4 Cal OWA
California Encelia-Black Sage Scrub	--	--	G4, S4
Total Impacts to Native Vegetation	**0.68**	**0.11**	**--**
Ornamental/Non-Native	0.06	0.92	--
Cleared/Developed Land	1.45	1.13	--
Total	**2.19**	**2.16**	

Vegetation Type	Estimated Permanent Impact (acres)	Estimated Temporary Impact (acres)	CDFW Nature Serve Protection Status*
*CDFG Rare: G1 or S1 - Critically Imperiled Globally or Subnationally (state) G2 or S2 - Imperiled Globally or Subnationally (state) G3 or S3 - Vulnerable to extirpation or extinction Globally or Subnationally (state) G4 or S4 - Uncommon but not rare Globally or Subnationally (state) G5 or S5 - Common and widespread Globally or Subnationally (state) Cal OWA - Protected by the California Oak Woodlands Act			

As shown in Table 3.4-3, the Proposed Project would result in approximately 2.19 acres of permanent impacts, which includes approximately 1.45 acres of existing cleared/developed land and approximately 0.68 acre of native vegetation. The Proposed Project would result in approximately 2.16 acres of temporary impacts, which includes approximately 1.13 acres of existing cleared/developed land and approximately 0.11 acre of native vegetation. Impacts to special- status species and nesting bird habitats would be less than significant with implementation of Mitigation Measure BIO-1 through BIO-3. Special-status vegetation communities are discussed in further detail in impact discussion below.

Special Status Plants

As discussed above, six special- status plants have moderate potential to occur within the project area. However, these special status plants were not observed during seasonally timed rare plant surveys. As a result, potential impacts to special status plants would be less than significant.

Special Status Wildlife

As discussed above, two special status wildlife species have moderate potential to occur within the Project area. With implementation of Mitigation Measure BIO-1, impacts to wildlife species from Project construction and operation will be less than significant.

Mitigation Measures

BIO -1: Pre-Construction Survey for Coast Horned Lizard and Silvery Legless Lizard. The BSA contains potentially suitable habitat for coast horned lizard and silvery legless lizard. A pre-construction special-status species survey will be conducted by a qualified biologist a minimum of 14 days prior to initiating ground disturbance activities. The survey will consist of full coverage of the proposed disturbance limits and a 500-foot buffer, and can be performed concurrently with the nesting bird survey. If coast horned lizard, silvery legless lizard or any special-status species are found during pre-construction surveys, a biological monitor may be needed during construction. If determined necessary, biological compliance monitoring will be conducted by a qualified biologist during construction.

BIO-2: Nesting Bird Surveys. Protection of nesting birds would be required in compliance with the MBTA and to avoid impacts to nesting birds. To avoid impacts to nesting birds and to comply with the MBTA, clearing of vegetation should occur between non-nesting (or non-breeding) season for birds (generally, September 1 to February 1). If this avoidance schedule is not feasible, the alternative is to carry out the clearing of vegetation associated with construction under the supervision of a qualified biologist. This will entail a pre-construction nesting bird survey conducted by a qualified biologist a minimum of 14 days prior to initiating ground disturbance activities. The survey will consist of full coverage of the proposed disturbance limits and a 500-foot buffer. The buffer will be determined by the biologist and will take into account the species nesting in the area and the habitat present. If no active nests are found, no additional measures are required. If "occupied" nests are found, the nest locations will be mapped by the biologist, utilizing GPS equipment. The nesting bird species will be documented and, to the degree feasible, the nesting stage (e.g., incubation of eggs, feeding of young, near fledging). The biologist will establish a no-disturbance buffer around each active nest. The buffer will be determined by the biologist based on the species present and surrounding habitat. No construction or ground disturbance activities will be conducted within the buffer until the biologist has determined the nest is no longer active and has informed the construction supervisor that activities may resume.

BIO-3: Construction Monitoring and Best Management Practices. If pre-construction surveys determine either the presence of special status species, sensitive biological resources, or nesting birds, a biological monitor may be needed during construction to ensure that there is a 'no take' of special status species. If determined necessary, biological compliance monitoring during construction will be conducted by a qualified biologist. The biologist shall be given authority to execute the following functions:

- Establish construction exclusion zones and make recommendations for implementing erosion control measures in temporary impact areas.
- Ensure all construction activities stay within the staked construction zone and do not go beyond the limits of disturbance.
- Minimize trimming/removal of vegetation to within the Project areas.
- Restrict non-essential equipment to the existing roadways and/or disturbed areas to avoid disturbance to existing adjacent native vegetation.
- Install and maintain appropriate erosion/sediment control measures, as needed, throughout the duration of work activities.

During construction, biological monitors will inspect and verify field conditions, as needed, to ensure that wildlife and vegetation adjacent to the Project area are not harmed. The biological monitor will coordinate with the construction foreman and construction crew and shall have the

authority to immediately stop any activity that has the potential to impact special-status species or remove vegetation not specified in this report. Therefore, with implementation of BIO-1 through BIO-3, impacts would be less than significant.

Impacts After Mitigation

With implementation of BIO-1 through BIO-3, residual impacts would be less than significant.

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish or U.S. Fish and Wildlife Service?*

Less than Significant Impact with Mitigation Incorporated

There is no riparian habitat within the BSA. One sensitive habitat, Coast Live Oak Woodland, is present within the BSA. Individual Scrub Oaks present within the Scrub Oak-Chamise Chaparral plant community are protected from removal, damage, or encroachment under the Indigenous (Protected) Tree Report Program. Implementation of Mitigation Measure BIO-4 will reduce potentially significant impacts to less than significant.

Mitigation Measures

BIO-4: Biological Compliance Monitoring to Avoid Impacts to Sensitive habitats and native trees. To avoid and reduce Project impacts to coast live oaks and scrub oaks, to a less than significant level, an arborist or a botanist shall be present onsite to monitor construction within 15 feet of all Oaks and other native trees. Construction shall be avoided within the Tree Protection Zone (TPZ), which is typically 5 feet beyond the dripline of a native tree or a minimum of 15 feet from the trunk, when feasible. When construction within the TPZ is unavoidable, as few roots as possible shall be trimmed, and shall total less than 20 percent of a single tree's root system. In addition, no equipment, soil, or construction materials shall be placed within the TPZ of any native tree. If impacts or encroachment of a protected tree are determined to be unavoidable (i.e., >20 percent of tree's roots need to be cut), the applicant shall obtain the appropriate tree permit prior to any impacts to protected trees.

Impacts After Mitigation

With implementation of BIO-4, residual impacts would be less than significant.

c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact

The BSA does not contain any federally protected wetlands as defined by Section 404 of the Clean Water Act. Therefore, because no wetlands are present within the BSA, there would be no impact.

Mitigation Measures

None required.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact

The majority of species tend to avoid the area and use the more natural adjacent canyons and watersheds. It is likely that the ridgelines on and off the SCLF property would serve as the principal wildlife movement and dispersal corridors for most species found on or in the immediate vicinity of the Proposed Project, and species will not need to cross through open, disturbed areas of the Project. In addition, the Project does not fall within the Pacific Flyway's major or principal bird migration routes. Therefore, because the majority of species would avoid the SCLF and use adjacent ridgelines, canyons and watersheds as movement corridors, there would be a less than significant impact.

Mitigation Measures

None required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact

Coast live oak woodland is present within the BSA and is protected by the Los Angeles County Oak Woodlands Conservation Management Plan (2014). However, the oak woodland present is not within the project area and is not expected to be impacted. Therefore, because the oak woodland falls outside of Project area, there would be no impact.

Mitigation Measures

None required.

f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

No Impact

According to the Glendale General Plan, there is no habitat conservation plan or natural community conservation plan in the City of Glendale. There is, however, a Significant Ecological Area (SEA) program in the City of Glendale, which is implemented with the intention to preserve these designated sensitive areas. The Project site is not located within the city's SEA. As such, implementation of the Proposed Project would not conflict with the SEA program or other habitat conservation plans. Therefore, there would be no impact.

Mitigation Measures

None required.

3.5 CULTURAL RESOURCES

The following section is based on and summarizes the Cultural Resources Assessment Report prepared by Stantec on behalf of The City of Glendale for the Proposed Project, San Rafael Hills, Glendale, Los Angeles County, California, dated February 2016. The full report is provided as Appendix C.

3.5.1 Setting

The Proposed Project is subject to compliance with the CEQA requirements regarding cultural resources on lands proposed for development. CEQA (Public Resources Code Sections 21000 etc.) requires that before approving most discretionary projects, the Lead Agency must identify and examine any significant adverse environmental effects that may result from activities associated with such projects (Public Resources Code Sections 21083.2 and 21084.1). CEQA explicitly requires that the initial study examine whether the Project may have a significant effect on "historical resources" and "unique archaeological resources." Under these requirements, a cultural resources inventory was conducted in order to determine impacts of the Proposed Project on cultural resources potentially eligible for nomination to the California Register of Historical Resources (CRHR).

Regulatory Framework

California Environmental Quality Act (California Public Resources Code Section 21000 et seq.) (1970) established that historical and archaeological resources are afforded consideration and protection (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under three regulatory designations: historical resources, tribal cultural resources, and unique archaeological resources.

A Historical Resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the "CRHR"; or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]).

Tribal cultural resources (TCRs) are similar to the traditional cultural property designation within the National Historic Preservation Act guidance. These can be sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Tribe. To qualify as a TCR, it must either be 1) listed on or eligible for listing on the California Register or a

local historic register or, 2) is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC Section 21074).

An archaeological artifact, object, or site can meet CEQA's definition of a unique archaeological resource even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if "it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Public Resources Code 5097.98. This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The Native American Heritage Commission (NAHC), upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

Health and Safety Code 7050.5. This code establishes that any person, who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American human remains.

Additionally, the City of Glendale has the **Glendale Register of Historic Resources** for resources considered eligible, which is similar criteria and actually matches the CRHR (City of Glendale 2014b). Although the CRHR criteria consider local and regional significance for historic resource, the Glendale Register criteria includes additional criterion (Criterion 5) that specifically addresses potentially significant local resources that exemplify the early heritage of the city (Glendale Municipal Code Chapter 15.20).

Project Area

To ensure that the above stated guidelines are properly addressed, the Project area is defined as the approximately 2.2-acre footprint for the Proposed Project, including an approximately 100 foot wide buffer (30 meters) to account for any project/design changes, and an approximately 100 foot (30-meters) wide buffer on centerline of the proposed water and natural gas pipelines,

for a total of approximately 20.2 acres. It is expected that any potential adverse impacts to cultural resources will be contained within this acreage area. The Study Area for the Project is defined as a one-half mile buffer surrounding the Project area. Project regional location, Study Area, and project area, are depicted in Figures 1, 2, and 3 of the Cultural Resource Assessment Report (Appendix C).

Cultural Background

While no cultural sequence has been developed specifically for the Study Area, regional chronologies for other parts of southern California and the Southwest have been employed for this locality (Elsasser 1978; Jones and Klar 2007; Moratto 1984; Warren and Crabtree 1986). Such sequences are generally based on the presence of temporally diagnostic artifacts, such as projectile points, pottery, or beads. The most recent chronological clarification of the prehistory of the Southern California area has been presented by Sutton (2010) and Sutton and Gardner (2010). The more recent chronology is presented below.

Archaeological Background

The earliest period of human occupation in Southern California is referred to by various terms, including Clovis, Paleoindian, and Early Systems Period. This is a time believed to have commenced about 12,000 years ago Before Present (BP), lasting until about 10,000 years BP. While some scholars have championed the idea of a Pre-Projectile Point Tradition predating this time, it is not considered here, as there are no documented sites of this age near the current Study Area. The following cultural periods reflect human adaptations that occurred among prehistoric societies in inland California. While these are broad generalizations, there appear to be similarities among various populations in Southern California, particularly in the inland areas.

Prehistoric chronological sequences for the area can be represented by the Encinitas Tradition and the Del Rey Tradition. The Encinitas Tradition is characterized by an abundance of grinding implements (manos and metates), rough core and flaked stone and bone tools, and shell ornaments but few projectile points and hunting implements (Sutton and Gardner 2010). Subsistence focused on collecting rather than hunting with faunal remains, varying by site, including marine mammals, fish, shell fish, and land animals (Sutton and Gardner 2010:7). The Encinitas Tradition has four regional expressions: The Topanga in coastal Los Angeles and Orange county areas, the La Jolla in the coastal San Diego area, Pauma in inland San Diego areas, and the Greven Knoll in inland Los Angeles, Orange, San Bernardino, and Riverside County areas (Sutton and Gardner 2010:8-25).

Greven Knoll Phases

Greven Knoll Phase I (9,400 to 4,000 BP) is characterized by manos and metates (though no mortars and pestles), large projectile points, hammerstones, flexed inhumations and few cremations (Sutton and Gardner 2010:25, 8). Greven Knoll I groups seem to have been

influenced by Mojave Desert groups based on similarities in material culture (Sutton and Gardner 2010). The "Cogstone Point" Site located further southeast in the Prado Basin contained manos, metates, discoidals, cogstones, Pinto-style points but no scrapers, as is common in Greven Knoll I sites. Shell artifacts are also rare at sites dating to this phase of Greven Knoll.

Greven Knoll Phase II (4,000 to 3,000 BP) shared many similarities with Greven Knoll I but is differentiated by an increase in percentages of manos and a decrease in percentages of flaked stone points and bone tools (Sutton and Gardner 2010:8,29). Pinto-style points are still found but Elko-style points become more common. Many Greven Knoll II sites also contain Greven Knoll I components, indicating little change in settlement patterns (Sutton and Gardner 2010:30).

Greven Knoll III (3,000 to 1,000 BP), formerly known as Sayles Complex, is characterized by abundant manos and metates, Elko-style points, scraper planes and choppers, hammerstones, late discoidals, few mortars and pestles and an absence of shell artifacts (Sutton and Gardner 2010:8, 32). Flexed inhumations under rock cairns and yucca and other seeds are also noted during this phase (Sutton and Gardener 2010:8, 32).

The Greven Knoll Phases were replaced in the Study Area at about 1,000 BP by new cultural traditions with Takic influences moving east from the coastal areas (Sutton and Gardner 2010:34). Known as the Del Rey Tradition this period represents the development of the Gabrielino culture in Southern California (Sutton 2010). The Del Rey Tradition is divided into three phases for this area and referred to the Angeles Phases.

Angeles Phase

Angeles Phase IV (1,000 to 800 BP) is characterized by Cottonwood-style arrow points, Olivella cupped beads and Mytillus shell disk beads, imported pottery and possibly ceramic pipes. Population increases led to fewer but larger permanent settlements as well (Sutton 2010).

Angeles Phase V (800 to 450 BP) is characterized by an increase in both size and number of steatite ornaments and vessels, and more elaborate effigies (Sutton 2010). This phase also saw the development of the mainland Gabrielino dialect and a decline in exploitation of marine resources with an increase in use of small seeds (Sutton 2010). Settlement shifted from woodlands to open grasslands (Sutton 2010).

Angeles Phase VI (450 to 150 BP) reflects cultural patterns into the post-contact period (roughly AD 1542). One of the most noticeable changes would likely have been the extreme population loss due to disease and missionization of the native populations. Olivella shell beads drilled with metal needles, glass beads, and metal tools as well as locally made ceramics and the use of domesticated animals were noted in Angles VI (Sutton 2010).

Ethnography

Early Native American peoples of this area are poorly understood though the cultural traditions represented in archaeological data presented above. The presence of occupation in this area by the ethnohistoric Gabrielino (Tongva) people began to be demonstrated about 1,000 years ago. The term Gabrielino most likely came from the tribe's association with Mission San Gabriel Arcangel, established in 1771. However, today the ancestors prefer to be known by their ancestral name Tongva. The current Study Area appears to be located within the core territory of the Tongva. Ethnohistorically, the Tongva were semi-sedentary hunters and gatherers whose language is one of the Cupan languages in the Takic family, part of the Uto-Aztecan linguistic stock (Bean and Smith 1978).

The Tongva territory encompassed a vast area that stretched from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 square miles (Bean and Smith 1978, McCawley 1996). At European contact, the tribe consisted of more than 5,000 people living in various settlements throughout the area (McCawley 1996). Some of the villages could be quite large, housing up to 150 people. The Tongva are considered to have been one of the wealthiest tribes and they appear to have greatly influenced tribes that they traded with (Kroeber 1976:621).

Study Area History

Rancho San Rafael

The current Study Area is located within portions of Rancho San Rafael which was a 36,403-acre Spanish land grant given in 1784 to Jose Maria Verdugo (Baker 1914:242; Cowan 1956:87). Corporal Jose Maria Verdugo was a Spanish soldier who had served within the 1769 Portola-Serra Expedition, who received provisional eight square leagues from his army commander Pedro Fages. Following the Treaty of Guadalupe Hidalgo and cession of California to the United States, a claim was filed with the Public Lands Commission in 1852 and the grant was patented to Julio and Catalina Verdugo in 1882. This was the second of the great Spanish land concession, preceded only by Rancho San Pedro (Cowan 1956:87).

City of Glendale

The general area that is currently known as the City of Glendale was previously occupied by the Tongva, who were later referred to as the Gabrielinos by the Spanish missionaries after the nearby Mission San Gabriel Arcangel. Subsequently, much of the surrounding land comprised the 36,403-acre Rancho San Rafael, which was claimed by Jose Maria Verdugo and later patented by Julio and Catalina Verdugo. By the early 1880s Verdugo's descendants sold the ranch in various parcels and by 1884 new residents gathered to form a townsite and called it Glendale.

Glendale was incorporated in 1906 and annexed the nearby community of Tropico in 1918. By 1920, Glendale was booming, and began annexing neighboring communities into their city limits in extending their limits to 7,000 acres, boasting a population of over 13,536 residents (City of Glendale 2012; Los Angeles Almanac 2015). During this time, Glendale experienced a construction boom on the main streets of town, particularly Brand Boulevard, which was lined with modern commercial buildings and entertainment and nearby orchards and vineyards became residential neighborhoods. By the early 1930s population of Glendale reached 62,000 residents, who lived on approximately 13, 000 acres. In 2010, the United Census Bureau reported that Glendale had a population of 191,719 residents. Today, Glendale remains a hub of business, tourist, and recreational activities.

Current Land Use

The Project area is located within an active landfill which is operated in part by Sanitation Districts of Los Angeles County. The landfill is situated in the San Rafael Hills and accepts solid waste from nearby communities. Most of the area occupied by the SCLF is characterized by paved access roads, facility structures, gas and water pipelines, and overhead distribution lines. The SCLF is surrounded by residential areas to the west, a recently developed golf course to the north and Highway 134 to the south. As the SCLF is located in the San Rafael Hills, it is surrounded by steep hills intersected with intermittent drainages and washes. The western portion of the SCLF is comprised of terraced slopes with access roads, gas pipelines, and irrigation pipes.

3.5.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Methodology

Cultural resources investigations reported herein consisted of a records search conducted at the South Central Coastal Information Center (SCCIC) at California State University Fullerton (CSUF), as well as an intensive pedestrian survey of approximately 20.2 acres of land.

Native American Notification and AB52

California Public Resources Code Sections 5097.94(a) and 5097.96 authorize the NAHC in Sacramento to hold records of Native American sacred sites and burial sites in the Sacred Lands File. The NAHC also holds records of individuals that have particular expertise and knowledge of Native American resources.

On November 15, 2015, Stantec, on behalf of the City, contacted the NAHC and requested a Sacred Lands File search for the entire project area. A response from the NAHC was received on December 7, 2015, indicating that they have no knowledge of Native American resources within or immediately adjacent to the Project area. They provided a list of eight individuals/organizations for Los Angeles County that may have knowledge of Native American and tribal cultural resources that could potentially present within or immediately adjacent to the Project area. Stantec, on behalf of the City, submitted notification/consultation letters to these individuals/organizations on January 27, 2016. Results of the Native American notification with the NAHC and NA contacts for Los Angeles County are provided in the Cultural Resources Assessment Report (Appendix C).

As of the date of this report, no NA groups or tribes have contacted the City of Glendale (lead state agency for AB-52 for the Project) for consultation in regard to AB-52 consultation and listing.

Records Search

A records search of the entire Project area was conducted by Stantec personnel at the South Central Coastal Information Center (SCCIC) on October 15, 2015. The search entailed a review of all previously recorded prehistoric and historic archaeological sites located within a one half-mile radius of the Project area, as well as a review of all known cultural resource survey reports, excavation reports and regional cultural overviews.

Results of the records search indicated that no cultural resources studies were previously conducted within the current Project area; however, five negative cultural resource surveys (Bonner 2004a, 2004b; Brunell 2014; Singer 1987; Wlodarski 1981) were conducted within a one half-mile radius of the current Project area (Table 3.5-1).

Additionally, the records search results indicated that no cultural resources were previously documented within the current Project area; however, one historic period resource was previously documented within a one half-mile radius of the current Project area (Table 3.5-2).

The resource is a historic period steel lattice Eagle Rock-Laguna Bell 220-killavolts (kV) transmission line, which is currently in use and is maintained and operated by SCE. No other cultural resources were previously documented within the Project area or within a one half-mile radius of the Project area.

Table 3.5-1 Summary of Cultural Resources Projects Previously Conducted within a One-Half Mile Radius of the Project Area

Author	Year	Level of Investigation	Resources Indentified	Report Reference No.
Bonner, W.	2004a	Survey		LA12657
Bonner, W.	2004b	Survey		LA07446
Brunell, D.	2014	Survey		LA07453
Singer, C.	1987	Survey		LA01662
Wlodarski, R.	1981	Survey		LA00943

Table 3.5-2 Summary of Known Cultural Resources Located within a ½ Mile Radius of the Project Area

Quad	Trinomial	Primary No.	Component	Description
Various	-	19-186870	Historic	SCE Eagle Rock-Laguna Bell 220kV transmission line

As part of the archival research at the SCCIC, the following sources were consulted: the *California Archaeological Inventory Records, NRHP*, *California Historic Landmark Registry, California Points of Historical Interest, Inventory of Historic Structures,* and *Historical Landmarks for Los Angeles County*. Additionally, the following historic period maps were consulted: Pasadena, CA (1894; 1900 edition, reprinted in 1940; 1953; 1966 and 1995) 15-minute topographic quadrangles.

Field Methods

Pedestrian surveys of the entire approximately 20.2-acre Project area were conducted on October 20, 2015 and January 15, 2016. The initial survey took place in October 2015, and included the approximately 2.2-acre footprint of the proposed power generation facility. As additional Project information was added and the proposed alignments of gas and water lines were finalized, an additional survey was conducted on January 15, 2016 to account for those changes and to ensure that the entire approximately 20.2-acre Project area was surveyed for cultural resources. Select photographs of the Study Area are contained in the Cultural Resources Assessment Report (Appendix C).

Per the California Office of Historic Preservation (1995) guidelines, Stantec examined surface and subsurface exposures such as rodent burrows and cut banks for physical manifestations of human activity greater than 45 years in age. Documentation included field notes and

photographs. The extent of the survey coverage was recorded with a Trimble Juno 5 hand-held GPS unit, with between two to four-meter horizontal accuracy, with the Universal Transverse Mercator (UTM), North American Datum of 1983 (NAD 83), Zone 11, using meters as the spatial reference. Photographs were taken with a Canon PowerShot A530 digital camera to document the built environment within the project area. The extent of the survey coverage was drawn on the Pasadena, California (1994) USGS 7.5-minute series topographic quadrangle (see Figure 2 of Appendix C).

Survey Results

The entire survey was conducted by walking east-west transects within the footprint of the proposed generation facility and transects parallel to the proposed gas and water lines, which were spaced at approximately ten meters apart. Survey of the proposed power generation facility was conducted on a sunny and bright day, with ground visibility between 80 to100 percent, albeit in mostly disturbed context. The area designated for the proposed power generation facility comprises an existing paved roadway, an above-ground gas pipeline installed on two foot sleepers, and portions of which appear to have been graded to accommodate buried facilities, such as water line, irrigation, gas, and communication. The southern and southeastern portion of this area appear to be located on steep hillside, with slope between 10 to15 degrees overlooking the paved access road (Scholl Canyon Road) to SCLF.

Once this area was inventoried for cultural resources, the survey followed the proposed water line in westerly direction for approximately 300 meters, at which point the survey continued north and northwest on an east side of an existing paved access road (Appendix C; Fig. 6). The survey continued northwest on a south side of an existing golf course and continued further north along a terraced slope (bench 11) towards East Glen Oaks Blvd. Once this portion of the survey was complete, the survey followed the proposed alignment of the gas line, which started at the proposed power generation facility and continued west, near the entrance to the SCLF and north down the terraced slope towards Lower Scholl Canyon Park. This portion of the survey was characterized by relatively dense vegetation and terraced slope with irrigation pipes and a paved access road which followed the terraced slope.

The entire approximately 20.2-acre Project area surveys did not reveal any cultural resources and no cultural resources were previously documented within the Project area. Based on the findings in the study the Proposed Project will not cause a substantial adverse change to the significance of cultural resources as defined in Section 15064.5, nor will the Proposed Project have impacts on significant local resources as defined in Chapter 15.20 of the City of Glendale Municipal Code. Therefore, no additional cultural resources studies or additional construction constraints were recommended.

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

No Impact

As part of the current cultural resources study, approximately 20.2 acres of land were inventoried to determine whether cultural resources would be affected by the Proposed Project. There were no historical resources identified during the survey and no historical resources were previously documented within the Project area. Based on the findings in this study, the Proposed Project will not cause a substantial adverse change to the significance of historical resources as defined in Section 15064.5, nor will the Proposed Project have impacts on significant local resources as defined in Chapter 15.20 of the City of Glendale Municipal Code; therefore, there would be no impact.

Mitigation Measures

None required.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

No Impact

Impact Discussion

Similar in respect to historical resources, above, the potential to encounter archaeological resources is low because the majority of the Project area has been previously disturbed by landfill and other urban activities. There were no archaeological resources identified during the survey and no archaeological resources were previously documented within the Project area. Based on the findings in this study the Proposed Project will not cause a substantial adverse change to the significance of archaeological resources as defined in Section 15064.5, nor will the Proposed Project have impacts on significant local resources as defined in Chapter 15.20 of the City of Glendale Municipal Code; therefore, there would be no impact.

Mitigation Measures

None required.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact

Impact Discussion

Similar in respect to historical resources and archaeological resources, above, the potential to encounter unique paleontological resources is low because the majority of the Project area has been previously disturbed by landfill and other urban activities. The Proposed Project will not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; therefore, there would be no impact.

Mitigation Measures

None required.

d) Disturb any human remains, including those interred outside of formal cemeteries?

No Impact

Impact Discussion

Similar in respect to historical, archaeological, and paleontological resources, above, the potential to disturb any human remains is low because the majority of the Project area has been previously disturbed by landfill and other urban activities. The Proposed Project would not be expected to disturb any human remains, including those interred outside of formal cemeteries; therefore, there would be no impact.

In the event human remains are encountered during construction, State Health and Safety Code Section 7050.5 requires that no further work shall continue at the location of the find until the County Coroner has made all the necessary findings as to the origin and distribution of such remains pursuant to Public Code Resources Code Section 5097.98. The County Coroner must be notified within 24 hours of the discovery, and within two working days of notification of the discovery shall make such a determination. If the County Coroner determines that the remains are or are believed to be Native American, the County Coroner shall notify the NAHC in Sacramento within 24 hours. In accordance with Section 5097.98 of the California Public Resources Code, the NAHC must immediately notify those persons it believes to be the most likely descended from the deceased Native American. The descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the County Construction Engineer, the treatment and disposition of the human remains.

Mitigation Measures

None required.

3.6 GEOLOGY AND SOILS

This section describes existing geology and soils of the project site and is based on findings documented in the following reports:

- Geo-Logic Associates (GLA; 2012) Geotechnical Report – Proposed Landfill Expansion, March.
- Sanitation Districts of Los Angeles County – Planning Section and AECOM (2014) Draft Environmental Impact Report, March.
- Stantec (2016) Geotechnical Investigation Report, provided as Appendix D of this document.

3.6.1 Setting

Regional Hydrogeology

According to the California Department of Water Resources (CDWR) Bulletin 118 Report, the Project site is not located within a mapped groundwater basin. The closest groundwater basin is the San Fernando Valley Groundwater Basin of the South Coast Hydrologic Region (4-12), located to the west of the Project site. The basin is approximately 226 square miles and is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills (DWR, 2004).

Regional Geology

The Project site is located in the northwestern portion of the Transverse Range Geomorphic Province in the southwestern part of California. The region is separated by an east-west trending series of steep mountain ranges and valleys, sub-parallel to faults branching from the San Andreas Fault. The Project site resides in the portion of the Province drained by the Los Angeles River.

California Highway 134 is located approximately 0.4 miles southwest of the site, California Highway 210 is located approximately two miles east of the site, and the Los Angeles River is located approximately 4.9 miles west of the Project site. Based on interpretation of the ground surface elevation contour lines drawn on the topographic map, the Proposed Project site is located at an elevation of approximately 1,410 to 1,485 feet (1988, NAVD). The topography in the vicinity of the Project site is hilly, with a slope to the south then southwest toward the Los Angeles River (USGS, 1995).

Local Geology

Based on information depicted on the 2005 Geologic Map of Los Angeles, the Project site is underlain by Mesozoic age quartz diorite deposits composed of plagioclase feldspar (oligoclase- andesine, hornblende, biotite, and minor quartz). Sometimes referred to as the Wilson Diorite, this unit is the most widespread bedrock type in the Glendale area. The bulk of the Verdugo Mountains and the San Rafael Hills are comprised of quartz diorite. The color of the rock is typically a light gray to light brown. The texture is generally medium grained and the structure is massive. In the central part of the San Rafael Hills, just north of Highway 134, at the southeastern margin of Glendale, the mineral grains are aligned, giving the rock a distinct banding or "foliation" resulting in a somewhat layered structure. In this area, the structure dips 60 to 70 degrees to the east and northeast (Earth Consultants International, 2003).

Site Surface Conditions

The Project site is bordered by natural slopes on the south and southeast. The northern, western, and northeastern sides border the existing landfill.

Most of the area to be developed is relatively flat, at an elevation of approximately 1,410 feet. The surface begins to steepen in the northeastern portion of the site, rising to almost 1,500 feet east of the northeast corner of the site, where a cut slope is proposed. The ground surface has been cleared and is devoid of vegetation, except in limited areas in the northeastern part of the Project site, where portions of the landfill are exposed at the surface. Existing structures and equipment associated with operation of the landfill are located throughout the area.

Seismicity

The Project site, as is most of California, is located in a seismically active area. The estimated distances from the Project site to the nearest expected surface expression of nearby faults is presented in Table 3.6-1 below. The maximum moment magnitude is the measurement of maximum motion recorded by a seismograph; whereby "moment" is equal to the rigidity of the earth times the average amount of slip on the fault times the area of ground surface that slipped.

Table 3.6-1 Distance of Faults to Project Site and Maximum Magnitudes

Fault	Distance* (miles)	Maximum Moment Magnitude*
Verdugo	0.3	6.9
Raymond	2.3	6.8
Hollywood	3.3	6.7
Sierra Madre (connected)	3.9	7.2
Elysian Park Thrust	6.1	6.7
Santa Monica	6.2	7.4
Sierra Madre (San Fernando)	10.5	6.7
Clamshell-Sawpit	11.1	6.7
Puente Hills (LA Basin)	11.5	7.0
San Gabriel	12.4	7.3
Elsinore	13.7	7.8
Newport-Inglewood (LA Basin)	13.7	7.5
Santa Monica	13.9	7.3
Northridge	15.2	6.9
Puente Hills (Santa Fe Springs)	17.3	6.7
San Jose	19.6	6.7
Puente Hills (Coyote Hills)	19.9	6.9
Malibu Coast	21.0	6.7
Anacapa-Dume	22.7	7.2
Palos Verdes	24.4	7.7

* Measured from 2008 National Seismic Hazard Maps (USGS, 2008).

The Project site is not located within a currently mapped California Earthquake Fault Zone, as presented in the table above; the nearest fault is the Verdugo Fault, located approximately 0.3 miles to the southwest of the Project site. Based on available geologic data, there is low potential for surface fault rupture from the Verdugo Fault and other nearby active faults propagating to the surface of the Project site during design life of the proposed development.

The Scholl Canyon faults were mapped by Byer (1968), and Envicom (1975) suggested that this fault zone connects the Verdugo fault in the west to the Eagle Rock fault in the east. However, more recent mapping by Dibblee (1989) does not even show these faults, and there is no data available to indicate that these fault traces, if even present, are active. The Hazards Map in the GGP (Glendale General Plan) shows the Scholl Canyon Fault, as mapped by Byer, on Plate P-1 of the Safety Element of the GGP (City of Glendale, 2003).

Site Soils

Based on soil assessment work conducted by Stantec in December 2015, soils within the footprint of the proposed power generation facility consist of those presented in Table 3.6-2 below.

Table 3.6-2 Site Soils

Soil Symbol	Soil Type	Description
SM	Silty Sand with Gravel	Silty sand with gravel; 7.5 YR 3/3 dark brown; 15 percent fine gravel; 65 percent fine to coarse grained sand; 20 percent fines; moist; medium dense; no staining; no odor (FILL).
wqd	Wilson Quartz Diorite	Weathered dioritic-granitic bedrock; dark yellowish brown; dry; very dense; moderately fractured.
Qns	Natural Soil	Silty sand with gravel; brown; dry; loose; sand is very fine to coarse grained; rootlets (NATIVE)
Source: Stantec, 2016		

Expansive Soil Potential

The near-surface materials (upper eight feet) consist of silty sand with gravel and weathered quartz diorite bedrock. The predominantly granular soils and rock are not expansive. Design for expansive soils is not required.

Liquefaction and Unstable Soils

Liquefaction is a phenomenon whereby loose, sandy soils below the water table lose strength in response to the cyclic build-up of earthquake-induced groundwater pore pressures. In severe cases, liquefied soils can lose nearly all strength, causing slope failures, ground distortion and settlement, and damage to overlying structures (GLA, 2012).

Within the vicinity of the Project site, the aerial extent of potentially liquefiable alluvium is confined to the relatively narrow channel of the pre-development creek. Subsurface conditions near the toe of the landfill, in Scholl Canyon Park, generally consist of varying depths of alluvial materials overlying bedrock. Alluvial depths are highly variable, ranging from less than five feet along the flanks of the canyon to about 40 feet along the canyon axis. Alluvium generally consists of loose to very dense sand, silty sand, silty sand with gravel, gravelly sand, cobbles, and minor amounts of clayey sand.

GLA evaluated the stability of the proposed landfill slopes and proposed cut slopes in bedrock of the adjacent property (SCLF) for their geotechnical report (2012). During this investigation it was established that, although the Project site would experience strong ground motions during the maximum considered earthquake design event, the calculated displacement of waste mass and potential liquefaction of alluvium at the toe of the waste fill, are considered to be tolerable (less than six inches) and in compliance with Title 27, Division 2, California Code of Regulations.

Ongoing groundwater pumping within Scholl Canyon Park, to the west of the SCLF, the proposed water line, and where the western portion of the proposed gas line would terminate, is expected to prevent or minimize potential liquefaction at the toe of the SCLF by depriving

sediments of the groundwater necessary for liquefaction (AECOM, 2014). In the very unlikely event of high groundwater, such as due to a cessation of pumping, in combination with the maximum credible earthquake (MCE) (MCE = M_w[1] 6.9, PHGA[2] = 0.67 g[3]), surface manifestations of liquefaction at the SCLF, such as differential settlement and sand boils, would generally be confined to Scholl Canyon Park. This extreme worst-case liquefaction scenario is not expected to cause significant stability failures of the waste mass, and in no case, would any potential liquefaction-related failure extend very far up the landfill slope.

Additionally, the potential for seismically-induced dynamic settlements within the sandy alluvial soils at Scholl Canyon Park were calculated based on Cone Penetration Test (CPT) soundings advanced on the SCLF property. Similarly, it was determined that estimated dynamic settlements during the MCE would not be expected to significantly impact the waste fill. In addition, according to the geotechnical report for the landfill expansion (Geo-Logic Associates, 2012), no significant impacts related to expansive soils would occur.

Subsurface conditions underlying the Project site consist mainly of dense to very dense silty sands over slightly weathered, hard bedrock. Groundwater was not encountered during soil assessment (maximum depth explored 36.5 feet below ground surface) and it is anticipated that the groundwater level is below a depth that would affect planned construction. The Project site is located in an area where water bearing soils are not present. Consequently, the potential for liquefaction beneath the Project site is negligible (Stantec, 2016).

Landslides, Lateral Spreading, and Slope Stability Evaluation

Landslides are not listed in the Safety Element of the Glendale General Plan as an overlay constraint within Scholl Canyon (identified as “Low landslide incidence”). The SCLF is shown in the General Plan Slope Instability Map (Plate 2-4) as outside any areas identified as having slope instability (Low-Very High). Displacements of 6 to 12 inches are considered the maximum tolerable deformation for landfills with synthetic liner components. Because the MCE is more conservative than the Maximum Possible Earthquake (MPE) required by Title 27 (combined State Water Resources Control Board/California Integrated Waste Management Board regulations for Solid Waste), the dynamic stability of the proposed landfill slopes exceeds Title 27 requirements.

The Proposed Project site is also outside of Liquefaction Hazard Zones identified on the GGP Hazards Map Plate P-1. Landslide Hazard Zones appear on Plate P-1 to be located directly to the south of the Proposed Project site, most likely on the steep slopes upon which Scholl Canyon Road is located.

[1] Magnitude weighted
[2] Peak horizontal ground acceleration
[3] Peak ground acceleration can be expressed in ***g*** (the acceleration due to Earth's gravity, equivalent to g-force) as either a decimal or percentage

3.6.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving?				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction of collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1997), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving?

i. Rupture of a known earthquake fault, as delineated on the most recent AlquistPriolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Less than Significant Impact

The SCLF and the approximately 2.2-acre site lying within the inactive portion of the landfill proposed for the Project, is located in a seismically active area and would experience strong ground motions during a large earthquake event. However, no evidence of surface traces of active faults (having experienced displacement within the Holocene period [i.e. in the last 10,000 years]) at the SCLF have been identified as part of the geotechnical investigation for the landfill expansion project or in other previous geologic and faulting studies. Furthermore, the Project site does not lie within or near a State of California Alquist-Priolo Earthquake Special Studies Zone (A-P Zone). A-P Zones are established by the State Geologist to regulate construction of buildings for human occupancy within narrow zones adjacent to active faults (AECOM, 2014).

The deterministic seismic hazard assessment performed for the Proposed Project includes ground motion estimates from a postulated M_w 6.9 earthquake on the Verdugo fault per the USGS/California Geological Survey (CGS) 2008 Fault Model. The Verdugo fault trace in this model actually comprises the Verdugo-Eagle Rock-San Rafael fault system, a northeast-dipping fault system that runs along the southwest base of the Verdugo Mountains and the San Rafael Hills. While the Verdugo fault proper is considered by the State of California to be Holocene-active (i.e., active within the last 10,000 years), the Eagle Rock and San Rafael faults are considered as having last experienced fault displacement in the Late Quaternary period (i.e. within the past 700,000 years). So, while the entire Verdugo-Eagle Rock-San Rafael fault system per the USGS/CGS 2008 Fault Model is considered in the ground motion estimates for the Proposed Project's geotechnical investigation, the southern portion of this fault system (i.e. the Eagle Rock and San Rafael faults) is not considered active. Furthermore, no evidence for surface rupture has been observed along Eagle Rock and San Rafael faults (Weber et al., 1980). As such, the probability of earthquake surface rupture affecting the Project site is considered very low (AECOM, 2014).

Therefore, potential impacts related to rupture of a known earthquake fault or strong seismic ground-shaking are considered less than significant.

Mitigation Measures

None required.

ii. Strong seismic ground shaking?

Less than Significant Impact

Please see response to i, above.

Mitigation Measures

None required.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact

Impact Discussion

Power Generation Plant

Due to the subsurface conditions underlying the Project site consisting mainly of dense to very dense silty sands over slightly weathered, hard bedrock, combined with very deep groundwater levels in an area where water bearing soils are not present, the potential for liquefaction beneath the Proposed Project site is negligible. Therefore, potential impacts related to liquefaction and expansive and unstable soils (i.e., settlement, subsidence, and collapse) are less than significant.

Gas and Water Lines

As described above, the extreme-worst-case liquefaction scenario is not expected to cause significant stability failures of the waste mass of the SCLF. Furthermore, the potential for seismically induced dynamic settlements within the sandy alluvial soils at Scholl Canyon Park during the MCE would not be expected to significantly impact the waste fill (AECOM, 2014). Therefore, impacts related to liquefaction and expansive and unstable soils (i.e., settlement, subsidence, and collapse) along the proposed water and gas lines are less than significant.

Mitigation Measures

None required.

iv. Landslides?

Less than Significant Impact

Power Generation Plant and Water Tanks

A cut native slope currently is proposed at the northeast end of the Project site. At present, the slope is configured at 1. 5:1 (horizontal:vertical). Erosion protection measures such as a drainage swale or bench (one at the top and one approximately mid-way down on the face of the slope) incorporated into the Project design will reduce the potential for sloughing and raveling from the face of the slope. Project compliance with design requirements set forth by Uniform Building Code and the City's Building and Safety code will ensure maximum slope steepness is not exceeded. Therefore, impacts would be less than significant.

Natural Gas and Water Pipelines

The proposed water line traverses the perimeter active landfill road and the southern boundary of the Scholl Canyon golf course to the northwest. The proposed gas line traverses and descends a terraced hillside into Scholl Canyon Park.

Static stability and seismic deformation analyses were performed for the Proposed Project EIR, which would border the proposed water line route. The static factor of safety of all proposed slopes was found to be greater than 1.5, indicating that they meet the static stability requirements of Title 27 (refer to Appendix E-2 of Appendix I of the landfill Draft EIR (AECOM, 2014) for landfill slope stability calculations). The results of the seismically-induced permanent displacement calculations for the Proposed Project slopes indicate tolerable displacements of less than six inches for the MCE design event for all conditions. Because the MCE is more conservative than the MPE required by Title 27, the dynamic stability of the Proposed Project slopes exceeds Title 27 requirements (refer to Appendix E-3 of Appendix I of the Draft EIR for seismically-induced permanent deformation calculations). The gas line would be routed above-ground except for road crossings, along existing landfill roadways and down a terraced, engineered slope on an existing pipe rack to an existing Southern California Gas Company meter. The terraced hillside down into Scholl Canyon Park is heavily landscaped and contains numerous water conveyance structures which serve to dissipate water flow and stabilize the slope. Therefore, impacts related to slope stability (i.e., landslides and lateral spreading) are considered less than significant.

Mitigation Measures

None required.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact

As discussed in Section 3.9, Hydrology and Water Quality, the Proposed Project would be designed, constructed, and operated with adequate stormwater run-off control measures to minimize erosion. In addition to diversion of surface water into conveyance features such as

channels and culverts, other surface features would reduce flow velocities, as well as bind the soil to prevent erosion.

As recommended in the geotechnical report dated January 4, 2016 (Appendix D), drainage on the cut slope at the northeast end of the Project should be designed to prevent surface water from flowing over the face of the slope. At least one drainage swale or bench should be provided at the top of the slope and another one approximately mid-way down on the face of the slope. Weathered rock exposed on the face of the cut slope is expected to be erodible. Erosion protection such as erosion-resistant vegetation, commercial erosion control mats or other means should be provided to minimize sloughing and raveling. Incorporation of these Project design features would ensure soil erosion and/or loss of topsoil would be a less than significant level. Therefore, with incorporation of the aforementioned engineering methods, impacts would be less than significant.

Mitigation Measures

None required.

c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction of collapse?*

Less than Significant Impact

Power Generation Plant

Due to the subsurface conditions underlying the Project site consisting mainly of dense to very dense silty sands over slightly weathered, hard bedrock, combined with very deep groundwater levels in an area where water bearing soils are not present, the potential for landslides, lateral spreading, subsidence, liquefaction or collapse beneath the Proposed Project site is negligible. Therefore, potential impacts related to liquefaction and expansive and unstable soils (i.e., settlement, subsidence, and collapse) are less than significant.

Gas and Water Lines

As described above, the extreme worst-case liquefaction scenario is not expected to cause significant stability failures of the waste mass of the SCLF. Furthermore, the potential for seismically induced dynamic settlements within the sandy alluvial soils at Scholl Canyon Park during the MCE would not be expected to significantly impact the waste fill (AECOM, 2014). Therefore, potential impacts related to liquefaction and expansive and unstable soils (i.e., settlement, subsidence, and collapse) along the proposed water and gas lines are less than significant.

Mitigation Measures

None required.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1997), creating substantial risks to life or property?

Less than Significant Impact

Power Generation Plant

Based on the subsurface investigation conducted as part of the subject site geotechnical evaluation (Stantec, 2016), the near-surface materials (upper eight-feet) consist of silty sand and quartz diorite bedrock. The predominantly granular soils and rock are not expansive. If imported soils are used for earthwork, the proposed materials for expansion potential prior to import, per Uniform Building Code and the Glendale Building and Safety Code 2016. Due to the absence of expansive soils within the subject site footprint, and regulations prohibiting the use of expansive soils, potential impacts associated with presence of expansive soils would be less than significant.

Natural Gas and Water Pipelines

Any native or imported soils used onsite during installation of the below-grade portion of the pipelines would be placed and compacted in accordance with Uniform Building Code and Glendale Building and Safety Code 2016. Potential impacts from expansive or collapsible soils would therefore be less than significant.

Mitigation Measures

None required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact

The Proposed Project does not include the construction of new septic tanks or alternative wastewater disposal systems. Therefore, there would be no impact.

Mitigation Measures

None required.

3.7 GREENHOUSE GAS

3.7.1 Setting

Environmental Setting

Global warming is the observed increase in the average temperature of the Earth's surface. The effects of increasing greenhouse concentration in the atmosphere may contribute to global warming. The major greenhouse gases (GHG)s are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

GHGs in the atmosphere absorb solar radiation reflected by the earth, which leads to warming of the atmosphere. GHGs also radiate energy both upwards toward space and downward to the surface of the earth. The downward direction of GHGs radiation is commonly called the "greenhouse effect."

Most GHGs can be produced through biogenic (natural) and anthropogenic (human-caused) processes. Biogenic sources include the combustion of biological material in forest fires, fermentation, decomposition or processing of biologically based materials. Some of the main sources of greenhouse gases due to human activity are the burning of fossil fuels, agricultural activities, and the use of chlorofluorocarbons (CFCs) in refrigeration and fire suppression systems.

Global Warming Potential (GWP) is a measure of how much a greenhouse gas contributes to global warming relative to the heat contributed by a similar mass of carbon dioxide. CH_4 and N_2O have GWP of 21 and 310 times that of CO_2, respectively. For this analysis, greenhouse gases other than CO_2 will be scaled to a single factor to determine the equivalent amount of CO_2 (CO_2e) for each gas. For CO_2, the scaling factor is 1.0. The scaling factors for CH_4 and N_2O are 21 and 310, respectively. USEPA develops emission factor tables to estimate the greenhouse gas emissions from various equipment and activity. This Project involves the continued destruction of 88 tons of methane (57,221 tons CO_2e) annually from landfill gas while incorporating beneficial power production.

Applicable Regulations

Title 40 CFR, Part 52, Subpart A, Section 52.21 – Prevention of Significant Deterioration (PSD) of Air Quality

Beginning January 2, 2011, GHG is subject to PSD regulation with an emission increase threshold of 75,000 tons CO_2e per year. PSD review is not triggered solely based on GHG emissions. A facility will be required for PSD review if its annual CO_2e is equal or more than 75,000 tons and any of the regulated NSR (non-GHG) pollutants emissions exceed the applicable PSD threshold of 100 or 250 tons per year.

The Proposed Project is expected not to emit CO_2e more than 75,000 tons per year; therefore, PSD permitting for GHG emissions for the proposed Project is not required.

California AB 32 – Global Warming Solutions Act

AB 32, which was signed by Governor Schwarzenegger on September 27, 2006, is the first enforceable state-wide program in U.S. to limit all GHG emissions from major industries. AB 32 requires the state of California to reduce its GHG emissions to 1990 levels by 2020. California Air Resource Board (CAB) had developed emissions reduction plan to achieve this goal. The reduction plan includes adopting laws and regulations, developing cap and trade program, and expansion of energy efficiency and renewable programs.

The Scholl Canyon Landfill Power project is a renewable project which aligns with CARB GHG emissions reduction plan in expanding the Renewable Portfolio Standard (RPS). Governor Schwarzenegger signed Executive Order S-14-08 requiring all electricity retailers shall serve 33 percent of their load with renewable energy by 2020.

California Code of Regulations, Section 95100

This rule establishes mandatory GHG reporting, verification, and other requirements for certain facilities, including electrical power facilities. SCLF greenhouse gas emissions are estimated to exceed 25,000 metric tons CO2e per year; therefore, the facility will report emissions in accordance to the rule reporting requirements.

SCAQMD Rule 1714 – Prevention of Significant Deterioration for Greenhouse Gases

This rule sets forth preconstruction review requirements for GHG emissions. As discussed in the above section of 40 CFR, Part 52, Subpart A, Section 52.21, the proposed Project is not expected to exceed the PSD threshold of 75,000 CO_2e tons per year; therefore, PSD permitting is not required for the proposed Project.

3.7.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
GREENHOUSE GASES: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Significance Criteria

The SCAQMD significance threshold for GHG emissions from an industrial project is 10,000 metric tons (MT) CO2e per year for industrial facilities. This threshold is a total of GHG emissions from both construction and operation of the Proposed Project. SCAQMD policy requires construction GHG emissions to be amortized over a 30-year project lifespan. The GHG operation emissions include both stationary and mobile sources.

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less than Significant Impact

Impact Discussion

The majority of landfill gas produced by the SCLF is currently piped and combusted in existing boilers at Glendale Water and Power's (GWP) Grayson Power Plant. The existing flares at the landfill also combust some landfill gas when the boilers are not operating due to an emergency or a maintenance situation. Table 3.7-1 summarizes greenhouse gas emissions from these existing equipment based on the estimated landfill gas production of 5,000 scfm.

Table 3.7-1 Baseline GHG Emission Rates

Devices	CO_2 (MT/year)	CH_4 (MT/year)	N_2O (MT/year)	Total CO_2e (MT/year)
Boilers and Flares	43,397	2.67	0.53	43,621

The Proposed Project will emit GHG emissions from the construction and operation activities. The construction GHG emissions would be generated primarily by the off-road equipment and on-road vehicles. For the operation activity, landfill gas combusted in the electrical generating units and existing flares will be the primary contributor of GHG emissions. Facility occupancy related activity, such as water usage, power usage, and vehicles will generate some GHG emissions.

CalEEMod was used to calculate GHG emissions from the construction activity and facility occupancy related activity. USEPA emission factors and estimated landfill gas production of 5,000 scfm were used to calculate GHG emissions from the proposed electrical generating equipment. Additionally, since natural gas may be utilized to augment combustion when the landfill gas production is not enough to operate the engines, GHG emissions from natural gas combustion were calculated. Table 3.7-2 and 3.7-3 summarizes the net increase of GHG emissions during construction and operation activities of the proposed Project. Detail GHG emission inventory is provided in Appendix E.

Table 3.7-2 Net Increase of GHG Emissions from the Construction Activities

Device/Activity	CO_2 (MT/year)	CH_4 (MT/year)	N_2O (MT/year)	Total CO_2e (MT/year)
Construction	257	0.06	0	258

Table 3.7-3 Net Increase of GHG Emissions from the Operation Activities

Device/Activity	CO_2 (MT/year)	CH_4 (MT/year)	N_2O (MT/year)	Total CO_2e (MT/year)
Proposed Engines	48,146	2.76	0.53	48,375
Occupants	49	0.13	1.29×10^{-3}	52
			Total GHG Emissions:	48,427
			Total Baseline GHG Emissions:	43,621
			Net Increase of GHG Emissions:	4,806

As shown in Table 3.7-2 and 3.7-3, the net increase of GHG emissions from the Proposed Project is below the significance threshold of 10,000 metric tons per year. Since GHG emissions is calculated mainly based on the landfill gas production, the net increase is from GHG emissions due to facility occupancy related activities.

Overall, the air quality impact of GHG emissions from the Proposed Project would be less than significant.

Mitigation Measures

None.

Residual Impacts

Residual impacts would be less than significant.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact

Impact Discussion

The Proposed Project will generate GHG emissions at a level that is below significance. Additionally, due to the nature of the project in terms of the construction and operational conditions, the project is not anticipated to conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

Mitigation Measures

None.

Residual Impacts

Residual impacts would be less than significant.

3.8 HAZARDS AND HAZARDOUS MATERIALS

This section describes the potential hazards, other than geologic hazards, associated with the Proposed Project. The potential safety issues associated with the transport, use or disposal of hazardous materials, impairment of the implementation of an adopted emergency response plan, airports and flight paths, or exposure of people or structures to risk of wildland fires, are analyzed in this section. A Phase I Environmental Site Assessment and Pre-Demolition Asbestos and Lead-Based Paint Survey were conducted for the facility and are included as Appendices F and G.

3.8.1 Setting

Hazardous material can be defined as any material that, because of its quantity, concentration, or physical or chemical characteristics, may pose a hazard to human health or the environment. Hazardous materials can be categorized as flammable and combustible material, toxic material, corrosive material, oxidizers, aerosols, and compressed gases. They can be highly reactive and cause irritation to skin and eyes. The term "hazardous substances" encompasses chemicals regulated by both the United States Department of Transportation (DOT) hazardous materials regulations and the EPA hazardous waste regulations. Hazardous wastes require special handling and disposal because of their potential to damage to public health and the environment.

The Proposed Project includes activities that will involve procedures, chemicals, and materials which pose some risk of fires, spills, gaseous releases, or other health and environmental hazards. These risks are primarily related to the transportation, storage, handling or disposal of potentially toxic and/or hazardous materials associated with construction, operation, and maintenance of the Proposed Project.

Regulatory Setting

The use of hazardous materials and disposal of hazardous waste are subject to numerous laws and regulations at all levels of government. Table 3.8-1 provides a brief overview of federal, state and local laws and regulations applicable to the Proposed Project.

Table 3.8-1 Applicable Hazardous Materials Laws and Regulations

Law/Regulations	Context
The Hazard Communication Standard (HCS)	The federal Occupational Safety and Health Act of 1970 established the OSHA within the United States Department of Labor. The original Act included language to the effect that employees should be apprised of all hazards to which they are exposed to on the job. In the early 1980's, OSHA implemented this instruction by enacting the Hazard Communication Standard (HCS) as 29 Code of Federal Regulations (CFR) 1910.1200. The HCS became effective in 1986. A fundamental premise of the HCS is that employees who may be exposed to hazardous chemicals in the workplace have a right to know about the hazards and how to protect themselves. For this reason, the HCS is sometimes referred to as the Worker Right-to-Know Legislation. The HCS sets forth guidelines and requirements in six areas: Chemical labeling, Material Safety Data Sheets (MSDS), Hazard Determination, Written Implementation Program, Employee Training, and Trade Secrets.
Resources Conservation and Recovery Act (RCRA)	The Resources Conservation and Recovery Act (RCRA) is the principal Federal law that regulates the generation, management, and transportation of hazardous materials and other wastes. Hazardous waste management includes the treatment, storage, or disposal of hazardous waste. Treatment is defined as any process that changes the physical, chemical, or biological character of the waste to make it less of an environmental threat. Treatment can include neutralizing the waste, recovering energy or material resources from the waste, rendering the waste less hazardous, or making the waste safer to transport, dispose of, or store. The EPA defines a large-quantity generator as a facility that produces over 1,000 Kg of hazardous waste per month. Large-quantity generators are fully regulated under RCRA. The Scholl Canyon Landfill is one of four EPA-Registered Large Quantity Generator Facilities in the Glendale Area (EPA ID CA0000927426) (City of Glendale, 2003).
Hazardous Materials Management	State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and dispose of, and in the event, that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. These laws require hazardous materials users to prepare written plans, such as HCS, Hazardous Materials Business Plans, and Chemical Hygiene Plans. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely. A number of agencies participate in enforcing hazardous materials management requirements. The Glendale Fire Department is certified by the California Environmental Protection Agency as a Certified Unified Program Agency (CUPA), and is thereby responsible for the implementation and enforcement of regulations and guidelines for the CUPA that includes the following: 1. Hazardous materials handling, release response plans and inventory Disclosure program (business plans). 2. California accidental release prevention (CalARP) Program. 3. Underground storage tank program pursuant to Health and Safety Code Section 25283 and as that section may be subsequently amended. 4. Aboveground petroleum storage act requirements for spill prevention, control and countermeasure (SPCC) plans pursuant

Law/Regulations	Context
	to Health and Safety Code Sections 25502(a)(1) and 25404 and as those sections may be subsequently amended. 5. Hazardous waste generator and onsite hazardous waste treatment (tiered permitting) Programs pursuant to Health and Safety Code Sections 25502(a)(1) and 25404 and as those sections may be subsequently amended. 6. California fire code hazardous material management plans and hazardous material inventory statements pursuant to this Volume VI of the Glendale Building and Safety Code, 2014.
Hazardous Waste Handling	The California Environmental Protection Agency's (Cal EPA) Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous material waste in accordance to various laws. These laws impose "cradle to grave" regulatory systems that require generators of hazardous materials waste to handle it in a manner that protects human health and the environment to the extent possible. The DTSC permits and oversees hazardous materials waste treatment, long-term storage, and disposal facilities. The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List". The list, or a site's presence on the list, has bearing on the local permitting process as well as on compliance with CEQA. The City of Glendale requires all businesses that handle any amount of hazardous materials to submit an inventory of the hazardous materials that they manage to the Glendale Fire Department. This exceeds Federal and State requirements (City of Glendale, 2003).
Hazardous Materials Transportation	The federal DOT regulates hazardous materials transportation between states. Within California, the state agencies with primary responsibility for enforcing federal and state regulations and for responding to transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications. Although special requirements apply to transporting hazardous materials, requirements for transporting hazardous waste are more stringent, and hazardous waste haulers must be licensed to transport hazardous waste on public roads.
Soil and Groundwater Contamination	The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and associated Superfund Amendments provide the EPA with the authority to identify hazardous sites, to require site remediation, and to recover the costs of site remediation from polluters. California has enacted similar laws intended to supplement the federal program. The DTSC is primarily responsible for implementing California's Superfund Law.
California Water Code	The California Water Code (CWC) includes provisions of the federal Clean Water Act (CWA) and other water quality programs specific to California. The CWC requires reporting, investigation, and cleanup of hazardous material releases that could affect waters of the state, including storm water.
Emergency Response	California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the California Emergency

Law/Regulations	Context
	Management Agency, which coordinates the responses of other agencies, including Cal EPA, CHP, the California Department of Fish and Wildlife (CDFW), the State Regional Water Quality Control Board (RWQCB), and the local fire department. The fire department provides first response capabilities, if needed, for hazardous materials emergencies within the Proposed Project site.
Asbestos Emissions from Demolition/Renovation Activities	South Coast Air Quality Management District Rule 1403 includes work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials.
Fire Prevention	Glendale's Fire Prevention Bureau has several different units, each with specific responsibilities which have the power to enforce the City's Fire Code. Applicable units include: Fire Code Inspection, Development Plan Review, Vegetation Management, and Hazardous Materials and Waste Management.

Existing Hazards

As mentioned above, DTSC regulates the generation, handling, treatment and disposal of hazardous waste and regulates hazardous waste disposal and cleanup in the State, including from industrial sites with soil and groundwater contamination. The following resources provide information regarding the facilities or sites identified as meeting Government Code Section 65962.5 (Cortese List) requirements.

- Envirostor Data Management System: a comprehensive publicly available web site and data base (http://www.envirostor.dtsc.ca.gov/public/). EnviroStor provides information on permits and corrective action at hazardous waste facilities, as well as site investigations, cleanups, permitting, and planned, current, or completed corrective actions under DTSC's oversight;

- Water Board GeoTracker database: List of leaking Underground Storage Tank sites by county and fiscal year(https://geotracker.waterboards.ca.gov/);

- List of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside the waste management unit (www.calepa.ca.gov);

- List of active Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board (www.calepa.ca.gov).

No Cortese List cleanup sites are located within an approximately two-mile radius of the Proposed Project site.

Wildland Fires

Wildland fires (wildfires) can occur in open spaces containing a mixture of flammable and nonflammable vegetation cover. The native areas surrounding the active landfill operation area are vulnerable to wildfires due to the steep topography, highly flammable scrub vegetation and limited access for firefighting. The County Fire Department has published Fire Hazard Severity Zone Maps for the City and has listed the Project site, as shown on Tile 4 of these maps, in the Very High Fire Hazard Zone. The Fire Department has also published a map identifying Proposed High Fire Hazard Areas. The SCLF and the surrounding area are within the current High Fire Hazard Area. Despite the mapping designations, the Proposed Project site has little wildfire potential due to the large areas with little or no native vegetation (fuel). The majority of the front face of the landfill has been landscaped with ornamental vegetation that is unlikely to burn as it is irrigated. In the case of a wildfire, expansive unvegetated areas at the adjacent SCLF would provide access for site evacuation or waiting for a surrounding fire to be controlled (AECOM, 2014). In addition, site evacuation would be available via Glen Oaks Drive or Scholl Canyon Road, depending on potential wildfire location.

Surrounding Land Uses

Surrounding land uses within one mile of the Proposed Project natural gas and water pipeline alignments consist exclusively of residential and recreational land uses within the Cities of Glendale, Pasadena, and Los Angeles. The nearest residence is located approximately one-half mile to the east. The Bob Hope Airport is located approximately ten miles to the west. The Proposed Project is approximately 9.75 miles outside the airport's area of influence boundary at the nearest point. The closest wastewater treatment plant is the Los Angeles- Glendale Water Reclamation Plant, approximately 5 miles to west. The nearest school, Eagle Rock Elementary School, is located approximately 1.5 miles to the southeast of the Project site. Hospital/medical facilities and elderly care facilities are located within the City, approximately five to eight miles to the west from the Project site.

The Glendale Fire Department (GFD) would be the first responder to a fire at the Proposed Project site. The closest fire station, Station 23, located at 3303 E Chevy Chase Drive, is approximately five miles from the Proposed Project.

City of Glendale General Plan

The Glendale General Plan (GGP) Safety Element contain goals, policies, plans, and implementation measures pertaining to hazard identification, hazardous materials management (Chapter 5, Technical Background Report to the 2003 Safety Element), and wildlands and urban fires, that are herein incorporated by reference (GGP, 2003).

3.8.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact

The existing facility uses and stores small quantities of hazardous materials. As identified in the Proposed-Project specific Phase I Environmental Site Assessment (Stantec, 2016), hazardous substances observed on the property included waste oil, antifreeze, hydrochloric acid, compressor oil, and diesel fuel. All substances were found to be properly stored. The Proposed Project would also use limited quantities of hazardous materials which would be temporarily stored onsite and transported offsite for proper disposal when necessary.

Construction

Hazardous materials associated with construction are considered hazardous because they are flammable and/or may contain toxic compounds, such as volatile organic compounds and heavy metals. All project construction phases would use gasoline, diesel fuel, hydraulic oils, equipment coolants, paints, solvents, and wastes that may include hazardous characteristics. All hazardous materials and wastes associated with Proposed Project construction would be handled, transported, and disposed of in compliance with all applicable federal, state, and local regulations.

Since the Project would disturb more than one-acre of land, a stormwater pollution prevention plan (SWPPP) would be prepared and implemented for project construction, as required by the Construction General Permit Order (SWRCB Order No. 2009-009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). The SWPPP shall contain Best Management Practices (BMPs) to address material handling and hazardous material management, as required by the Construction General Permit. BMPs identified in the Project SWPPP will be implemented during project construction to minimize the risk of an accidental release of hazardous materials and to provide the necessary information for emergency response.

The activities and processes performed during the construction of the Proposed Project have the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, including but not limited to fuel/hazardous material spills during construction activities, and roadway accidents. However, compliance with applicable regulations, including the California Code of Regulations (CCR) Title 22, 23, 26, & 27, 29 CFR 1910.119, California Fire Codes CFR Title 24 and City of Glendale Fire Department Health and Safety code, impacts would be reduced to a less than significant level for the Proposed Project to the public or the environment through the routine transport, use, or disposal of hazardous materials. Therefore, impacts would be less than significant.

Operation and Maintenance

Hazardous materials on-site during the operations and maintenance phase would include an approximately 2,000-gallon lube oil storage tank, as well as a 3,000-gallon capacity waste oil storage tank. Spent materials will be disposed of in accordance with required rules and regulations. Waste oil contained in 55 gallon barrels will be located throughout the facility. The facility will also contain a 100 percent pure ammonia refrigerant chiller system. The chiller will be filled via a truck at Project startup and no additional filling should be required. Ammonia is a hazardous material that is classified and transported as a corrosive. Anhydrous ammonia is widely used as refrigerant in industrial facilities such as meat, poultry, and fish processing facilities, dairy and ice cream plants, and petrochemical facilities (OSHA, 2016). Ammonia refrigeration systems with 10,000 pounds or more of ammonia are a covered process subject to the requirements of the Process Safety Management Standard [29 CFR 1910.119], which contains requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals, which may result in toxic, fire, or explosion hazards. The proposed facility cooling system contains less than10,000 pounds of anhydrous ammonia. No additional ammonia, beyond that which is within the refrigerant chiller system, will be stored onsite.

Transport, use, and disposal of hazardous materials operations phase of the Proposed Project would be minimal, consisting primarily of waste lube-oil disposal after oil water separation. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact

Impact Discussion

Construction

Accidents involving hazardous materials during construction could occur from small-scale releases during refueling or routine maintenance of equipment. Any releases that occur during construction would be reported to the applicable regulatory agencies and appropriately responded to in accordance with the required site Spill Contingency Plan. Further, the Proposed Project is located on a portion of an active landfill that is not frequented by the general public. Any release of hazardous materials into the environment would be immediately addressed per applicable state and local regulations such as CCR Title 22, 23, 26, & 27, 29 CFR 1910.119,

California Fire Codes CFR Title 24 and Glendale Fire Department Health and Safety code. The existing gas pipeline connecting the SCLF to the Grayson Power Plant would be purged with an inert gas such as nitrogen and capped/plugged on both ends and would therefore not represent a hazard to the public when decommissioned in place. Therefore, impacts during the construction phase would be less than significant.

Operations and Maintenance

The proposed facility could be subject to risk of upset conditions associated with the explosive properties of methane gas. Risk of explosion occurs when the concentration of methane in the air exceeds its lower explosive limit (LEL). The LEL of methane is approximately five percent by volume in air, hence only a small proportion of LFG, which contains 50 percent by volume methane, is required to create an explosive condition. The risk of explosion is also associated with confined spaces that have limited ventilation. LFG explosions have occurred in structures on or near landfill sites. These occurrences are generally attributed to LFG migrating through the soil and accumulating within nearby structures. Note that the potential exists for an explosion when methane is present in areas with a concentration above the higher explosive limit of 15 percent by volume in air. LFG explosions occur at an interface where the concentration of methane in the air is between 5 and 15 percent.

The SCLF contains an existing LFG collection system specifically designed to eliminate/reduce LFG off site migration and surface migration. Offsite migration monitoring wells, monitor possible offsite LFG migration. In addition, the SCAQMD monitors surface migration and issues Notices of Violation (NOV) if methane is detected above a certain limit. The Proposed Project will not interfere with or modify the existing SCLF LFG collection system.

The proposed facility will include an impermeable membrane under the building foundation with proper ventilation to prevent any LFG from entering the building. A plastic liner with perforated pipes under it will channel any LFG to the outside of all buildings. All buildings will also be equipped with methane detection monitors in each room.

The proposed gas line will operate at the same pressure as a standard gas service line provided by Southern California Gas Company to a typical retail customer. Installation of the service line would be subject to the provisions of 49 CFR Part 192, which provides design and construction measures specifically to reduce risk of upset conditions associated with operation of gas lines.

Ammonia used in the refrigerant chiller system is corrosive, toxic, and produces the hazardous combustion products of nitrogen oxides. Risk of upset associated with accidental release is determined to be low. A Material Safety Data Sheet (MSDS), which provides accidental release measures, handling and storage requirements, firefighting measures, and other considerations applicable to hazards associated with ammonia, will be kept onsite along with MSDS' for all chemicals present onsite.

According to the Clean Air Act Regulations (40 CFR 68, Section 112(r)), the threshold of aqueous ammonia above which this chemical presents a risk for formation of toxic plume is 20,000 gallons of solution, and use of aqueous ammonia of concentration that exceeds 20 percent. GWP plans to store only up to 3,000 gallons of aqueous ammonia of concentration of 19 percent. The proposed aqueous ammonia volume and concentration are lower than the threshold levels at which aqueous ammonia storage may present a public health hazard due to accidental spill of the entire amount of aqueous ammonia stored onsite.

With implementation of the features and measures described above to address potential risk of upset conditions, impacts would to be less than significant.

Mitigation Measures

None required.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No Impact

No schools are located or are proposed to be located within 0.25 mile of any of the Proposed Project components. The nearest school, Eagle Rock Elementary School, is located approximately 1.5 miles to the southeast of the Project site. Therefore, no impacts would occur.

Mitigation Measures

None required.

d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact

As described above, no Cortese List (Government Code Section 65962.5) cleanup sites are located within an approximately two-mile radius of the Proposed Project site. Therefore, there would be no impact.

Mitigation Measures

None required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact

The Proposed Project is located approximately 10 miles from the nearest airport, Bob Hope, in Burbank. The project location would not result in a safety hazard for people residing or working in the Project area. Therefore, there would be no impact.

Mitigation Measures

None required.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact

The project is not located within the vicinity of a private airstrip. Therefore, there would be no impacts.

Mitigation Measures

None required.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact

The Proposed Project would comply with all applicable emergency response plans and emergency evacuation plans adopted in accordance with Area Plan and Business Plan regulations (Health and Safety Code, §25500-25520 and *Cal. Code Reg., tit. 19, § 2720 et seq.*). In addition, the Proposed Project does not include construction of residences or facilities that would require significant evacuation. As such, the Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no impacts are anticipated.

Mitigation Measures

None required.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less than Significant Impact

The Proposed Project and the surrounding area are within the current City's designated High Fire Hazard Area. Despite the mapping designations, the Proposed Project site has little wildfire potential due to the large areas with little or no native vegetation (fuel). The majority of the front face of the landfill has been landscaped with ornamental vegetation that is less likely to burn as it is irrigated. In the case of a wildfire, expansive unvegetated areas would provide access for site evacuation or waiting for a surrounding fire to be controlled (AECOM, 2014). The Proposed Project will also contain a 12-inch water line which will be connected to two fire hydrants for fire suppression as required by Glendale Fire Department. Access roads for the Project site will be designed to specification of the Glendale Building and Safety Code and Glendale Fire Code in order to accommodate emergency response vehicles. Also, per Glendale Fire Prevention regulations, proper vegetation management procedures such as weed abatement and brush clearance programs will be required.

In addition, alternative site evacuation routes would be available via Scholl Canyon Road, and through various existing roads throughout the landfill depending on potential wildfire location. Further, the Proposed Project does not involve development of residential dwellings and will not increase the size of the wildland-urban interface (WUI), defined as the area where structures and other human development meet or intermingle with undeveloped wildland or natural open space.

Therefore, with the implementation of project elements that would minimize impacts of wildland fires such as fire hydrants, and compliance with established local codes and regulations, impacts would be less than significant.

Mitigation Measures

None required.

3.9 HYDROLOGY AND WATER QUALITY

3.9.1 Setting

Regional Hydrogeology

According to the CDWR Bulletin 118 Report, the Project site is not located within a mapped groundwater basin. The closest groundwater basin is the San Fernando Valley Groundwater Basin of the South Coast Hydrologic Region (Number 4-12), located to the west of the Project site. The basin is approximately 226 square miles and is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills (DWR, 2004).

The surface and ground waters of this basin are used extensively for domestic, agricultural, and industrial purposes. The water-bearing sediments consist of the lower Pleistocene Saugus Formation, Pleistocene and Holocene age alluvium. The ground-water in this basin is mainly unconfined with some confinement within the Saugus Formation in the western part of the basin and in the Sylmar and Eagle Rock areas. Regional groundwater flow direction is generally reported toward the south southwest (DWR Bulletin 118, 2004).

Third Quarter 2015 quarterly groundwater monitoring results at the adjacent site (Inactive Scholl Canyon Landfill) reported the depth to water to be approximately 50 feet below ground surface (bgs) (SCS Engineers, 2015).

The SCLF and Project site are part of the Los Angeles River Watershed, which receives drainage from an 834 square-mile area of Los Angeles County, with headwaters in the Santa Monica Mountains, Simi Hills, Santa Susana Mountains and San Gabriel Mountains. The upper watershed contains a network of flood control dams and debris basins that flow to the Los Angeles River. The lower part of the river flows in a concrete-lined channel through a heavily urbanized portion of the county before becoming a soft bottom channel as it discharges into the San Pedro Bay. The Los Angeles River passes the SCLF and project site approximately four miles to the west. Stormwater from the SCLF enters the Los Angeles River south of the Glendale Narrows via a storm drain system with a tributary in Glen Oaks Boulevard just west of the SCLF (AECOM, 2014).

Flood Zones

The Project site is located in a Federal Emergency Management Agency (FEMA) National Flood Insurance Program Category Zone D on the Flood Insurance Rate Map, indicating the absence of any flood hazard.

The SCLF is at the headwaters of the Scholl Canyon sub-watershed. The majority of the annual rainfall in the region occurs from November through April. The Los Angeles Department of Public

Works (LADPW) estimates the average seasonal rainfall of Los Angeles County to be 15.65 inches. Typical rainfall at SCLF averages approximately 18.32 inches per year (based on actual rainfall measurements recorded by an on-site precipitation gauge between 1982 and 2010).

Local Stormwater Infrastructure

In accordance with State requirements, the current permanent stormwater diversion and control facilities at the SCLF have been designed to accommodate a calculated 100-year, 24-hour storm. The system of down drains and drainage structures transport stormwater via a concrete box culvert under Scholl Canyon Park to the Scholl Debris Basin. The debris basin has a design debris capacity of 8,400 cubic yards and an 80-feet wide concrete spillway that discharges to a concrete box culvert at the upstream end of a branch of the LADPW's stormwater collection and conveyance system (AECOM, 2014).

Regulatory Setting

Stormwater quality and quantity at municipal landfills is subject to comprehensive federal, state, and local regulations. The surface water drainage system at the SCLF directly adjacent to the Proposed Project site has been optimized to comply with these regulatory requirements by implementing measures such as preventing run-on into the active landfill area, minimizing surface water contact with refuse, diverting stormwater from the active disposal area away from the local storm drain, and minimizing the erosion potential of surface water drainage. The Proposed Project, which will be located within the inactive portion of the landfill, will be subject to many of the same regulations regarding hydrology and water quality as the adjacent active landfill, as included below.

Federal Regulations

Industrial Discharges

Subtitle D (Title 40 CFR Part 258) prohibits a municipal solid waste landfill (MSWLF) from discharging pollutants into waters of the United States, including wetlands, which would result in a violation of any requirement of the Clean Water Act. In addition, it prohibits a MSWLF from discharging non-point sources of pollution into waters of the United States that would result in a violation of any requirement of an area-wide or State-wide water quality management plan that has been approved under section 208 or 319 of the Clean Water Act (AECOM, 2014).

In 1972, the Federal CWA was amended to prohibit the discharge of pollutants in waters of the United States from any point source unless the discharge is in compliance with the National Pollution Discharge Elimination System Permit (NPDES). The 1987 amendments to the CWA added Section 402 (p) that established a framework for regulating municipal and industrial stormwater discharges under the NPDES program. In 1990, the Environmental Protection Agency (EPA) published final regulations (Title 40, CFR, Parts 122-124) that established application requirements for stormwater permits. The regulations require that stormwater associated with

industrial activities, if discharged to surface waters directly or indirectly through municipal storm sewers, must be regulated by an NPDES permit. Relevant industrial activities include municipal solid waste disposal operations and LFG processing for energy generation. Therefore, an NPDES permit is required for the Proposed Project site. The existing facility currently carries NPDES permit No. CAS000001.

State Regulations

The state of California is authorized by Federal EPA regulations to issue general NPDES permits to regulate stormwater discharges. The Sanitation Districts of Los Angeles County (Sanitation Districts) filed a Notice of Intent with the SWRCB on March 27, 1992 to obtain coverage under the General Permit for continued and future stormwater discharges from SCLF.

In 1997, the SWRCB adopted a revised General Permit as a replacement for the expired 1992 NPDES General Permit. Pursuant to the revised General Permit, the Sanitation Districts revised the SWPPP and Monitoring Program and filed a Notice of Intent (NOI) on May 22, 1997. According to the BMPs in the SWPPP at the SCLF, and pursuant to the General Permit, the Sanitation Districts have implemented a stormwater run-off monitoring program during each wet season (October through May). Monitoring results as well as records of site inspections and evaluations of all BMPs, conducted during both the wet and dry seasons, are submitted to the RWQCB by July 1 of each year in the Annual Report for Storm Water Discharges Associated with Industrial Activities.

For groundwater protection and monitoring, the RWQCB has issued WDRs and a monitoring and reporting program (MRP) for the SCLF. Landfill operations are regulated by the conditions in WDRs Order No. 01-132 and MRP No. 2846. In addition, Order No. 93-062 implements the federal regulations and applies to the entire landfill.

Local Regulations

The Glendale Building Code (2016) contains provisions for BMPs, preparation of a SWPPP, and requirements for engineered grading requirements, including proposed drainage structures, for all grading permit applications.

3.9.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

a) Violate any water quality standards or waste discharge requirements?

Less than significant Impact

The Proposed Project will include the installation of structures which will increase the area of impervious surfaces on the Proposed Project site, which will have the potential to result in an increased volume and velocity of surface water runoff.

Construction Impacts

Construction activities could result in the degradation of water quality, releasing sediment, oil and greases, and other chemicals into the existing storm drain system. Construction materials such as fuels, solvents, and paints may present a risk to surface water quality. Refueling and parking of construction vehicles and other equipment on-site during construction may result in oil, grease, or related pollutant leaks and spills that may discharge into the storm drain system.

To minimize these potential impacts, the Project will be required to comply with the NPDES General Construction Permit (GCP) as well as prepare a SWPPP that requires the incorporation of BMPs to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. The SWRCB mandates that projects that disturb one or more acres must obtain coverage under the Statewide GCP. Since the Proposed Project will involve development of approximately 3-acres, it will be subject to these requirements.

Per the provisions of the SWPPP and the NPDES Permit, stormwater flow from the Project site would either be routed to the existing storm drains within the existing project footprint or into temporary energy dissipating structures or silt traps, all of which ultimately drain in to the active landfill's permanent drainage system. These measures would ensure no violations to water quality standards or waste discharge requirements would occur. Therefore, construction impacts would be less than significant.

Operational Impacts

Potential runoff from the project site would be limited to oils, grease, fuel, antifreeze, and byproducts of combustion (such as cadmium, nickel, and other metals) generated by onsite personnel vehicles. Runoff will be collected in a catch basin on the north side of the facility and into a 10-inch underground pipe that will drain into the adjacent landfill drainage system. Runoff originating from the Proposed Project will be subject to the provisions of the existing NPDES permit carried by the SCLF. In addition, the project would comply with the waste discharge prohibitions and water quality objectives established by the RWQCB that are incorporated into the project as design features. As such, it is not anticipated that the Proposed Project would violate any water quality standards or waste discharge requirements. Therefore, operational impacts would be less than significant.

Mitigation Measures

None required.

b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

No impact

As described above, the Project site is not located within a mapped groundwater basin. The closest groundwater basin is the San Fernando Valley Groundwater Basin of the South Coast Hydrologic Region (Number 4-12), located to the west of the site. Considering the fact that no groundwater recharge potential exists at the existing site and expansion of the existing facility would have no bearing on groundwater recharge capabilities, there would be no impact.

Mitigation Measures

None required.

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?*

Less than Significant Impact

The Proposed Project is located within the boundaries of an existing landfill. Some grading would be required in order to expand the footprint of the existing facility. The Proposed Project includes permanent drainage structures that will direct all site drainage into the existing landfill

drainage system. Temporary erosion control measures will be implemented during the construction phase, as described in "a)", above. No streams or rivers would be affected as there are none located within the Project vicinity. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

d) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*

Less than Significant Impact

As discussed above, the Proposed Project is located within the boundaries of an existing landfill. Some grading would be required in order to expand the footprint of the existing facility. The Proposed Project includes permanent drainage structures that will direct all site drainage into the existing landfill drainage system. Temporary erosion control measures will be implemented during the construction phase, as described in "a)", above. No streams or rivers would be affected as there are none located within the Project vicinity. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

e) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Less than Significant Impact

The Proposed Project would represent an expansion of approximately 2.0 acres over the existing facility. The Proposed Project design would not result in a substantial increase in runoff compared to existing conditions, which are primarily impervious surfaces.

As required by the site-specific SWPPP provisions of the NPDES permit, BMPs and permanent drainage systems will be implemented across the site, during both the construction and operational phases. These BMPs and permanent drainage systems will control and prevent the release of sediment, debris, and other pollutants from entering the storm drain system.

As described in impact analysis descriptions, a), b), and c), above, stormwater runoff during construction would be required to comply with all of the requirements in the State GCP, including and submittal of a SWPPP to the SWRCB prior to the start of construction activities. All

operational Project-generated runoff will be collected into the proposed facility catch basin and routed into the existing landfill drainage system. Chemicals stored onsite will have redundant collection systems capable of trapping the maximum 100 percent of storage vessel volumes so that no accidentally spilled chemicals inadvertently enter the storm drain system. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

f) Otherwise substantially degrade water quality?

Less than Significant Impact

The Project has no other pollutant sources than those analyzed above. As such, the Project would not result in substantial degradation of water quality. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

g) Place housing within a 100-year flood hazard area as mapped on a federal flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact

No housing is included as part of the Proposed Project. In addition, the Proposed Project site is located outside the 100-year flood hazard zone in the hazard zone "D". Therefore, there would be no impact.

Mitigation Measures

None.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No impact

The Proposed Project site is located outside the 100-year flood hazard zone in the hazard zone "D". Therefore, there would be no impact.

Mitigation Measures

None required.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No impact

The Project site is not located downstream of or within any dam inundation areas and would not expose people of structures to hazards associated with flooding. Therefore, there would be no impact.

Mitigation Measures

None.

j) Inundation by seiche, tsunami, or mudflow?

No impact

The Project area is located over 20 miles from the Pacific Ocean, at an elevation of 1,410 feet above mean sea level (AMSL). Tsunamis typically affect coastlines and areas up to ¼-mile inland. Due to the Project's distance from the coast, potential impacts related to a tsunami are non-existent. Additionally, the Project site is not susceptible to impacts resulting from a seiche because of its distance from any enclosed bodies of water. The Project site is located within a highly engineered and controlled environment. Slopes within the SCLF have been compacted to Title 27 specification and designed and optimized to control erosion. Examples of BMPs used at the SCLF to control erosion include check dams, compaction by bull dozers, erosion control fencing, and silt fences. Considering these measures are in place throughout the SCLF, the project site is not susceptible to inundation by mudflow. There would be no potential impact.

Mitigation Measures

None required.

3.10 LAND USE AND PLANNING

3.10.1 Setting

The SCLF is a cooperative effort of the City, the County of Los Angeles and the Los Angeles County Sanitation Districts. The landfill site occupies approximately 535 acres and is operated by the Sanitation Districts pursuant to a Joint Powers Agreement (JPA) between the City, County, and Sanitation Districts on lands owned by the City, County, and Southern California Edison Company. The SCLF is classified as a Class III nonhazardous landfill facility that accepts municipal solid waste and is not a generator of, or repository for, hazardous wastes. The active landfill site is 314 acres, within which refuse has been landfilled on 239 acres.

GWP currently burns low BTU (British thermal unit) LFG (landfill gas) from the Scholl Canyon Landfill at their Grayson Power Plant. Gathering and combustion of the LFG is a mitigation measure for South Coast Air Quality Management District (SCAQMD) to prevent its release into the environment. The LFG gas is transported to Grayson via a 6-inch diameter pipeline that is approximately five miles long.

The purpose of the Proposed Project is to beneficially utilize the methane-rich renewable LFG as fuel to generate electricity. It includes construction and operation of an approximately 13-megawatt power generation facility on approximately 3-acres of land at the Scholl Canyon Landfill. The Proposed Project will be located adjacent to the existing LFG flare station. In addition, approximately 0.67 miles of natural gas pipeline will be constructed to connect the facility to the existing Southern California Gas Company pipeline system located at the eastern end of Scholl Canyon Drive. This 3-inch steel gas pipeline will be located above ground except for road crossings within the active landfill. The natural gas will be utilized to augment the LFG if the heat content of the refines it for the electrical generating equipment. The existing LFG pipeline connected to Grayson Power Plant will be abandoned in place. A 12-inch diameter water pipeline approximately one mile long will also be constructed, and will connect to an existing 16-inch pipeline located on Glenoaks Boulevard to the new facility.

The Proposed Project area is located within the SCLF facility boundary and directly north between Glenoaks Blvd. and the northwest corner of the SCLF and traverses six parcels, located within the City of Glendale, Los Angeles County, California, as shown in Table 3.10-1. The total combined acreage for the parcels is 532.80. The disturbance footprint for the Proposed Project facilities is approximately 3-acres. The footprint for the proposed gas pipeline sub area and ten-foot right-of-way (ROW) is 0.76 acres. The footprint for the proposed water pipeline sub area and 14-foot ROW is 1.49 acres (Stantec, 2016).

Table 3.10-1 Project Area Parcel Acreage, Zoning and Land Use Designation

Project Component	Assessor's Parcel Number	Total Parcel Acreage	Zoning	Land Use Designation
Proposed Main project area, Gas Line, Water Line	5666002901	152	SR- Special Recreation	Recreation/Open Space
Proposed Main project area, Gas Line, Water Line	5666002902	9.08	SR- Special Recreation	Recreation/Open Space
Proposed Main project area, Gas Line, Water Line	5666001904	367.77	SR- Special Recreation	Recreation/Open Space
Proposed Main project area	5666002900	1.76	SR- Special Recreation	Recreation/Open Space
Proposed Gas Line	5666026001	0.94	R1R- Restricted Residential	Very Low Density/Open Space
Proposed Water Line	5662023900	1.25	SR- Special Recreation	Recreation/Open Space
	Total Acreage:	**532.80**		

Surrounding Land Use

Surrounding land use is comprised of residential properties and Glenoaks Blvd. to the west; a golf course, open space and Glenoaks Blvd. to the north; open space and Scholl Canyon Road to the south; and open-space and disturbed land to the east.

Regulatory Setting

Federal

Code of Federal Regulations Title 40 Part 258 – Criteria for Municipal Solid Waste Landfills

CFR Title 40 Part 258 governs location restrictions, design and operation standards, monitoring requirements, corrective actions, LFG migration controls, and closure requirements. The EPA guidelines and National Emission Standards for Hazardous Air Pollutants (NESHAP) require large municipal solid waste landfills to collect and burn LFG in order to reduce non-methane organic compounds (NMOCs) by 98 percent. Landfills are required to have their gas collection systems to be well-designed and well-maintained, and are required to collect gas from all landfill areas, monitor collection wells monthly, and monitor surface methane emissions.

Code of Federal Regulations Title 49 Part 192 – Transportation of Natural and Other Gas by Pipeline

This section prescribes minimum safety requirements for pipeline facilities and the transportation of gas, including pipeline facilities and the transportation of gas, including installation, valves, metering, and materials requirements for service lines.

State

California Code of Regulations Title 27 Division 2 – Solid Waste and Environmental Protection

CCR Title 27 Division 2 governs solid waste concerning environmental protection. Regulatory standards set forth by the California Integrated Waste Management Board (CIWMB) are provided in order to protect the environment, public health, and public safety. The CIWMB standards apply to any disposal sites that are active, inactive, closed or abandoned as defined in Section 40122 of the Public Resources Code (PRC), and include equipment or facilities operated at the disposal sites. As defined by the CIWMB, state minimum standards shall be enforced by the enforcement agency (EA) in consultation, when applicable, with the RWQCB or other responsible agency (State of California, 2012).

Local

South Coast Air Quality Management District Rule 1150.1 – Control of Gaseous Emissions from Municipal Solid Waste Landfills

The SCAQMD provides air pollution control for Orange County, and urban areas of Los Angeles, San Bernardino, and Riverside Counties. The SCAQMD regulates air emissions primarily from stationary air pollution sources, which include power plants, refineries, gas stations, and consumer products such as paints and solvents.

SCAQMD Rule 1150.1 requires the installation of a LFG control system sufficient to draw LFG toward the gas collection devices without overdraw that would adversely affect the system. This rule is designed to limit LFG emissions from landfills in order to prevent public nuisance and possible detriment to public health caused by exposure to such emissions.

The SCLF is located within the South Coast Air Basin (SCAB) and is regulated by the SCAQMD.

City of Glendale General Plan Land Use Element

The City's General Plan Land Use Element directs land use management within the City to allow for "growth and development in a compatible spatial relationship in order to minimize adverse impacts on the community. This Land Use Plan provides for a redistribution of land use classes located for mutual interest and benefit" (City of Glendale Planning Division, 1986).

City of Glendale Municipal Code Title 30 - Zoning

The Glendale Municipal Code Title 30 governs permitted and conditional uses for designated zones within the City. The ordinance states that the City's objective is "to designate, regulate and restrict the location and use of buildings, structures and land to protect residential, commercial, and industrial and recreation/open space areas alike from harmful encroachment by incompatible uses" (City of Glendale, 1995).

Existing Land Use Designations

The Proposed Project and water pipeline components of the Proposed Project are designated as Recreation/Open Space. The proposed gas pipeline component would be located on lands designated as Recreation/Open Space and Very Low Density Residential/Open Space (Table 3.10-1 and Figure 3.10-1).

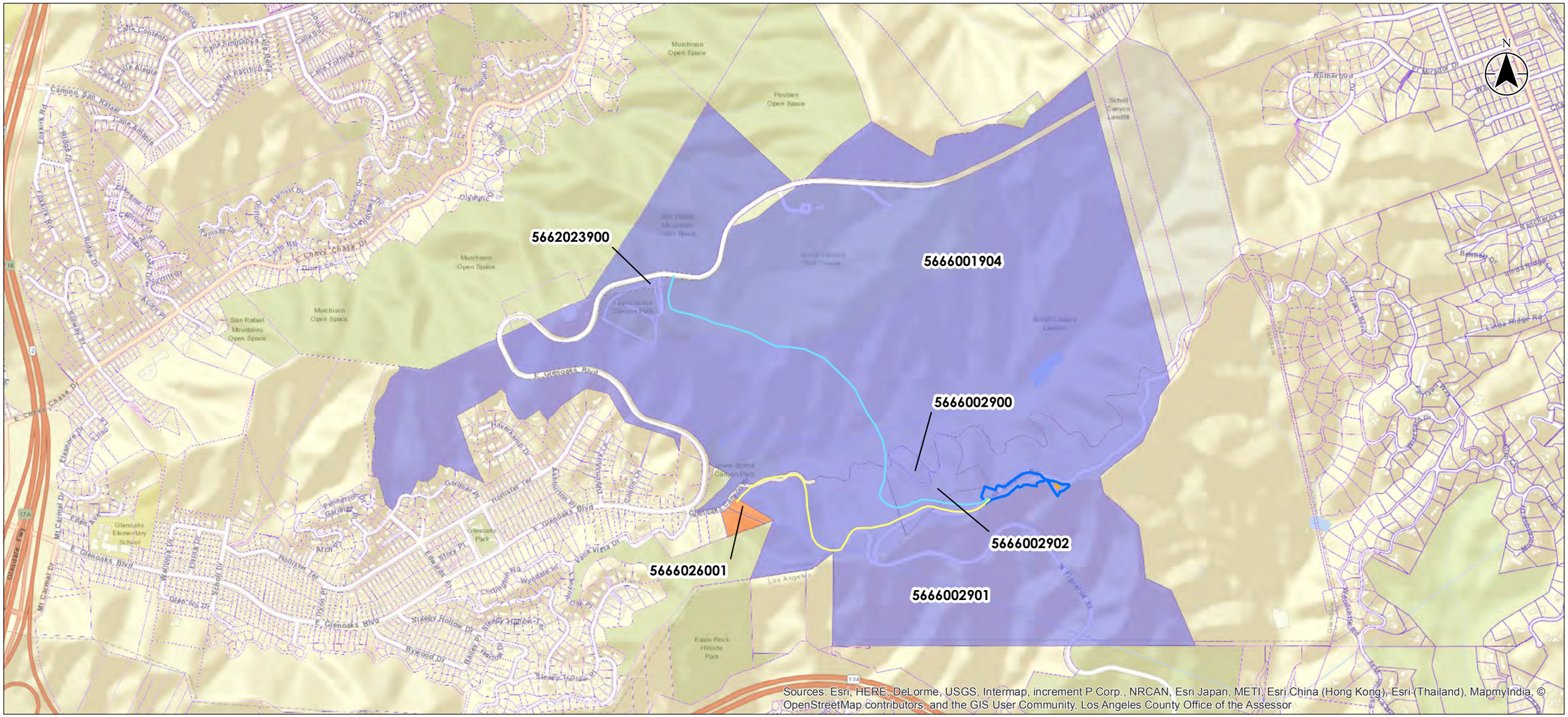
Existing Zoning Designations

The Proposed Project and water pipeline components of the Proposed Project are zoned as Special Recreation (SR). The proposed gas pipeline component is zoned as SR and Restricted Residential (R1R) (Table 3.10-1). Table 3.10-2 below describes permitted and conditionally permitted uses for each zone, as applicable to the Proposed Project. Permitted uses refer to uses and structures already permitted within a particular zone. Conditional uses refer to uses and structures that require a Conditional Use Permit (CUP) prior to development. As indicated below, construction of the proposed power plant, water and gas pipelines will require approval of a CUP.

Additional regulations pertaining to Proposed Project emissions are provided in Section 3.3, Air Quality.

Table 3.10-2 Project Area Zoning, Land Use Designation and Permit Requirements

Zoning	Land Use Designation	Permitted Uses	Conditional Uses (CUP Required)
SR- Special Recreation	Recreation/Open Space	Open space/conservation areas	Sanitary landfills and related recovery of materials; utility and transmission facilities
R1R- Restricted Residential	Very Low Density/Open Space	Open space	Utility and transmission facilities



Legend

- Proposed Gas Pipeline
- Proposed Water Pipeline
- Proposed Power Plant Facility Boundary
- New Water Tank

Parcel Zoning & Land Use

- R1R - Restricted Residential, Very Low Density/Open Space
- SR - Special Recreation, Recreation/Open Space
- Parcels

0 1,000 2,000 Feet

1:12,000 (At original document size of 11x17)

Stantec

Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-18
Technical Review by CH on 2017-07-18

Client/Project
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
3.10-1

Title
Project Area Parcels, Zoning, and Land Use Designations

3.10.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

a) Physically divide an established community?

No Impact

The Proposed Project would not physically divide an established community because there are no existing residential uses or communities within the landfill property. In addition, the Proposed Project would not entail the displacement of any residential uses of any land designated for residential uses within any of the parcels on which any components of the Project traverses. Therefore, there would be no impact.

Mitigation Measures

None required.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact

The Proposed Project will occur on lands that are designated Recreational/Open Space and Very Low Density/Open Space in the City of Glendale General Plan Land Use Element. These lands have zoning designations of Special Recreation (SR) and Restricted Residential (R1R). A

CUP is required for a new utility/transmission facility development from the City. After CUP approval and compliance with any required project conditions, the Project will not conflict with any applicable land use plan, policy or regulation. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

c) *Conflict with any applicable habitat conservation plan or natural community conservation plan?*

No Impact

According to the Glendale General Plan, there is no habitat conservation plan or natural community conservation plan in the City. There is, however, a Significant Ecological Area (SEA) program designated by the County, which is implemented with the intention to preserve designated sensitive areas. The Proposed Project site is not located within the County's SEA. As such, implementation of the Proposed Project would not conflict with the SEA program or other habitat conservation plans. Therefore, there would be no impact.

Mitigation Measures

None required.

3.11 MINERAL RESOURCES

This section describes the existing conditions related to mineral resources within the Proposed Project area and evaluates the potential impacts to mineral resources associated with the Proposed Project.

3.11.1 Setting

In accordance with the Open Space and Conservation Element, the City is required to provide for the conservation, development, and utilization of mineral resources. In order to comply with the requirements, the States' Surface Mining and Reclamation Act of 1975 (SMARA) was enacted for the purpose of establishing mineral resource management policies within the general plan by local agencies.

Primary Mineral Resources

The State Geologist mapped the Glendale area for aggregate resources which includes rock, sand, and gravel. There are currently three Regionally Significant Mineral Resource Zone (MRZ) categories designated by the State Geologist of varying significance. These categories are MRZ-1, MRZ-2 and MRZ-3, defined as follows:

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.

MRZ-2: Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood of their presence exists.

MRZ-3: Areas containing mineral deposits the significance of which cannot be evaluated from available data.

The Proposed Project area is designated as MRZ-3 where inferred occurrences of resources are of undetermined significance or has not been studied for the presence of aggregate material resources (City of Glendale, 1993). There are no mineral resource zones in the City that are of statewide or regional significance.

3.11.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact

The Proposed Project area is designated as MRZ-3 where there are areas containing mineral deposits the significance of which cannot be evaluated from available data. The majority of the City does not have sufficient information developed to determine the significance of deposits. Although data on mineral deposits is unavailable, the Proposed Project is located within the boundaries of a landfill and therefore does not have the potential to adversely impact known mineral resources through loss of availability. Therefore, no impact is anticipated.

Mitigation Measures

None required.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact

No locally important mineral resources are delineated within the Proposed Project area or any other specific plan or land use plans. Therefore, implementation of the Proposed Project would have no impact on the loss of availability of locally important mineral resources. Therefore, no impact is anticipated.

Mitigation Measures

None required.

3.12 NOISE

3.12.1 Setting

Terminology and Fundamentals of Environmental Acoustics

The decibel (dB) is the preferred unit used to measure sound levels utilizing a logarithmic scale to account for large ranges in audible sound intensities. A general rule for the decibel scale is that a 10 dB increase in sound is perceived as a doubling of loudness by the human ear. For example, a 55 dB sound level will sound twice as loud as a 45 dB sound level. The average healthy person cannot detect differences of 1 dB whereas a 5 dB change is clearly noticeable.

Several sound measurement descriptors are used to assess the effects of sound on the human environment. These include the equivalent sound level, Leq, which is the level of a constant sound that has the same sound energy as the actual fluctuating sound. It is similar to the average sound level. The day-night sound level, Ldn, is similar to the 24-hour Leq except that a 10 dB penalty is added to sound levels between 10 p.m. and 7 a.m. to account for the greater sensitivity of people to sound at night. The Community Noise Equivalent Level (CNEL) also places a weighted factor on sound events occurring in the evening hours. The L90 value is the sound level (L) that is exceeded 90 percent of the time and is often used to describe the background or residual sound level.

Acoustics is defined as the science of sound, including the generation, transmission, and effects of sound waves, both audible and inaudible. Noise, on the other hand, is generally defined as loud, unpleasant, unexpected or undesired sound that disrupts or interferes with normal human activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The objectionable nature of sound is caused by its pitch or loudness. Pitch is the height or depth of a tone or sound wave, depending on the relative rapidity (frequency) of the sound vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity is a measure of the amplitude or height of the sound wave. Frequency describes the sound's pitch and is measured in Hertz (Hz), while intensity describes the sound's loudness and is measured in dB.

The dB is the preferred unit for measuring sound that indicates the relative amplitude (height) of a particular sound wave. The zero (0) on the decibel scale is based on the lowest sound level that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic scale. Thus an increase of 10 dB represents a ten–fold increase in acoustic energy, while a 20 dB increase is 100 times more intense, and a 30 dB increase is 1,000 times more intense. There is a direct relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. The A–weighted decibel (dBA) is a method of

sound measurement which assigns weighted values to selected frequency bands in an attempt to reflect how the human ear responds to sound. Definitions of common acoustical terms are summarized below in Table 3.12-1. The range of human hearing is from 0 dBA (the threshold of hearing) to about 140 dBA which is the threshold of pain. Examples of noise and their A–weighted decibel levels are shown in Table 3.12–2. In general, a 3 to 5 dBA change in community noise levels starts to become noticeable, while 1 to 2 dBA changes are generally not perceived. Quiet suburban areas typically have noise levels in the range of 40–50 dBA, while those along arterial streets are in the 50–60 dBA or greater range. Normal conversational levels are in the 60–65 dBA ranges.

In addition to the actual instantaneous measurements of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. To analyze the overall noise levels in an area, noise events are combined for an instantaneous value or averaged over a specific time period. The time–weighted measure is referred to as equivalent sound level and represented by energy equivalent sound level (Leq). The percentage of time that a given sound level is exceeded also can be designated as L10, L50, and L90. The subscript denotes the percentage of time that the noise level was exceeded during the measurement period. Namely, an L10 indicates the sound level is exceeded 10 percent of the time and is generally taken to be indicative of the highest noise levels experienced at the Proposed Project Site. The L90 is that level exceeded 90 percent of the time and this level is often called the base level of noise at a location. The L50 sound (that level exceeded 50 percent of the time) is frequently used in noise standards and ordinances.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within ±1 dBA. The data is then imported into computer sound models. These computer models are used to predict environmental noise levels from sources such as roadways and airports over a given area using equal sound level contours. The accuracy of the predicted models depends upon the distance the receptor is from the noise source and natural attenuation caused by structures and other sound barriers. The closer to the noise source, the greater is the model's accuracy (±1–2 dBA).

Since the sensitivity to noise increases during the evening and at night (because excessive noise interferes with the ability to sleep) 24–hour descriptors have been developed that incorporate artificial noise penalties that are added to quiet–time noise events. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community during a 24–hour period. The Day/Night Average Sound Level (Ldn) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three–hour period are grouped into the daytime period.

Noise sources occur in two forms: 1) point sources, such as stationary equipment, loudspeakers, or individual motor vehicles; and 2) line sources, such as a roadway with a large number of point sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dBA for each doubling of distance from the source to the receptor at acoustically "hard" sites and 7.5 dBA at acoustically "soft" sites (USDOT, FHA, pg. 97). For example, a 60 dBA noise level measured 50 feet from a point source at an acoustically hard site would be 54 dBA 100 feet from the source and 48 dBA 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3.0 dBA and 4.5 dBA per doubling of distance from the source to the receptor for hard and soft sites, respectively (USDOT, FHA, pg. 97). Sound levels can also be attenuated by man-made or natural barriers. Solid walls, berms, or elevation differences typically reduce point and line source noise levels by 5.0 to 10.0 dBA (USDOT, FHA, pg. 18). Sound levels for a source may also be attenuated 3.0 to 5.0 dBA by a first row of houses and 1.5 dBA for each additional row of houses (T.M. Barry and J.A. Reagan, 1978).

Table 3.12-1 Definitions of Acoustical Terms

Terms	Definitions
dB, Decibel	Unit of measurement of sound level
dBA, decibel A-Weighted	A unit of measurement of sound level corrected to the A–weighted scale, as defined in ANSI S1.4–1971 (R1976), using a reference level of 20 micropascals (0.00002 Newtons per square meter).
A – Weighted Scale	A sound measurement scale, which corrects the pressures of individual frequencies according to human sensitivities. The scale is based upon the fact that the region of highest sensitivity for the average ear is between 2,000 and 4,000 Hz. Sound levels are measured on a logarithmic scale in decibels, dB. The universal measure for environmental sound is the A–weighted sound level, dBA.
Hz, Hertz	Unit of measurement of frequency, numerically equal to cycles per second.
Loudness	A listener's perception of sound pressure incident in his ear.
L01, L10, L50, L90	The A–weighted noise levels that are exceeded 1 %, 10 %, 50 %, and 90 % of the time during the measurement period.
Leq, Equivalent Noise Level	Also called the equivalent continuous noise level. It is the continuous sound level that is equivalent, in terms of noise energy content, to the actual fluctuating noise existing at the location over a given period, usually one hour. Leq is usually measured in hourly intervals over long periods in order to develop 24–hour noise levels.
CNEL, Community Noise Equivalent Level	The CNEL is a measure of the cumulative noise exposure in the community, with greater weights applied to evening and night time periods. This noise descriptor is the equivalent noise level over a 24–hour period mathematically weighted during the evening and night when residents are more sensitive to intrusive noise. The daytime period is from 7:00 a.m. to 7:00 p.m.; evening from 7:00 p.m. to 10:00 p.m.; and nighttime from 10:00 p.m. to 7:00 a.m. A weighting factor of 1 dB is added to the measured day levels defined as 7 a.m. to 7 p.m., evening levels (7 p.m. to 10 p.m.) have a weighting factor of three and 10 dB to the night time levels (10 p.m. to 7 a.m.). The weighted levels over a 24–hour period are then averaged to produce the single number CNEL rating.

Terms	Definitions
Ldn, Day/Night Noise Level	The same as CNEL except that the evening time period is not considered separately, but instead it is included as part of the daytime period. Measurements of both CNEL and Ldn in the same residential environments reveal that CNEL is usually slightly higher (by less than 1 dB) than Ldn due to the evening factor weighting.
Lmin, Lmax	The minimum and maximum A–weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Table 3.12-2 Typical Sound Levels Measure in the Environment

A–Weighted Sound Level in dBA	Outdoor	Indoor	Subjective Impression
Pain Threshold			
130	• Jackhammer • Stock Car Races		
120	• Ambulance Siren		
	• Leaf Blower (110 dBA) • Rock Concert (110 dBA) • Car Horn (110 dBA)	• Baby Crying on Shoulder (110 dBA)	
100	• Snowmobile		Very Loud
90	• Lawnmower (96dBA) • Backhoe (75-95 dBA) • Pile driver at 50' (90-105 dBA) • Motorcycle at 25'	• Shouted Conversation	
80	• Propeller Airplane flyover at 1000' (88 dBA) • Diesel Truck at 50' @ 40mph (84 dBA)	• Vacuum cleaner (60-85 dBA) • Garbage Disposal • Ringing Telephone	
70	• Car at 25' @ 65mph (77 dBA)	• Living Room Music or TV (70-75 dBA) • Dishwasher (55-70 dBA)	Moderately Loud
60	• Air-conditioner at 100'	• Normal Conversation (60-65 dBA) • Sewing Machine	
50		• Refrigerator	
40	• Quiet Residential Area		Quiet
30			
20	• Rustling of Leaves	• Whispering at 5'	
10			
0	Threshold of Hearing		

Affected Noise Environment

The Project site is located in the City of Glendale. The potentially impacted noise sensitive receptors are located in the City of Glendale, Pasadena, and Los Angeles. Residences to the west and north of the Project site are primarily located in the City of Glendale, while most residences to the east and south are located in the City of Pasadena. Additionally, residential areas to the southeast along SR-134 are located in the City of Los Angeles.

Sensitive Receptors

Six representative sensitive receptors (residential land uses) were selected for evaluation that are located within areas that could be potentially impacted by noise generated by the Proposed Project. Stantec measured the day- and night-time ambient noise levels at each of the six identified sensitive receptors on October 21 and 22, 2015 using a Bruel & Kjaer Type 2236 noise meter. The sensitive receptors, proximity to the Project site, and the ambient noise level are presented in Table 3.12-3. Ambient noise measurement data collection sheets are included as Appendix H. The locations of the sensitive receptors are shown in Figure 3.12-1.

Table 3.12-3 Sensitive Receptors in Close Proximity to Project Site

Receptor Identification	Receptor Type	Receptor Location	Distance from Proposed Project (feet)	Daytime Ambient Noise Level (Leq)*	
				Day	Night
R1	Residence	5471 Mount Helena Avenue, Los Angeles	2,389	54.0	56.8
R2	Residence	1233 Cedaredge Avenue, Los Angeles	3,033	65.2	64.3
R3	Residence	325 Woodcliffe Road, Pasadena	2,970	54.5	47.8
R4	Residence	1600 Glen Oaks Boulevard, Pasadena	2,607	37.1	47.1
R5	Residence	1037 Marengo Drive, Glendale	4,271	43.4	39.1
R6	Residence	2840 Glenoaks Canyon Road, Glendale	2,281	46.4	46.5

*Data collected by Stantec Personnel on 10/21-22/2015 during daytime and nighttime hours.

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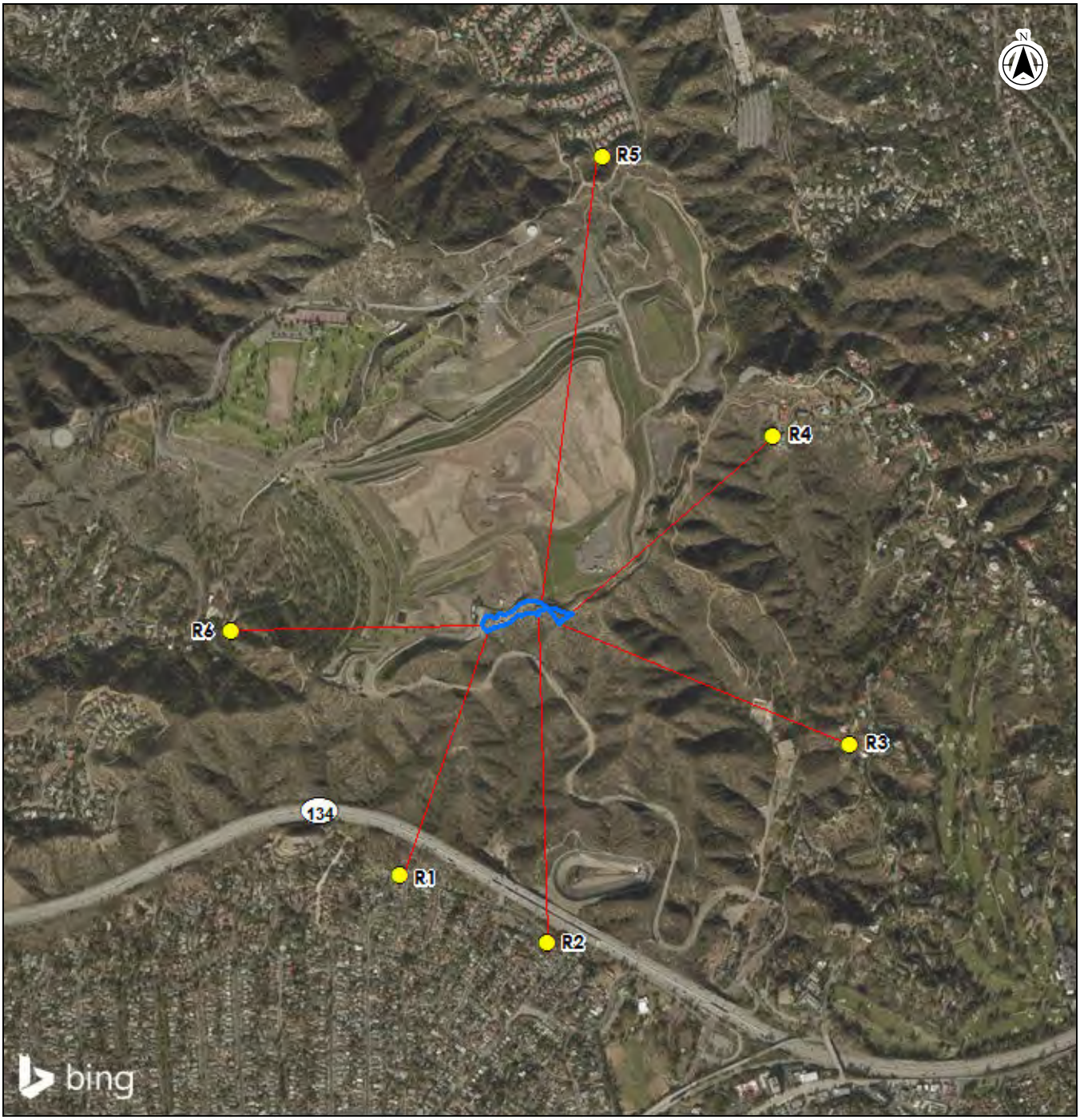


Legend

- Sensitive Noise Receptor
- Proposed Power Plant Facility Boundary

Stantec

Project Location
Glendale, CA

Project No.: 205712330
Prepared by JF on 2017-07-18
Technical Review by CH on 2017-07-18

Client/Project
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure No.
3.12-1

Title
Sensitive Noise Receptor Map

Regulatory Setting

Noise Criteria

Community noise standards relevant to the Proposed Project are contained in the Glendale General Plan and Noise Ordinance, the City of Pasadena General Plan and Noise Ordinance and the City of Los Angeles General Plan and Noise Ordinance which are summarized below.

Local

City of Glendale

The Glendale General Plan Noise Element specifies outdoor and indoor noise standards for various land uses impacted by transportation noise sources. The City's noise standards are consistent with the State of California's noise standards. The interior and exterior noise standards are in terms of the Community Noise Equivalent Level (CNEL) scale. The standards state that for residential land use, the exterior noise exposure level shall not exceed 65 CNEL and the interior noise exposure level shall not exceed 45 CNEL. Open space park land has an exterior standard of 65 CNEL for hillside open space areas open to the public. Hotel, motel, transient lodging, church, school classroom, and hospital uses have interior noise limits of 45 CNEL. These levels are also consistent with the land use compatibility guidelines developed by the California Department of Health.

City of Pasadena

The City of Pasadena General Plan Noise Element has not adopted any specific outdoor or indoor noise standards for land uses impacted by transportation noise sources. Therefore, the State of California's noise standards would be utilized. The State's interior and exterior noise standards are in terms of the CNEL scale. The standards state that for residential land use, the exterior noise exposure level shall not exceed 65 CNEL and the interior noise exposure level shall not exceed 45 CNEL. These levels are also consistent with the land use compatibility guidelines developed by the California Department of Health.

City of Los Angeles

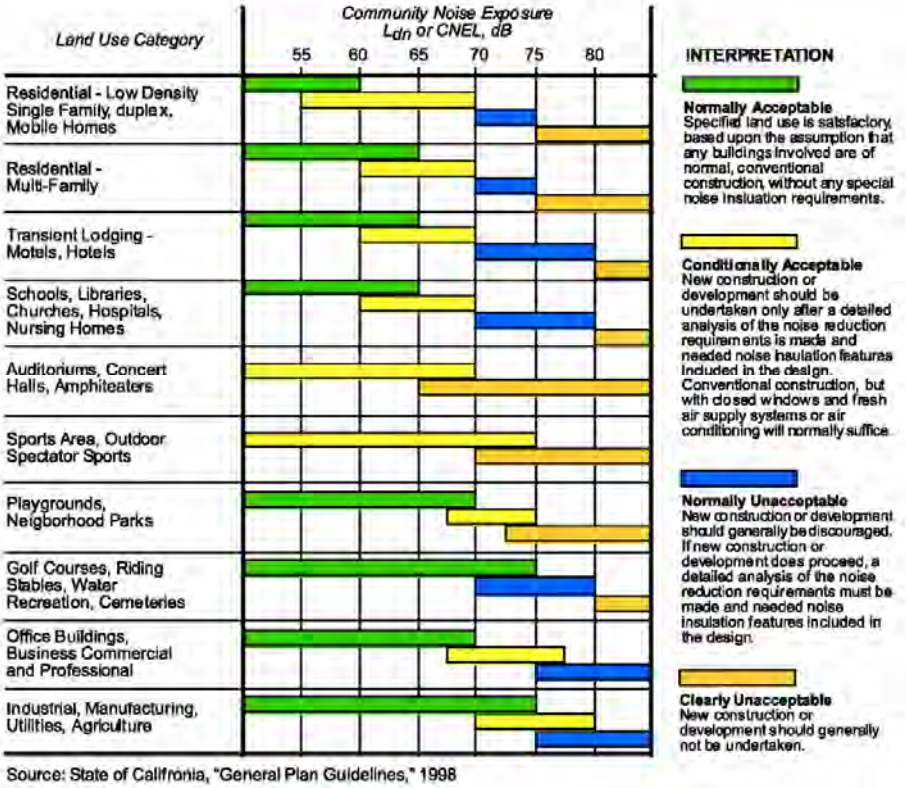
The City of Los Angeles's noise standards are correlated with the type of land use (e.g., residential, commercial, etc.) in order to maintain identified ambient noise levels and to limit, mitigate, or eliminate intrusive noise that exceeds prescribed noise levels for different land use types. Increases of 5 dB above the existing measured or presumed ambient noise levels are in violation of the City Noise Ordinance. Where the existing measured ambient noise level is less than the presumed ambient noise level designated in the City Noise Ordinance, the increase is measured from the presumed ambient noise level.

Land Use and Noise Compatibility Matrix

The Cities of Glendale, Pasadena, and Los Angeles Noise Elements contain similar compatibility matrices for determining the compatibility of various land uses with noise levels. These matrices are consistent with the California Noise/Land Use Compatibility Guidelines. This matrix is shown below. This exhibit classifies various land uses in terms of Normally Acceptable, Conditionally Acceptable, Normally Unacceptable and Unacceptable based on their noise exposure in the Community Noise Equivalent Level (CNEL) scale. For residential uses, CNEL levels from 50 to 60 dBA are Normally Acceptable, CNEL levels from 65 to 70 are Conditionally Acceptable, CNEL levels of greater than 75 dBA are Normally Unacceptable.

A land use exposed to noise levels that are considered Normally Acceptable indicates that the land use is compatible with the noise environment and no special noise insulation is required. If new construction is exposed to a Conditionally Acceptable noise level, a noise analysis is typically required to determine noise mitigation required to reduce noise levels to a compatible level. Conventional construction will normally suffice with a fresh air supply system or air conditioning to allow windows to remain closed. A noise analysis is also required for new construction exposed to a Normally Unacceptable noise level. The analysis is required to determine mitigation measures, which may be significant, to reduce noise levels to a compatible level. Proposed development exposed to Clearly Unacceptable noise levels should generally not be undertaken.

Noise/Land Use Compatibility Table



Source: State of California, "General Plan Guidelines," 1998

Noise Ordinance

A noise ordinance is designed to control unnecessary, excessive, and annoying sounds from stationary (non-transportation) noise sources. Noise ordinance requirements cannot be applied to mobile noise sources such as heavy trucks when traveling on public roadways. Federal and state laws preempt control of mobile noise sources on public roads. Noise ordinance standards typically apply to industrial and commercial noise sources impacting residential areas.

Sensitive land uses surrounding the project site are residential areas located to the east, northeast, southeast, and west. The majority of the residential areas to the west and northeast are located within the City limits, while the majority of the residential areas to the east and southeast are located within the City of Pasadena city limits. A limited residential area to the southeast of the site is located along SR-134 and within the City of Los Angeles city limits. Additionally, there is Lower Scholl Canyon Park the west, recreational (baseball field, golf and tennis court) areas to the north and northwest, as well as the ArtCenter College of Design to the northeast. The the ArtCenter College of Design is considered to be a sensitive commercial land use. For open space uses (i.e., baseball field, golf course and tennis court), the City zoning map show these sites as SR (Special Recreation). As a result, there are no noise ordinance requirements for recreation uses.

City of Glendale

The City Noise Ordinance applies the most stringent noise limits of all the affected cities of 55 to 60 dBA Leq, depending on the type of residential, for the daytime period (7:00 A.M. to 10:00 P.M.) and 45 dBA Leq for the nighttime period (10:00 P.M. to 7:00 A.M.) at the nearest residential property. Also, the noise level cannot exceed 65 dBA (Leq) at any time at an adjacent commercial property, and 70 dBA (Leq) at any time at an adjacent industrial property. The noise limits pertain to noise which exceeds the actual (measured noise) versus presumed ambient noise, and are in terms of hourly average (Leq) noise levels.

In addition, Chapter 8.36.050 Minimum and Maximum Ambient Noise Levels, states, A) Where the actual ambient is less than the presumed ambient, the actual ambient shall control and any noise in excess of the actual ambient, plus 5 dBA, shall be a violation. B) Where the actual ambient is equal to or more than the presumed ambient, the actual ambient shall control and any noise may not exceed the actual ambient by more than 5 dBA; however, in no event may the actual ambient exceed the presumed noise standards by 5 dBA.

The Glendale Noise Ordinance (Chapter 8.36.080) exempts noise from construction activity for certain time periods. Activities that take place between 7:00 A.M. and 7:00 P.M. Monday through Saturday will be exempt from the noise standard. Construction will not be allowed at any time on a Sunday or on holidays.

City of Pasadena

The City of Pasadena General Plan and Noise Ordinance Chapter 9.36 Noise Restrictions prohibits the production of excessive noise. The applicable interior noise standards (for the multi-family residential property land use) are 60 dBA Leq for the daytime period (7:00 A.M. to 10:00 P.M.) and 50 dBA Leq for the nighttime period (10:00 P.M. to 7:00 A.M.). The noise standards are in terms of hourly average (Leq) interior noise levels. The City of Pasadena does not have any specific noise limits for exterior areas.

City of Los Angeles

The City of Los Angeles Noise Control Ordinance Chapter XI Noise Regulation, Sec. 111.03, prohibits unnecessary, excessive and annoying noise. The Los Angeles noise ordinance does not have specific noise criteria, and therefore, presumed ambient noise levels listed in the City of Los Angeles Noise Ordinance are utilized. For residential areas experiencing ambient noise less than the presumed noise (i.e., 50 dBA), the presumed noise level becomes the minimum criterion noise level. For residential areas already experiencing ambient noise greater than the presumed noise level, the measured ambient noise becomes the noise criterion levels.

The City of Los Angeles noise ordinance (Section 41.40) states that construction activity within 500 feet of any residential zone shall be limited to between the hours of 7:00 A.M. and 9:00 P.M., Monday through Friday, and 8:00 A.M. and 6:00 P.M. on Saturday. Construction will not be allowed at any time on a Sunday or on holidays.

State Standards and Regulations

California encourages each local government to perform noise studies and implement a noise element as part of their general plan. Standards and implementation are administered by the California Department of Industrial Relations' Division of Occupational Safety and Health (Cal-OSHA) which are based on the USEPA occupational guidelines to protect the hearing of workers.

According to Cal/OSHA, the standard is set at the noise threshold where hearing loss may occur from long–term exposures. The maximum allowable level is 90 dBA averaged over an 8-hour time period.

SB 4 Section 2, Article 3, Section 3160.(a)(4) requires that operators consider, among several other items, potential noise pollution.

Federal Standards and Regulations

Federal regulations safeguard the hearing of workers exposed to occupational noise, enforced by OSHA (e.g. 29 CFR 1919.120). For example, it is unlawful for employees to be exposed to noise levels in excess of 115 dBA for more than 15 minutes during any working day. The USEPA

has developed guidelines on recommended maximum noise levels to protect public health and welfare (USEPA, 1978). The USEPA identifies a 24-hour exposure level of 70 dBA as the level of environmental noise which will prevent any measurable hearing loss over a lifetime. Likewise, levels of 55 dBA outdoors and 45 dBA indoors are identified as activity interference and annoyance (USEPA, 1978).

3.12.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
NOISE: Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact

Construction

Construction of the Proposed Project will result in noise from the operation of conventional construction equipment and associated vehicles. All construction related activities will be conducted during the work week (Monday through Friday) between the hours of 7:00 AM and 7:00 PM and will therefore be exempt from the City of Glendale, City of Los Angeles, and City of Pasadena noise ordinances related to construction noise. Construction related noise would therefore not expose persons to or generate noise levels in excess of established standards and potential impacts would be less than significant.

Operation

Operation of the Proposed Project would result in noise from the operation of stationary power generating and ancillary equipment including but not limited to compressors, coolers, pumps, exhaust fans, exhaust stacks and louvers. LFG would be combusted in four reciprocating GE Jenbacher Model J 620 GS-16 engines to generate electricity. A list of equipment and assumed noise levels generated by the project are provided as Appendix H. There is not expected to be an increase in motor vehicle use associated with project operation that would lead to a substantial increase in noise levels beyond those that already occur at the site. Because the Proposed Project does not include an increase in operation phase traffic, this analysis does not consider the 65 CNEL standard referenced in the regulatory setting applicable to land uses impacted by transportation noise sources.

Per applicable municipal requirements, single family residences shall not be exposed to exterior noise levels exceeding 45 dBA during nighttime or 55 dBA during daytime. Where the actual ambient noise level is less than the presumed ambient (e.g., 45 dBA during nighttime or 55 dBA during daytime), the actual ambient shall control and any noise in excess of the actual ambient, plus 5 dBA, shall be a violation. Where the actual ambient is equal to or more than the presumed ambient, the actual ambient shall control and any noise may not exceed the actual ambient by more than 5 dBA; however, in no event may the actual ambient exceed the presumed noise standards by 5 dBA. The City has the most stringent noise standards applicable to sensitive receptors potentially affected by the Proposed Project and they have therefore been adopted as thresholds for determining potentially significant noise impacts. The noise level thresholds applied to the Proposed Project are summarized below in Table 3.12-4.

Table 3.12-4 Noise Impact Thresholds for Project Operation

Receptor	Exiting Ambient Noise Level (dBA)[1]		Presumed Ambient Noise Level (dBA)		Applicable Noise Limits (dBA)	
	Day	Night	Day	Night	Day	Night
R1	54	56.8	54	50	59	55
R2	65.2	64.3	60	50	65	55
R3	54.5	47.8	54.5	47.8	59.5	52.8
R4	37.1	47.1	37.1	47.1	42.1	52.1
R5	43.4	39.1	43.4	39.1	48.4	44.1
R6	46.4	46.5	46.4	46.5	51.4	51.5

Notes:
Day and night sound levels expressed in Leq.
1. Data collected by Stantec Personnel during daytime and nighttime hours.
2. 5 dB above the Presumed Ambient Sound Level

The expected daytime and nighttime noise generated by the engines as well as ancillary equipment was combined with the presumed ambient sound levels using the Computer Aided Noise Abatement (CadnaA) modeling software. The following considerations were used in the model:

- Terrain;
- Noise source in full octave band;
- Wind speed and direction;
- Ground condition; and
- Barrier effects from buildings.

The results of the noise attenuation modeling for the Project operation are summarized below in Table 3.12-5. Modeled noise level contour maps are included in Appendix H.

Table 3.12-5 Noise Level Summary for Project Operation

Receptor	Presumed Ambient		Facility Noise		Combined Noise Ambient + Facility		Noise Limit		Exceed Limit?
	Day (dBA)	Night (dBA)	Day (dBA)	Night (dBA)	Day (dBA)	Night (dBA)	Day (dBA)	Night (dBA)	
R1	54.0	50.0	38.0	38.0	54.1	50.3	59.0	55.0	No
R2	60.0	50.0	40.0	40.0	60.0	50.4	65.0	55.0	No
R3	54.5	47.8	40.6	40.6	54.7	48.6	59.5	52.8	No
R4	37.1	47.1	35.2	35.2	39.3	47.4	42.1	52.1	No
R5	43.4	39.1	35.1	35.1	44.0	40.6	48.4	44.1	No
R6	46.4	46.5	29.9	29.9	46.5	46.6	51.4	51.5	No

Notes:
Day and night sound levels expressed in Leq.
1. Logarithmic addition of Presumed Ambient Daytime Sound Level and project case
2. Logarithmic addition of Presumed Ambient Nighttime Sound Level and project case

As show in tables 3.12-4 and 3.12-5, operation of the Proposed Project with the use of four GE Jenbacher Model J 620 GS-16 engines would not result in an exceedance of an applicable daytime or nighttime noise standard at any of the sensitive receptor locations. Operation related noise would therefore not expose persons to or generate noise levels in excess of established standards and potential impacts would be less than significant.

Mitigation Measures

None required.

b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact

Construction

The Proposed Project does not include sources known to generate substantial vibration such as pile driving, vibratory equipment or explosives. Construction will include the use of limited track mounted equipment during grading activities that has the potential to generate localized ground borne vibration. However, the nearest sensitive receptor is located approximately 0.43 miles from proposed grading activities. The Proposed Project would not expose persons to or generate excessive ground borne vibration or ground borne noise levels and potential impacts would be less than significant.

Mitigation Measures

None required

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact

See response to question a) above.

Mitigation Measures

None required.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact

See response to question a) above.

Mitigation Measures

None required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact

The Proposed Project is not located within an airport land use plan or within two miles of a public or public use airport. The closest public airport is the Bob Hope Airport located approximately 10 miles west of the Proposed Project. No impact would occur.

Mitigation Measures

None required.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact

The Proposed Project is not located within the vicinity of a private airstrip. The closest private airstrip, the El Monte Airport, managed by American Airports Corporation, is located approximately 10 miles east of the Proposed Project. No impact would occur.

Mitigation Measures

None required.

3.13 POPULATION AND HOUSING

3.13.1 Setting

The Glendale's population as of 2010 was estimated at 191,719, placing it as the fourth largest city in Los Angeles County. Approximately 77 percent of zoned land use in Glendale is residential land. Glendale contains 778.8 acres of commercially zoned land, with only 535.4 acres used. Less than three percent of the Glendale's total area is industrially zoned land (City of Glendale, 2014a). The Project site is located within the boundaries of an active municipal landfill at the uppermost portion of Scholl Canyon. The closest housing units are located in the residential community of Glenoaks Canyon (population of approximately 560), along the Glenoaks Boulevard corridor, approximately 0.5 acres directly west of the SCLF (City of Glendale, 2014a). The uppermost portion of the Linda Vista neighborhood in the City of Pasadena abuts the ridgeline to the east of the SCLF, approximately one-half mile from the Proposed Project site. A small portion of the community of Chevy Chase within the Glendale is on the other side of the ridgeline near the northeast corner of the SCLF property boundary, approximately 0.85 miles from the Proposed Project site.

3.13.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact

The Proposed Project will convert methane-rich renewable LFG generated at the SCLF to fuel, and produce electricity from a power generation facility. It will be operated by a total of four full-time personnel and two on call technicians from existing local resources. The Proposed Project does not include the construction of new homes or businesses, or expand the capacity of any roads or existing infrastructure for residential uses, however, the Proposed Project will require construction of new infrastructure to support the Proposed Project. This infrastructure will not induce substantial population growth because all the infrastructure is associated with the LFG capture, generation and operating facilities. The Proposed Project will not change or conflict with the existing population, employment, housing policies, projections or distributions established by government agencies with jurisdiction over the Proposed Project; therefore, there would be no impact.

Mitigation Measures

None required.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact

The Proposed Project is located within the footprint of an existing landfill, and would not include any activities that would affect or displace existing housing; therefore, there would be no impact.

Mitigation Measures

None required.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact

The Proposed Project is located within the footprint of an existing landfill, and would not displace any people or necessitate the construction or replacement of housing elsewhere; therefore, there would be no impact.

Mitigation Measures

None required.

3.14 PUBLIC SERVICES

3.14.1 Setting

Fire Protection

Glendale Fire Department (GFD)

GFD provides fire protection services, emergency medical services, technical rescue, hazardous material mitigation, domestic preparedness planning and response, and public fire/EMS safety education for the 30.59 square mile incorporated area of Glendale. GDF is comprised of nine Fire Stations, Fire Mechanical Maintenance, Verdugo Fire Communications, Fire Prevention Center, Fire Training Center, and Emergency Medical Services. As of 2016, 240 sworn and non-sworn personnel serve in the GFD.

In 2014, GDF responded to over 18,239 incidents within the City and nearby jurisdictions (City of Glendale Fire Department, 2016)

Police Protection

Glendale Police Department

The Glendale Police Department (GPD) is responsible for providing law enforcement services to the 30.59 square mile incorporated area of Glendale.

The Glendale Police Department is located at 131 N. Isabel Street, approximately 3 miles to the west of the Project. GPD is comprised of a crime prevention program including crime stoppers and neighborhood watch. Units within the GPD include Parking Enforcement Unit, K-9 Unit, SWAT Team, and AB 109 Task Force. The Parking Enforcement Unit is the primary unit that provides traffic law enforcement, safety, and management services to the City (City of Glendale Police Department, 2016, http://www.glendaleca.gov/government/departments/police-department)

Parks

The nearest recreational area to the Proposed Project site is the Lower Scholl Canyon Park which is located approximately 0.5 miles west of the Project. It is comprised of picnic pavilions, a playground, and walking paths.

Schools

Glendale Unified School District

The Glendale Unified School District (GUSD) is comprised of 31 schools that serve 27,000 students in grades Kindergarten through 12th grade with over 2,620 employees. There are 20 elementary,

four middle, five High Schools, and the Verdugo Academy Home Independent Study which make up the GUSD.

The nearest school within the GUSD to the Proposed Project site is Glenoaks Elementary School which is located at 2015 E. Glenoaks Blvd. and is approximately two miles west of the Project.

Los Angeles Unified School District

The Los Angeles Unified School (LAUSD) district is comprised of over 900 schools that serve over 640,000 students in grades kindergarten through 12th grade, making it the second largest school district in the nation. The district boundaries extend to over 720 square miles which encompass the City of Los Angeles, 31 other municipalities, and unincorporated sections of Southern California (Los Angeles Unified School District).

The school with the nearest proximity to the Proposed Project site is Eagle Rock Elementary, located approximately 1.6 miles south, at 2057 Fair Park Avenue, in the Eagle Rock district of Los Angeles.

3.14.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
PUBLIC SERVICES: Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impact, in order to maintain acceptable service ratios for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impact, in order to maintain acceptable service ratios for any of the public services:

i. Fire protection?

No Impact

The Proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts. Therefore, no impact is anticipated.

Mitigation Measures

None required.

ii. Police protection?

No Impact

The Proposed Project does not include any residential development or other component that will substantially increase population growth or an increase in the demand for public services. Any anticipated calls for police protection would not likely require the need for additional police protective services. Construction impacts associated with the Project would not result in substantial adverse physical impacts with the provision of newly constructed or physically altered governmental facilities. Police protection would continue to be provided and acceptable service ratios, response times and other performance objectives for the City would be maintained. Therefore, no impacts are anticipated.

Mitigation Measures

None required.

iii. Schools?

No Impact

There will be no population increase that would require additional schools. The Proposed Project does not include any residential development or other component that will substantially increase population growth and demand for public services. The Proposed Project would not require the provision of new or physically altered school facilities. No impacts are anticipated.

Mitigation Measures

No Required.

iv. Parks?

No Impact

There will be no population increase that would require additional park facilities. The Proposed Project does not include any residential development or other component that will substantially increase population growth and demand for public services. Therefore, no impacts are anticipated.

Mitigation Measures

No Required.

v. Other public facilities?

No Impact

The Proposed Project would create no demand on other public facilities which can be reasonably foreseen. Therefore, no impacts are anticipated.

Mitigation Measures

None Required.

3.15 RECREATION

3.15.1 Setting

The City is comprised of the Verdugo Mountains, the San Rafael Hills, and a portion of the San Gabriel Mountains. Glendale's Community Service and Parks Department manages 285.5 acres of developed park land and over 5,000 acres of open space. This includes 50 parks and facilities, which include 35 parks, the Civic Auditorium, four community centers, six sports facilities, and four historic buildings (http://www.glendaleca.gov/government/city-departments/community-services-parks).

The nearest public recreation facilities to the Proposed Project site are the 6.2 acre Lower Scholl Canyon Park (approximately 0.5 miles west of the Project), which includes barbeque and picnic pavilions, playgrounds, and walking paths; Glenoaks Park (approximately one mile west of the Project), a 2.2 acre park which includes barbeque and picnic pavilions, basketball courts, children's play areas, tennis courts, volleyball courts, a wading pool, meeting rooms and community building; and the approximately 60 acre Scholl Canyon Golf Course (approximately 0.5 miles north of the Project), located within the SCLF property, constructed over the western portion of the landfill. The nearest National Forest to the project area is the Angeles National Forest, which is approximately 12 miles to the North.

3.15.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
RECREATION: Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact

The Proposed Project would not entail the construction of residential or commercial uses that would result in an increased use of area parks or recreational facilities. The Project will not increase the number of people utilizing local recreational areas. Therefore, no impacts are anticipated.

Mitigation Measures

None required.

b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact

The Proposed Project does not include a recreational facility component or require the construction or expansion of recreational facilities. Therefore, there would be no impact.

Mitigation Measures

None Required.

3.16 TRANSPORTATION AND TRAFFIC

3.16.1 Setting

This section discusses the roadways and existing traffic in the vicinity of the Proposed Project, the increase in traffic associated with the construction and operation of the Proposed Project, and a discussion of the level of significance of those increases.

For the purposes of this section, the network of freeways and roadways surrounding the Proposed Project site is referred to as the existing roadway system. Although the Proposed Project site is located within the City of Glendale, California, the roadway system used to access the site is primarily located within the City of Los Angeles, California. Therefore, this section focuses on those roadways relevant to the Proposed Project within the City of Los Angeles.

Existing Roadway System

Roadways

The existing roadway network with the potential to be impacted by the Proposed Project includes:

State Route 134

State Route 134 (SR-134) is an east-west state route through Los Angeles County that provides interregional access to the Proposed Project site via the interchange with N. Figueroa Street. Part of the Congestion Management Program (CMP), SR-134 originates at the Route 134/170/101 interchange and runs a distance of 13.34 miles, terminating at the Route 134/210 interchange. SR-134 is classified as an urban principal arterial and contains four travel lanes and a high occupancy vehicle lane in each direction in the study area.

North Figueroa Street

Figueroa Street is a two- to four-lane north-south Secondary Highway that extends north from John S Gibson Blvd. in Los Angeles and terminates at SR-134 near Eagle Rock. The roadway provides access to the urbanized areas south of SR-134 and Scholl Canyon Road north of SR-134. The SR-134 Eastbound Ramps/N. Figueroa Street intersection is controlled by a traffic signal and the SR-134 Westbound Ramps/N. Figueroa Street intersection is controlled by an all-way stop.

Project Site Primary Access

The Proposed Project location is accessed exclusively by Scholl Canyon Road. North Figueroa Street turns into Scholl Canyon Road at the SR-134 Westbound Ramps/North Figueroa Street intersection. Scholl Canyon Road is a two-lane road that terminates at the Scholl Canyon Landfill.

Project Trip Generation

The Proposed Project is anticipated to be conducted over the course of approximately 18 months. Construction activities will occur in three phases as described below. Operational activities will be ongoing following completion of all construction activities.

Construction Activities

Construction Phase 1 – Removal and Relocation of Existing Equipment

Removal and relocation of existing facility equipment will be conducted over approximately 100 workdays (Monday through Friday). During this time, a maximum of approximately five four-axle trucks (Federal Highway Administration [FHWA] Class 7) and 10 worker vehicles (FHWA Class 1-3) will be driven each way to the Proposed Project location each workday. To provide for a worst-case scenario, all traffic is assumed to occur during peak AM and PM hours.

Construction Phase 2 – Grading and Construction

Grading and construction will be conducted over approximately 200 workdays. During this time, a maximum of approximately 10 FHWA Class 7 trucks and 12 FHWA Class 1-3 worker vehicles will be driven each way to the Proposed Project location each workday during peak hours.

Construction Phase 3 – System Startup

System startup will be conducted over approximately 60 workdays. During this time, a maximum of approximately three FHWA Class 7 trucks and 20 FHWA Class 1-3 worker vehicles will be driven each way to the Proposed Project location each workday during peak hours.

Operation Activities

Once construction been completed and the plant has become operational, it is estimated that approximately six FHWA Class 1-3 worker vehicles will be driven each way to the Proposed Project location each workday during peak hours. This will be conducted seven days a week while the plant is operational.

Passenger Car Equivalent Trips

Due to the additional space and time for turning movements, start up, and acceleration inherit with medium or heavy trucks, the maximum daily truck trips for each Project phase have been converted to Passenger Car Equivalent (PCE) trips. FHWA Class 1 through 3 vehicles are each equivalent to one PCE and FHWA Class 7 vehicles are equivalent to three PCEs. The maximum estimated daily number of round trips and PCEs for construction and operation activities is summarized in the following tables.

Construction PCE Trips

Table 3.16.1 Estimated Maximum Daily Round Trips and PCE Required for Project Construction Activities

Phase	Estimated Phase Duration (Days)	Maximum Estimated Daily Number of Round Trips1	Passenger Car Equivalents (PCEs) of the Estimated Maximum Daily Number of Round Trips		
			1 PCE (FHWA Classes 1-3)	3 PCE (FHWA Class 7)	Total PCE
Phase 1 - Removal and Relocation of Existing Equipment	100	15	10	15	25
Phase 2 - Plant Construction	200	22	12	30	42
Phase 3 - System Startup	60	23	20	9	29
Maximum PCE for Construction Activities2					42

1 = All trips are assumed to be conducted during AM and PM peak hours.
2 = The maximum daily PCE for construction activities was used in all traffic calculations to show worst-case scenario.

Operation PCE Trips

Table 3.16.2 Estimated Maximum Daily Round Trips and PCE Required for the Project Operation Activities

Phase	Maximum Estimated Daily Number of Round Trips1	Passenger Car Equivalents (PCEs) of the Estimated Maximum Daily Number of Round Trips		
		1 PCE (FHWA Classes 1-3)	2 PCE (FHWA Classes 4-6)	Total PCE
System Operation	6	6	0	6
Maximum PCE for Operation Activities				6

1 = All trips are assumed to be conducted during AM and PM peak hours.

Project Trip Distribution Assumptions

Construction

The majority of vehicle trips related to construction will be made by FHWA Class 7 vehicles. During the most impacted construction phase, approximately one third of trips will be generated by construction workers. Of these trips, about 10 percent is expected to access the site via Figueroa Street. All other traffic is expected to access the site via SR-134.

Operation

It is anticipated that four operators and two technicians will be responsible for routine operation and maintenance of the Proposed Project during operation. For the purposes of this section it is assumed that one third of all operation traffic will originate from the west via SR-134 eastbound, one third from the east via SR-134 westbound, and one third from the south via Figueroa Street. Because this amounts to two vehicles trips per day per route, the traffic increases associated with operation of the plant is considered negligible and will not be included in the analysis.

Study Methodology

Level of Service Criteria

The standard measure used to identify intersection and ramp operating conditions is known as the Level of Service (LOS). LOS compares the volume of traffic at an intersection to the capacity the intersection is capable of handling and is expressed as a volume to capacity ratio (V/C). A LOS letter scale from 'A' to 'F' is then assigned to the intersection with LOS A representing free flow conditions and LOS F representing overly congested conditions.

The SR-134 Westbound Ramps/N. Figueroa Street intersection and the SR-134 Eastbound Ramps/ N. Figueroa Street intersection (collectively the 'study area') includes signalized and unsignalized intersections. Table 3.16.3 summarizes the LOS definitions for signalized intersections. The City of Los Angeles does not have thresholds for unsignalized intersections.

Table 3.16.3 Level of Service Standards for Signalized Intersections

LOS	Description	V/C Ratio
A	Excellent. No vehicles waits longer than one red light and no approach phase is fully used.	0.000 – 0.600
B	Very good. An occasional approach is fully utilized; mainly drivers begin to feel somewhat restricted within groups of vehicles	0.601 – 0.700
C	The number of vehicles stopping becomes significant, though many still pass through the intersection without stopping	0.701 – 0.800
D	The influence of congestion becomes more noticeable. Many vehicles stop and the proportion of vehicles not stopping declines.	0.801 – 0.900
E	Results in delay considered to be unacceptable.	0.901 – 1.000
F	Considered unacceptable to most drivers, often occurs with oversaturation, when arriving traffic exceeds the capacity at the intersection	>1.000
Los Angeles Department of Transportation, Los Angeles Department of Transportation Traffic Study Policies and Procedures, 2013.		

The study area intersections are also within Caltrans' jurisdiction which triggers a review using the Highway Capacity Manual (HCM)[4] method for evaluating intersections. The HCM method measures the 'control delay' (CD) which is the wait time at the intersection in seconds per vehicle. According to the HCM, the following LOS standards are used for intersections at Caltrans ramps:

Table 3.16.4 Level of Service Standards for Intersections at Caltrans Ramps

LOS	Description	Control Delay (Signalized)	Control Delay (Un-Signalized)
A	Very low delay. Most vehicles do not stop at the intersection.	≤10 seconds/vehicle	≤10 seconds/vehicle
B	More vehicles stop than with LOS A, causing higher delays.	>10 – 20 seconds/vehicle	>10 – 15 seconds/vehicle
C	The number of vehicles stopping becomes significant, though many still pass through the intersection without stopping	>20 - 35 seconds/vehicle	>15 – 25 seconds/vehicle
D	The influence of congestion becomes more noticeable. Many vehicles stop and the proportion of vehicles not stopping declines.	>35 - 55 seconds/vehicle	>25 – 35 seconds/vehicle
E	Results in delay considered to be unacceptable.	>55 - 80 seconds/vehicle	>35 – 50 seconds/vehicle
F	Considered unacceptable to most drivers, often occurs with oversaturation, when arriving traffic exceeds the capacity at the intersection	>50 seconds/vehicle	>50 seconds/vehicle

Transportation Research Board, Highway Capacity Manual, 2010.

The study area also contains metered and non-metered on/off ramps. According to the Caltrans Ramp Meter Design Manual, a single lane metered on-ramp can generally handle at most 900 vehicles per hour per lane (vphpl). According to the Highway Design Manual a single non-metered off ramp can accommodate up to 1,500 vphpl. Based on this, the following LOS standards are used for the west and east bound ramps:

[4] *Highway Capacity Manual*, Transportation Research Board, 2010.

Table 3.16.5 Level of Service Standards for Ramps

Ramp Structure	Capacity (vphpl)	LOS A (V/C=0.6)	LOS B (V/C=0.7)	LOS C (V/C=0.8)	LOS D (V/C=0.9)	LOS E (V/C=1.0)	LOS F (V/C>1.0)
Metered one lane on-ramp	900	540	630	720	810	900	>900
Metered 1.5 lanes on-	1,500	900	1,050	1,200	1,350	1,500	>1,500
Non-Metered one lane	1,500	900	1,050	1,200	1,350	1,500	>1,500
vphpl = vehicles per hour per lane ; V/C = vehicles to capacity 1 = Two mixed flow lanes at the meter that merge to one lane post meter							

Existing Levels of Service

To determine the existing LOS at the subject area, Stantec subcontracted National Data & Surveying Services of Beverly Hills, California to conduct traffic counts on Thursday May 26, 2016. Traffic count results are provided in Appendix I.1 and summarized below.

Table 3.16.6 Existing AM and PM Peak Hour Intersection Levels of Service

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	(V/C) / LOS	CD / LOS	(V/C) / LOS	CD / LOS
Figueroa Street/SR-134 Eastbound Ramps	0.706 / C	12.2 sec / B	0.697 / B	13.2 sec / B
Figueroa Street/SR-134 Westbound Ramps	N/A	59.30 sec / F	N/A	16.91 sec / C

Table 3.16.7 Existing Level of Service Standards for Ramps

Ramp Segment	Ramp Conditions	Capacity (vphpl)	A.M. Peak Hour			P.M. Peak Hour		
			PCE Vol.	V/C	LOS	PCE Vol.	V/C	LOS
SR-134 eastbound on-ramp at Figueroa Street	Metered One Lane	900	581	0.646	B	389	0.432	A
SR-134 eastbound off-ramp at Figueroa Street	Non-Metered One Lane	1,500	604	0.403	A	775	0.517	A
SR-134 westbound on-ramp at Figueroa Street	Metered 1.5 Lanes	1,500	748	0.499	A	522	0.348	A

Ramp Segment	Ramp Conditions	Capacity (vphpl)	A.M. Peak Hour			P.M. Peak Hour		
			PCE Vol.	V/C	LOS	PCE Vol.	V/C	LOS
SR-134 westbound off-ramp at Figueroa Street	Non-Metered 1.5 lanes	1,500	282	0.188	A	286	0.191	A

Thresholds of Significance

The following thresholds were used to determine if a significant impact will result from traffic increases associated with the Proposed Project.

Ramps

Based on the Los Angeles County Congestion Management Program, a significant adverse traffic impact would occur on a CMP highway network if:

- Traffic from the Proposed Project results in a ramp operating at an unacceptable LOS of D or F and an increase in the V/C ratio of greater than or equal to 0.02.

Intersections

The City of Los Angeles does not have thresholds for unsignalized intersections. Based on the impact threshold criteria contained in the LADOT Traffic Study Policies and Procedures[5], a significant adverse traffic impact would occur at a signalized intersection if:

- Traffic from the Proposed Project results in an intersection operating at a LOS C and an increase in the V/C of greater than or equal to 0.04.
- Traffic from the Proposed Project results in an intersection operating at a LOS D and an increase in the V/C of greater than or equal to 0.02.
- Traffic from the Proposed Project results in an intersection operating at a LOS E or F and an increase in the V/C of greater than or equal to 0.01.
- Traffic increases associated with the Proposed Project cause any intersection to operate at a LOS E or LOS F when pre-project operation was at a LOS A through LOS D.

Caltrans has established the LOS C/D range as the target level of service standard for State Highway facilities.

[5] Traffic Study Policies and Procedures, City of Los Angeles Department of Transportation, June 2013.

Traffic Analysis and Impact Results

The study area traffic analysis includes the SR-134 Westbound Ramps/N. Figueroa Street intersection and the SR-134 Eastbound Ramps/ N. Figueroa Street intersection. The Transportation Research Board, Circular 212 Critical Movement Analysis Planning Method, was used to analyze traffic operating conditions at signalized intersections, and the results are shown as a volume to capacity ratio. Proposed Project traffic impacts are shown in Appendix I.2, existing plus Proposed Project traffic impacts are shown in Appendix I.3.

Level of Service Impact for Intersections

As shown below, temporary construction traffic associated with the Proposed Project would not exceed the City's traffic impact thresholds during the AM and PM peak hours. No project-specific intersection impacts are therefore generated. It is noted that the SR-134 Westbound Ramps/North Figueroa Street intersection currently operates in the LOS F range and will continue to operate at LOS F under Project-specific conditions.

Table 3.16.8 Existing plus Construction Traffic AM and PM Peak Hour Intersection Levels of Service

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	(V/C) / LOS	CD / LOS	Change (V/C) / CD	(V/C) / LOS	CD / LOS	Change (V/C) / CD
Figueroa Street/SR-134 Eastbound Ramps	0.716/C	12.5 sec / B	0.010 / 0.3 sec	0.710/ C	13.3 sec / B	0.013/ 0.1 sec
Figueroa Street/SR-134 Westbound Ramps	N/A	59.68 sec / F	0.38 sec	N/A	17.36 sec / C	0.45 sec

Level of Service Impact for Ramps

Levels of service for the unsignalized intersections in the study area were calculated using Highway Capacity Software (HCS) and levels of service for signalized intersections were calculated using Synchro software. Both programs apply the methodologies outlined in the HCM. As shown below, all ramps are expected to continue to operate in the LOS A or B range under Project-specific conditions. The project would not generate any significant impacts.

Table 3.16.9 Existing plus Construction Traffic AM and PM Peak Hour Ramp Levels of Service

Ramp Segment	Ramp Conditions	Capacity (vphpl)	A.M. Peak Hour			P.M. Peak Hour		
			PCE Vol.	V/C	LOS	PCE Vol.	V/C	LOS
SR-134 eastbound on-ramp at Figueroa Street	Metered One Lane	900	581	0.646	B	408	0.453	A
SR-134 eastbound off-ramp at Figueroa Street	Non-Metered One Lane	1,500	623	0.415	A	775	0.517	A
SR-134 westbound on-ramp at Figueroa Street	Metered 1.5 Lanes	1,500	748	0.499	A	541	0.361	A
SR-134 westbound off-ramp at Figueroa Street	Non-Metered 1.5 lanes	1,500	301	0.201	A	286	0.191	A

3.16.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
TRANSPORTATION AND TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

There would be no significant traffic impacts to the study area intersections or ramps as a result of the Proposed Project.

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less Than Significant Impact

The construction of the Proposed Project is short term (18 months) and would involve up to 42 PCE vehicle trips on peak days. It is expected that six PCE vehicle trips per day would be generated during the Proposed Project's long-term operation. Although construction of the Proposed Project will increase the volume of traffic present in the existing roadway network, the increase will not cause the LOS to exceed the thresholds for significant impact. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact

Ramps

The Los Angeles County Congestion Management Program states that a significant adverse traffic impact would occur on a CMP highway network if traffic from a Proposed Project results in a ramp operating at an unacceptable LOS of D or F and an increase in the V/C ratio of greater than or equal to 0.02. The existing LOS for ramps in the study area are all currently operating at a LOS A or B. These LOS will not change as a result of the traffic associated with the Proposed Project; all ramps would continue to operate at a LOS A or B. Therefore, there is no significant impact.

Intersections

The City of Los Angeles does not have thresholds for unsignalized intersections. The LADOT Traffic Study Policies and Procedures states that a significant adverse traffic impact would occur at a signalized intersection if: traffic from the Proposed Project results in an intersection operating at a LOS C and an increase in the V/C of greater than or equal to 0.04; traffic from the Proposed Project results in an intersection operating at a LOS D and an increase in the V/C of greater than or equal to 0.02; or traffic from the Proposed Project results in an intersection operating at a LOS E or F and an increase in the V/C of greater than or equal to 0.01. The existing LOS for signalized

intersections in the study area is LOS C in the AM and LOS B in the PM. The LOS in the AM will remain the same; however, the LOS in the PM will change to LOS C as a result of the traffic associated with construction of the Proposed Project. The V/C increase associated with the PM change in LOS (0.013) is less than 0.04. Therefore, there is no significant impact.

The study area intersections are also within Caltrans jurisdiction, which triggers an additional review using the Highway Capacity Manual method for evaluating intersections. The existing LOS for intersections in the study area is LOS B in the AM and PM (for eastbound ramps) and LOS F in the AM and LOS C in the PM (for westbound ramps). These LOS will not change as a result of the traffic associated with the Proposed Project. Therefore, there is no significant impact.

Mitigation Measures

None required.

c) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

No Impact

The Proposed Project does not involve air traffic in any way. No impact would occur.

Mitigation Measures

None required.

d) *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

No Impact

There are no existing hazardous design features in the study area. Only on-road vehicles will be accessing the site via the existing roadway network. Therefore, there is no impact.

Mitigation Measures

None required.

e) *Result in inadequate emergency access?*

No Impact

The Proposed Project does not include any component that would result in inadequate emergency access to the site or surrounding areas. Vehicles are not anticipated to block

roadways or intersections, reduce speed below the speed limit on roadways, or to interfere with access of emergency vehicles. Therefore, there is no impact.

Mitigation Measures

None required.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact

There are no designated bicycle facilities, public transportation, bus service, or pedestrian facilities in the study area. Therefore, there is no impact.

Mitigation Measures

None required.

3.17 TRIBAL CULTURAL RESOURCES

3.17.1 Setting

Regulatory Setting

The Legislature added new requirements regarding tribal cultural resources for CEQA in Assembly Bill 52 (AB 52) that took effect July 1, 2015. AB 52 requires consultation with California Native American tribes and consideration of tribal cultural resources in the CEQA process. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a Proposed Project.

3.17.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
TRIBAL CULTURAL RESOURCES: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

No Impact

Based on the results of the Cultural Resources Assessment Report (Appendix C), the Proposed Project would not cause an adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources. The Project would have no impact to historical resources and no mitigation is required.

Mitigation Measures

None required.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact

The City has notified California Native American tribes who have formally requested notification on CEQA projects under Assembly Bill 52. This notification affords California Native American tribes the opportunity for consultation pursuant to Public Resources Code § 21080.3.1. The Fernandeno Tataviam Band of Mission Indians and Soboba Band of Luiseno Indians were notified by the City and did not seek further consultation. Therefore, the Proposed Project would have no significant impact to the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Mitigation Measures

None required.

3.18 UTILITIES AND SERVICE SYSTEMS

3.18.1 Setting

Wastewater Disposal

The Sanitation Districts of Los Angeles County operate ten water reclamation plants (WRPs) and one ocean discharge facility. The facilities treat approximately 510 million gallons of wastewater per day. The Sanitation Districts currently maintain three industrial wastewater discharge permits for the SCLF. Permit No. W-2762 enables the discharge of LFG condensate, extracted seep water, and water removed from the radiator filling area to the City's sanitary sewer system. Permit No. W- 3835 enables the discharge of extracted groundwater to the sanitary sewer. Permit No. FIW-1229142 enables the discharge of stormwater from the active disposal area to the sanitary sewer. The Sanitation Districts conduct quarterly monitoring to ensure the discharges meet the conditions specified in the permits (Sanitation Districts of Los Angeles County & AECOM 2014).

In addition, Glendale Water and Power was issued Industrial Waste Water Permit W-4339 that allows the City to discharge liquid condensate from existing LFG recovery operations of up to 4,500 gallons per day in summer and 1,500 gallons per day in winter. The condensate is treated to allow compliance with W-4339 and is disposed of in existing sewer system located at the LFG recovery facility.

It is anticipated that the new facility constructed will be in compliance with conditions mandated in this W-4339 industrial Waste Permit and the condensate will be disposed of in the existing sewer system.

The City has an agreement with the City of Los Angeles for an Amalgamated System Sewage Facilities Charge (ASSFC) which allows use of the City of Los Angeles wastewater treatment system in return for sewer facilities charges. As part of the agreement, wastewater is transported from the City to the Hyperion Treatment Plant. Fees are adjusted on a yearly basis depending on the anticipated increase of daily discharge (City of Glendale, 2005).

Stormwater Management

Stormwater quality and quantity at municipal landfills is subject to comprehensive federal, state, and local regulations. The surface water drainage system at the SCLF directly adjacent to the Proposed Project site has been optimized to comply with these regulatory requirements by implementing measures such as preventing run-on into the active landfill area, minimizing surface water contact with refuse, diverting stormwater from the active disposal area away from the local storm drain, and minimizing the erosion potential of surface water drainage. The Proposed Project, which will be located within an inactive portion of the active landfill property boundaries, will be subject to many of these same regulations.

In 1972, the Federal CWA was amended to prohibit the discharge of pollutants in waters of the United States from any point source unless the discharge is in compliance with the NPDES. The 1987 amendments to the CWA added Section 402 (p) that established a framework for regulating municipal and industrial stormwater discharges under the NPDES program. In 1990, the Environmental Protection Agency (EPA) published final regulations (Title 40, Code of Federal Regulations, Parts 122-124) that established application requirements for stormwater permits. The regulations require that stormwater associated with industrial activities, if discharged to surface waters directly or indirectly through municipal storm sewers, must be regulated by an NPDES permit. Relevant industrial activities include municipal solid waste disposal operations and LFG processing for energy generation. Therefore, an NPDES permit is required for the Proposed Project site. The existing facility currently carries NPDES permit No. CAS000001.

The State of California is authorized by Federal EPA regulations to issue general NPDES permits to regulate stormwater discharges. The Sanitation Districts of Los Angeles County filed a Notice of Intent with the SWRCB on March 27, 1992 to obtain coverage under the General Permit for continued and future stormwater discharges from SCLF.

Water

The City's potable water system receives its water from two basic sources: local groundwater from the San Fernando and Verdugo Basins and imported surface water from Metropolitan Water District (MWD). Currently, the City's local groundwater system contributes approximately 35 percent of potable water used in the City. The MWD provides approximately 59 percent. The additional 6 percent of potable water supply is recycled water from the Glendale Water Treatment Plant (GWTP). As a requirement in the Urban Water Management Plan (UWMP) Act, water utilities are required to determine if sufficient water supply is available to meet projected water demands per various weather scenarios: normal, single dry year and multi dry year. Projections in the UWMP estimate supply totals from all sources will exceed demand even through multiple dry year periods up through the year 2035 (City of Glendale UWMP, 2011).

An existing eight-inch water line, that includes an existing water pump, conveys domestic (potable) water from a water meter located on Glenoaks Canyon Road up to a water tank located adjacent to the existing facility. This water is being used for domestic purposes and fire protection at the existing facility.

The existing water system will remain, however to increase the availability of domestic water, a new 64,000-gallon water tank will replace the existing water tank. The 64,000-gallon water will be used to provide domestic water to the existing Sanitation District of Los Angeles County offices located next to the existing facility and provide domestic water to the new facility.

In addition, a new 12-inch water line will be constructed from an existing 16-inch water line located on Genoaks Blvd. next to the golf course to provide water for fire hydrants required for fire protection.

Solid Waste

Los Angeles County operates two active solid waste facilities, the Calabasas Landfill and the SCLF. Closed landfills within the County include Puente Hills, Spadra, Palos Verdes, and Mission Canyon Landfills. Recycling facilities are operated out of Puente Hills Landfill and the Downey Area Recycling and Transfer Facility. The SCLF is operated by the County Sanitation District No. 2 of Los Angeles County serving as the administrative entity for the Sanitation Districts of Los Angeles County pursuant to a JPA between the City, Los Angeles County, and Sanitation Districts (Sanitation Districts of Los Angeles County and AECOM 2014).

The SCLF is a Class III solid waste facility. All Class III solid waste facilities are required to have a Solid Waste Facility Permit (SWFP) issued by the Local Enforcement Agency (LEA; County of Los Angeles Department of Public Health [LADPH]) with concurrence by the California Department of Resources Recycling and Recovery (CalRecycle), previously the California Integrated Waste Management Board (CIWMB). The SCLF is currently operating under SWFP No. 19- AA-0012 issued by the LEA on May 17, 2002 (Sanitation Districts of Los Angeles County and AECOM 2014).

The SCLF is currently permitted to accept 3,400 tons of municipal solid waste per day (AECOM, 2014). The annual disposal rate is approximately 200,000 tons/year, with a remaining 3.4-million-ton capacity.

Any solid waste generated during construction and operation of the new facility will be disposed of at the adjacent Scholl Canyon Landfill.

3.18.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>UTILITIES AND SERVICE SYSTEMS</u>: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less than Significant Impact

Under Section 401 of the CWA, the RWQCB issues NPDES permits to regulate waste discharged to "waters of the nation," which includes reservoirs, lakes and their tributary waters. Waste discharges include discharges of stormwater and construction-related discharges. A construction project resulting in the disturbance of more than one acre requires a NPDES Permit. Construction projects are also required to prepare a SWPPP.

SCLF carries three permits which enable discharge of extracted groundwater, LFG condensate, extracted seep water, and water removed from radiator filling to the Glendale's sanitary sewer system. The Proposed Project construction operations would provide temporary sanitation facilities during the 18-month construction period, which would be classified as domestic sewage which is consistent with applicable water quality objectives. Discharges from Project operations would consist of domestic sewage from theProject restroom facilities. In light of the accepted materials allowed under the current industrial discharge permits held at the SCLF, Proposed Project wastewater discharge would not exceed wastewater treatment requirements of the RWQCB. The project would comply with the waste discharge prohibitions and water quality objectives established by the Los Angeles RWCQB that will be incorporated into the Project as a project design feature. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than Significant Impact

Wastewater from the Project site goes to the Hyperion Treatment Plant, whichthe City has access to through an Amalgamated Agreement with the City of Los Angeles. With the Hyperion Treatment Plant currently operating 88 million gallons per day (gpd) below capacity (City of Glendale, 2014b), adequate capacity exists to treat estimated incremental project-generated average effluent of 135 gpd (360 gpd total) as shown in Table 3.18-1, Estimated Wastewater Generation. Therefore, the Proposed Project would not require the expansion or construction of wastewater treatment facilities, the construction of which could cause significant environmental effects. Therefore, impacts would be less than significant.

Table 3.18-1 Estimated Wastewater Generation

Project Component	Employees	SF	Factor (gpd/sf)	Average Daily Flow (gpd)
Current Project Operations	1	1,500	0.15	225
Proposed Project	6	2,400	0.15	360
Incremental Increase	5	900	0.15	135
Note: Sewage generation factor based on office land use as contained in the Amalgamated Agreement between City of Glendale and City of Los Angeles (Section 13.40.130 Glendale Municipal Code).				

Mitigation Measures

None required.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than Significant Impact

Stormwater flow from the Project area will either be routed to the existing storm drains within the existing project footprint, the new catch basin, or into temporary energy dissipating structures or silt traps, all of which ultimately drain in to the active landfill's permanent drainage system. The Proposed Project footprint would represent an approximately 2.2-acre expansion over the

existing facility, which would increase the amount of impervious surface from existing conditions. However, equipment to be demolished would represent approximately 0.33 acres. This area would be restored to hard-packed dirt to match the surrounding ground surface within the project footprint, which will decrease the area of effective expansion to approximately 1.66 acres. Increase in stormwater flow associated with the Proposed Project is expected to be accommodated within the existing landfill drainage systems. No new stormwater drainage facilities or expansion of existing facilities would be required. Therefore, impacts would less than significant.

Mitigation Measures

None required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less than Significant Impact

Water would be utilized for dust control and soil compaction activities during the temporary construction period. Assuming construction activities would be conducted over a 15-month period (Phases I and 2), approximately 2.52 million gallons (7.73 acre-feet) of water could be anticipated to be used for dust suppression and foundation compaction. This conservative scenario is based on an assumption of two water trucks per day over a 300 day period (20 working days per month for 15 months), with an average water truck capacity of 4,200 gallons.

Operational water consumption at the Project would be approximately 450 gallons/day, which assumes a usage factor of 125 percent of the sewage generation loading factor, as contained in the Amalgamated Agreement between the City and the City of Los Angeles (Table 3.18-2).

The City has identified sufficient water supplies to meet additional demand through the General Plan's 2035 projections, which includes anticipated development projects within the City. According to the City's Urban Water Management Plan, water supplies in the City would remain adequate through the year 2035 to meet the demands. As indicated in the 2010 UWMP, a surplus exists that provides a reasonable buffer of approximately 1,500 to 2,500 acre feet per year (afy) of water. Future water demand in the City is based on projected development contained in the General Plan. For purposes of this analysis, the demand of the project was assumed not to have been included in this demand projection. However, even with an incremental increase of approximately 0.19 afy (0.50 afy total) demand generated over the 20-year life of the project, there would appear to be ample supply to meet remaining City demand. Therefore, the impact of the Proposed Project on the City's water supply would be less than significant.

Table 3.18-2 Estimated Project Operational Water Usage

Project Component	Water Consumption (gpd)	Water* Consumption (afy)
Current Project Operations	281.25	0.32
Proposed Project	450.00	0.50
Incremental Increase	168.75	0.19

Note:
Water consumption assumes usage factor of 125 percent of the sewage generation loading factor per Amalgamated Agreement between City of Glendale and City of Los Angeles.

*Water for fire suppression is considered an as-needed water demand and is not factored into consumption volumes.

Mitigation Measures

None required.

e) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

No Impact

Sewage from the Project site goes to the Hyperion Treatment Plant, which the City has access to through the Amalgamated Agreement. The Hyperion Treatment Plant has a dry-weather design capacity of 450 million gallons per day (gpd) and is currently operating below its design capacity at 362 million gpd. As a result, adequate capacity exists to treat the incremental Project-generated effluent of 135 gpd (360 gpd total) as shown in Table 3.17-1. The Proposed Project would not require the expansion or construction of wastewater treatment facilities. Therefore, impacts with regard to the available wastewater treatment capacity would be less than significant.

Mitigation Measures

None required.

f) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*

No Impact

CalRecyle provides solid waste generation rates for various land uses. Using these rates and assuming an Industrial land use generation rate of 8.93 pounds/employee/day, the six employees at the Project would be expected to generate approximately 19,557 pounds, or 9.7 tons per year of solid waste, as shown in Table 3.18-3. Assuming an existing employee generates

1.6 tons/year, the Proposed Project increment would be an increase of 8.1 tons/year. Considering the annual disposal rate is approximately 200,000 tons, the incremental increase generated by the Proposed Project could easily be accommodated by the SCLF's current capacity. Therefore, impacts would be less than significant.

Table 3.18-3 Existing and Projected Solid Waste Generation

Project Component	Employees	Pounds/Employee/Day	Pounds/Day	Tons/Year
Current Project Operations	1	8.93	9	1.6
Proposed Project	6	8.93	54	9.8
Incremental Increase	5	8.93	45	8.1
Source: CalRecycle, Estimated Solid Waste Generation Rates http://www.calrecycle.ca.gov/wastechar/wastegenrates/Industrial.htm				

Mitigation Measures

None required.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact

The adjacent SCLF operates with all necessary state and local permits and authorities, as described above. The Proposed Project would generate negligible quantities of solid waste, but would still be subject to helping the City meet its waste diversion goal of 50 percent as mandated by State law (AB 939). The Project would comply with AB 939, known as the California Integrated Waste Management Act which requires 50 percent diversion of cities and counties solid waste from landfills by 2000, and AB 341, which establishes a State policy goal that no less than 75 percent of solid waste generated be source reduced, recycled, or composted by 2020, and the City's Construction and Demolition Debris Diversion Program GMC; Code which states that demolition, construction and remodeling shall divert 50 percent of waste tonnage from area landfills.

Demolition debris generated during construction will be sent to licensed recycling facilities as appropriate. Both concrete and asphalt during demolition operations would be crushed on site and dump trucks will transfer this material to the adjacent landfill for reuse as daily cover. Approximately 75,000 cubic yards of clean soil will also be transferred to the adjacent landfill for daily cover.

By incorporating the required measures and complying with the regulations described above, there would be no impact.

Mitigation Measures

None required.

3.18 UTILITIES AND SERVICE SYSTEMS

3.18.1 Setting

Wastewater Disposal

The Sanitation Districts of Los Angeles County operate ten water reclamation plants (WRPs) and one ocean discharge facility. The facilities treat approximately 510 million gallons of wastewater per day. The Sanitation Districts currently maintain three industrial wastewater discharge permits for the SCLF. Permit No. W-2762 enables the discharge of LFG condensate, extracted seep water, and water removed from the radiator filling area to the City's sanitary sewer system. Permit No. W- 3835 enables the discharge of extracted groundwater to the sanitary sewer. Permit No. FIW-1229142 enables the discharge of stormwater from the active disposal area to the sanitary sewer. The Sanitation Districts conduct quarterly monitoring to ensure the discharges meet the conditions specified in the permits (Sanitation Districts of Los Angeles County & AECOM 2014).

In addition, Glendale Water and Power was issued Industrial Waste Water Permit W-4339 that allows the City to discharge liquid condensate from existing LFG recovery operations of up to 4,500 gallons per day in summer and 1,500 gallons per day in winter. The condensate is treated to allow compliance with W-4339 and is disposed of in existing sewer system located at the LFG recovery facility.

It is anticipated that the new facility constructed will be in compliance with conditions mandated in this W-4339 industrial Waste Permit and the condensate will be disposed of in the existing sewer system.

The City has an agreement with the City of Los Angeles for an Amalgamated System Sewage Facilities Charge (ASSFC) which allows use of the City of Los Angeles wastewater treatment system in return for sewer facilities charges. As part of the agreement, wastewater is transported from the City to the Hyperion Treatment Plant. Fees are adjusted on a yearly basis depending on the anticipated increase of daily discharge (City of Glendale, 2005).

Stormwater Management

Stormwater quality and quantity at municipal landfills is subject to comprehensive federal, state, and local regulations. The surface water drainage system at the SCLF directly adjacent to the Proposed Project site has been optimized to comply with these regulatory requirements by implementing measures such as preventing run-on into the active landfill area, minimizing surface water contact with refuse, diverting stormwater from the active disposal area away from the local storm drain, and minimizing the erosion potential of surface water drainage. The Proposed Project, which will be located within an inactive portion of the active landfill property boundaries, will be subject to many of these same regulations.

In 1972, the Federal CWA was amended to prohibit the discharge of pollutants in waters of the United States from any point source unless the discharge is in compliance with the NPDES. The 1987 amendments to the CWA added Section 402 (p) that established a framework for regulating municipal and industrial stormwater discharges under the NPDES program. In 1990, the Environmental Protection Agency (EPA) published final regulations (Title 40, Code of Federal Regulations, Parts 122-124) that established application requirements for stormwater permits. The regulations require that stormwater associated with industrial activities, if discharged to surface waters directly or indirectly through municipal storm sewers, must be regulated by an NPDES permit. Relevant industrial activities include municipal solid waste disposal operations and LFG processing for energy generation. Therefore, an NPDES permit is required for the Proposed Project site. The existing facility currently carries NPDES permit No. CAS000001.

The State of California is authorized by Federal EPA regulations to issue general NPDES permits to regulate stormwater discharges. The Sanitation Districts of Los Angeles County filed a Notice of Intent with the SWRCB on March 27, 1992 to obtain coverage under the General Permit for continued and future stormwater discharges from SCLF.

Water

The City's potable water system receives its water from two basic sources: local groundwater from the San Fernando and Verdugo Basins and imported surface water from Metropolitan Water District (MWD). Currently, the City's local groundwater system contributes approximately 35 percent of potable water used in the City. The MWD provides approximately 59 percent. The additional 6 percent of potable water supply is recycled water from the Glendale Water Treatment Plant (GWTP). As a requirement in the Urban Water Management Plan (UWMP) Act, water utilities are required to determine if sufficient water supply is available to meet projected water demands per various weather scenarios: normal, single dry year and multi dry year. Projections in the UWMP estimate supply totals from all sources will exceed demand even through multiple dry year periods up through the year 2035 (City of Glendale UWMP, 2011).

An existing eight-inch water line, that includes an existing water pump, conveys domestic (potable) water from a water meter located on Glenoaks Canyon Road up to a water tank located adjacent to the existing facility. This water is being used for domestic purposes and fire protection at the existing facility.

The existing water system will remain, however to increase the availability of domestic water, a new 64,000-gallon water tank will replace the existing water tank. The 64,000-gallon water will be used to provide domestic water to the existing Sanitation District of Los Angeles County offices located next to the existing facility and provide domestic water to the new facility.

In addition, a new 12-inch water line will be constructed from an existing 16-inch water line located on Genoaks Blvd. next to the golf course to provide water for fire hydrants required for fire protection.

3.19 MANDATORY FINDINGS OF SIGNIFICANCE

a. *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?*

Based on the evaluation completed for the Initial Study, implementation of the Proposed Project has the potential to result in significant impacts to biological resources. Given the integral features incorporated into the Proposed Project's design and operation and the implementation of recommended mitigation measures, potential impacts to biological resources can be mitigated to a less than significant level. The Proposed Project does not include a component with the potential to otherwise degrade the quality of the environment or eliminate important examples of the major periods of California history or prehistory.

b. *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)*

The cumulative impacts analysis provided here is consistent with Section 15130(a) of the CEQA Guidelines in which the analysis of cumulative effects of a project is based on two determinations: Is the combined impact of this project and other projects significant? Is the project's incremental effect cumulatively considerable, causing the combined impact of the projects evaluated to become significant? The cumulative impact must be analyzed only if the combined impact is significant and the project's incremental effect is found to be cumulatively considerable (CEQA Guidelines 15130(a)(2) and (3)).

Projects Considered

To assess cumulative impacts, the City considered incremental effects of the Proposed Project in connection with effects from past, current, and probable future projects that may result in similar impacts. The types of projects considered include other power generating, landfill related operations and projects near the Project Area.

The City reviewed projects within Glendale and the nearby Cities of Pasadena and Los Angeles and focused on projects of a similar nature to the Proposed Project that may result in similar environmental impacts. These projects include:

- Grayson Power Plant Repowering Project – The City of Glendale is proposing to repower the existing Grayson Power Plant with construction planned for 2018 – 2020. The Grayson Power Plant is located approximately five miles west of the Proposed Project. Public scoping meetings for preparation of an Environmental Impact Report for the repowering

project have been conducted and a Draft Environmental Impact Report (EIR) is being prepared.

- Biogas Renewable Generation Project – The City is proposing to increase the life of the Scholl Canyon Landfill and is evaluating two alternative development scenarios to increase capacity of the landfill with construction occurring from 2020 – 2040. A Draft EIR was circulated for public review in March 2014.

- Green Waste Digester Project – The City is evaluating approaches to comply with California Assembly Bill 1594 which precludes accounting of green waste used as alternative daily cover in the 50 percent waste diversion by recycling requirements of State law. Use of green waste digesters which would produce methane for use as fuel in vehicles or for power production is being evaluated to meet the requirements of this law by 2020. The location of digesters, if used, has not been determined.

Environmental Factors Not Discussed Further

The analysis of potential environmental impacts in Section 3.0 concluded that the Proposed Project would have no impact to Agriculture and Forestry Resources, Cultural Resources, Mineral Resources, Population and Housing, Public Services, Recreation, or Tribal Cultural Resources. The Proposed Project would therefore not have the potential to contribute to cumulative impacts in these issue areas and they are not considered further in this analysis.

Environmental Factors Analyzed Cumulatively

The following is a discussion of potential cumulative impacts.

Aesthetics

The Proposed Project would not degrade the existing visual character or quality of the site and its surrounding area. The incremental amount of light and glare generated by the Proposed Project would be minimal due to the design measures incorporated into the Project, and the Project site is located in a portion of the existing landfill that is negligibly visible from public viewing locations. The Proposed Project and Grayson Power Plant Repowering Project are spatially separated by approximately five miles and do not have the potential to adversely impact the same viewsheds. The location of the digester project is speculative. Even if the digester project were located at the Scholl Canyon Landfill, both facilities would not be visually out of character with the existing or Proposed Project and would not impact a scenic vista, scenic highway or introduce substantial night lighting. Construction and operation of the Proposed Project, when considered in combination with potential aesthetic impacts from other projects, would not degrade the existing visual character of the site and its surroundings as visible from public viewpoints. The Proposed Project would not have cumulatively considerable aesthetics impacts.

Air Quality

Future attainment of state and federal AAQS is a function of successful implementation of SCAQMD's attainment plans. As a result, the application of the thresholds of significance for criteria pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on regional air quality. In accordance with SCAQMD methodology, if a project's emissions are less than the thresholds of significance for criteria pollutants, the project would not be expected to result in a cumulatively considerable net increase of any criteria pollutant that the SCAQMD basin is in non-attainment. Localized air quality impacts to the nearest sensitive receptor anticipated from the construction and operation of the Proposed Project is less than significant. Toxic air contaminants exposure on the nearest sensitive receptors would be less than significant. Because the Proposed Project and the Grayson Power Plant Repowering Project are geographically separated by approximately five miles, they do not have the potential to cumulatively contribute to localized criteria air pollutant or toxic air contaminant exposure impacts. The location of the digester project is speculative and even if located in close proximity to the Proposed Project, sufficient detail on the digester project is not available by which to quantify potential cumulative air quality impacts. However, it is reasonable to assume that the digester project would be subject to CEQA review and would therefore be required to analyze potential cumulative impacts in consideration of other projects, including the Proposed Project. No significant impacts are expected from the odors associated with construction or operation of the Proposed Project. The Proposed Project would not have cumulatively considerable air quality impacts.

Biological Resources

The Proposed Project will result in permanent impacts to 0.37 acre of native vegetation. The Proposed Project could result in permanent impacts to 6.7 acres of native vegetation (Landfill Expansion Variation 2). The proposed Grayson Repowering Project would not result in impacts to native vegetation. The location of the digester is speculative and information to evaluate its potential impact to biological impacts is not available. As a result, there is a potential cumulative impact of 7.07 acres of permanent impacts to native vegetation. No rare plants were detected during seasonally timed rare plant surveys conducted in support of the Proposed Project. The Proposed Project would avoid impacts to adjacent coast live oak woodland and would permanently impact 0.02 acres of scrub oak-chamise chaparral, both special status communities. The Proposed Project would not contribute to potential cumulative impacts to special status plant species and would have a negligible contribution to potential cumulative impacts to special status communities. Pre-construction clearance and nesting bird surveys/protection measures further limit the Proposed Project's potential to impact special status wildlife species and contribute to cumulative impacts. The Proposed Project would not have cumulatively considerable biological resources impacts.

Geology and Soils

The Proposed Project and other projects considered in this cumulative impact analysis would be subject to conformance with applicable building codes and standards as well as erosion control requirements intended to reduce the potential for geology and soils impacts to occur. The nature and type of these projects does not have the potential to magnify the potential for geology and soils impacts by increasing the potential for fault rupture, strong seismic ground shaking, seismic-related ground failure, liquefaction, landslides, expansive soils, unstable soils or erosion. The Proposed Project would not have cumulatively considerable geology and soils impacts.

Greenhouse Gas Emissions

Greenhouse gas emissions and a specific project's contribution to potential climate change is a cumulative issue by nature. As shown in table 3.7-2, there is a net decrease of GHG emissions when comparing the potential of GHG emissions of the Proposed Project with historical GHG emissions from the existing equipment. The climate change impact of GHG emissions from the Proposed Project would therefore be less than significant on a project-specific and cumulative scale. The Proposed Project would not have cumulatively considerable greenhouse gas emissions impacts.

Hazards and Hazardous Materials

There would be a temporary increase in the transport, use, storage, and disposal of hazardous materials during construction of the Proposed Project. These materials are common to the construction and industrial trade and are the subject of compliance with regulations, including the California Code of Regulations (CCR) Title 22, 23, 26, & 27, 29 CFR 1910.119, California Fire Codes CFR Title 24 and City of Glendale Fire Department Health and Safety code. Transport, use, and disposal of hazardous materials during the operation phase of the Proposed Project would be limited to aqueous ammonia used in the refrigerant chiller system and waste oil generated during routine facility operation. The Proposed Project would utilize the existing LFG collection system designed to eliminate/reduce LFG off site migration and surface migration from landfill operations. By combusting the LFG at the source, the Proposed Project would result in abandoning the existing five-mile-long LFG pipeline between the SCLF and Grayson Power Plant. The existing LFG pipeline would be filled with inert nitrogen gas and plugged.

There are no nearby uses which, when considered with the Proposed Project and others included in this analysis that increase any hazard risks on site or to areas surrounding the site. The Proposed Project would not have cumulatively considerable hazards and hazardous materials impacts.

Hydrology and Water Quality

During construction, the Proposed Project would be required to comply with the NPDES General GCP as well as prepare a SWPPP that requires the incorporation of BMPs to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. The Proposed Project would comply with the waste discharge prohibitions and water quality objectives established by the RWQCB that are incorporated into the project as design features. As such, it is not anticipated that the Proposed Project would violate any water quality standards or waste discharge requirements. The Proposed Project includes permanent drainage structures that will direct all site drainage into the existing landfill drainage system. The Proposed Project would not have cumulatively considerable hydrology and water quality impacts.

Land Use

The Proposed Project is located within the SCLF and a primarily pre-disturbed area currently used for LFG collection. The Proposed Project is a conditionally permitted se and would require a CUP. The Proposed Project will not conflict with any applicable land use plan, policy or regulation. The Proposed Project would not have cumulatively considerable land use impacts.

Noise

The Proposed Project and the proposed Grayson Repowering Project are spatially separated such that they would not have the potential to contribute to cumulative noise impacts. There could be an overlap of noise sources from the Proposed Project, the proposed Scholl Canyon Landfill Expansion Project and the digester project (if located at the landfill) that could cumulatively affect a nearby sensitive receptor.

The primary noise related impact from the landfill expansion project would result from an increase in vehicle travel and impacts to sensitive receptors within an estimated 129 feet of the centerline of Scholl Canyon Road between Highway 134 and the Eagle Rock Substation. Operating at full capacity, the landfill would generate 3,490 vehicle trips per day (Sanitation Districts of Los Angeles County, 2014). The Proposed Project would generate up to 23 and six vehicle trips per day during construction and operation, respectively. The digester project, if located at the Scholl Canyon Landfill would likely include vehicle traffic related noise that already exists on roadways within and adjacent to the landfill as green waste is currently transported to the landfill and used for cover. The Proposed Project would have a minor increase in traffic compared to the Project and would therefore not produce a substantial contribution of traffic related noise impacts to sensitive receptors. The power generating facility is located approximately 4,000 feet northwest of these receptors and is not expected to have a substantial contribution to potential cumulative impacts. The Proposed Project would not have cumulatively considerable noise impacts.

Transportation and Traffic

The Proposed Project includes a minor increase in operation phase traffic compared to that which currently exists and does not have the potential to contribute to a cumulatively considerable long-term impact. Although construction of the Proposed Project would increase the volume of traffic present in the existing roadway network, the increase will not cause the LOS to exceed the thresholds for significant impacts. The LOS at ramps or intersections will not change as a result of the traffic associated with the Proposed Project. The Proposed Project and the proposed Grayson Repowering Project would utilize different roadways and therefore would not have the potential to contribute to potential cumulative impacts. The digester project, if located at the Scholl Canyon Landfill would likely include vehicle traffic that already exists on roadways within and adjacent to the landfill as green waste is currently transported to the landfill and used for cover. In the event construction of the Proposed Project overlaps with implementation of the proposed Scholl Canyon Landfill Expansion Project, there would be an incremental cumulative increase in vehicle traffic at the intersections of Figueroa Street and Highway 134 ramps. However, the proposed Scholl Canyon Landfill Expansion Project includes mitigation for improvements to these potentially affected intersections that would substantially improve levels of service. Considering the limited short-term contribution of Proposed Project traffic compared to the potential long-term increase and mitigation improvements associated with the landfill expansion project, the Proposed Project would not result in cumulatively considerable transportation and traffic impacts.

Utilities and Service Systems

The Proposed Project would comply with the waste discharge prohibitions and water quality objectives established by the Los Angeles RWCQB that will be incorporated into the Project as a project design feature. The Proposed Project would not require the expansion or construction of wastewater treatment facilities. No new stormwater drainage facilities or expansion of existing facilities would be required. The water demand of the Proposed Project is very small and within the City's capacity to supply. The Proposed Project involves capturing and combusting LFG to generate electricity and does not include a component with the potential to contribute to a cumulatively considerable utilities and service systems impact. Therefore, the Proposed Project would not result in cumulatively considerable utilities and service systems impacts.

c. *Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?*

Based on the results of the Initial Study (Section 3.0), the Proposed Project is not expected to have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly.

4.0 MITIGATION MONITORING AND REPORTING PLAN

Impact / Mitigation Measure	Implementation	Monitoring
BIOLOGICAL RESOURCES		
3.4(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? **Mitigation Measure(s):** ***BIO -1: Pre-Construction Survey for Coast Horned Lizard and Silvery Legless Lizard.*** *The BSA contains potentially suitable habitat for coast horned lizard and silvery legless lizard. A pre-construction special-status species survey will be conducted by a qualified biologist a minimum of 14 days prior to initiating ground disturbance activities. The survey will consist of full coverage of the proposed disturbance limits and a 500- foot buffer, and can be performed concurrently with the nesting bird survey. If coast horned lizard, silvery legless lizard or any special-status species are found during pre-construction surveys, a biological monitor may be needed during construction. If determined necessary, biological compliance monitoring will be conducted by a qualified biologist during construction.* ***BIO-2: Nesting Bird Surveys.*** *Protection of nesting birds would be required in compliance with the MBTA and to avoid impacts to nesting birds. To avoid impacts to nesting birds and to comply with the MBTA, clearing of vegetation should occur between non-nesting (or non-breeding) season for birds (generally, September 1 to February 1). If this avoidance schedule is not feasible, the alternative is to carry out the clearing of vegetation associated with construction under the supervision of a qualified biologist. This will entail a pre-construction nesting bird survey conducted by a qualified biologist a minimum of 14 days prior to initiating ground disturbance activities. The survey will consist of full coverage of the proposed disturbance limits and a 500- foot buffer. The buffer will be determined by the biologist and will take into account the species nesting in the area and the habitat present. If no active nests are found, no additional measures are required. If "occupied" nests are found, the nest locations will be mapped by the biologist, utilizing GPS equipment. The nesting bird species will be documented and, to the degree feasible, the nesting stage (e.g., incubation of eggs, feeding of young, near fledging). The biologist will establish a no-disturbance buffer around each active nest. The buffer will be determined by the biologist based on the species present and surrounding habitat. No construction or ground disturbance activities will be conducted within the buffer until the biologist has determined the nest is no longer active and has informed the construction supervisor that activities may resume.*		

BIO-3: Construction Monitoring and Best Management Practices. *If pre-construction surveys determine either the presence of special status species, sensitive biological resources, or nesting birds, a biological monitor may be needed during construction to ensure that there is 'no take' of special status species. If determined necessary, biological compliance monitoring during construction will be conducted by a qualified biologist. The biologist shall be given authority to execute the following functions:* • *Establish construction exclusion zones and make recommendations for implementing erosion control measures in temporary impact areas.* • *Ensure all construction activities stay within the staked construction zone and do not go beyond the limits of disturbance.* • *Minimize trimming/removal of vegetation to within the project areas.* • *Restrict non-essential equipment to the existing roadways and/or disturbed areas to avoid disturbance to existing adjacent native vegetation.* • *Install and maintain appropriate erosion/sediment control measures, as needed, throughout the duration of work activities.*		
3.4(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish or U.S. Fish and Wildlife Service? **Mitigation Measure(s):** ***BIO-4: Biological Compliance Monitoring to Avoid Impacts to Sensitive habitats and native trees.*** *To avoid and reduce project impacts to coast live oaks and scrub oaks, to a less than significant level, an arborist or a botanist shall be present onsite to monitor construction within 15 feet of all Oaks and other native trees. Construction shall be avoided within the Tree Protection Zone (TPZ), which is typically 5 feet beyond the dripline of a native tree or a minimum of 15 feet from the trunk, when feasible. When construction within the TPZ is unavoidable, as few roots as possible shall be trimmed, and shall total less than 20 percent of a single tree's root system. In addition, no equipment, soil, or construction materials shall be placed within the TPZ of any native tree. If impacts or encroachment of a protected tree are determined to be unavoidable (i.e., >20 percent of tree's roots need to be cut), the applicant shall obtain the appropriate tree permit prior to any impacts to protected trees.*		

5.0 PROPOSED FINDING

ENVIRONMENTAL DETERMINATION

On the basis of this initial evaluation: ☐
I find that the proposed Scholl Canyon Landfill Power Project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

I find that although the proposed Scholl Canyon Landfill Power Project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A **MITIGATED NEGATIVE DECLARATION** will be prepared. *Attached Mitigation Measures and Monitoring Program.* ☒

I find that the proposed Scholl Canyon Landfill Power Project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐

I find that the proposed Scholl Canyon Landfill Power Project **MAY** have a significant effect on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed Scholl Canyon Landfill Power Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, nothing further is required. ☐

Signature: _____ **Date:** _____

6.0 LIST OF PREPARERS

Lead Agency	Eric Krause	City of Glendale
Project Manager	Michael Weber	Stantec Consulting Services, Inc.
Assistant Project Manager	StephAnnie Roberts	Stantec Consulting Services, Inc.
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Public Services	Mayra Navarro	Stantec Consulting Services, Inc.
Recreation	Mayra Navarro	Stantec Consulting Services, Inc.
Transportation and Traffic	Brian Goss	Stantec Consulting Services, Inc.
Tribal Cultural Resources	Kevin Kohan	Stantec Consulting Services, Inc.
Utilities and Service System	StephAnnie Roberts	Stantec Consulting Services, Inc.
Mandatory Findings of Significance	Michael Weber	Stantec Consulting Services, Inc.

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Appendix A AIR QUALITY

A.1 CALEEMOD OUTPUT ANNUAL REPORT, DAILY REPORT (SUMMER) AND DAILY REPORT (WINTER)

APPENDIX A.1

CALEEMOD OUTPUT ANNUAL REPORT

CALEEMOD DAILY REPORT (SUMMER)

CALEEMOD DAILY REPORT (WINTER)

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Biogas Renewable Generation Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	5.50	1000sqft	3.00	5,500.00	6

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	1115.33	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage and population were estimated.

Construction Phase - Construction schedule was estimated and provided by Stantec.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - This data was estimated and provided by Stantec.

Demolition -

Grading - This data was estimated and provided by Stantec.

Vehicle Trips - This data was estimated and provided by Stantec.

Construction Off-road Equipment Mitigation - Tier 2 or higher off-road equipment will be utilized for this construction project.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	NumDays	220.00	195.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	6.00	45.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	3.00	20.00
tblConstructionPhase	PhaseEndDate	1/14/2020	9/17/2019

Biogas Renewable Generation Project - South Coast AQMD Air District, Annual

tblConstructionPhase	PhaseEndDate	11/29/2019	8/30/2019
tblConstructionPhase	PhaseEndDate	3/1/2019	11/30/2018
tblConstructionPhase	PhaseEndDate	12/27/2019	8/28/2019
tblConstructionPhase	PhaseEndDate	11/30/2018	9/28/2018
tblConstructionPhase	PhaseStartDate	12/28/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	3/2/2019	12/1/2018
tblConstructionPhase	PhaseStartDate	12/1/2018	10/1/2018
tblConstructionPhase	PhaseStartDate	11/30/2019	8/1/2019
tblGrading	AcresOfGrading	22.50	3.00
tblGrading	AcresOfGrading	0.00	2.00
tblGrading	MaterialExported	0.00	14,000.00
tblLandUse	LotAcreage	0.13	3.00
tblLandUse	Population	0.00	6.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblTripsAndVMT	HaulingTripLength	20.00	0.27
tblTripsAndVMT	HaulingTripNumber	0.00	875.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	1.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	18.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	2.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00

tblVehicleTrips	ST_TR	1.32	0.06
tblVehicleTrips	SU_TR	0.68	0.06
tblVehicleTrips	WD_TR	6.97	0.24

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1854	1.9851	1.0900	2.0600e-003	0.3419	0.0993	0.4412	0.1788	0.0919	0.2708	0.0000	188.2741	188.2741	0.0493	0.0000	189.5074
2019	0.2543	2.0805	1.7022	2.9100e-003	0.0184	0.1210	0.1394	5.0200e-003	0.1137	0.1187	0.0000	256.7049	256.7049	0.0570	0.0000	258.1298
Maximum	**0.2543**	**2.0805**	**1.7022**	**2.9100e-003**	**0.3419**	**0.1210**	**0.4412**	**0.1788**	**0.1137**	**0.2708**	**0.0000**	**256.7049**	**256.7049**	**0.0570**	**0.0000**	**258.1298**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0672	1.6781	1.1795	2.0600e-003	0.1395	0.0474	0.1869	0.0714	0.0474	0.1188	0.0000	188.2739	188.2739	0.0493	0.0000	189.5072
2019	0.1369	2.3322	1.7761	2.9100e-003	0.0184	0.0856	0.1040	5.0200e-003	0.0855	0.0906	0.0000	256.7047	256.7047	0.0570	0.0000	258.1296
Maximum	**0.1369**	**2.3322**	**1.7761**	**2.9100e-003**	**0.1395**	**0.0856**	**0.1869**	**0.0714**	**0.0855**	**0.1188**	**0.0000**	**256.7047**	**256.7047**	**0.0570**	**0.0000**	**258.1296**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**53.61**	**1.36**	**-5.85**	**0.00**	**56.16**	**39.63**	**49.89**	**58.42**	**35.35**	**46.24**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-1-2018	10-31-2018	1.4396	1.1033
2	11-1-2018	1-31-2019	0.9722	0.9036
3	2-1-2019	4-30-2019	0.7855	0.8235
4	5-1-2019	7-31-2019	0.8118	0.8510
5	8-1-2019	9-30-2019	0.4482	0.4913
		Highest	1.4396	1.1033

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0224	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Energy	5.4000e-004	4.9000e-003	4.1100e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	36.7998	36.7998	9.2000e-004	2.7000e-004	36.9024
Mobile	4.0000e-004	2.3800e-003	6.0900e-003	2.0000e-005	1.7500e-003	2.0000e-005	1.7700e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.9951	1.9951	1.0000e-004	0.0000	1.9975
Waste						0.0000	0.0000		0.0000	0.0000	1.3844	0.0000	1.3844	0.0818	0.0000	3.4298
Water						0.0000	0.0000		0.0000	0.0000	0.4035	8.3783	8.7819	0.0417	1.0200e-003	10.1284
Total	**0.0234**	**7.2800e-003**	**0.0103**	**5.0000e-005**	**1.7500e-003**	**3.9000e-004**	**2.1400e-003**	**4.7000e-004**	**3.9000e-004**	**8.6000e-004**	**1.7879**	**47.1734**	**48.9613**	**0.1245**	**1.2900e-003**	**52.4583**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0224	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Energy	5.4000e-004	4.9000e-003	4.1100e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	36.7998	36.7998	9.2000e-004	2.7000e-004	36.9024
Mobile	4.0000e-004	2.3800e-003	6.0900e-003	2.0000e-005	1.7500e-003	2.0000e-005	1.7700e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.9951	1.9951	1.0000e-004	0.0000	1.9975
Waste						0.0000	0.0000		0.0000	0.0000	1.3844	0.0000	1.3844	0.0818	0.0000	3.4298
Water						0.0000	0.0000		0.0000	0.0000	0.4035	8.3783	8.7819	0.0417	1.0200e-003	10.1284
Total	**0.0234**	**7.2800e-003**	**0.0103**	**5.0000e-005**	**1.7500e-003**	**3.9000e-004**	**2.1400e-003**	**4.7000e-004**	**3.9000e-004**	**8.6000e-004**	**1.7879**	**47.1734**	**48.9613**	**0.1245**	**1.2900e-003**	**52.4583**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Biogas Renewable Generation Project - South Coast AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2018	8/31/2018	5	23	
2	Site Preparation	Site Preparation	9/1/2018	9/28/2018	5	20	
3	Grading	Grading	10/1/2018	11/30/2018	5	45	
4	Building Construction	Building Construction	12/1/2018	8/30/2019	5	195	
5	Paving	Paving	8/1/2019	8/28/2019	5	20	
6	Architectural Coating	Architectural Coating	9/1/2019	9/17/2019	5	12	

Acres of Grading (Site Preparation Phase): 2

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 8,250; Non-Residential Outdoor: 2,750; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Biogas Renewable Generation Project - South Coast AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	20.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	10.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	10.00	5.00	112.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	10.00	10.00	875.00	14.70	6.90	0.27	LD_Mix	HDT_Mix	HHDT
Paving	8	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	10.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0121	0.0000	0.0121	1.8400e-003	0.0000	1.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0428	0.4407	0.2565	4.5000e-004		0.0223	0.0223		0.0208	0.0208	0.0000	40.3927	40.3927	0.0111	0.0000	40.6709
Total	**0.0428**	**0.4407**	**0.2565**	**4.5000e-004**	**0.0121**	**0.0223**	**0.0344**	**1.8400e-003**	**0.0208**	**0.0226**	**0.0000**	**40.3927**	**40.3927**	**0.0111**	**0.0000**	**40.6709**

3.2 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0178	3.3100e-003	4.0000e-005	9.6000e-004	7.0000e-005	1.0300e-003	2.6000e-004	6.0000e-005	3.3000e-004	0.0000	4.3199	4.3199	3.0000e-004	0.0000	4.3275
Vendor	2.5000e-004	7.1100e-003	1.8300e-003	1.0000e-005	3.6000e-004	5.0000e-005	4.1000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.4363	1.4363	1.0000e-004	0.0000	1.4388
Worker	6.1000e-004	5.0000e-004	5.3700e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.2104	1.2104	4.0000e-005	0.0000	1.2114
Total	**1.3500e-003**	**0.0254**	**0.0105**	**6.0000e-005**	**2.5800e-003**	**1.3000e-004**	**2.7100e-003**	**7.0000e-004**	**1.2000e-004**	**8.2000e-004**	**0.0000**	**6.9665**	**6.9665**	**4.4000e-004**	**0.0000**	**6.9777**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.7300e-003	0.0000	4.7300e-003	7.2000e-004	0.0000	7.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0145	0.3756	0.2838	4.5000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	40.3926	40.3926	0.0111	0.0000	40.6709
Total	**0.0145**	**0.3756**	**0.2838**	**4.5000e-004**	**4.7300e-003**	**0.0105**	**0.0152**	**7.2000e-004**	**0.0105**	**0.0112**	**0.0000**	**40.3926**	**40.3926**	**0.0111**	**0.0000**	**40.6709**

3.2 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0178	3.3100e-003	4.0000e-005	9.6000e-004	7.0000e-005	1.0300e-003	2.6000e-004	6.0000e-005	3.3000e-004	0.0000	4.3199	4.3199	3.0000e-004	0.0000	4.3275
Vendor	2.5000e-004	7.1100e-003	1.8300e-003	1.0000e-005	3.6000e-004	5.0000e-005	4.1000e-004	1.0000e-004	5.0000e-005	1.5000e-004	0.0000	1.4363	1.4363	1.0000e-004	0.0000	1.4388
Worker	6.1000e-004	5.0000e-004	5.3700e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.2104	1.2104	4.0000e-005	0.0000	1.2114
Total	**1.3500e-003**	**0.0254**	**0.0105**	**6.0000e-005**	**2.5800e-003**	**1.3000e-004**	**2.7100e-003**	**7.0000e-004**	**1.2000e-004**	**8.2000e-004**	**0.0000**	**6.9665**	**6.9665**	**4.4000e-004**	**0.0000**	**6.9777**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1817	0.0000	0.1817	0.0994	0.0000	0.0994	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0456	0.4820	0.2248	3.8000e-004		0.0258	0.0258		0.0237	0.0237	0.0000	34.7599	34.7599	0.0108	0.0000	35.0304
Total	**0.0456**	**0.4820**	**0.2248**	**3.8000e-004**	**0.1817**	**0.0258**	**0.2075**	**0.0994**	**0.0237**	**0.1231**	**0.0000**	**34.7599**	**34.7599**	**0.0108**	**0.0000**	**35.0304**

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0124	3.1900e-003	3.0000e-005	6.3000e-004	9.0000e-005	7.2000e-004	1.8000e-004	9.0000e-005	2.7000e-004	0.0000	2.4978	2.4978	1.8000e-004	0.0000	2.5023
Worker	5.3000e-004	4.3000e-004	4.6700e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0525	1.0525	4.0000e-005	0.0000	1.0534
Total	**9.6000e-004**	**0.0128**	**7.8600e-003**	**4.0000e-005**	**1.7300e-003**	**1.0000e-004**	**1.8300e-003**	**4.7000e-004**	**1.0000e-004**	**5.7000e-004**	**0.0000**	**3.5503**	**3.5503**	**2.2000e-004**	**0.0000**	**3.5557**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0709	0.0000	0.0709	0.0388	0.0000	0.0388	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.3372	0.2296	3.8000e-004		9.4600e-003	9.4600e-003		9.4600e-003	9.4600e-003	0.0000	34.7599	34.7599	0.0108	0.0000	35.0304
Total	**0.0121**	**0.3372**	**0.2296**	**3.8000e-004**	**0.0709**	**9.4600e-003**	**0.0803**	**0.0388**	**9.4600e-003**	**0.0482**	**0.0000**	**34.7599**	**34.7599**	**0.0108**	**0.0000**	**35.0304**

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0124	3.1900e-003	3.0000e-005	6.3000e-004	9.0000e-005	7.2000e-004	1.8000e-004	9.0000e-005	2.7000e-004	0.0000	2.4978	2.4978	1.8000e-004	0.0000	2.5023
Worker	5.3000e-004	4.3000e-004	4.6700e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0525	1.0525	4.0000e-005	0.0000	1.0534
Total	**9.6000e-004**	**0.0128**	**7.8600e-003**	**4.0000e-005**	**1.7300e-003**	**1.0000e-004**	**1.8300e-003**	**4.7000e-004**	**1.0000e-004**	**5.7000e-004**	**0.0000**	**3.5503**	**3.5503**	**2.2000e-004**	**0.0000**	**3.5557**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1379	0.0000	0.1379	0.0748	0.0000	0.0748	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0624	0.6901	0.3730	6.7000e-004		0.0349	0.0349		0.0321	0.0321	0.0000	60.9905	60.9905	0.0190	0.0000	61.4652
Total	**0.0624**	**0.6901**	**0.3730**	**6.7000e-004**	**0.1379**	**0.0349**	**0.1728**	**0.0748**	**0.0321**	**0.1069**	**0.0000**	**60.9905**	**60.9905**	**0.0190**	**0.0000**	**61.4652**

3.4 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.9000e-004	0.0462	6.8600e-003	5.0000e-005	1.1000e-004	4.0000e-005	1.5000e-004	3.0000e-005	4.0000e-005	7.0000e-005	0.0000	4.9325	4.9325	9.1000e-004	0.0000	4.9553
Vendor	9.8000e-004	0.0278	7.1700e-003	6.0000e-005	1.4200e-003	2.0000e-004	1.6200e-003	4.1000e-004	1.9000e-004	6.0000e-004	0.0000	5.6201	5.6201	4.0000e-004	0.0000	5.6301
Worker	1.2000e-003	9.8000e-004	0.0105	3.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.3681	2.3681	8.0000e-005	0.0000	2.3702
Total	**3.1700e-003**	**0.0750**	**0.0245**	**1.4000e-004**	**4.0000e-003**	**2.6000e-004**	**4.2600e-003**	**1.1000e-003**	**2.5000e-004**	**1.3400e-003**	**0.0000**	**12.9208**	**12.9208**	**1.3900e-003**	**0.0000**	**12.9556**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0538	0.0000	0.0538	0.0292	0.0000	0.0292	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.5913	0.4273	6.7000e-004		0.0174	0.0174		0.0174	0.0174	0.0000	60.9904	60.9904	0.0190	0.0000	61.4651
Total	**0.0227**	**0.5913**	**0.4273**	**6.7000e-004**	**0.0538**	**0.0174**	**0.0712**	**0.0292**	**0.0174**	**0.0465**	**0.0000**	**60.9904**	**60.9904**	**0.0190**	**0.0000**	**61.4651**

3.4 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.9000e-004	0.0462	6.8600e-003	5.0000e-005	1.1000e-004	4.0000e-005	1.5000e-004	3.0000e-005	4.0000e-005	7.0000e-005	0.0000	4.9325	4.9325	9.1000e-004	0.0000	4.9553
Vendor	9.8000e-004	0.0278	7.1700e-003	6.0000e-005	1.4200e-003	2.0000e-004	1.6200e-003	4.1000e-004	1.9000e-004	6.0000e-004	0.0000	5.6201	5.6201	4.0000e-004	0.0000	5.6301
Worker	1.2000e-003	9.8000e-004	0.0105	3.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.3681	2.3681	8.0000e-005	0.0000	2.3702
Total	**3.1700e-003**	**0.0750**	**0.0245**	**1.4000e-004**	**4.0000e-003**	**2.6000e-004**	**4.2600e-003**	**1.1000e-003**	**2.5000e-004**	**1.3400e-003**	**0.0000**	**12.9208**	**12.9208**	**1.3900e-003**	**0.0000**	**12.9556**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0281	0.2456	0.1846	2.8000e-004		0.0158	0.0158		0.0148	0.0148	0.0000	24.9656	24.9656	6.1200e-003	0.0000	25.1185
Total	**0.0281**	**0.2456**	**0.1846**	**2.8000e-004**		**0.0158**	**0.0158**		**0.0148**	**0.0148**	**0.0000**	**24.9656**	**24.9656**	**6.1200e-003**	**0.0000**	**25.1185**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-004	0.0130	3.3400e-003	3.0000e-005	6.6000e-004	9.0000e-005	7.6000e-004	1.9000e-004	9.0000e-005	2.8000e-004	0.0000	2.6227	2.6227	1.9000e-004	0.0000	2.6274
Worker	5.6000e-004	4.6000e-004	4.9000e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.1051	1.1051	4.0000e-005	0.0000	1.1061
Total	**1.0200e-003**	**0.0134**	**8.2400e-003**	**4.0000e-005**	**1.8100e-003**	**1.0000e-004**	**1.9200e-003**	**5.0000e-004**	**1.0000e-004**	**5.9000e-004**	**0.0000**	**3.7279**	**3.7279**	**2.3000e-004**	**0.0000**	**3.7335**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0114	0.2473	0.1877	2.8000e-004		9.4900e-003	9.4900e-003		9.4900e-003	9.4900e-003	0.0000	24.9655	24.9655	6.1200e-003	0.0000	25.1184
Total	**0.0114**	**0.2473**	**0.1877**	**2.8000e-004**		**9.4900e-003**	**9.4900e-003**		**9.4900e-003**	**9.4900e-003**	**0.0000**	**24.9655**	**24.9655**	**6.1200e-003**	**0.0000**	**25.1184**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6000e-004	0.0130	3.3400e-003	3.0000e-005	6.6000e-004	9.0000e-005	7.6000e-004	1.9000e-004	9.0000e-005	2.8000e-004	0.0000	2.6227	2.6227	1.9000e-004	0.0000	2.6274
Worker	5.6000e-004	4.6000e-004	4.9000e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	1.1051	1.1051	4.0000e-005	0.0000	1.1061
Total	**1.0200e-003**	**0.0134**	**8.2400e-003**	**4.0000e-005**	**1.8100e-003**	**1.0000e-004**	**1.9200e-003**	**5.0000e-004**	**1.0000e-004**	**5.9000e-004**	**0.0000**	**3.7279**	**3.7279**	**2.3000e-004**	**0.0000**	**3.7335**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2054	1.8339	1.4933	2.3400e-003		0.1122	0.1122		0.1055	0.1055	0.0000	204.5407	204.5407	0.0498	0.0000	205.7864
Total	**0.2054**	**1.8339**	**1.4933**	**2.3400e-003**		**0.1122**	**0.1122**		**0.1055**	**0.1055**	**0.0000**	**204.5407**	**204.5407**	**0.0498**	**0.0000**	**205.7864**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4200e-003	0.1014	0.0254	2.2000e-004	5.4800e-003	6.6000e-004	6.1500e-003	1.5800e-003	6.3000e-004	2.2200e-003	0.0000	21.5387	21.5387	1.4900e-003	0.0000	21.5759
Worker	4.2000e-003	3.3400e-003	0.0363	1.0000e-004	9.5500e-003	8.0000e-005	9.6200e-003	2.5300e-003	7.0000e-005	2.6000e-003	0.0000	8.8678	8.8678	2.8000e-004	0.0000	8.8748
Total	**7.6200e-003**	**0.1048**	**0.0617**	**3.2000e-004**	**0.0150**	**7.4000e-004**	**0.0158**	**4.1100e-003**	**7.0000e-004**	**4.8200e-003**	**0.0000**	**30.4065**	**30.4065**	**1.7700e-003**	**0.0000**	**30.4507**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0940	2.0492	1.5550	2.3400e-003		0.0786	0.0786		0.0786	0.0786	0.0000	204.5404	204.5404	0.0498	0.0000	205.7861
Total	**0.0940**	**2.0492**	**1.5550**	**2.3400e-003**		**0.0786**	**0.0786**		**0.0786**	**0.0786**	**0.0000**	**204.5404**	**204.5404**	**0.0498**	**0.0000**	**205.7861**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4200e-003	0.1014	0.0254	2.2000e-004	5.4800e-003	6.6000e-004	6.1500e-003	1.5800e-003	6.3000e-004	2.2200e-003	0.0000	21.5387	21.5387	1.4900e-003	0.0000	21.5759
Worker	4.2000e-003	3.3400e-003	0.0363	1.0000e-004	9.5500e-003	8.0000e-005	9.6200e-003	2.5300e-003	7.0000e-005	2.6000e-003	0.0000	8.8678	8.8678	2.8000e-004	0.0000	8.8748
Total	**7.6200e-003**	**0.1048**	**0.0617**	**3.2000e-004**	**0.0150**	**7.4000e-004**	**0.0158**	**4.1100e-003**	**7.0000e-004**	**4.8200e-003**	**0.0000**	**30.4065**	**30.4065**	**1.7700e-003**	**0.0000**	**30.4507**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0127	0.1276	0.1231	1.9000e-004		7.2000e-003	7.2000e-003		6.6400e-003	6.6400e-003	0.0000	16.7223	16.7223	5.1400e-003	0.0000	16.8509
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0127**	**0.1276**	**0.1231**	**1.9000e-004**		**7.2000e-003**	**7.2000e-003**		**6.6400e-003**	**6.6400e-003**	**0.0000**	**16.7223**	**16.7223**	**5.1400e-003**	**0.0000**	**16.8509**

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	6.9000e-004	7.5000e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.8347	1.8347	6.0000e-005	0.0000	1.8362
Total	**8.7000e-004**	**6.9000e-004**	**7.5000e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8347**	**1.8347**	**6.0000e-005**	**0.0000**	**1.8362**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.5200e-003	0.1609	0.1353	1.9000e-004		5.6000e-003	5.6000e-003		5.6000e-003	5.6000e-003	0.0000	16.7223	16.7223	5.1400e-003	0.0000	16.8509
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.5200e-003**	**0.1609**	**0.1353**	**1.9000e-004**		**5.6000e-003**	**5.6000e-003**		**5.6000e-003**	**5.6000e-003**	**0.0000**	**16.7223**	**16.7223**	**5.1400e-003**	**0.0000**	**16.8509**

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	6.9000e-004	7.5000e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.8347	1.8347	6.0000e-005	0.0000	1.8362
Total	**8.7000e-004**	**6.9000e-004**	**7.5000e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8347**	**1.8347**	**6.0000e-005**	**0.0000**	**1.8362**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0255					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6000e-003	0.0110	0.0111	2.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	1.5320	1.5320	1.3000e-004	0.0000	1.5352
Total	**0.0271**	**0.0110**	**0.0111**	**2.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**1.5320**	**1.5320**	**1.3000e-004**	**0.0000**	**1.5352**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.1000e-003	5.3000e-004	0.0000	1.1000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4456	0.4456	3.0000e-005	0.0000	0.4464
Worker	5.8000e-004	4.6000e-004	5.0000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2232	1.2232	4.0000e-005	0.0000	1.2241
Total	**6.5000e-004**	**2.5600e-003**	**5.5300e-003**	**1.0000e-005**	**1.4300e-003**	**2.0000e-005**	**1.4600e-003**	**3.8000e-004**	**2.0000e-005**	**4.1000e-004**	**0.0000**	**1.6688**	**1.6688**	**7.0000e-005**	**0.0000**	**1.6705**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0255					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8000e-004	0.0141	0.0110	2.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	1.5320	1.5320	1.3000e-004	0.0000	1.5352
Total	**0.0262**	**0.0141**	**0.0110**	**2.0000e-005**		**5.7000e-004**	**5.7000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**1.5320**	**1.5320**	**1.3000e-004**	**0.0000**	**1.5352**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.1000e-003	5.3000e-004	0.0000	1.1000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4456	0.4456	3.0000e-005	0.0000	0.4464
Worker	5.8000e-004	4.6000e-004	5.0000e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2232	1.2232	4.0000e-005	0.0000	1.2241
Total	**6.5000e-004**	**2.5600e-003**	**5.5300e-003**	**1.0000e-005**	**1.4300e-003**	**2.0000e-005**	**1.4600e-003**	**3.8000e-004**	**2.0000e-005**	**4.1000e-004**	**0.0000**	**1.6688**	**1.6688**	**7.0000e-005**	**0.0000**	**1.6705**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.0000e-004	2.3800e-003	6.0900e-003	2.0000e-005	1.7500e-003	2.0000e-005	1.7700e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.9951	1.9951	1.0000e-004	0.0000	1.9975
Unmitigated	4.0000e-004	2.3800e-003	6.0900e-003	2.0000e-005	1.7500e-003	2.0000e-005	1.7700e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.9951	1.9951	1.0000e-004	0.0000	1.9975

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	1.32	0.33	0.33	4,593	4,593
Total	1.32	0.33	0.33	4,593	4,593

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	31.4698	31.4698	8.2000e-004	1.7000e-004	31.5407
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	31.4698	31.4698	8.2000e-004	1.7000e-004	31.5407
NaturalGas Mitigated	5.4000e-004	4.9000e-003	4.1100e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.3300	5.3300	1.0000e-004	1.0000e-004	5.3617
NaturalGas Unmitigated	5.4000e-004	4.9000e-003	4.1100e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.3300	5.3300	1.0000e-004	1.0000e-004	5.3617

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	99880	5.4000e-004	4.9000e-003	4.1100e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.3300	5.3300	1.0000e-004	1.0000e-004	5.3617
Total		**5.4000e-004**	**4.9000e-003**	**4.1100e-003**	**3.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**5.3300**	**5.3300**	**1.0000e-004**	**1.0000e-004**	**5.3617**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	99880	5.4000e-004	4.9000e-003	4.1100e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.3300	5.3300	1.0000e-004	1.0000e-004	5.3617
Total		**5.4000e-004**	**4.9000e-003**	**4.1100e-003**	**3.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**5.3300**	**5.3300**	**1.0000e-004**	**1.0000e-004**	**5.3617**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	62205	31.4698	8.2000e-004	1.7000e-004	31.5407
Total		**31.4698**	**8.2000e-004**	**1.7000e-004**	**31.5407**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	62205	31.4698	8.2000e-004	1.7000e-004	31.5407
Total		**31.4698**	**8.2000e-004**	**1.7000e-004**	**31.5407**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0224	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Unmitigated	0.0224	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0199					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Total	**0.0224**	**0.0000**	**7.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0000**	**1.5000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	2.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0199					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Total	**0.0224**	**0.0000**	**7.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0000**	**1.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.7819	0.0417	1.0200e-003	10.1284
Unmitigated	8.7819	0.0417	1.0200e-003	10.1284

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.27188 / 0	8.7819	0.0417	1.0200e-003	10.1284
Total		**8.7819**	**0.0417**	**1.0200e-003**	**10.1284**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.27188 / 0	8.7819	0.0417	1.0200e-003	10.1284
Total		**8.7819**	**0.0417**	**1.0200e-003**	**10.1284**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.3844	0.0818	0.0000	3.4298
Unmitigated	1.3844	0.0818	0.0000	3.4298

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	6.82	1.3844	0.0818	0.0000	3.4298
Total		**1.3844**	**0.0818**	**0.0000**	**3.4298**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	6.82	1.3844	0.0818	0.0000	3.4298
Total		**1.3844**	**0.0818**	**0.0000**	**3.4298**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Biogas Renewable Generation Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	5.50	1000sqft	3.00	5,500.00	6

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	1115.33	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Biogas Renewable Generation Project - South Coast AQMD Air District, Summer

Project Characteristics -

Land Use - Lot Acreage and population were estimated.

Construction Phase - Construction schedule was estimated and provided by Stantec.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - This data was estimated and provided by Stantec.

Demolition -

Grading - This data was estimated and provided by Stantec.

Vehicle Trips - This data was estimated and provided by Stantec.

Construction Off-road Equipment Mitigation - Tier 2 or higher off-road equipment will be utilized for this construction project.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	NumDays	220.00	195.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	6.00	45.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	3.00	20.00
tblConstructionPhase	PhaseEndDate	1/14/2020	9/17/2019

Biogas Renewable Generation Project - South Coast AQMD Air District, Summer

tblConstructionPhase	PhaseEndDate	11/29/2019	8/30/2019
tblConstructionPhase	PhaseEndDate	3/1/2019	11/30/2018
tblConstructionPhase	PhaseEndDate	12/27/2019	8/28/2019
tblConstructionPhase	PhaseEndDate	11/30/2018	9/28/2018
tblConstructionPhase	PhaseStartDate	12/28/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	3/2/2019	12/1/2018
tblConstructionPhase	PhaseStartDate	12/1/2018	10/1/2018
tblConstructionPhase	PhaseStartDate	11/30/2019	8/1/2019
tblGrading	AcresOfGrading	22.50	3.00
tblGrading	AcresOfGrading	0.00	2.00
tblGrading	MaterialExported	0.00	14,000.00
tblLandUse	LotAcreage	0.13	3.00
tblLandUse	Population	0.00	6.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblTripsAndVMT	HaulingTripLength	20.00	0.27
tblTripsAndVMT	HaulingTripNumber	0.00	875.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	1.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	18.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	2.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00

tblVehicleTrips	ST_TR	1.32	0.06
tblVehicleTrips	SU_TR	0.68	0.06
tblVehicleTrips	WD_TR	6.97	0.24

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	4.6591	49.4492	23.2799	0.0452	18.3481	2.5867	20.9348	9.9902	2.3801	12.3703	0.0000	4,550.2483	4,550.2483	1.2160	0.0000	4,577.9706
2019	4.6247	35.0788	31.0116	0.0518	0.3770	2.0195	2.3964	0.1014	1.8859	1.9874	0.0000	5,041.7959	5,041.7959	1.2271	0.0000	5,072.4722
Maximum	**4.6591**	**49.4492**	**31.0116**	**0.0518**	**18.3481**	**2.5867**	**20.9348**	**9.9902**	**2.3801**	**12.3703**	**0.0000**	**5,041.7959**	**5,041.7959**	**1.2271**	**0.0000**	**5,072.4722**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.3790	34.9719	25.6042	0.0452	7.2630	0.9559	8.2189	3.9255	0.9555	4.8810	0.0000	4,550.2483	4,550.2483	1.2160	0.0000	4,577.9706
2019	4.4722	40.8789	32.9408	0.0518	0.3770	1.4737	1.8507	0.1014	1.4732	1.5746	0.0000	5,041.7959	5,041.7959	1.2271	0.0000	5,072.4722
Maximum	**4.4722**	**40.8789**	**32.9408**	**0.0518**	**7.2630**	**1.4737**	**8.2189**	**3.9255**	**1.4732**	**4.8810**	**0.0000**	**5,041.7959**	**5,041.7959**	**1.2271**	**0.0000**	**5,072.4722**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**36.97**	**10.27**	**-7.83**	**0.00**	**59.20**	**47.25**	**56.84**	**60.10**	**43.07**	**55.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1229	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Energy	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
Mobile	3.0100e-003	0.0159	0.0451	1.6000e-004	0.0124	1.5000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		16.0106	16.0106	7.7000e-004		16.0298
Total	**0.1289**	**0.0428**	**0.0682**	**3.2000e-004**	**0.0124**	**2.1900e-003**	**0.0146**	**3.3300e-003**	**2.1800e-003**	**5.5100e-003**		**48.2052**	**48.2052**	**1.3900e-003**	**5.9000e-004**	**48.4158**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1229	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Energy	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
Mobile	3.0100e-003	0.0159	0.0451	1.6000e-004	0.0124	1.5000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		16.0106	16.0106	7.7000e-004		16.0298
Total	**0.1289**	**0.0428**	**0.0682**	**3.2000e-004**	**0.0124**	**2.1900e-003**	**0.0146**	**3.3300e-003**	**2.1800e-003**	**5.5100e-003**		**48.2052**	**48.2052**	**1.3900e-003**	**5.9000e-004**	**48.4158**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2018	8/31/2018	5	23	
2	Site Preparation	Site Preparation	9/1/2018	9/28/2018	5	20	
3	Grading	Grading	10/1/2018	11/30/2018	5	45	
4	Building Construction	Building Construction	12/1/2018	8/30/2019	5	195	
5	Paving	Paving	8/1/2019	8/28/2019	5	20	
6	Architectural Coating	Architectural Coating	9/1/2019	9/17/2019	5	12	

Acres of Grading (Site Preparation Phase): 2

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 8,250; Non-Residential Outdoor: 2,750; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Biogas Renewable Generation Project - South Coast AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	20.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	10.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	10.00	5.00	112.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	10.00	10.00	875.00	14.70	6.90	0.27	LD_Mix	HDT_Mix	HHDT
Paving	8	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	10.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0556	0.0000	1.0556	0.1598	0.0000	0.1598			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**1.0556**	**1.9386**	**2.9941**	**0.1598**	**1.8048**	**1.9647**		**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

3.2 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0422	1.4993	0.2777	3.8700e-003	0.0851	5.7600e-003	0.0909	0.0233	5.5200e-003	0.0288		417.2176	417.2176	0.0285		417.9310
Vendor	0.0213	0.6059	0.1509	1.3100e-003	0.0320	4.4300e-003	0.0364	9.2100e-003	4.2400e-003	0.0135		139.3290	139.3290	9.4800e-003		139.5661
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.1174**	**2.1439**	**0.9303**	**6.4100e-003**	**0.2289**	**0.0111**	**0.2400**	**0.0622**	**0.0106**	**0.0728**		**678.4818**	**678.4818**	**0.0422**		**679.5362**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4117	0.0000	0.4117	0.0623	0.0000	0.0623			0.0000			0.0000
Off-Road	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**1.2617**	**32.6638**	**24.6739**	**0.0388**	**0.4117**	**0.9135**	**1.3252**	**0.0623**	**0.9135**	**0.9759**	**0.0000**	**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

3.2 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0422	1.4993	0.2777	3.8700e-003	0.0851	5.7600e-003	0.0909	0.0233	5.5200e-003	0.0288		417.2176	417.2176	0.0285		417.9310
Vendor	0.0213	0.6059	0.1509	1.3100e-003	0.0320	4.4300e-003	0.0364	9.2100e-003	4.2400e-003	0.0135		139.3290	139.3290	9.4800e-003		139.5661
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.1174**	**2.1439**	**0.9303**	**6.4100e-003**	**0.2289**	**0.0111**	**0.2400**	**0.0622**	**0.0106**	**0.0728**		**678.4818**	**678.4818**	**0.0422**		**679.5362**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1723	0.0000	18.1723	9.9421	0.0000	9.9421			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.1723**	**2.5769**	**20.7492**	**9.9421**	**2.3708**	**12.3129**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0426	1.2118	0.3018	2.6200e-003	0.0640	8.8500e-003	0.0729	0.0184	8.4700e-003	0.0269		278.6580	278.6580	0.0190		279.1322
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.0964**	**1.2505**	**0.8036**	**3.8500e-003**	**0.1758**	**9.7400e-003**	**0.1855**	**0.0481**	**9.2900e-003**	**0.0574**		**400.5932**	**400.5932**	**0.0231**		**401.1713**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0872	0.0000	7.0872	3.8774	0.0000	3.8774			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**1.2097**	**33.7214**	**22.9600**	**0.0380**	**7.0872**	**0.9462**	**8.0334**	**3.8774**	**0.9462**	**4.8236**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0426	1.2118	0.3018	2.6200e-003	0.0640	8.8500e-003	0.0729	0.0184	8.4700e-003	0.0269		278.6580	278.6580	0.0190		279.1322
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.0964**	**1.2505**	**0.8036**	**3.8500e-003**	**0.1758**	**9.7400e-003**	**0.1855**	**0.0481**	**9.2900e-003**	**0.0574**		**400.5932**	**400.5932**	**0.0231**		**401.1713**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1280	0.0000	6.1280	3.3232	0.0000	3.3232			0.0000			0.0000
Off-Road	2.7733	30.6725	16.5770	0.0297		1.5513	1.5513		1.4272	1.4272		2,988.0216	2,988.0216	0.9302		3,011.2769
Total	**2.7733**	**30.6725**	**16.5770**	**0.0297**	**6.1280**	**1.5513**	**7.6793**	**3.3232**	**1.4272**	**4.7504**		**2,988.0216**	**2,988.0216**	**0.9302**		**3,011.2769**

3.4 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0417	2.0858	0.2597	2.3700e-003	4.9900e-003	1.6900e-003	6.6800e-003	1.4000e-003	1.6100e-003	3.0200e-003		254.2018	254.2018	0.0423		255.2590
Vendor	0.0426	1.2118	0.3018	2.6200e-003	0.0640	8.8500e-003	0.0729	0.0184	8.4700e-003	0.0269		278.6580	278.6580	0.0190		279.1322
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.1382**	**3.3363**	**1.0633**	**6.2200e-003**	**0.1808**	**0.0114**	**0.1922**	**0.0495**	**0.0109**	**0.0604**		**654.7950**	**654.7950**	**0.0654**		**656.4303**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3899	0.0000	2.3899	1.2960	0.0000	1.2960			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0297		0.7725	0.7725		0.7725	0.7725	0.0000	2,988.0216	2,988.0216	0.9302		3,011.2769
Total	**1.0093**	**26.2791**	**18.9906**	**0.0297**	**2.3899**	**0.7725**	**3.1624**	**1.2960**	**0.7725**	**2.0685**	**0.0000**	**2,988.0216**	**2,988.0216**	**0.9302**		**3,011.2769**

3.4 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0417	2.0858	0.2597	2.3700e-003	4.9900e-003	1.6900e-003	6.6800e-003	1.4000e-003	1.6100e-003	3.0200e-003		254.2018	254.2018	0.0423		255.2590
Vendor	0.0426	1.2118	0.3018	2.6200e-003	0.0640	8.8500e-003	0.0729	0.0184	8.4700e-003	0.0269		278.6580	278.6580	0.0190		279.1322
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.1382**	**3.3363**	**1.0633**	**6.2200e-003**	**0.1808**	**0.0114**	**0.1922**	**0.0495**	**0.0109**	**0.0604**		**654.7950**	**654.7950**	**0.0654**		**656.4303**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0426	1.2118	0.3018	2.6200e-003	0.0640	8.8500e-003	0.0729	0.0184	8.4700e-003	0.0269		278.6580	278.6580	0.0190		279.1322
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.0964**	**1.2505**	**0.8036**	**3.8500e-003**	**0.1758**	**9.7400e-003**	**0.1855**	**0.0481**	**9.2900e-003**	**0.0574**		**400.5932**	**400.5932**	**0.0231**		**401.1713**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0426	1.2118	0.3018	2.6200e-003	0.0640	8.8500e-003	0.0729	0.0184	8.4700e-003	0.0269		278.6580	278.6580	0.0190		279.1322
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.0964**	**1.2505**	**0.8036**	**3.8500e-003**	**0.1758**	**9.7400e-003**	**0.1855**	**0.0481**	**9.2900e-003**	**0.0574**		**400.5932**	**400.5932**	**0.0231**		**401.1713**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0386	1.1442	0.2766	2.5900e-003	0.0640	7.5800e-003	0.0716	0.0184	7.2500e-003	0.0257		276.2197	276.2197	0.0183		276.6766
Worker	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912
Total	**0.0875**	**1.1783**	**0.7260**	**3.7800e-003**	**0.1758**	**8.4500e-003**	**0.1842**	**0.0481**	**8.0500e-003**	**0.0561**		**394.3186**	**394.3186**	**0.0220**		**394.8679**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0386	1.1442	0.2766	2.5900e-003	0.0640	7.5800e-003	0.0716	0.0184	7.2500e-003	0.0257		276.2197	276.2197	0.0183		276.6766
Worker	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912
Total	**0.0875**	**1.1783**	**0.7260**	**3.7800e-003**	**0.1758**	**8.4500e-003**	**0.1842**	**0.0481**	**8.0500e-003**	**0.0561**		**394.3186**	**394.3186**	**0.0220**		**394.8679**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2679**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**		**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0882	0.0613	0.8088	2.1400e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		212.5780	212.5780	6.6500e-003		212.7442
Total	**0.0882**	**0.0613**	**0.8088**	**2.1400e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**212.5780**	**212.5780**	**6.6500e-003**		**212.7442**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7524	16.0849	13.5323	0.0189		0.5601	0.5601		0.5601	0.5601	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7524**	**16.0849**	**13.5323**	**0.0189**		**0.5601**	**0.5601**		**0.5601**	**0.5601**	**0.0000**	**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0882	0.0613	0.8088	2.1400e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		212.5780	212.5780	6.6500e-003		212.7442
Total	**0.0882**	**0.0613**	**0.8088**	**2.1400e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**212.5780**	**212.5780**	**6.6500e-003**		**212.7442**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	4.2488					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**4.5152**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0116	0.3433	0.0830	7.8000e-004	0.0192	2.2700e-003	0.0215	5.5300e-003	2.1800e-003	7.7000e-003		82.8659	82.8659	5.4800e-003		83.0030
Worker	0.0980	0.0682	0.8987	2.3700e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		236.1978	236.1978	7.3900e-003		236.3825
Total	**0.1095**	**0.4114**	**0.9817**	**3.1500e-003**	**0.2428**	**4.0100e-003**	**0.2468**	**0.0648**	**3.7800e-003**	**0.0686**		**319.0637**	**319.0637**	**0.0129**		**319.3855**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	4.2488					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**4.3627**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0116	0.3433	0.0830	7.8000e-004	0.0192	2.2700e-003	0.0215	5.5300e-003	2.1800e-003	7.7000e-003		82.8659	82.8659	5.4800e-003		83.0030
Worker	0.0980	0.0682	0.8987	2.3700e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		236.1978	236.1978	7.3900e-003		236.3825
Total	**0.1095**	**0.4114**	**0.9817**	**3.1500e-003**	**0.2428**	**4.0100e-003**	**0.2468**	**0.0648**	**3.7800e-003**	**0.0686**		**319.0637**	**319.0637**	**0.0129**		**319.3855**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0100e-003	0.0159	0.0451	1.6000e-004	0.0124	1.5000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		16.0106	16.0106	7.7000e-004		16.0298
Unmitigated	3.0100e-003	0.0159	0.0451	1.6000e-004	0.0124	1.5000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		16.0106	16.0106	7.7000e-004		16.0298

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	1.32	0.33	0.33	4,593	4,593
Total	1.32	0.33	0.33	4,593	4,593

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
NaturalGas Unmitigated	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	273.644	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
Total		**2.9500e-003**	**0.0268**	**0.0225**	**1.6000e-004**		**2.0400e-003**	**2.0400e-003**		**2.0400e-003**	**2.0400e-003**		**32.1934**	**32.1934**	**6.2000e-004**	**5.9000e-004**	**32.3847**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.273644	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
Total		**2.9500e-003**	**0.0268**	**0.0225**	**1.6000e-004**		**2.0400e-003**	**2.0400e-003**		**2.0400e-003**	**2.0400e-003**		**32.1934**	**32.1934**	**6.2000e-004**	**5.9000e-004**	**32.3847**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1229	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Unmitigated	0.1229	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1089					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Total	**0.1229**	**1.0000e-005**	**5.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2000e-003**	**1.2000e-003**	**0.0000**		**1.2800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1089					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Total	**0.1229**	**1.0000e-005**	**5.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2000e-003**	**1.2000e-003**	**0.0000**		**1.2800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Biogas Renewable Generation Project

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	5.50	1000sqft	3.00	5,500.00	6

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	1115.33	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage and population were estimated.

Construction Phase - Construction schedule was estimated and provided by Stantec.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - This data was estimated and provided by Stantec.

Demolition -

Grading - This data was estimated and provided by Stantec.

Vehicle Trips - This data was estimated and provided by Stantec.

Construction Off-road Equipment Mitigation - Tier 2 or higher off-road equipment will be utilized for this construction project.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	NumDays	220.00	195.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	6.00	45.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	3.00	20.00
tblConstructionPhase	PhaseEndDate	1/14/2020	9/17/2019

tblConstructionPhase	PhaseEndDate	11/29/2019	8/30/2019
tblConstructionPhase	PhaseEndDate	3/1/2019	11/30/2018
tblConstructionPhase	PhaseEndDate	12/27/2019	8/28/2019
tblConstructionPhase	PhaseEndDate	11/30/2018	9/28/2018
tblConstructionPhase	PhaseStartDate	12/28/2019	9/1/2019
tblConstructionPhase	PhaseStartDate	3/2/2019	12/1/2018
tblConstructionPhase	PhaseStartDate	12/1/2018	10/1/2018
tblConstructionPhase	PhaseStartDate	11/30/2019	8/1/2019
tblGrading	AcresOfGrading	22.50	3.00
tblGrading	AcresOfGrading	0.00	2.00
tblGrading	MaterialExported	0.00	14,000.00
tblLandUse	LotAcreage	0.13	3.00
tblLandUse	Population	0.00	6.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblTripsAndVMT	HaulingTripLength	20.00	0.27
tblTripsAndVMT	HaulingTripNumber	0.00	875.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	1.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	18.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	2.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00

tblVehicleTrips	ST_TR	1.32	0.06
tblVehicleTrips	SU_TR	0.68	0.06
tblVehicleTrips	WD_TR	6.97	0.24

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	4.6657	49.4549	23.2654	0.0450	18.3481	2.5868	20.9349	9.9902	2.3802	12.3704	0.0000	4,530.9463	4,530.9463	1.2171	0.0000	4,558.7125
2019	4.6339	35.0887	30.9199	0.0515	0.3770	2.0196	2.3966	0.1014	1.8861	1.9875	0.0000	5,012.5191	5,012.5191	1.2277	0.0000	5,043.2125
Maximum	**4.6657**	**49.4549**	**30.9199**	**0.0515**	**18.3481**	**2.5868**	**20.9349**	**9.9902**	**2.3802**	**12.3704**	**0.0000**	**5,012.5191**	**5,012.5191**	**1.2277**	**0.0000**	**5,043.2125**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.3859	34.9776	25.5966	0.0450	7.2630	0.9561	8.2190	3.9255	0.9556	4.8811	0.0000	4,530.9463	4,530.9463	1.2171	0.0000	4,558.7125
2019	4.4814	40.8889	32.8492	0.0515	0.3770	1.4738	1.8508	0.1014	1.4733	1.5747	0.0000	5,012.5191	5,012.5191	1.2277	0.0000	5,043.2125
Maximum	**4.4814**	**40.8889**	**32.8492**	**0.0515**	**7.2630**	**1.4738**	**8.2190**	**3.9255**	**1.4733**	**4.8811**	**0.0000**	**5,012.5191**	**5,012.5191**	**1.2277**	**0.0000**	**5,043.2125**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**36.91**	**10.26**	**-7.86**	**0.00**	**59.20**	**47.25**	**56.84**	**60.10**	**43.07**	**55.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1229	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Energy	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
Mobile	2.8800e-003	0.0164	0.0418	1.5000e-004	0.0124	1.5000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		15.1661	15.1661	7.6000e-004		15.1851
Total	**0.1288**	**0.0432**	**0.0649**	**3.1000e-004**	**0.0124**	**2.1900e-003**	**0.0146**	**3.3300e-003**	**2.1800e-003**	**5.5100e-003**		**47.3607**	**47.3607**	**1.3800e-003**	**5.9000e-004**	**47.5711**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1229	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Energy	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
Mobile	2.8800e-003	0.0164	0.0418	1.5000e-004	0.0124	1.5000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		15.1661	15.1661	7.6000e-004		15.1851
Total	**0.1288**	**0.0432**	**0.0649**	**3.1000e-004**	**0.0124**	**2.1900e-003**	**0.0146**	**3.3300e-003**	**2.1800e-003**	**5.5100e-003**		**47.3607**	**47.3607**	**1.3800e-003**	**5.9000e-004**	**47.5711**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2018	8/31/2018	5	23	
2	Site Preparation	Site Preparation	9/1/2018	9/28/2018	5	20	
3	Grading	Grading	10/1/2018	11/30/2018	5	45	
4	Building Construction	Building Construction	12/1/2018	8/30/2019	5	195	
5	Paving	Paving	8/1/2019	8/28/2019	5	20	
6	Architectural Coating	Architectural Coating	9/1/2019	9/17/2019	5	12	

Acres of Grading (Site Preparation Phase): 2

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 8,250; Non-Residential Outdoor: 2,750; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Biogas Renewable Generation Project - South Coast AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	20.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	10.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	10.00	5.00	112.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	10.00	10.00	875.00	14.70	6.90	0.27	LD_Mix	HDT_Mix	HHDT
Paving	8	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	10.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0556	0.0000	1.0556	0.1598	0.0000	0.1598			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**1.0556**	**1.9386**	**2.9941**	**0.1598**	**1.8048**	**1.9647**		**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

3.2 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0435	1.5203	0.3011	3.8000e-003	0.0851	5.8800e-003	0.0910	0.0233	5.6200e-003	0.0289		409.7336	409.7336	0.0299		410.4799
Vendor	0.0222	0.6069	0.1675	1.2700e-003	0.0320	4.5000e-003	0.0365	9.2100e-003	4.3000e-003	0.0135		135.3782	135.3782	0.0102		135.6329
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1243**	**2.1695**	**0.9227**	**6.2200e-003**	**0.2289**	**0.0113**	**0.2401**	**0.0622**	**0.0107**	**0.0729**		**659.1798**	**659.1798**	**0.0439**		**660.2781**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4117	0.0000	0.4117	0.0623	0.0000	0.0623			0.0000			0.0000
Off-Road	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**1.2617**	**32.6638**	**24.6739**	**0.0388**	**0.4117**	**0.9135**	**1.3252**	**0.0623**	**0.9135**	**0.9759**	**0.0000**	**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

3.2 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0435	1.5203	0.3011	3.8000e-003	0.0851	5.8800e-003	0.0910	0.0233	5.6200e-003	0.0289		409.7336	409.7336	0.0299		410.4799
Vendor	0.0222	0.6069	0.1675	1.2700e-003	0.0320	4.5000e-003	0.0365	9.2100e-003	4.3000e-003	0.0135		135.3782	135.3782	0.0102		135.6329
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1243**	**2.1695**	**0.9227**	**6.2200e-003**	**0.2289**	**0.0113**	**0.2401**	**0.0622**	**0.0107**	**0.0729**		**659.1798**	**659.1798**	**0.0439**		**660.2781**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1723	0.0000	18.1723	9.9421	0.0000	9.9421			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.1723**	**2.5769**	**20.7492**	**9.9421**	**2.3708**	**12.3129**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0444	1.2139	0.3350	2.5400e-003	0.0640	8.9900e-003	0.0730	0.0184	8.6000e-003	0.0270		270.7564	270.7564	0.0204		271.2658
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1030**	**1.2562**	**0.7891**	**3.6900e-003**	**0.1758**	**9.8800e-003**	**0.1857**	**0.0481**	**9.4200e-003**	**0.0575**		**384.8244**	**384.8244**	**0.0243**		**385.4310**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0872	0.0000	7.0872	3.8774	0.0000	3.8774			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**1.2097**	**33.7214**	**22.9600**	**0.0380**	**7.0872**	**0.9462**	**8.0334**	**3.8774**	**0.9462**	**4.8236**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0444	1.2139	0.3350	2.5400e-003	0.0640	8.9900e-003	0.0730	0.0184	8.6000e-003	0.0270		270.7564	270.7564	0.0204		271.2658
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1030**	**1.2562**	**0.7891**	**3.6900e-003**	**0.1758**	**9.8800e-003**	**0.1857**	**0.0481**	**9.4200e-003**	**0.0575**		**384.8244**	**384.8244**	**0.0243**		**385.4310**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1280	0.0000	6.1280	3.3232	0.0000	3.3232			0.0000			0.0000
Off-Road	2.7733	30.6725	16.5770	0.0297		1.5513	1.5513		1.4272	1.4272		2,988.0216	2,988.0216	0.9302		3,011.2769
Total	**2.7733**	**30.6725**	**16.5770**	**0.0297**	**6.1280**	**1.5513**	**7.6793**	**3.3232**	**1.4272**	**4.7504**		**2,988.0216**	**2,988.0216**	**0.9302**		**3,011.2769**

3.4 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0468	2.0044	0.3586	2.0900e-003	4.9900e-003	2.1400e-003	7.1300e-003	1.4000e-003	2.0400e-003	3.4500e-003		224.3178	224.3178	0.0476		225.5075
Vendor	0.0444	1.2139	0.3350	2.5400e-003	0.0640	8.9900e-003	0.0730	0.0184	8.6000e-003	0.0270		270.7564	270.7564	0.0204		271.2658
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1498**	**3.2606**	**1.1477**	**5.7800e-003**	**0.1808**	**0.0120**	**0.1928**	**0.0495**	**0.0115**	**0.0609**		**609.1422**	**609.1422**	**0.0719**		**610.9386**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3899	0.0000	2.3899	1.2960	0.0000	1.2960			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0297		0.7725	0.7725		0.7725	0.7725	0.0000	2,988.0216	2,988.0216	0.9302		3,011.2769
Total	**1.0093**	**26.2791**	**18.9906**	**0.0297**	**2.3899**	**0.7725**	**3.1624**	**1.2960**	**0.7725**	**2.0685**	**0.0000**	**2,988.0216**	**2,988.0216**	**0.9302**		**3,011.2769**

3.4 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0468	2.0044	0.3586	2.0900e-003	4.9900e-003	2.1400e-003	7.1300e-003	1.4000e-003	2.0400e-003	3.4500e-003		224.3178	224.3178	0.0476		225.5075
Vendor	0.0444	1.2139	0.3350	2.5400e-003	0.0640	8.9900e-003	0.0730	0.0184	8.6000e-003	0.0270		270.7564	270.7564	0.0204		271.2658
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1498**	**3.2606**	**1.1477**	**5.7800e-003**	**0.1808**	**0.0120**	**0.1928**	**0.0495**	**0.0115**	**0.0609**		**609.1422**	**609.1422**	**0.0719**		**610.9386**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0444	1.2139	0.3350	2.5400e-003	0.0640	8.9900e-003	0.0730	0.0184	8.6000e-003	0.0270		270.7564	270.7564	0.0204		271.2658
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1030**	**1.2562**	**0.7891**	**3.6900e-003**	**0.1758**	**9.8800e-003**	**0.1857**	**0.0481**	**9.4200e-003**	**0.0575**		**384.8244**	**384.8244**	**0.0243**		**385.4310**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0444	1.2139	0.3350	2.5400e-003	0.0640	8.9900e-003	0.0730	0.0184	8.6000e-003	0.0270		270.7564	270.7564	0.0204		271.2658
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1030**	**1.2562**	**0.7891**	**3.6900e-003**	**0.1758**	**9.8800e-003**	**0.1857**	**0.0481**	**9.4200e-003**	**0.0575**		**384.8244**	**384.8244**	**0.0243**		**385.4310**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0403	1.1451	0.3081	2.5200e-003	0.0640	7.7000e-003	0.0717	0.0184	7.3600e-003	0.0258		268.3163	268.3163	0.0196		268.8073
Worker	0.0533	0.0373	0.4054	1.1100e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		110.4656	110.4656	3.4500e-003		110.5519
Total	**0.0936**	**1.1824**	**0.7134**	**3.6300e-003**	**0.1758**	**8.5700e-003**	**0.1844**	**0.0481**	**8.1600e-003**	**0.0562**		**378.7818**	**378.7818**	**0.0231**		**379.3591**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0403	1.1451	0.3081	2.5200e-003	0.0640	7.7000e-003	0.0717	0.0184	7.3600e-003	0.0258		268.3163	268.3163	0.0196		268.8073
Worker	0.0533	0.0373	0.4054	1.1100e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		110.4656	110.4656	3.4500e-003		110.5519
Total	**0.0936**	**1.1824**	**0.7134**	**3.6300e-003**	**0.1758**	**8.5700e-003**	**0.1844**	**0.0481**	**8.1600e-003**	**0.0562**		**378.7818**	**378.7818**	**0.0231**		**379.3591**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2679**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**		**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0960	0.0672	0.7297	2.0000e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		198.8380	198.8380	6.2100e-003		198.9933
Total	**0.0960**	**0.0672**	**0.7297**	**2.0000e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**198.8380**	**198.8380**	**6.2100e-003**		**198.9933**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7524	16.0849	13.5323	0.0189		0.5601	0.5601		0.5601	0.5601	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7524**	**16.0849**	**13.5323**	**0.0189**		**0.5601**	**0.5601**		**0.5601**	**0.5601**	**0.0000**	**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0960	0.0672	0.7297	2.0000e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		198.8380	198.8380	6.2100e-003		198.9933
Total	**0.0960**	**0.0672**	**0.7297**	**2.0000e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**198.8380**	**198.8380**	**6.2100e-003**		**198.9933**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	4.2488					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**4.5152**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0121	0.3435	0.0924	7.6000e-004	0.0192	2.3100e-003	0.0215	5.5300e-003	2.2100e-003	7.7400e-003		80.4949	80.4949	5.8900e-003		80.6422
Worker	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037
Total	**0.1187**	**0.4182**	**0.9032**	**2.9800e-003**	**0.2428**	**4.0500e-003**	**0.2468**	**0.0648**	**3.8100e-003**	**0.0686**		**301.4260**	**301.4260**	**0.0128**		**301.7459**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	4.2488					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**4.3627**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0121	0.3435	0.0924	7.6000e-004	0.0192	2.3100e-003	0.0215	5.5300e-003	2.2100e-003	7.7400e-003		80.4949	80.4949	5.8900e-003		80.6422
Worker	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037
Total	**0.1187**	**0.4182**	**0.9032**	**2.9800e-003**	**0.2428**	**4.0500e-003**	**0.2468**	**0.0648**	**3.8100e-003**	**0.0686**		**301.4260**	**301.4260**	**0.0128**		**301.7459**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8800e-003	0.0164	0.0418	1.5000e-004	0.0124	1.5000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		15.1661	15.1661	7.6000e-004		15.1851
Unmitigated	2.8800e-003	0.0164	0.0418	1.5000e-004	0.0124	1.5000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		15.1661	15.1661	7.6000e-004		15.1851

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	1.32	0.33	0.33	4,593	4,593
Total	1.32	0.33	0.33	4,593	4,593

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
NaturalGas Unmitigated	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	273.644	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
Total		**2.9500e-003**	**0.0268**	**0.0225**	**1.6000e-004**		**2.0400e-003**	**2.0400e-003**		**2.0400e-003**	**2.0400e-003**		**32.1934**	**32.1934**	**6.2000e-004**	**5.9000e-004**	**32.3847**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.273644	2.9500e-003	0.0268	0.0225	1.6000e-004		2.0400e-003	2.0400e-003		2.0400e-003	2.0400e-003		32.1934	32.1934	6.2000e-004	5.9000e-004	32.3847
Total		**2.9500e-003**	**0.0268**	**0.0225**	**1.6000e-004**		**2.0400e-003**	**2.0400e-003**		**2.0400e-003**	**2.0400e-003**		**32.1934**	**32.1934**	**6.2000e-004**	**5.9000e-004**	**32.3847**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1229	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Unmitigated	0.1229	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1089					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Total	**0.1229**	**1.0000e-005**	**5.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2000e-003**	**1.2000e-003**	**0.0000**		**1.2800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1089					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	1.0000e-005	5.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-003	1.2000e-003	0.0000		1.2800e-003
Total	**0.1229**	**1.0000e-005**	**5.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2000e-003**	**1.2000e-003**	**0.0000**		**1.2800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

A.2 CRITERIA POLLUTANT EMISSION INVENTORY

APPENDIX A.2

CRITERIA POLLUTANT EMISSION INVENTORY

APPENDIX A.2.1
CRITERIA POLLUTANT EMISSION INVENTORY FOR RECIPROCATING IC ENGINE
(PROJECT OPERATION IMPACT)

APPENDIX A.2.2
CRITERIA POLLUTANT EMISSION INVENTORY FOR FLARE SYSTEM
CRITERIA POLLUTANT EMISSION INVENTORY FOR EXISTING BOILERS
(PROJECT CONSTRUCTION IMPACT)

APPENDIX A.2.3
EMISSION FACTORS AND ITS SUPPORTING DOCUMENTATION:

- **GE J 620 GS-F21 MANUFACTURER EMISSIONS GUARANTEE AND OTHER ENGINE PARAMETERS**
- **GE J 620 GS-F21 EQUIPMENT SPECIFICATION**
- **SCAQMD ANNUAL REPORTING REPORT FOR 2010 THROUGH 2014**
- **SOURCE TEST REPORT OF THE EXISTING FLARE SYSTEM CONDUCTED ON MAY 2015**
- **LANDFILL GAS LAB RESULT COLLECTED ON 01/06/2016**

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APPENDIX A.2.1

CRITERIA POLLUTANT EMISSION INVENTORY FOR RECIPROCATING IC ENGINE (PROJECT OPERATION IMPACT)

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APPENDIX A.2.1
EMISSION INVENTORY FOR THE PROPOSED ENGINES
BIOGAS RENEWABLE GENERATION PROJECT

GE J 620 GS-F21 **30 MINUTES STARTUP, 8 MINUTES SHUTDOWN**

Pollutant	No. of Normal Operating Hours per Day	Normal Operating Hour Emission Rate	No. of Startups Per Day	Uncontrolled Emission lb / Startup	No. of Shutdowns Per Day	Uncontrolled Emission lb / Shutdown	No. of Maintenance Operating Hours per Day	Maintenance Operating Hour Emission Rate	Number of Startups/ Shutdowns per Month	Number of Normal Operating Hours Per Month	Number of Startups/ Shutdowns per Year	Number of Normal Operating Hours Per Year
NO_X	12.73	1.22	2	23.50	2.00	7.40	10	7.34	10	704	120	8674
CO	12.73	8.80	2	24.00	2.00	29.20	10	16.92	10	704	120	8674
VOC	12.73	1.16	2	1.20	2.00	0.46	10	2.17	10	704	120	8674
PM10	12.73	0.61	2	0.30	2.00	0.08	10	0.61	10	704	120	8674
SO_X	12.73	0.84	2	0.42	2.00	0.11	10	0.84	10	704	120	8674
	Starts/stops =	1.27	hours/day per engine		6.33	hours/month per engine		76.00	Hours / year per engine			
	Maintenance =	10	hours/day per engine		10	hours/month per engine		10	Hours / year per engine			

Daily = 24 hours with 2 startS Monthly = 720 hours with 10 starts

GE J 620 GS-F21 **EMISSIONS OF 1 ENGINE** **EMISSIONS OF 4 ENGINES**

Pollutant	Daily Maximum Emissions (Lbs)	Monthly Maximum Emissions (Lbs)	30-Day Average Emissions (lbs)	Annual PTE (Lbs)	Annual PTE (Tons)	Daily Maximum Emissions (Lbs)	Monthly Maximum Emissions (Lbs)	30-Day Average Emissions (lbs)	Annual PTE (Lbs)	Annual PTE (Tons)
NO_X	150.73	1,241	41	14,364	7.18	419.34	4,963	165	57,455	28.73
CO	387.65	6,893	230	82,884	41.44	1131.81	27,574	919	331,538	165.77
VOC	39.79	855	28	10,283	5.14	126.10	3,418	114	41,131	20.57
PM10	14.61	438	15	5,332	2.67	57.94	1,753	58	21,327	10.66
SO_X	20.16	605	20	7,358	3.68	79.97	2,419	81	29,434	14.72

*Maximum 1 Engine per day in the maintenance operation

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APPENDIX A.2.2

CRITERIA POLLUTANT EMISSION INVENTORY FOR FLARE SYSTEM AND BOILERS (PROJECT CONSTRUCTION IMPACT)

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APPENDIX A.2.2
EMISSION INVENTORY DURING CONSTRUCTION ACTIVITIES (FLARES)
BIOGAS RENEWABLE GENERATION PROJECT

DURING CONSTRUCTION, ALL LFG ARE COMBUSTED IN THE EXISTING FLARES
LFG COMBUSTED: 0.3 MMSCF/HR 5000 SCF/MIN
ANNUAL OPERATING HOURS: 8760

FLARE SYSTEM

Pollutant	No. of Normal Operating Hours per Day	Emission Factor, lbs/mmscf	Number of Normal Operating Hours Per Month	Number of Normal Operating Hours Per Year
NO_X	24.00	13.27	720	8760
CO	24.00	1.19	720	8760
VOC	24.00	1.30	720	8760
PM10	24.00	6.40	720	8760
SO_X	24.00	5.21	720	8760

FLARE SYSTEM

Pollutant	Daily Maximum Emissions (Lbs)	Monthly Maximum Emissions (Lbs)	30-Day Average Emissions (lbs)	Annual PTE (Lbs)	Annual PTE (tons)
NO_X	95.54	2,866	96	34,874	17.44
CO	8.57	257	9	3,127	1.56
VOC	9.36	281	9	3,416	1.71
PM10	46.08	1,382	46	16,819	8.41
SO_X	37.51	1,125	38	13,692	6.85

APPENDIX A.2.2
EMISSION INVENTORY DURING CONSTRUCTION ACTIVITIES (BOILERS)
BIOGAS RENEWABLE GENERATION PROJECT

			SCAQMD AER EMISSIONS ,LBS/YEAR					SCAQMD AER EMISSIONS ,LBS/DAYS				
Year	Unit	LFG usage, MMCF	NOX	CO	VOC	PM10/2.5	SOX	NOX	CO	VOC	PM10/2.5	SOX
2011	Boiler #3	0.89	556	6	4	7	1	1.52	0.02	0.01	0.02	0.00
	Boiler #4	515.24	8,141	3,658	2,061	4,122	747	22.30	10.02	5.65	11.29	2.05
	Boiler #5	2753.91	26,465	19,553	11,016	22,031	3,993	72.51	53.57	30.18	60.36	10.94
2012	Boiler #3	285.65	3,208	2,028	1,143	2,285	414	8.79	5.56	3.13	6.26	1.13
	Boiler #4	1856.66	16,784	13,182	7,427	14,853	2,692	45.98	36.12	20.35	40.69	7.38
	Boiler #5	1268.04	13,314	9,003	5,072	10,144	1,839	36.48	24.67	13.90	27.79	5.04
2013	Boiler #3	242.8	3,433	1,724	971	1,942	352	9.41	4.72	2.66	5.32	0.96
	Boiler #4	1510.66	12,478	10,726	6,043	12,085	2,190	34.19	29.39	16.56	33.11	6.00
	Boiler #5	1409.84	15,311	10,010	5,639	11,279	2,044	41.95	27.42	15.45	30.90	5.60
2014	Boiler #3	433.59	4,175	3,078	1,734	3,469	629	11.44	8.43	4.75	9.50	1.72
	Boiler #4	1153.06	9,916	8,187	4,612	9,224	1,672	27.17	22.43	12.64	25.27	4.58
	Boiler #5	1535.7	15,971	10,903	6,143	12,286	2,227	43.76	29.87	16.83	33.66	6.10
2015	Boiler #3	322.427	3,211	2,289	1,290	2,579	468	8.80	6.27	3.53	7.07	1.28
	Boiler #4	649.937	3,854	4,615	2,600	5,200	942	10.56	12.64	7.12	14.25	2.58
	Boiler #5	1564.606	16,898	11,109	6,258	12,517	2,269	46.30	30.43	17.15	34.29	6.22
5-YR AVG	Boiler #3		3,693	2,684	1,512	3,024	548	7.99	5.00	2.82	5.63	1.02
	Boiler #4		6,885	6,401	3,606	7,212	1,307	28.04	22.12	12.46	24.92	4.52
	Boiler #5		16,435	11,006	6,201	12,401	2,248	48.20	33.19	18.70	37.40	6.78
							TOTAL:	84.23	60.31	33.98	67.96	12.32

Note:
The daily average emissions were calculated by assuming 365 operating days.

APPENDIX A.2.3

EMISSION FACTORS AND ITS SUPPORTING DOCUMENTATION:

- **GE J 620 GS-F21 MANUFACTURER EMISSIONS GUARANTEE AND OTHER ENGINE PARAMETERS**

- **GE J 620 GS-F21 EQUIPMENT SPECIFICATION**

- **SCAQMD ANNUAL REPORTING REPORT FOR 2010 THROUGH 2014**

- **SOURCE TEST REPORT OF THE EXISTING FLARE SYSTEM CONDUCTED ON MAY 2015**

- **LANDFILL GAS LAB RESULT COLLECTED ON 01/06/2016**

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APPENDIX A.2.3
EMISSION FACTORS OF THE PROPOSED ENGINES
BIOGAS RENEWABLE GENERATION PROJECT

	CONTROLLED EMISSION RATES														
Equipment Type	NO_X		CO		VOC		PM10/2.5		SO_X		NO_X, LBS/HR	CO, LBS/HR	VOC, LBS/HR	PM10/2.5, LBS/HR	SO_X, LBS/HR
GE J 620 GS-F21 (Engine)	11	PPMV	130.1	PPMV	30	PPMV	0.066	g/bhp-hr	10.13	LBS/MMCF	1.22	8.8	1.16	0.61	0.84
Existing Flare System	13.27	LBS/MMCF	1.19	LBS/MMCF	1.3	LBS/MMCF	6.4	LBS/MMCF	5.21	LBS/MMCF					
	UNCONTROLLED EMISSION RATES														
GE J 620 GS-F21 (Engine)	66	PPMV	250	PPMV	56	PPMV	0.066	g/bhp-hr	10.13	LBS/MMCF	7.34	16.92	2.17	0.61	0.84

Equipment Type	Electric Output, $KW_{(GROSS)}$	Fuel Type	Fuel LHV, Btu/SCF	Fuel HHV, Btu/SCF	Dry Fuel Factor (Fd), dscf/mmbtu	Fuel Consumption MMBtu/hr	Fuel Flow MMCF/hr	Fuel Flow SCFM
GE J 620 GS-F21 (Engine)	3,018	Landfill Gas		317.14	9835	26.34	0.083	1383

NOTES:

GE J 620 GS-F21 Engine:
- NO_X and VOC emission concentration based on Rule 1110.2 Emission Limits (SCAQMD BACT/LAER).
- CO emission based on manufacturer emission guarantee.
- PM10 emission factor is based on SCAQMD BACT/LAER emission limit.
- SO_X emission factor based on 60 ppmv of sulfur content measured in H2S for Landfill gas (SCAQMD BACT/LAER).
- Enigne parameter is based provided by the manufacturer.
- Landfill gas HHV is estimated based on the landfill gas sampling on 01/06/2016.

Existing Flare System:
- Emission factors is the average of calculated emission factors reported in SCAQMD Annual Emission Report (AER) for the reporting year 2010 through 2014 and Source test concducted on May, 2015.

Landfill gas property:
-Landfill gas HHV is estimated based on the landfill gas sampling on 01/06/2016.
-Dry Fuel Factor is estimated based on the average heating values from the lab results sampled from 2010 through May, 2015.

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Scholl Canyon Landfill Power Project
Power Island and Major Equipment Request for Proposals
Attachment 2.11.2 – Recip. Engine Generator Air Emissions Data

REG AIR EMISSIONS DATA – PROPOSAL FORM

A. Instructions

This section is for information requested if you are proposing Reciprocating Engine Generators only. All engine generators shall be identical.

Please provide the information and data requested below.

Number of identical Engine Generators Proposed: 4

Each engine's exhaust stack diameter and height: 24"

Maximum total heat input per engine (MMBTUH- HHV): 26.34

Maximum gross electrical output of each generator (MW): 3018 @ 0.85pf

Maximum brake horsepower rating of the engine (bhp): 4183

B. Catalyst Information Request

Describe SCR Proposed, (Make, model, catalyst type and material, module size, total volume, other pertinent information): **Johnson Matthey SCR10x10, two (2) layers of extruded SW55. Each layer consists of 25 modules and each module's dimensions are 12" x 12" x 12". The total volume is 47 ft3.**

Describe Oxidation Catalyst Proposed, (Make, model, catalyst type and material, module size, total volume, other pertinent information): **Johnson Matthey Oxidation Catalyst, one layer of coated metallic SC09 Oxidation Catalyst. Layer consists 25 modules and each module's dimensions are 12" x 12" x 3.5". The total volume is 7.3 ft3.**

Guaranteed Ammonia Concentration at the outlet of the SCR Unit (Ammonia Slip) (PPMV, @ 15% O2): **Johnson Matthey SCR system ammonia slip will be less than 10 ppmvd corrected to 15% oxygen**

Performance Guarantee (% Reduction) on NO_X, CO, and VOC: **Johnson Matthey SCR system will meet SCAQMD Rule 1110.2, NOx = 11 ppmvd, CO = 250 ppmvd. VOC = 30 ppmvd, all corrected to 15% oxygen**

Ammonia Storage Information (Dimension, capacity, pressure): By Others

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Scholl Canyon Landfill Power Project
Power Island and Major Equipment Request for Proposals
Attachment 2.11.2 – Recip. Engine Generator Air Emissions Data

C. Exhaust Parameters Guarantees for Full Load Operation (each engine)

Maximum Exit Exhaust Flow (ACFM): 479,000 *Per engine specs, exhaust gas volume
Maximum Exit Exhaust Flow (SCFM): 481,020 (wet) is 481,020 scfh
Exit Exhaust Temp (°F): 797
Exit Pressure (inc. H_2O): not to exceed 20.068 (0.725psi)

D. Emissions Rates Guarantees for each Engine

For engines operating at all loads, minimum to maximum, please provide the following guarantee information for all design conditions listed in Attachment 3 Site Design Condition.

Contaminants	PPMV and Fuel Use MMBTUH HHV	Standard PPMV
CO (PPMV, @ 15% O2, dry) :	≤ 250 @ 23,842 MBTU/hr	250
NOx (PPMV, @ 15% O2, dry):	≤ 11 @ 23,842 MBTU/hr	11
NMNEHC (PPMV,@ 15% O2, dry):	≤ 30 @ 23,842 MBTU/hr	30
Formaldehyde (PPMV,@ 15% O2):	≤ 59 @ 23,842 MBTU/hr	n/a
SOx (PPMV, @ 15% O2, dry):	Per GEJ Emissions Data Attached	n/a

Landfill Gas CH4 Destruction Efficiency (%,): **Not Applicable**
Landfill Gas NMOC Destruction Efficiency (%,): **98**

	Lbs/MMBTU-HHV
PM 10 (Lbs/MMBTU - HHV):	0.061 lbs/Mwe/Hr = 7.76×10^{-6} lbs/MBTU

E. Emissions Guarantees for Start Up & Shut down for each Engine

Cold Start Event

Define Cold Start: Catalyst at ambient temperature
Duration (Minutes): 30 minutes -

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Scholl Canyon Landfill Power Project
Power Island and Major Equipment Request for Proposals
Attachment 2.11.2 – Recip. Engine Generator Air Emissions Data

Contaminants	Lbm /Event & Lbm/MMBtu HHV During Event	
CO (@ 15% O2, dry) :	24 lbm/event	0.0013 lbm/MBTU
NOx (@ 15% O2, dry):	23.5 lbm/event	0.00127 lbm/MBTU
NMNEHC (as hexane @ 3% O2, dry):	1.2 lbm/event	$6.3x10^{-5}$ lbm/MBTU
Formaldehyde (@ 15% O2):	2.1 lbm/event	$1.2x10^{-4}$ lbm/MBTU
SOx (@ 15% O2, dry):	Per Jenbacher Engine Emissions Data Attached	
PM 10	0.12 lbm/event	$6.6x10^{-6}$ lbm/MBTU

Warm Start Event

Define Warm Start: Catalyst at 325 Deg F
Duration (Minutes): 15 Minutes

Contaminants	Lbm /Event & Lbm/MMBtu HHV During Event	
CO (@ 15% O2, dry):	19.6 lbm/event	0.0011 lbm/MBTU
NOx (@ 15% O2, dry):	18.1 lbm/event	0.001 lbm/MBTU
NMNEHC (as Hexane @ 3% O2, dry):	0.68 lbm/event	$3.7x10^{-5}$ lbm/MBTU
Formaldehyde (@ 15% O2):	1.65 lbm/event	$9.0x10^{-5}$ lbm/MBTU
SOx (@ 15% O2, dry):	Per Jenbacher Engine Emissions Data Attached	
PM 10	0.07 lbm/event	$3.3x10^{-6}$ lbm/MBTU

Hot Start Event

Define Hot Start: Catalyst at 650 Deg F
Duration (Minutes): 0 minutes

Contaminants	Lbm /Event & Lbm/MMBtu HHV During Event	
CO (@ 15% O2, dry):	5.8 lbm/event	$3.2x10^{-4}$ lbm/MBTU
NOx (@ 15% O2, dry):	5.1 lbm/event	$2.8x10^{-4}$ lbm/MBTU
NMNEHC (@ 3% O2, dry):	0.63 lbm/event	$3.5x10^{-5}$ lbm/MBTU
Formaldehyde (@ 15% O2):	1.5 lbm/event	$8.2x10^{-5}$ lbm/MBTU
SOx (@ 15% O2, dry):	Per Jenbacher Engine Emissions Data Attached	
PM 10	0.06 lbm/event	$3.3x10^{-6}$ lbm/MBTU

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Scholl Canyon Landfill Power Project
Power Island and Major Equipment Request for Proposals
Attachment 2.11.2 – Recip. Engine Generator Air Emissions Data

Shut Down Event

Define shut down: Not Applicable
Duration (Minutes): 8 min

Contaminants	Lbm /Event & Lbm/MMBtu HHV During Event	
CO (@ 15% O2, dry):	29.2 lbm/event	0.0045 lbm/MBTU
NOx (@ 15% O2, dry):	7.4 lbm/event	0.0012 lbm/MBTU
NMNEHC (@ 15% O2, dry):	0.46 lbm/event	7.0×10^{-5} lbm/MBTU
Formaldehyde (@ 15% O2):	0.57 lbm/event	8.8×10^{-5} lbm/MBTU
SOx (@ 15% O2, dry):	Per Jenbacher Engine Emissions Data Attached	
PM 10	0.06 lbm/event	9.3×10^{-6} lbm/MBTU

30 November 2016

GE Distributed Power– GE Gas Engines confirms that the pollutants, in the amounts listed below, are confirmed as valid "NOT TO EXCEED" values, for stationary applications per engine, and based on site gas composition that meets TI 1000-0300 standards for the:

Scholl Canyon: J620 F21/F01

Pollutant	Emission Limit per Engine (Untreated Raw Exhaust)
• NOx	1.1 g/bhp-hr (NO_2) 66 ppm (@ 15% O_2) Evaluated using EPA method 7E
• CO	2.5 g/bhp-hr 250 ppm (@ 15% O_2) Evaluated using EPA method 10
• NMHC	0.35 g/bhp-hr 93 ppm (@ 15% O_2) Evaluated using EPA method 18 (non-aldehydes, non-methane hydrocarbons, all CxHy with x>1)
• NMNEHC	0.25 g/bhp-hr 56 ppm (@ 15% O_2) Evaluated using EPA method 18 (non-aldehydes, non-methane, non-ethane hydrocarbons, all CxHy with x>1)
• PM10	0.02 g/bhp-hr 10 mg/Nm³ (5% O_2)
• SO_2	No Guarantee, (See Note 4)

The following criteria apply for demonstration purposes:

(1) Operation will be on **Natural Gas** and/or in combination with **Landfill**, both of which must meet the GE Gas Engines gas quality requirements stated in the Technical Instruction 1000-0300.

(2) A minimum content of 80% CH4 (air free) is required to ensure a stable combustion in our engines when run in Natural gas. A minimum content of 40% CH4 (air free) is required to ensure a stable combustion in our engines when run on Landfill gas.

(3) **Formaldehyde** – GE Gas Engines has done a significant amount of research studying formaldehyde (CH_2O) concentrations in our engine exhaust streams. The results of this research find that formaldehyde is in itself a difficult quantity to measure accurately and consistently, however, what can be stated from our studies is that typically, the range of formaldehyde in raw exhaust can go from 50 to 150 mg/Nm3 at 5% O2 (0.14 TO 0.45 g/bhp-hr).

If a unit is running on Biogas or Landfill Gas (LFG), formaldehyde (CH_2O) is then even more difficult to maintain and measure since Biogas/LFG are high in moisture and sulfur concentrations, which make the use of catalysts very difficult due to the potential of catalyst poisoning.

GE Gas Engines can only guarantee formaldehyde values with an Oxidation Catalyst when we run a GE Gas Engines Standard Natural Gas. In this case, we could achieve levels of 60~70 mg/Nm^3 @ 5% O2 (0.18 to 0.22 g/bhp-hr) on the measurement method VDI 3862.

(4) SO2 and other Sulfur based exhaust elements found in the exhaust stream are introduced to the combustion process through both fuel and combustion air and are not generated by the engine itself. The engine has therefore no control over the amount of Sulfur introduced, thus a guaranteed "Not to Exceed" value cannot be made by GE Gas Engines. Through GE Gas Engines experience however, an exhaust SO_2 value of < 20 ppm @ 15% O_2 can be expected provided fuel and combustion air sulfur compound content (H_2S, COS, CS_2, etc.) is held at < 150 ppm @ 15% O_2.

(5) Based on nominal mass flow as provided by the project specific data sheets or mass flow calculations according EPA method 19.

(6) For emissions shown in units of **g/bhp-hr**, values are valid between 80% and 100% rated stable load (not for island mode).

(7) For emissions shown in units of **mg/Nm^3**, values are valid between 50% and 100% rated stable load (not for island mode).

(8) Please note that the CO and NMHC levels are for start-up only and are expected to drift slowly upwards as deposits build up in the engine and as the engine experiences normal wear. CO drift can be decreased by following GE Gas Engines specific maintenance and repair schedules along with the use of genuine GE Gas Engines parts and components.

(9) Please note that the NOx level is expected to drift slowly upwards as deposits caused by contaminations in the gas build up in the engine and as the engine experiences normal wear. NOx drift can be compensated up to a certain extent, by calibrations to engine operating parameters in the Diane XT controls system. Excessive deposits resulting from gas contamination may require the cleaning of the combustion chamber and turbochargers depending on gas quality and the severity of gas contaminations.

(10) Maintenance and component repairs for the GE Gas Engines equipment is carried out by qualified personnel strictly according to the schedules and repair requirements set by GE Gas Engines along with the use of genuine GE Gas Engines parts and components.

(11) Testing to determine compliance with this commitment will be at the expense of the customer and accomplished by a certified laboratory chosen by the customer. The engine/installation is to be in good working order consistent with GE Gas Engines recommended maintenance practices prior to any testing. GE Gas Engines reserves the right to participate and/or challenge the results of any testing.

If the engine fails to meet the emissions representations the customer must provide the following supporting documentation to GE Gas Engines:

(1) Fuel gas samples

(2) Complete maintenance records

(3) A full report including the calculations and results of any emissions testing.

GE Gas Engines will be given a reasonable amount of time to take any or all of the following actions:

- Perform additional testing in an effort demonstrate the emissions representations. If this testing demonstrates compliance with no adjustments required to the engine, customer will pay for added testing. If testing fails to demonstrate compliance with the emissions representations, the testing will be paid for by GE Gas Engines.

- Make such adjustments to the engine so as to bring the engine into compliance with the emissions limits provided in this letter.

Conformity Declaration (acc. ISO/IEC 17050-1:2004)

We hereby confirm that stationary Jenbacher Gas Engines comply with 40 CFR Part 60, subpart JJJJ and be labelled as follows:

"THIS ENGINE IS EXCLUDED FROM THE REQUIREMENT OF 40 CFR PART 1048 AS A "STATIONARY ENGINE". INSTALLING OR USING THIS ENGINE IN ANY OTHER APPLICATION MAY BE A VIOLATION OF FEDERAL LAW SUBJECTED TO CIVIL PENALTY AND THE OWNER/OPERATOR MUST COMPLY WITH THE REQUIREMENT OF CFR PART 60. THIS ENGINE IS NOT PART OF A REQUIRED OR VOLUNTARY CERTIFICATION PROGRAM AND IS CLASSIFIED AS NON-CERTIFIED PER 40 CFR PART 60, SUBPART JJJJ".

GE Distributed Power
GE Gas Engines
11330 Clay Road
Houston, TX 77041

Johnson Matthey Catalysts
Stationary Source Emission Control
900 Forge Avenue; Audubon, PA 19403
T:484-320-2116; F:484-320-2152

Johnson Matthey
Catalysts

C O N F I D E N T I A L

To: 2G Energy, Inc. June 27, 2017
205 Commercial Drive, St. Augustine, FL 32092

Re: Confirmation of Scholl Canyon Emission Discharge Levels on Proposal 400-16-238

The Johnson Matthey proposal 400-16-238 written on 11/04/2016 for the Scholl Canyon Project stated that the proposed emission system being offered would guarantee a CO discharge level of 250 ppmvd @ 15%, and an ammonia slip discharge guarantee of 10 ppmvd @ 15 %. We did not show the actual design values that could be guaranteed because, at the time, we thought the values mentioned above would be sufficient and did not want to overstate or guarantee more than what was needed.

The emission system offered in proposal 400-16-238 is however much more capable in regards to a lower CO and a lower ammonia slip guarantee. The system recommended in the 400-16-238 proposal can and will meet a 5 ppmvd@15% ammonia slip limit and will guarantee a CO discharge of less than 130 ppmvd @15%. I have revised this original proposal to reflect these changes.

Please let me know if you need anything further in regards to these guaranteed discharge levels.

Sincerely,

Robert Bono

Robert Bono
Western Sales Manager
Johnson Matthey Stationary Engine Emissions, LLC,
949-307-1265 mobile

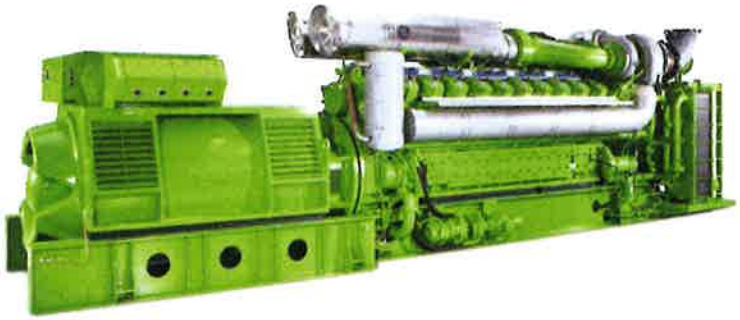
Technical Description

Genset

JGS 620 GS-L.L

Scholl Canyon
JGS 620 F21/F01, 12470V Dual Fuel

The ratings in the specification are valid for full load operation at a site installation of 1640 ft (500 m) and an air intake temperature of T1 < 86F (30C). At T1 > 86F (30C), an output deration of 0.55%/F (1.0%/C) will occur to an intake temperature of T1 < 95 F (35 C). At T1 > 95F (35 C), and output deration of 1.11%/F (2.0%/C) will occur.



Electrical output (PF = 1.0 / 0.85) 3026 / 3018 kWe

Emission values

NOx < 1.1 g/bhp.hr (NO2)

0.01a Technical Data on Landfill Gas (at genset)

Data at:				Full load	Part Load	
Fuel gas LHV		BTU/scft		300		
				100%	75%	50%
Energy input		MBTU/hr	[2]	23,948	18,506	13,063
Gas volume		scfhr	*)	79,827	61,687	43,543
Mechanical output		bhp	[1]	4,183	3,137	2,091
Electrical output		kW el.	[4]	3,026	2,256	1,483
Heat to be dissipated			[5]			
~ Intercooler 1st stage (Engine jacket water cooling circuit)		MBTU/hr	[9]	2,549	1,383	491
~ Intercooler 2nd stage (Low Temperature circuit)		MBTU/hr		454	321	201
~ Lube oil (with gearbox) (Engine jacket water cooling circuit)		MBTU/hr		1,147	988	875
~ Jacket water		MBTU/hr		1,614	1,317	1,085
~ Surface heat	ca.	MBTU/hr	[7]	591	~	~
Spec. fuel consumption of engine electric		BTU/kWel.hr	[2]	7,914	8,202	8,808
Spec. fuel consumption of engine		BTU/bhp.hr	[2]	5,726	5,900	6,248
Lube oil consumption	ca.	gal/hr	[3]	0.29	~	~
Electrical efficiency		%		43.1%	41.6%	38.7%

*) approximate value for pipework dimensioning
[_] Explanations: see 0.10 - Technical parameters

All heat data is based on standard conditions according to attachment 0.10. Deviations from the standard conditions can result in a change of values within the heat balance, and must be taken into consideration in the layout of the cooling circuit/equipment (intercooler; emergency cooling; ...). In the specifications in addition to the general tolerance of ±8 % on the thermal output a further reserve of +5 % is recommended for the dimensioning of the cooling requirements.

0.01b Technical Data on Natural Gas (at genset)

Data at:				Full load	Part Load	
Fuel gas LHV		BTU/scft		917		
				100%	75%	50%
Energy input		MBTU/hr	[2]	23,118	17,766	12,417
Gas volume		scfhr	*)	25,210	19,374	13,541
Mechanical output		bhp	[1]	4,183	3,137	2,091
Electrical output		kW el.	[4]	3,026	2,256	1,483
Heat to be dissipated			[5]			
~ Intercooler 1st stage (Engine jacket water cooling circuit)		MBTU/hr	[9]	2,522	1,407	497
~ Intercooler 2nd stage (Low Temperature circuit)		MBTU/hr		584	346	204
~ Lube oil (with gearbox) (Engine jacket water cooling circuit)		MBTU/hr		1,053	970	830
~ Jacket water		MBTU/hr		1,684	1,468	1,238
~ Surface heat	ca.	MBTU/hr	[7]	719	~	~
Spec. fuel consumption of engine electric		BTU/kWel.hr	[2]	7,639	7,874	8,372
Spec. fuel consumption of engine		BTU/bhp.hr	[2]	5,527	5,664	5,939
Lube oil consumption	ca.	gal/hr	[3]	0.29	~	~
Electrical efficiency		%		44.7%	43.3%	40.8%

*) approximate value for pipework dimensioning
[_] Explanations: see 0.10 - Technical parameters

All heat data is based on standard conditions according to attachment 0.10. Deviations from the standard conditions can result in a change of values within the heat balance, and must be taken into consideration in the layout of the cooling circuit/equipment (intercooler; emergency cooling; ...). In the specifications in addition to the general tolerance of ±8 % on the thermal output a further reserve of +5 % is recommended for the dimensioning of the cooling requirements.

Main dimensions and weights (at genset)(with gearbox)

Length	in	~ 420
Width	in	~ 90
Height	in	~ 110
Weight empty	lbs	~ 84,110
Weight filled	lbs	~ 86,430

Connections

Jacket water inlet and outlet	in/lbs	4"/145
Exhaust gas outlet	in/lbs	25"/145
Fuel Gas (at genset)	in/lbs	4"/145
Water drain ISO 228	G	½"
Condensate drain	in	0.7
Safety valve - jacket water ISO 228	in/lbs	2x1½"/2.5
Lube oil replenishing (pipe)	in	1.1
Lube oil drain (pipe)	in	1.1
Jacket water - filling (flex pipe)	in	0.5
Intercooler water-Inlet/Outlet 1st stage	in/lbs	4"/145
Intercooler water-Inlet/Outlet 2nd stage	in/lbs	2½"/145

Output / fuel consumption

ISO standard fuel stop power ICFN	bhp	4,183 | 4.183
Mean effe. press. at stand. power and nom. speed	psi	290 | 290
Fuel gas type		Landfill gas | Natural gas
Based on methane number | Min. methane number	MN d)	135 | 100 | 94 | 80
Compression ratio	Epsilon	12.5
Min. fuel gas pressure for the pre chamber	psi	48.73268064
Min./Max. fuel gas pressure at inlet to gas train	psi	1.74 - 2.9 c)
Allowed Fluctuation of fuel gas pressure	%	± 10
Max. rate of gas pressure fluctuation	psi/sec	0.145
Maximum Intercooler 2nd stage inlet water temperature	°F	122
Spec. fuel consumption of engine	BTU/bhp.hr	5,726 | 5,527
Specific lube oil consumption	g/bhp.hr	0.22
Max. Oil temperature	°F	176
Jacket-water temperature max.	°F	203
Filling capacity lube oil (refill)	gal	~ 202

c) Lower gas pressures upon inquiry
d) based on methane number calculation software AVL 3.2

0.02 Technical data of engine

Manufacturer		GE Jenbacher
Engine type		J 620 GS-F21
Working principle		4-Stroke
Configuration		V 60°
No. of cylinders		20
Bore	in	7.48
Stroke	in	8.66
Piston displacement	cu.in	7,613
Nominal speed	rpm	1,500
Mean piston speed	in/s	433
Length	in	218
Width	in	75
Height	in	100
Weight dry	lbs	33,069
Weight filled	lbs	35,274
Moment of inertia	lbs-ft²	1642.63
Direction of rotation (from flywheel view)		left
Radio interference level to VDE 0875		N
Starter motor output	kW	20
Starter motor voltage	V	24

Thermal energy balance

Energy input	MBTU/hr	23,948 | 23,118
Intercooler	MBTU/hr	3,003 | 3,106
Lube oil (with gearbox)	MBTU/hr	1,147 | 1,053
Jacket water	MBTU/hr	1,614 | 1,684
Exhaust gas cooled to 356 °F	MBTU/hr	4,555 | 3,604
Exhaust gas cooled to 212 °F	MBTU/hr	5,985 | 4,982
Surface heat	MBTU/hr	305 | 433

Exhaust gas data

Exhaust gas temperature at full load	°F [8]	797 | 721
Exhaust gas mass flow rate, wet	lbs/hr	38,838 | 37,286
Exhaust gas mass flow rate, dry	lbs/hr	36,410 | 34,946
Exhaust gas volume, wet	scfhr	481,020 | 472,560
Exhaust gas volume, dry	scfhr	432,660 | 425,940
Max.admissible exhaust back pressure after engine	psi	0.725

Combustion air data

Combustion air mass flow rate	lbs/hr	33,929 | 36,244
Combustion air volume	SCFM	7,009 | 7,488
Max. admissible pressure drop at air-intake filter	psi	0.145

Sound pressure level

Aggregate a)	dB(A) re 20µPa	101
31,5 Hz	dB	88
63 Hz	dB	95
125 Hz	dB	101
250 Hz	dB	99
500 Hz	dB	94
1000 Hz	dB	93
2000 Hz	dB	92
4000 Hz	dB	94
8000 Hz	dB	95
Exhaust gas b)	dB(A) re 20µPa	123
31,5 Hz	dB	112
63 Hz	dB	121
125 Hz	dB	131
250 Hz	dB	119
500 Hz	dB	117
1000 Hz	dB	118
2000 Hz	dB	117
4000 Hz	dB	112
8000 Hz	dB	98

Sound power level

Aggregate	dB(A) re 1pW	122
Measurement surface	ft²	1,345
Exhaust gas	dB(A) re 1pW	131
Measurement surface	ft²	67.60

a) average sound pressure level on measurement surface in a distance of 3.28ft (converted to free field) according to DIN 45635, precision class 3.
b) average sound pressure level on measurement surface in a distance of 3.28ft according to DIN 45635, precision class 2.
The spectra are valid for aggregates up to bmep=319.083028 psi. (for higher bmep add safety margin of 1dB to all values per increase of 15 PSI pressure).
Engine tolerance ± 3 dB

0.02.01 Technical data of gearbox

Manufacturer		EISENBEISS
Type		~
Gearbox ratio		1:1.2
Efficiency	%	99.51
Mass	lbs	3,748

0.03 Technical data of generator (Special Rating)

Manufacturer		AVK e)
Type		DIG 142 g/4 e)
Type rating	kVA	4,264
Driving power	bhp	4,162
Ratings at p.f.= 1.0	kW	3,026
Ratings at p.f. = 0.85	kW	3,018
Rated output at p.f. = 0.85	kVA	3,551
Rated reactive power at p.f. = 0.85	kVAr	1,871
Rated current at p.f. = 0.85	A	164.4
Frequency	Hz	60
Voltage	kV	12.47
Speed	rpm	1,800
Permissible overspeed	rpm	2,250
Power factor (lagging - leading)		0,8 - 1,0
Efficiency at p.f.= 1.0	%	97.5%
Efficiency at p.f.= 0.85	%	97.2%
Efficiency at p.f. = 0.8	%	97.3%
Moment of inertia	lbs-ft²	4936.67
Mass	lbs	26,345
Radio interference level to EN 55011 Class A (EN 61000-6-4)		N
Ik" Initial symmetrical short-circuit current	kA	1.44
Is Peak current	kA	3.67
Insulation class		F
Temperature rise (at driving power)		B
Maximum ambient temperature	°F	110.

Reactance and time constants (saturated)

xd direct axis synchronous reactance	p.u.	1.82
xd' direct axis transient reactance	p.u.	0.17
xd" direct axis sub transient reactance	p.u.	0.12
x2 negative sequence reactance	p.u.	0.13
Td" sub transient reactance time constant	ms	20
Ta Time constant direct-current	ms	120
Tdo' open circuit field time constant	s	4.00

e) GE Jenbacher reserves the right to change the generator supplier and the generator type. The contractual data of the generator may thereby change slightly. The contractual produced electrical power will not change.

100% Natural Gas Connection Variant 1K

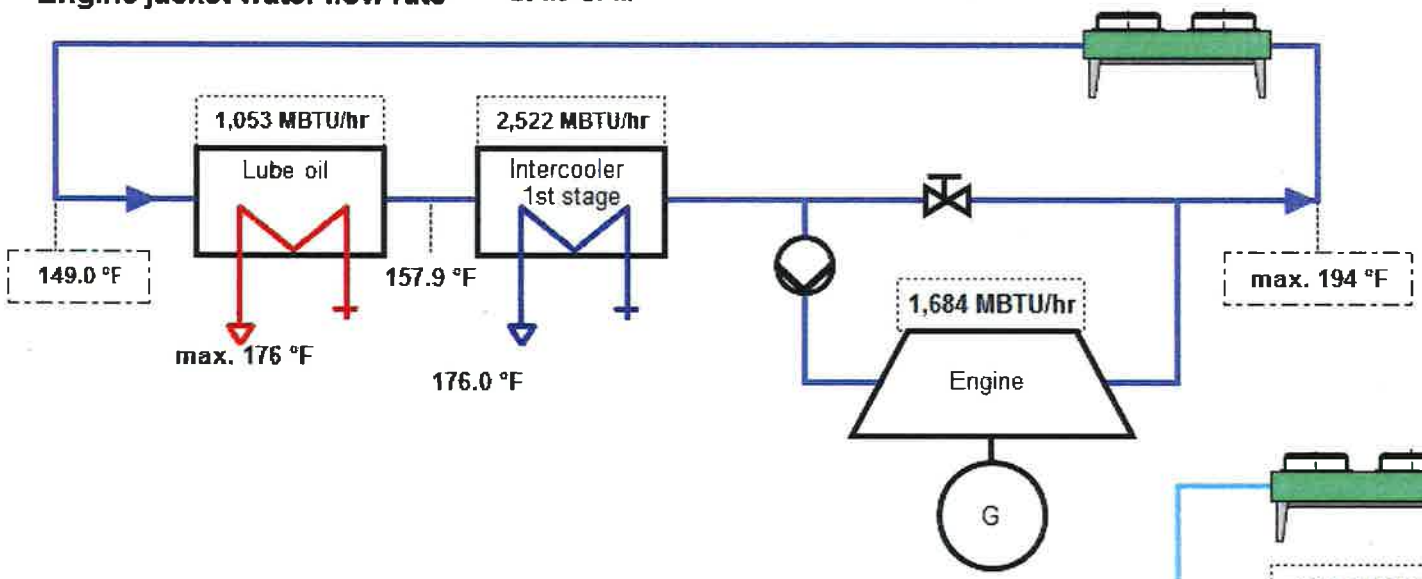
Scholl Canyon J 620 GS-F21

* Engine jacket water cooling circuit (calculated with Glykol 37%)

Heat to be dissipated = 5,259 MBTU/hr

(±8 % tolerance +5 % reserve for cooling requirements)

Engine jacket water flow rate = 264.3 GPM

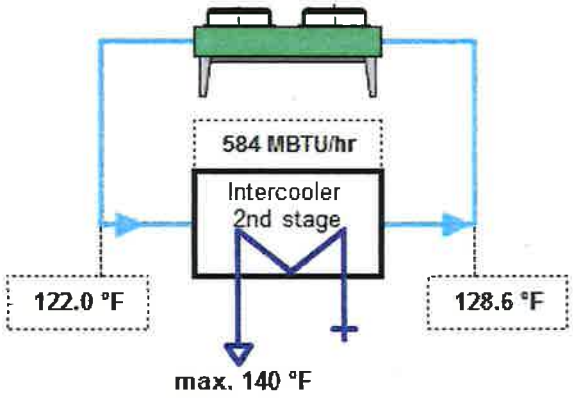


* Low Temperature circuit (calculated with Glykol 37%)

Heat to be dissipated = 584 MBTU/hr

(±8 % tolerance +5 % reserve for cooling requirements)

Cooling water flow rate = 198.1 GPM



100% Landfill Gas Connection Variant 1K

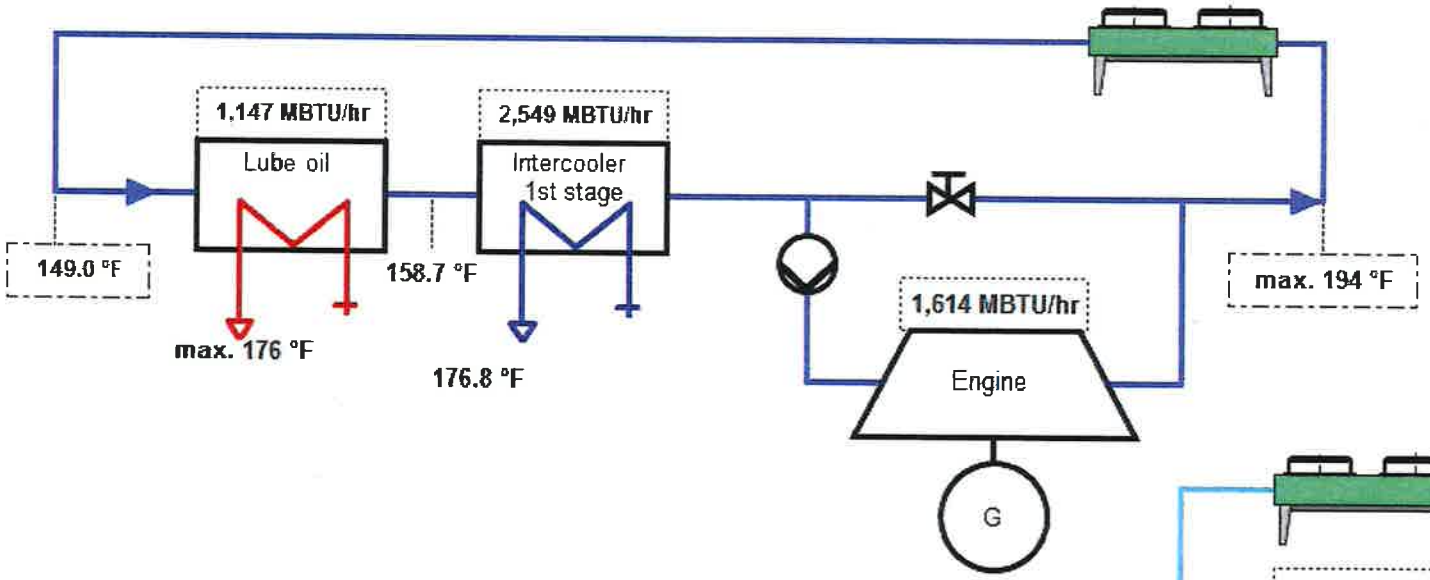
Scholl Canyon J 620 GS-F21

Engine jacket water cooling circuit (calculated with Glykol 37%)

Heat to be dissipated = 5,310 MBTU/hr

(±8 % tolerance +5 % reserve for cooling requirements)

Engine jacket water flow rate = 264.5 GPM

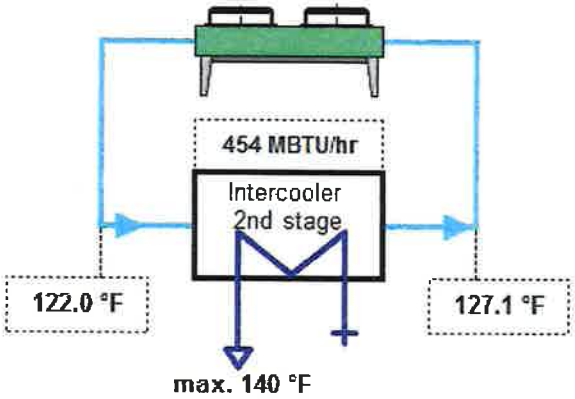


Low Temperature circuit (calculated with Glykol 37%)

Heat to be dissipated = 454 MBTU/hr

(±8 % tolerance +5 % reserve for cooling requirements)

Cooling water flow rate = 198.1 GPM



0.05 Cooling water circuit

Oil - heat (Engine jacket water cooling circuit)

Nominal output	MBTU/hr	1,147 | 1,053
Max. Oil temperature	°F	176
Loss of nominal pressure of engine jacket water	psi	5.80
Safety valve - max press. set point	psi	50.76

Engine jacket water - heat (Engine jacket water cooling circuit)

Nominal output	MBTU/hr	1,614 | 1,684
Max. engine jacket water temperature (outlet engine)	°F	194
Engine jacket water flow rate	GPM	264.5
Safety valve - max press. set point	psi	50.76

Mixture Intercooler (1st stage) (Engine jacket water cooling circuit)

Nominal output	MBTU/hr	2,549 | 2,522
Max. inlet cooling water temp. (intercooler)	°F	158.7
Design pressure of cooling water / (max. operating pressure)	lbs	145
Loss of nominal pressure of engine jacket water	psi	7.25
Safety valve - max press. set point	psi	50.76

Mixture Intercooler (2nd stage) (Low Temperature circuit)

Nominal output	MBTU/hr	454 | 584
Max. inlet cooling water temp. (intercooler)	°F	122
Aftercooler water flow rate	GPM	198.1
Design pressure of cooling water / (max. operating pressure)	lbs	145
Intercooler water pressure drop	psi	8.70
Safety valve - max press. set point	psi	50.76

The final pressure drop will be given after final order clarification and must be taken from the P&ID order documentation.

0.10 Technical parameters

The following "Technical Instruction (TI) of GE JENBACHER" form an integral part of the contract and must be strictly observed:

TI 1100-0110 – Boundary Conditions for GE Jenbacher Gas Engines
TI 1100-0111 – General Conditions – Operation and Maintenance
TI 1100-0112 – Installation of GE Jenbacher Units

These Technical Instructions reference other guides and instructions which can be provided upon request. These should be reviewed carefully by all personnel involved with the application, installation, and maintenance of any GE Jenbacher gas engine.

All data in the technical specification are based on engine full load (unless stated otherwise) at specified temperatures as well as the methane number and subject to technical development and modifications. For isolated operation an output reduction may apply according to the block load diagram. Before being able to provide exact output numbers, a detailed site load profile needs to be provided (motor starting curves, etc.).

All pressure indications are to be measured and read with pressure gauges (psig).

(1) At nominal speed and standard reference conditions ICFN according to DIN-ISO 3046 and DIN 6271, respectively
(2) According to DIN-ISO 3046 and DIN 6271, respectively, with a tolerance of + 5 %.
Efficiency performance is based on a new unit (immediately upon commissioning).Effects of degradation during normal operation can be mitigated through regular service and maintenance work.
(3) Average value between oil change intervals according to maintenance schedule, without oil change amount
(4) At p. f. = 1.0 according to VDE 0530 REM / IEC 34.1 with relative tolerances
(5) Total output with a tolerance of +/- 8 %
(6) According to above parameters (1) through (5)
(7) Only valid for engine and generator; module and peripheral equipment not considered (at p. f. = 0.8)
(8) Exhaust temperature with a tolerance of +/- 8 %
(9) Intercooler heat on:
*** standard conditions (Vxx)** - If the turbocharger design is done for air intake temperature > 86°F w/o de-rating, the intercooler heat of the 1st stage need to be increased by 2%/K starting from 77°F. Deviations between 77 – 86°F will be covered with the standard tolerance.
*** Hot Country application (Vxxx)** - If the turbocharger design is done for air intake temperature > 104°F w/o de-rating, the intercooler heat of the 1st stage need to be increased by 2%/K starting from 95°F. Deviations between 95 – 104°F will be covered with the standard tolerance.

Definition of output

- ISO-ICFN continuous rated power:
Net break power that the engine manufacturer declares an engine is capable of delivering continuously, at stated speed, between the normal maintenance intervals and overhauls as required by the manufacturer.

Power determined under the operating conditions of the manufacturer's test bench and adjusted to the standard reference conditions.

- Standard reference conditions:

Barometric pressure:	14.5 psi (1000 mbar) or 328 ft (100 m) above sea level
Air temperature:	77°F (25°C) or 298 K
Relative humidity:	30 %

- Volume values at standard conditions (fuel gas, combustion air, exhaust gas)

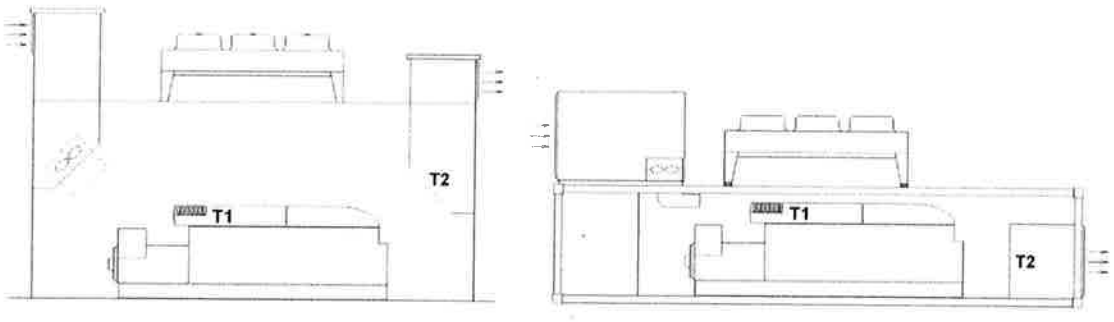
Pressure:	1 atmosphere (1013.25 mbar)
Temperature:	32°F (0°C)

Output adjustment for turbo charged engines
The ratings in the specification are valid for full load operation at a site installation of 1640 ft (500 m) and an air intake temperature of T1 < 86F (30C). At T1 > 86F (30C), an output deration of 0.55%/F (1.0%/C) will occur to an air intake temperature of T1 < 95 F (35C). At T1 > 95 F (35 C), an output deration of 1.11%/F (2.0%/C) will occur.

Radio interference level
The ignition system of the gas engines complies the radio interference levels of CISPR 12 and EN 55011 class B, (30-75 MHz, 75-400 MHz, 400-1000 MHz) and (30-230 MHz, 230-1000 MHz), respectively.

Parameters for the operation of GE Jenbacher gas engines

Maximum room temperature: **122°F** (T2) -> engine stop



If the actual methane number is lower than the specified, the knock control responds. First the ignition timing is changed at full rated power. Secondly the rated power is reduced. These functions are carried out by the engine management.

Operation of Voltage and frequency outside of stated limits for the generator as per IEC 60034-1 Zone A will result in a power de-rate up to and including tripping of the equipment.

The generator set fulfills the limits for mechanical vibrations according to ISO 8528-9.

If possible, railway trucks must not be used for transport (**TI 1000-0046**).

Parameters for the operation of control unit and the electrical equipment

Relative humidity: 50%
Maximum temperature: 104°F.
Altitude: <2000m above the sea level.

The gas quantity indicated under the technical data refers to standard conditions with the given calorific value. The actual volume flow (under operating conditions) has to be considered for dimensioning the gas compressor and each gas feeding component – it will be affected by:

- Actual gas temperature (limiting temperature according to **TI 1000-0300**)
- Gas humidity (limiting value according to **TI 1000-0300**)
- Gas Pressure
- Landfill Gas is assumed to be 32% CH4, 27% CO2

1.00 Scope of supply - Genset

Design:
The genset is built as a compact package.
Engine and generator are connected through coupling and gearbox and are mounted to the base frame. To provide the best possible isolation from the transmission of vibrations the engine is mounted to the frame by means of anti-vibrational mounts. The remaining vibrations are eliminated by mounting the module on isolating pads (e.g. Sylomer). This, in principle, allows for placing of the genset to be directly on any floor capable of carrying the static load. No special foundation is required. Prevention of sound conducted through solids has to be provided locally. Prevention of sound conducted through solids has to be provided locally.

1.01 Spark ignited gas engine

Four-stroke, air/gas mixture turbocharged, after-cooled, with high performance ignition system and electronically controlled air/gas mixture system.
The engine is equipped with the most advanced

LEANOX® LEAN-BURN COMBUSTION SYSTEM

developed by GE JENBACHER.

1.01.01 Engine design

Engine block
Single-piece crankcase and cylinder block made of special casting; crank case covers for engine inspection, welded steel oil pan.

Crankshaft and main bearings
Drop-forged, precision ground, surface hardened, statically and dynamically balanced; main bearings (upper bearing shell: grooved bearing / lower bearing shell: sputter bearing) arranged between crank pins, drilled oil passages for forced-feed lubrication of connecting rods.

Vibration damper
Maintenance free viscous damper

Flywheel
With ring gear for starter motor and additionally screwed on.

Pistons
Single-piece made of steel, with piston ring carrier and oil passages for cooling; piston rings made of high quality material, main combustion chamber specially designed for lean burn operation.

Connecting rods
Drop-forged, heat-treated, big end diagonally split and toothed. Big end bearings (upper bearing shell: sputter bearing / lower bearing shell: sputter bearing) and connecting rod bushing for piston pin.

Cylinder liner
Chromium alloy gray cast iron, wet, individually replaceable.

Cylinder head
Specially designed and developed for GE JENBACHER-lean burn engines with optimized fuel consumption and emissions; water cooled, made of special casting, individually replaceable; Valve seats and valve guides and spark plug sleeves individually replaceable; exhaust and inlet valve made of high quality material; Pre-chamber with check-valve.

Crankcase breather
Connected to combustion air intake system

Valve train
Camshaft, with replaceable bushings, driven by crankshaft through intermediate gears, valve lubrication by splash oil through rocker arms.

Combustion air/fuel gas system
Motorized carburetor for automatic adjustment according fuel gas characteristic. Exhaust driven turbocharger, mixture manifold with bellows, water-cooled intercooler, throttle valve and distribution manifolds to cylinders.

Ignition system
Most advanced, fully electronic high performance ignition system, external ignition control.
MORIS: Automatically, cylinder selective registration and control of the current needed ignition voltage.

Lubricating system
Gear-type lube oil pump to supply all moving parts with filtered lube oil, pressure control valve, pressure relief valve and full-flow filter cartridges. Cooling of the lube oil is arranged by a heat exchanger.

Engine cooling system
Jacket water pump complete with distribution pipework and manifolds.

Exhaust system
Turbocharger and exhaust manifold

Exhaust gas temperature measuring
Thermocouple for each cylinder

Electric actuator
For electronic speed and output control

Electronic speed monitoring for speed and output control
By magnetic inductive pick up over ring gear on flywheel

Starter motor
Engine mounted electric starter motor

1.01.02 Additional equipment for the engine (spares for commissioning)

The initial set of equipment with the essential spare parts for operation after commissioning is included in the scope of supply.

1.01.03 Engine accessories

Insulation of exhaust manifold:
Insulation of exhaust manifold is easily installed and removed

Sensors at the engine:
- Jacket water temperature sensor
- Jacket water pressure sensor
- Lube oil temperature sensor
- Lube oil pressure sensor
- Mixture temperature sensor
- Charge pressure sensor
- Minimum and maximum lube oil level switch
- Exhaust gas thermocouple for each cylinder
- Knock sensors
- Gas mixer / gas dosing valve position reporting.

Actuator at the engine:
- Actuator - throttle valve
- Bypass-valve for turbocharger
- Control of the gas mixer / gas dosing valve

1.01.04 Standard tools (per installation)

The tools required for carrying out the most important maintenance work are included in the scope of supply and delivered in a toolbox.

1.02 Generator-medium voltage (Special)

The 2 bearing generator consists of the main generator (built as rotating field machine), the exciter machine (built as rotating armature machine) and the digital excitation system.
The digital regulator is powered by an auxiliary winding at the main stator or a PMG system

Main components:

- Enclosure of welded steel construction
- Stator core consist of thin insulated electrical sheet metal with integrated cooling channels.
- Stator winding with 5/6 Pitch
- Rotor consist of shaft with shrunken laminated poles, Exciter rotor, PMG (depending on Type) and fan.
- Damper cage
- Excitation unit with rotating rectifier diodes and overvoltage protection
- Dynamically balanced as per ISO 1940, Balance quality G2,5
- Drive end bracket with re greaseable antifriction bearing
- Non-drive end bracket with re grease antifriction bearing
- Cooling IC01 - open ventilated, air entry at non-drive end , air outlet at the drive end side
- Main terminal box includes main terminals for power cables
- Regulator terminal box with auxiliary terminals for thermistor connection and regulator.
- Anti-condensation heater
- 3 PT100 for winding temperature monitoring+3 PT100 Spare
- 2 PT100 for bearing temperature monitoring
- Current transformer for protection and measuring in the star point
  xx/1A, 10P10 15VA , xx/1A, 1FS5, 15VA

Electrical data and features:

- Standards: IEC 60034, EN 60034, VDE 0530, ISO 8528-3, ISO 8528-9
- Voltage adjustment range: +/- 10 % of rated voltage (continuous)
- Frequency: -6/+4% of rated frequency
- Overload capacity: 10% for one hour within 6 hours, 50% for 30 seconds
- Asymmetric load: max. 8% I2 continuous, in case of fault I2 x t=20
- Altitude: < 1000m
- Max permitted generator intake air temperature: 5°C - 43°C
- Max. relative air humidity: 90%
- Voltage curve THD Ph-Ph: <3% at idle operation and <3% at full load operation with linear symmetrical load
- Generator suitable for parallel operating with the grid and other generators
- Sustained short circuit current at 3-pole terminal short circuit: minimum 3 times rated current for 5 seconds.
- Over speed test with 1.2 times of rated speed for 2 minutes according to IEC 60034

Digital Excitation system ABB Unitrol 1010 mounted within the AVR Terminal box with following features:

- Compact and robust Digital Excitation system for Continuous output current up to 10 A (20A Overload current 10s)
- Fast AVR response combined with high excitation voltage improves the transient stability during LVRT events.
- The system has free configurable measurement and analog or digital I/Os. The configuration is done via the local human machine interface or CMT1000
- Power Terminals
  3 phase excitation power input from PMG or auxiliary windings
  Auxiliary power input 24VDC
- Excitation output
- Measurement terminals: 3 phase machine voltage, 1 phase network voltage, 1 phase machine current
- Analog I/Os: 2 outputs / 3 inputs (configurable), +10 V / -10 V
- Digital I/O: 4 inputs only (configurable), 8 inputs / outputs (configurable)
- Serial fieldbus: RS485 for Modbus RTU or VDC (Reactive power load sharing for up to 31 GEJ engines in island operation), CAN-Bus for dual channel communication
- Regulator Control modes: Bump less transfer between all modes
  Automatic Voltage Regulator (AVR) accuracy 0,1% at 25°C ambient temperature
  Field Current Regulator (FCR)
  Power Factor Regulator (PF)
  Reactive Power Regulator (VAR)
- Limiters: Keeping synchronous machines in a safe and stable operation area
  Excitation current limiter (UEL min / OEL max)
  PQ minimum limiter
  Machine current limiter
  V / Hz limiter
  Machine voltage limiter
- Voltage matching during synchronization
- Rotating diode monitoring
- Dual channel / monitoring: Enables the dual channel operation based on self-diagnostics and setpoint follow up over CAN communication. As Option available
- Power System Stabilizer (PSS) is available as option. Compliant with the standard IEEE 421.5-2005 2A / 2B, the PSS improves the stability of the generator over the highest possible operation range.
- Computer representation for power system stability studies: ABB 3BHS354059 E01
- Certifications: CE, cUL certification according UL 508c (compliant with CSA), DNV Class B,

- **Commissioning and maintenance Tool CMT1000** (for trained commissioning/ maintenance personal)
- With this tool the technician can setup all parameters and tune the PID to guarantee stable operation. The CMT1000 software allows an extensive supervision of the system, which helps the user to identify and locate problems during commissioning on site. The CMT1000 is connected to the target over USB or Ethernet port, where Ethernet connection allows remote access over 100 m.
- Main window
  - Indication of access mode and device information.
  - Change of parameter is only possible in CONTROL access mode.
  - LED symbol indicates that all parameter are stored on none volatile memory.
- Setpoint adjust window
  - Overview of all control modes, generator status, active limiters status and alarms.
  - Adjust set point and apply steps for tuning of the PID.
- Oscilloscope
- 4 signals can be selected out of 20 recorded channels. The time resolution is 50 ms. Save files to your PC for further investigation.
- Measurement
  - All measurements on one screen.

Routine Test

Following routine tests will be carried out by the generator manufacturer

- Measuring of the DC-resistance of stator and rotor windings
- Check of the function of the fitted components (e.g. RTDs, space heater etc.)
- Insulation resistance of the following components
  Stator winding, rotor winding
  Stator winding RTDs
  Bearing RTDs
  Space heater
- No Load saturation characteristic (residual voltage)
- Stator voltage unbalance
- Direction of rotation, phase sequence
- High voltage test of the stator windings (2 x Unom. + 1000 V) and the rotor windings (min. 1500 V)

1.03 Module Accessories

Base frame
Split Base Frame fabricated with welded structural steel. First frame to mount the engine, jacket water heat exchangers, pumps and engine auxiliaries, the second to mount the gearbox and generator.

Coupling #1
Engine to Gearbox coupling is provided. The coupling isolates the major sub-harmonics of engine alternating torque from gear box.

Coupling #2
Gearbox to Generator Coupling is provided. This coupling is designed with a torque limiter to couple gear box with alternator.

Coupling housings
Provided for both Couplings

Anti-vibration mounts
2 sets of isolation, one is arranged between engine block assembly and base frame. The second is via insulating pads (SYLOMER) for placement between base frame and foundation, delivered loose.

Gear box:
A Single-stage spur gear with overhead shaft and closed loop lube oil system, completely mounted on the gearbox/generator base frame. The lube oil heat exchanger is integrated with the warm/cooling water circuit. The gear transmission ratio is 1:1.2. Oil volume is approximately 52 gals (196 liters).

Exhaust gas connection
A flanged connection is provided that collects the exhaust gas turbocharger output flows, includes flexible pipe connections (compensators) to compensate for heat expansions and vibrations.

Combustion air filter
A Dry type air filter with replaceable filter cartridges is fitted. The assembly includes flexible connections to the fuel mixer/carburetor and service indicator.

Interface panel (M1 cabinet)
Totally enclosed sheet steel cubicle with hinged doors, pre-wired to terminals, ready to operate. All Cable entry will be via bottom mounted cable gland plates.

Painting: RAL 7035

Protection: External NEMA 3 (IP 54), Internal IP 20 (protection against direct contact with live parts)

Cabinet design is according to IEC 439-1 (EN 60 439-1/1990) and DIN VDE 0660 part 500, respectively. Ambient temperature 41 - 104 °F (5 - 40 °C), Relative humidity 70%

Dimensions:

- Height: 51 in - 82 in (1300 mm-2100 mm)
- Width: 40 in - 47 in (1000 mm -1200 mm)
- Depth: 16 in - 24 in (400 mm-600 mm)

Control Power Source: The starter batteries and the cabinet mounted battery chargers will provide the power source for this enclosure.

Interface Panel contents and control functions:

- The cabinet houses the unit Battery Charger and primary 24VDC Control Power Distribution (breakers, fuses, and terminals) from the unit Batteries
- Distributed PLC Input and Output cards, located in the cabinet, gather all Engine, Gearbox and Generator Control I/O. These cards transmit data via data bus interface to the central engine control of the module control panel located in the A1 cabinet. Data bus is via CAN and B&R Proprietary Data Highway (Data Cables provided by GE)
- Speed monitoring relays for protection are provided.
- Gas Train I/O Collection, including interface relays and terminals for gas train shutoff valves.
- Transducer for generator functions, such as excitation voltage.
- Door Mounted Emergency Stop Switch with associated Emergency Stop Loop interface relays.
- Miscellaneous control relays, contacts, fuses, etc. for additional control valves, and auxiliaries.
- Interface Terminal Strips

Skid Mounted 3 Phase Devices are Powered by 3 x **480/277** V, **60** Hz, 50 A

AC Power for engine mounted auxiliaries (heater, pumps, etc.) are routed through a separate J-box mounted on the side M1 cabinet (Box E1). This is done to maintain signal segregation (AC from control)

NOTE: Generator Current Transformer wiring is connected directly to the Generator and does NOT pass through the M1 cabinet.

Exhaust gas scavenging blower

An exhaust gas scavenging blower is used to scavenge the remaining exhaust gas out of the exhaust gas pipe work, to prevent the appearance of deflagrations.

Function:

Before each start scavenging by blower is done for app. 1 minute (except at black out – start)

Supervisions:

- Scavenging air fan failure
- Scavenging air flap failure

Consisting of:

- Fan
- Exhaust gas flap
- Temperature switch
- Compensator and pipe work

1.03.01 Engine jacket water system

Engine jacket water system
Closed cooling circuit, consisting of:
- Expansion tank
- Filling device (check and pressure reducing valves, pressure gauge)
- Safety valve(s)
- Thermostatic valve
- Required pipework on module
- Vents and drains
- Electrical jacket water pump, including check valve
- Jacket water preheat device

1.03.02 Automatic lube oil replenishing system incl. extension tank

Automatic lube oil replenishing system:
Includes float valve in lube oil feed line, including inspection glass. Electric monitoring system will be provided for engine shut-down at lube oil levels "MINIMUM" and "MAXIMUM". Solenoid valve in oil feed line is only activated during engine operation. Manual override of the solenoid valve, for filling procedure during oil changes is included.

Oil drain
By set mounted cock

Oil sump extension tank (delivered loose) 79.3 gal
To increase the time between oil changes

Pre-lubrication- and after-cooling oil pump:
Mounted on the module base frame; it is used for pre-lubrication and after-cooling of the turbochargers.
Period of operation: Pre-lubrication: 1 minute both pumps
After-cooling: 15 minutes from engine stop only the **480/277** V pump
Consisting of:
- 1 piece oil pump 1500 W, **480/277** V
- 1 piece oil pump 1500 W, 24 V
- All necessary vents
- Necessary pipework

1.05a Gas train (Landfill)

Pre-assembled, delivered loose, for installation into gas pipework to the engine.

Consisting of:

- Main Biogas gas train:
  - Manual shut off valve
  - Gas filter, filter to <3 µm
  - Adapter with dismount to the pre-chamber gas train
  - Gas admission pressure regulator
  - Pressure gauge with push button valve; 0-7.25 psi (0-500 mbar)
  - Solenoid valves
  - Gas pressure switch (min.)
  - Leakage detector
  - Gas pressure regulator
  - TEC JET (has to be implemented horizontal)

The gas train complies with DIN - DVGW regulations.

Maximum distance from TEC JET outlet to gas entry on engine, including flexible connections, is 39.37 in (1 m). Reference GE Jenbacher Technical Instruction TI 1510-0064 for Tec Jet and Gas Train installation details

1.05b Gas train (Natural Gas)

Pre-assembled, delivered loose, for installation into gas pipework to the engine.

Consisting of:

- Main Natural Gas train:
  - Manual shut off valve
  - Gas filter, filter to <3 µm
  - Adapter with dismount to the pre-chamber gas train
  - Gas admission pressure regulator
  - Pressure gauge with push button valve; 0-7.25 psi (0-500 mbar)
  - Solenoid valves
  - Gas pressure switch (min.)
  - Leakage detector
  - Gas pressure regulator
  - TEC JET (has to be implemented horizontal)

The gas train complies with DIN - DVGW regulations.

Maximum distance from TEC JET outlet to gas entry on engine, including flexible connections, is 39.37 in (1 m). Reference GE Jenbacher Technical Instruction TI 1510-0064 for Tec Jet and Gas Train installation details

1.05c Pre-chamber Gas train (Natural Gas)

Pre-assembled, delivered loose, for installation into gas pipework to the engine.

Consisting of:

- Pre-chamber gas train:
  - Manual shut off valve
  - Gas filter, filter fineness <3 µm
  - Solenoid valves
  - Pressure regulator
  - Calming distance with reducer
  - Pressure gauge with push button valve; 0-72.5 psi (1-5 bar)

Pre chamber gas pressure regulator (incl. stabilization section) assembled at the flexible connection pre chamber gas.

Use of fuel other than Natural Gas in Prechamber to be noted.

1.07 Painting

• Quality:	Oil resistant prime layer Synthetic resin varnish finishing coat	
• Color:	Engine:	RAL 6018 (green)
	Base frame:	RAL 6018 (green)
	Generator:	RAL 6018 (green)
Module interface panel: RAL 7035 (light grey)		
	Control panel:	RAL 7035 (light grey)

1.11 Engine generator control panel per module- Dia.ne XT4 incl. Single synchronization of the generator breaker

Dimensions:

- Height: 87 in (including 8 in pedestal *)
- Width: 32-48 in*)
- Depth: 24 in *)

Protection class:

- external IP42
- Internal IP 20 (protection again direct contact with live parts)

*) Control panels will be dimensioned on a project specific basis. Actual dimensions will be provided in the preliminary documentation for the project.

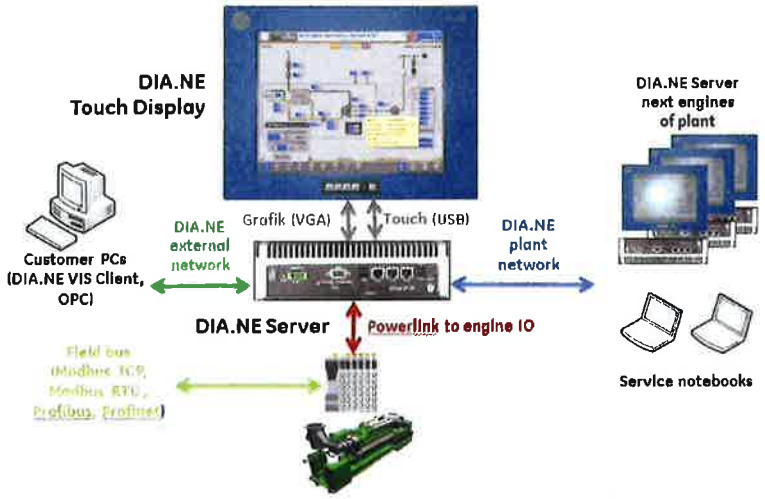
Control supply voltage from starter and control panel batteries: 24V DC

Auxiliaries power supply: (from provider of the auxiliary supply)
3 x **480/277** V, **60** Hz

Consisting of:
Motor - Management - System DIA.NE

Setup:

- a) Touch display visualization
- b) Central engine and unit control



Touch Display Screen:

15" Industrial color graphic display with resistive touch.

Interfaces:

- 24V voltage supply
- VGA display connection
- USB interface for resistive touch

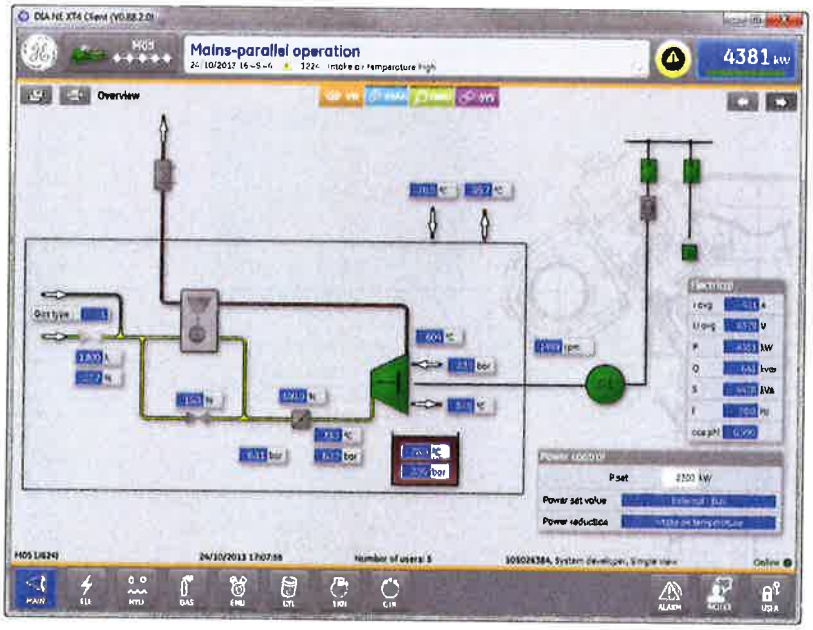
Protection class of DIA.NE XT panel front: IP 65
Dimensions: W x H x D = approx. 16x12x3in

The screen shows a clear and functional summary of the measurement values and simultaneously shows a graphical summary.

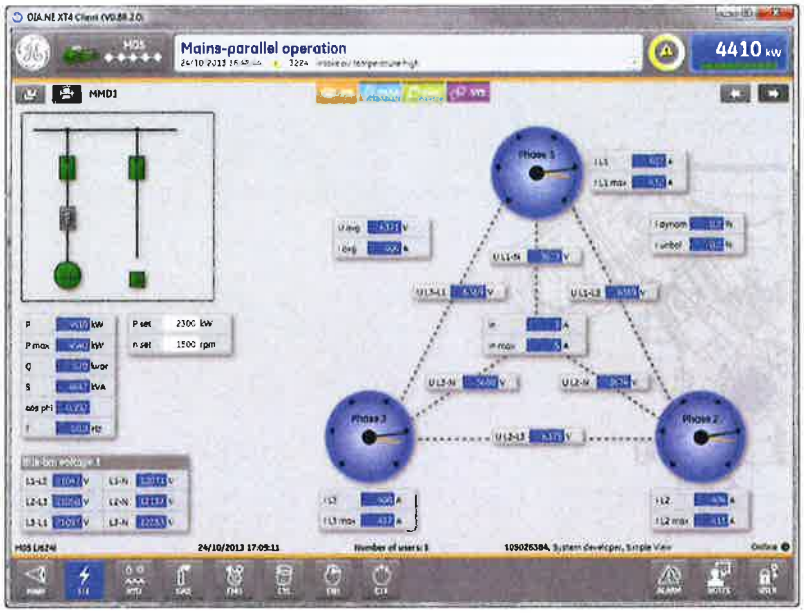
Operation is via the screen buttons on the touch screen
Numeric entries (set point values, parameters...) are entered on the touch numeric pad or via a scroll bar.
Determination of the operation mode and the method of synchronization via a permanently displayed button panel on the touch screen.

Main screens (examples):

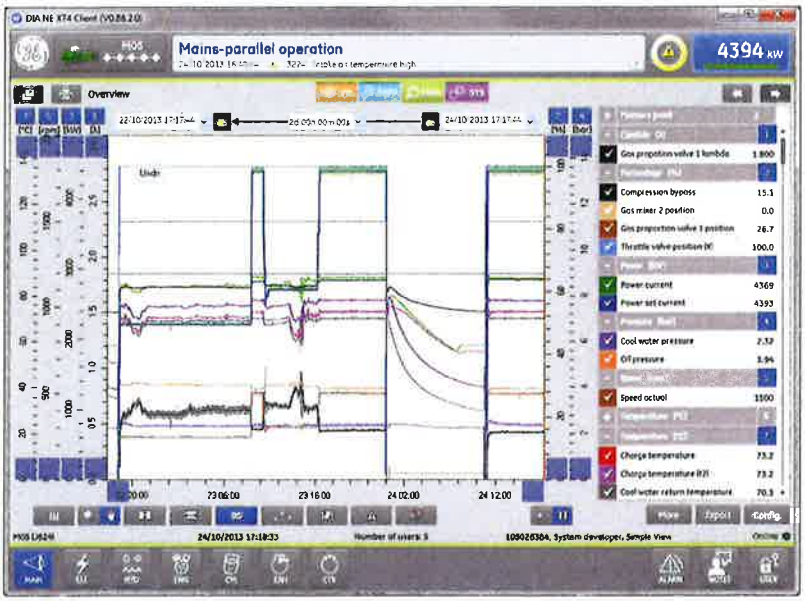
Main: Display of the overview, auxiliaries status, engine start and operating data.



ELE: Display of the generator connection with electrical measurement values and synchronization status



OPTION: Generator winding and bearing temperature
Trending
Trend with 100ms resolution



Measurement values:

- 510 data points are stored
- Measurement interval = 100ms
- Raw data availability with 100ms resolution: 24 hours + max. 5.000.000 changes in value at shut down (60 mins per shut down)
- Compression level 1: min, max, and average values with 1000ms resolution: 3 days
- Compression level 2: min, max, and average values with 30s resolution: 32 days
- Compression level 3: min, max, and average values with 10min resolution: 10 years

Messages:
10.000.000 message events

Actions (operator control actions):
1.000.000 Actions

System messages:
100.000 system messages

Central engine and module control:

An industrial PC- based modular industrial control system for module and engine sequencing control (start preparation, start, stop, after-cooling and control of auxiliaries) as well as all control functions.

Interfaces:

- Ethernet (twisted pair) for remote monitoring access
- Ethernet (twisted pair) for connection between engines
- Ethernet (twisted pair) for the Powerlink connection to the control input and output modules.
- USB interface for software updates

Connection to the local building management system according to the GE Jenbacher option list (OPTION)

- MODBUS-RTU Slave
- MODBUS-TCP Slave,
- PROFIBUS-DP Slave (160 words),
- PROFIBUS-DP Slave (190 words),
- ProfiNet
- OPC

Control functions:

- Speed control in idle and in island mode
- Power output control in grid parallel operation, or according to an internal or external set point value on a case by case basis
- LEANOX control system which controls boost pressure according to the power at the generator terminals, and controls the mixture temperature according to the engine driven air-gas mixer

- Knocking control: in the event of knocking detection, ignition timing adjustment, power reduction and mixture temperature reduction (if this feature is installed)
- Load sharing between engines in island mode operation (option)
- Linear power reduction in the event of excessive mixture temperature and misfiring
- Linear power reduction according to CH4 signal (if available)
- Linear power reduction according to gas pressure (option)
- Linear power reduction according to air intake temperature (option)

Multi-transducer to record the following alternator electrical values:

- Phase current (with slave pointer))
- Neutral conductor current
- Voltages Ph/Ph and Ph/N
- Active power (with slave pointer)
- Reactive power
- Apparent power
- Power factor
- Frequency
- Active and reactive energy counter

Additional 0 (4) - 20 mA interface for active power as well as a pulse signal for active energy

The following alternator monitoring functions are integrated in the multi-measuring device:

- Overload/short-circuit [51], [50]
- Over voltage [59]
- Under voltage [27]
- Asymmetric voltage [64], [59N]
- Unbalance current [46]
- Excitation failure [40]
- Over frequency [81>]
- Under frequency [81<]

Lockable operation modes selectable via touch screen:

- "OFF" operation is not possible, running units will shut down immediately;
- "MANUAL" manual operation (start, stop) possible, unit is not available for fully automatic operation.
- "AUTOMATIC" fully automatic operation according to external demand signal:

Demand modes selectable via touch screen:

- external demand off („OFF")
- external demand on („REMOTE")
- override external demand („ON")

Malfunction Notice list:

Shut down functions e.g.:

- Low lube oil pressure
- Low lube oil level
- High lube oil level
- High lube oil temperature
- Low jacket water pressure
- High jacket water pressure
- High jacket water temperature
- Overspeed
- Emergency stop/safety loop
- Gas train failure
- Start failure
- Stop failure
- Engine start blocked
- Engine operation blocked
- Misfiring
- High mixture temperature
- Measuring signal failure
- Overload/output signal failure
- Generator overload/short circuit
- Generator over/under voltage
- Generator over/under frequency
- Generator asymmetric voltage
- Generator unbalanced load
- Generator reverse power
- High generator winding temperature
- Synchronizing failure
- Cylinder selective Knocking failure

Warning functions e.g.:

- Cooling water temperature min.
- Cooling water pressure min.
- Generator winding temperature max.

Remote signals:

(volt free contacts)
1NO = 1 normally open
1NC = 1 normally closed
1COC = 1 change over contact

• Ready for automatic start (to Master control)	1NO
• Operation (engine running)	1NO
• Demand auxiliaries	1NO
• Collective signal "shut down"	1NC

• Collective signal "warning"	1NC

External (by others) provided command/status signals:

• Engine demand (from Master control)	1S
• Auxiliaries demanded and released	1S

Single synchronizing Automatic

For automatic synchronizing of the module with the generator circuit breaker to the grid by PLC- technology, integrated within the module control panel.

Consisting of:

- Hardware extension of the programmable control for fully automatic synchronization selection and synchronization of the module and for monitoring of the generator circuit breaker closed signal.
- Lockable synchronization selection via touch screen with the following selection modes:
  - "MANUAL" Manual initiation of synchronization via touch screen button followed by fully automatic synchronization of the module
  - "AUTOMATIC" Automatic module synchronization, after synchronizing release from the module control
  - "OFF" Selection and synchronization disabled
    Control of the generator circuit breaker according to the synchronization mode selected via touch screen.
  - "Generator circuit breaker CLOSED/ Select" Touch-button on DIA.NE XT
  - "Generator circuit breaker OPEN" Touch-button on DIA.NE XT

Status signals:
Generator circuit breaker closed
Generator circuit breaker open

Remote signals:
(volt free contacts)

Generator circuit breaker closed	1 NO

The following reference and status signals must be provided by the switchgear supplier:

• Generator circuit breaker CLOSED	1 NO
• Generator circuit breaker OPEN	1 NO
• Generator circuit breaker READY TO CLOSE	1 NO
• Mains circuit breaker CLOSED	1 NO
• Mains circuit breaker OPEN	1 NO

Mains voltage 3 x 12470V or 3x 110V/v3 other measurement voltages available on request
Bus bar voltage 3 x 12470 V or 3x 110V/v3 – other measurement voltages available on request
Generator voltage 3 x 12470 or 3x 110V/v3 – other measurement voltages available on request

Voltage transformer in the star point with minimum 50VA and Class 0,5

The following volt free interface-signals will be provided by GE Jenbacher to be incorporated in switchgear:

- CLOSING/OPENING command for generator circuit breaker (permanent contact) — 1 NO + 1 NC
- Signal for circuit breaker undervoltage trip — 1 NO

Maximum distance between module control panel and engine/interface panel:	99ft
Maximum distance between module control panel and power panel:	164ft
Maximum distance between module control panel and master control panel:	164ft
Maximum distance between alternator and generator circuit breaker:	99ft

1.11.01 Remote messaging over MODBUS-TCP

Data transfer from the Jenbacher module control system to the customer's on-site central control system via MODBUS TCP using the ETHERNET 10 BASE-T/100BASE-TX protocol TCP/IP.

The Jenbacher module control system operates as a SLAVE unit.
The data transfer via the customer's MASTER must be carried out in cycles.

Data transmitted:
Individual error messages, operational messages, measured values for generator power, oil pressure, oil temperature, cooling water pressure, cooling water temperature, cylinder and collective exhaust gas temperatures.

GE Jenbacher limit of supply:
RJ45 socket at the interface module in the module control cabinet

1.11.06 Remote Data-Transfer with DIA.NE XT4

General
DIA.NE XT4 offers remote connection with Ethernet.

Applications:

1.) DIA.NE XT4 HMI
DIA.NE XT4 HMI is the human-machine-interface of DIA.NE XT4 engine control and visualization system for GE Jenbacher gas engines.
The system offers extensive facilities for commissioning, monitoring, servicing and analysis of the site.
By installation of the DIA.NE XT4 HMI client program it can be used to establish connection to site, if connected to a network and access rights are provided.
The system runs on Microsoft Windows Operating systems (Windows XP, Windows 7, Windows 8)

Function
Functions of the visualization system at the engine control panel can be used remotely. These are among others control and monitoring, trend indications, alarm management, parameter management, and access to long term data recording. By providing access to multiple systems, also with multiple clients in parallel, additional useful functions are available like multi-user system, remote control, print and export functions and data backup.DIA.NE XT4 is available in several languages.

Option - Remote demand/blocking

If the service selectors switch at the module control panel is in pos."Automatic" and the demand-selector switch in pos."Remote", it is possible to enable (demanded) or disable (demand off) the module with a control button at the DIA.NE XT4 HMI
Note:
With this option it makes no sense to have an additional clients demand (via hardware or data bus) or a self-guided operation (via GE Jenbacher master control, grid import /export etc.).

Option - Remote - reset (see TA-No. 1100-0111 chapter 1.7 an d1.9)

Scope of supply
- Software package DIA.NE XT4 HMI Client Setup (Download)
- Number of DIA.NE XT4 HMI - Client user license (Simultaneous right to access of one user to the engine control)

Nr. of license	Access
1	1 Users can be logged in at the same time with a PC (Workplace, control room or at home).
2 - "n" (Optional)	2- "n" Users can be logged in at the same time with a PC (Workplace, control room or at home). If 2- "n" users are locally connected at Computers from office or control room, then it is not possible to log in from home.

Caution! This option includes the DIA.NE XT4 HMI client application and its license only – NO secured, encrypted connection will be provided by GE Jenbacher! A secured, encrypted connection – which is mandatory – has to be provided by the customer (via LAN connection or customer-side VPN), or can be realized by using option myPlant™.

Customer requirements

- Broad band network connection via Ethernet(100/1000BASE-TX) at RJ45 Connector (ETH3) at DIA.NE XT4 server inside module control panel
- Standard PC with keyboard, mouse or touch and monitor (min. resolution 1024*768)
- Operating system Windows XP, Windows 7, Windows 8
- DirectX 9.0 c compatible or newer 3D display adapter with 64 MB or higher memory

2.) myPlant™

myPlant™ is the GE Jenbacher remote monitoring and diagnostic (RM&D) service

	Offering Feature	Connect	Protect
Asset Management	Online data transfer	✓	✓
	Big Data cloud storage	✓	✓
	Engine status visibility	✓	✓
	Control alarms visibility	✓	✓
	Basic data trends	✓	✓
	Remote access to DIA.NE HMI	-	✓
	Unlimited data trending	-	✓
	Advanced diagnostics	-	✓
	WINSERVER Protection Plan	-	✓
Fleet Management	Fleet status on world map	-	✓
	Fleet summaries and reporting	-	✓
Mobility	SMS/Email notifications	-	✓
	Smartphone app	✓	✓

Web application with following features:

- Visualization of the current state of the engine (available, in operation, fault)
- View of various readings of the Gen-set
- Visualization of counts as a trend graph (if plant available online, or by manually entering of the counter readings)
- Trend graph of the performance value (low resolution; only if system available online)

myPlant™ Connect is free of charge for registered customers
myPlant™ Protect is free of charge within the warranty period and is also included as part of any contractual service agreement (CSA).

Scope of supply

- Access to myPlant™ Discovery version for up to 4 users
- Connection between plant server and myPlant™ system

Customer requirements

- Permanent Internet line (wired or mobile, (see option 4))
- See technical instruction TA 2300-0008
- Outbound data connectivity (from plant server to Internet) ONLY – INBOUND connections must NOT be allowed!

CAUTION!
It is in the responsibility of the customer to prevent direct access from the Internet to the plant server using technical equipment like firewalls.
GE Jenbacher does not provide such security devices and services as part of this option!

3.) myPlant™ notification service

Automatic alarm notification system for myPlant™ - enabled DIA.NE XT systems (all versions).

Function

- Automatic transfer of engine messages to the customer via email or SMS in case of engine trip, engine start/stop or connectivity loss.

Scope of supply

- Feature of myPlant™ web portal

Customer requirements

- Engine must be connected to the myPlant™ system via Internet connection

myPlant™ notification is free of charge within the warranty period and is also included as part of any contractual service agreement (CSA).

4.) Mobile Internet (OPTION)

Connection Plant - Customer via secured Internet - connection
See also technical instruction **TA 2300 - 0006**

Scope of delivery

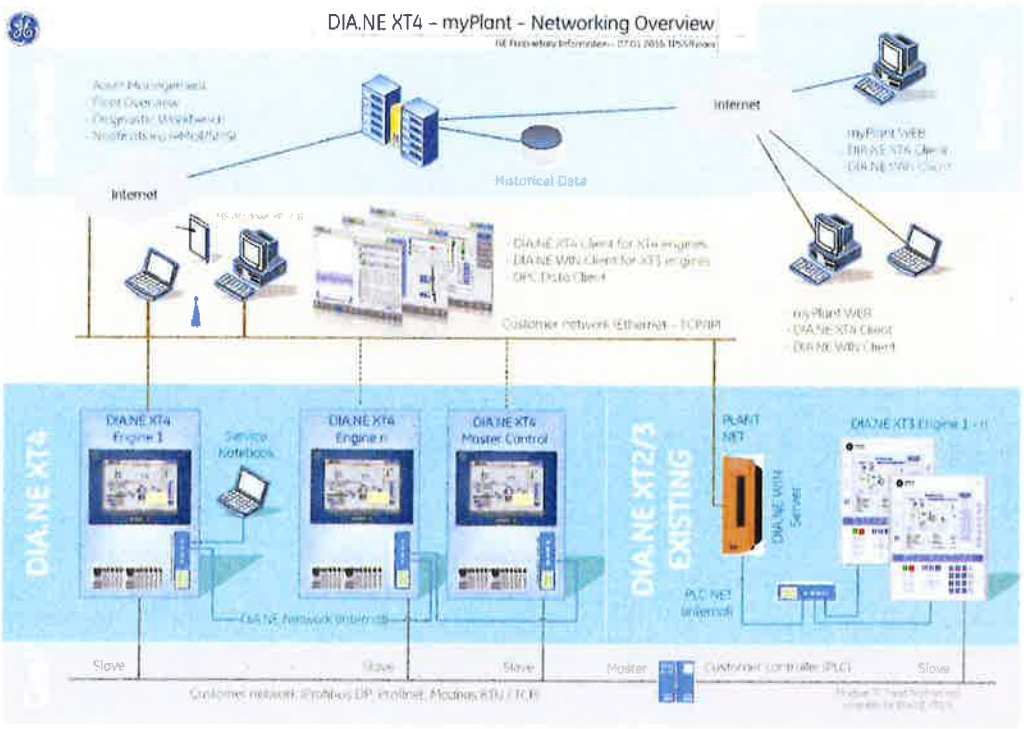
- Mobile Internet router with antenna to connect to the DIA.NE Server XT4

Customer requirements

- SIM card for 3G / 4G

5.) Network overview

For information only!



1.11.14 Generator Overload / Short Circuit Protection

ANSI Function Code 50/51

Digital protection relay, 3-phase, integrated into the module control panel.
Connected to the protective current transformers in the generator star point
Acting on the generator circuit breaker and on the generator de-excitation
Alarm message on the DIA.NE screen

Characteristics / settings:

- Setting for overload: to 1,1 times of the generating set rated current,
- Dependent time characteristic acc. to IEC 60255-151: very inverse, time multiplier setting 0,6.
- Setting for short circuit: to 2,0 times of generating set rated current,
- Independent time characteristic: 300 ms (800 ms when dynamic network support).

1.11.15 Generator Differential Protection

ANSI function code 87

Digital protection relay, 3-phase, integrated into the module control panel.
Connected to the protective current transformers in the generator star point (GEJ scope of supply) and to the protective current transformers in the generator circuit breaker panel (current transformers by client, secondary 1A, optionally: 5A).
Acting on the generator circuit breaker and on the generator de-excitation
Alarm message on the DIA.NE screen

In plants with a unit generator-transformer configuration the protection is realized as generator/transformer differential protection.

1.11.16 Generator Earth Fault Protection (non-directional)

Digital protection relay, integrated into the module control panel.
Acting on the generator circuit breaker and on the generator de-excitation
Alarm message on the DIA.NE screen

Dependent on the generator grounding method one of the following protection functions is applied:

1) ANSI function code 50N/G
   Detection of the earth fault current e.g. by means of a window-type current transformer (Current transformer by client, secondary 1A, optionally: 5A).
2) ANSI function code 59N/G
   Detection of the residual voltage e.g. by means of the voltage measured across the broken-delta secondary windings of grounded voltage transformers (voltage transformers by client)

1.20.03 Starting system

Starter battery (is not included in GE Jenbacher scope):
4 piece 12 V Pb battery, 200 Ah (according to DIN 72311), complete with cover plate, terminals and acid tester.

Battery voltage monitoring:
Monitoring by an under voltage relay.

Battery charging equipment:
Capable for charging the starter battery with I/U characteristic and for the supply of all connected D.C. consumers.
Charging device is mounted inside of the module interface panel or module control panel.

- **General data:**

• Power supply	**3 x 320 - 550 V, 47 - 63 Hz**
• max. power consumption	2120 W
• Nominal D.C. voltage	24 V(+/-1%)
• Voltage setting range	24V to 28,8V (adjustable)
• Nominal current (max.)	2 x 40 A
• Dimensions	ca. 10 x 5 x 5 inch (240 x 125 x 125 mm)
• Degree of protection	IP20 to IEC 529
• Operating temperature	32 °F – 140 °F (0 °C - 60 °C)
• Protection class	1
• Humidity class	3K3, no condensation.
• Natural air convection	
• Standards	EN60950,EN50178 UL/cUL (UL508/CSA 22.2)

Signalling:

Green Led:	Output voltage > 20,5V
Yellow Led:	Overload, Output Voltage < 20,5V
Red Led:	shutdown

Control accumulator:
- Pb battery 24 VDC/18 Ah

1.20.05 Electric jacket water preheating

Installed in the jacket water cooling circuit, consisting of:
- Heating elements
- Water circulating pump

The jacket water temperature of a stopped engine is maintained between 133 °F (56°C) and 140°F (60°C), to allow for immediate loading after engine start.

1.20.08 Flexible connections

Following flexible connections per module are included in the GE Jenbacher -scope of supply:

No.	Connection	Unit	Dimension	Material
2	Warm water in-/outlet	**in/lbs**	**4"/145**	Stainless steel
1	Exhaust gas outlet	**in/lbs**	**25"/145**	Stainless steel
1	Fuel gas inlet	**in/lbs**	**6"/232**	Stainless steel
2	Intercooler in-/outlet	**in/lbs**	**4"/145**	Stainless steel
2	Lube oil connection	**in**	**1.1**	Hose

Seals and flanges for all flexible connections are included.

1.20.45 Fuel Blending

As a prerequisite to any discussions regarding on online fuel blending, both gases must comply with GE Jenbacher TI 1000-0300.

Physically, the engine must be installed with two Tec Jet based gas train systems sized as required. To function properly, each individual gas train should be able to provide the full fuel flow required to maintain rated load of the engine generator set. If 0-100% blending on each fuel is specified, the technician must have the capability to operate the engine on each fuel (from Start to Full Load) independently. Intermediate or partial blending can be done by request.

From a controls perspective, the customer must provide the following Dual Fuel Blending signals (at a minimum)

1) ***Fuel Gas Selection*** - Discrete Contact Input to the Diane Control System that represents the fuel that the unit will start with (1 = High Btu (Gas1), 0 = Low Btu (Gas2)).
2) ***Release for Gas Mixing*** – Discrete contact input to the Diane Control System that represents a release of the fuel delivery system to operate in mixing mode. This signal is used in conjunction with ***Mixing Percentage*** in order to establish the amount of fuel to mix.
3) ***Mixing Percentage*** – An Analog (4-20mA) input to the Diane Control System representing the percentage of Gas 2 fuel to mix.

As prerequisite for blending, the following permissive conditions must be met

1) Breaker is Closed
2) Unit is operating in Leanox control (No Island Mode)
3) No Gas Train 1 Low Pressure
4) Gas Train 1 READY (internal health signal)
5) No Gas Train 2 Low Pressure
6) Gas Train 2 Ready (internal health signal)

7) ***Mixing Percentage*** signal healthy

Fuel Transfers are not permitted as long as the health of each gas train is not clear or if Gas Pressure of the other train is Low. Diane Warning alarm signals 3221 (Gas Train 1 Low Pressure) or 3222 (Gas Train 2 Low Pressure) will be displayed if this is the case.

Provided the above permissive conditions are met, to activate mixing, ***Release for Gas Mixing*** must be enabled. Once enabled, the engine will ramp to the mixing percentage specified by ***Mixing Percentage***. The transfer rate is 1.7% per second, or if the transfer is to 100% of the other fuel, expect a ramp time of 60 seconds to get from one fuel to the other. The mixing percentage can be adjusted at any time during mixing operations (***Release for Gas Mixing*** = 1). Should a fault occur, the fuel system will default to the gas selected at start (based on ***Fuel Gas Selection*** contact status).

This percentage will be maintained throughout the load profile of the engine, provided there is sufficient capacity of the second fuel to maintain the load setpoint. Should there be insufficient fuel to maintain the KW setpoint, a Low Pressure Alarm will occur and the unit will transfer back to the base fuel as dictated by the position of the ***Fuel Gas Selection*** contact.

2.00 Electrical equipment

Totally enclosed floor mounted sheet steel cubicle with front door wired to terminals. Ready to operate, with cable entry at bottom. Naturally ventilated.

Protection:	IP 42 external, NEMA 12 IP 20 internal (protection against direct contact with live parts)

Design according to EN 61439-2 / IEC 61439-2 and ISO 8528-4.
Ambient temperature 41 - 104 °F (5 - 40 °C), 70 % Relative humidity

Standard painting:	Panel:	RAL 7035
	Pedestal:	RAL 7020

2.02 Grid monitoring device

Standard without static Grid - 60Hz alternator

Function:
For immediate disconnection of the generator from the grid in case of grid failures.

Consisting of:
- High/low voltage monitoring
- High/low frequency monitoring
- Specially adjustable independent time for voltage and frequency monitoring

- Vector jump monitoring or df/dt monitoring for immediate disconnection of the generator from the grid for example at short interruptions
- Indication of all reference dimensions for normal operation and at the case of disturbance over LCD and LED
- Adjusting authority through password protection against adjusting of strangers

Scope of supply:
Digital grid protection relay with storage of defect data, indication of reference dimensions as well as monitoring by itself.

Grid protection values:

Parameter	Parameter limit	Max time delay[s]	**Comments**
59-61Hz			Do work normal
f<[ANSI 81U]	59Hz	0,5	Load reduction with 10%/HZ below 59Hz!
f<<[ANSI 81U]	58.5Hz	0,1	
f>[ANSI 81O]	61,5Hz	0,1	Load reduction with 30%/HZ above 61Hz!
U<[ANSI 27]	90%	1	Load reduction with 1%P /%U below 95%
U<<[ANSI 27]	80%	0,2	Load reduction with 1%P /%U below 95%
U>[ANSI 59]	110%	30	Load reduction with 1%P /%U above 105%
U>>[ANSI 59]	115%	0,2	Load reduction with 1% P/%U above 105%
Df/dt [ANSI 81R] **Or** **Vector shift** [ANSI 78]	2Hz/s, 5 Periods Or 8° -3pol		Cos phi range: 0,8ind (overexcited) - 1

3.71 Vibration Sensor

A structural Vibration Sensor will be installed on the package base frame to detect excessive vibrations. A signal we will sent to the control panel to indicate an alarm condition.

3.72 Seismic Protection

The main base will be supplied with pre-drilled holes to accommodate customer furnished bolts to act as retaining elements in the event of an earthquake. These customer foundation mounted bolts cannot come into contact with the unit base frame, as these bolts are for retention only, not mounting.

Details will be provided at first drawing submittal.

3.75 Penn Control Strategy and Options (Type 6)

Control Strategy – The following control modes will be available in the Diane Control

- Grid Parallel with KW Control – Real Power Load Control of the Generator set will be either via a 4-20mA input from the customer representing a unit KW load setpoint or a KW load setpoint entered on the Diane XT4 screen. Upon breaker closure, the unit will ramp to the setpoint at a maximum rate of (Rated Unit KW) / 180 seconds.

- Grid Parallel with PF Control – Reactive Power Load Control of the Generator set will be either via a 4-20mA input from the customer representing a unit Power Factory setpoint or a Power Factor setpoint entered on the Diane XT4 screen. Upon breaker closure, the unit will maintain the setpoint.

- Grid Parallel with Import/Export Control - Load Control via an Import/Export KW level entered on the Diane XT4 screen. Required will be a customer 4-20mA signal representing the Site KW (Imported and/or Exported Power) that is to be controlled. Upon breaker closure, the unit will ramp to a load that will drive the KW value represented by the 4-20mA input signal to the level entered on Customer Import/Export Setpoint entered in the Diane XT4 screen. Once at the setpoint, the unit will raise and lower load to maintain this value. If the generator load required to maintain this setpoint drops below the minimum load level of the generator set, the unit 52G circuit breaker will be opened.

- Island Mode Operations with Blackout Starting – Island Operations with Black start capability will allow the engine to start and run without utility being present. The engine will be able to start the engine on battery power, close the generator breaker against a dead bus, and operate independently of a utility power source. The customer must ensure that there is sufficient fuel gas and pre-chamber gas at pressure in the event of a Type 6 engine so configured. The engine will start without the normal confirmation of engine block temperature or operation of a circulating AC water pump. It will be required of the operators that once the engine is connected to the generator bus, power to the engine auxiliaries be restored. Load Management is expected to be limited by the operators to the limits of the engine, as per GE Jenbacher TI 2108-0031. This system will work in conjunction with a GE Jenbacher Master Synchronizing Control (see appropriate Spec Section) if so equipped. If this is a single unit and synchronization with the utility after assuming operations is required, a *Grid Parallel with Single Unit Island Operations* option will be required.

Per Unit Hot Water Loop Controls - Hot Water Loop Panel Controls and Software to include:

- Hot Water Pump (Panel Control Parts and SW Only) - The option will add specific contact output and feedback input to/from an MCC for the Hot Water Pump. This will include relays and software.

- Hot Water Monitoring (Panel Control Parts and SW Only) - This option will monitor 3 hot water loop switches, flow, pressure and temperature. This option includes hardwired relays added to the trip loop, and internal software

- Hot Water Return Temperature Control (Panel Parts and SW Only) - This feature will provide all necessary controls to operate a 3 Way temperature control valve. The customer will provide a PT100 as a feedback signal and the Diane will provide a 4-20mA Analog Output to a customer provided valve. Control and Display Software are also provided.

- Emergency Hot Water Temperature Control (Panel Parts and SW Only) - This feature will provide all necessary controls to operate a 3 Way temperature control valve. The customer will provide a PT100 as a feedback signal and the Diane will provide a 4-20mA Analog Output to a customer provided valve. Control and Display Software are also provided.

Per Unit Intercooler Loop Controls - Intercooler Loop Panel Controls and Software to include:

- IC Temperature Control (Panel Parts and SW Only) - This feature will provide all necessary controls to operate a 3 Way temperature control valve in the IC Loop if Not Required by Site Conditions. The Diane will provide a 4-20mA Analog Output to a customer provided valve and will utilize mixture temperature as a feedback input. Control and Display Software are also provided.

- Intercooler Pump Control (Panel Control Parts and SW Only) - The option will add specific contact output and feedback input to/from an MCC for the Intercooler Water Pump. This will include relays and software.

- Intercooler Loop Pressure (Panel Parts and SW Only) - This feature will provide an discrete input and associated software for the Intercooler Loop system pressure.

Per Unit Radiator Controls - Radiator Panel Controls and Software to include:

- Single Circuit High Temperature Loop Radiator Fan Control (Panel Parts and SW Only) - This feature will provide controls for a customer provided single circuit High Temperature Loop radiator (4 fan). The MCC control signals (DO/DI) will be provided, along with the necessary software

- Single Circuit Low Temperature Loop Radiator Fan Control (Panel Parts and SW Only) - This feature will provide controls for a customer provided single circuit Low Temperature Loop radiator (4 fan). The MCC control signals (DO/DI) will be provided, along with the necessary software

Per Unit Ventilation Related Controls - Diane XT4 System will be provided with the following additional features to operate a customer enclosure

- Ventilation Fan control Option 1 - Customer Ventilation Fan control based on container internal temperature. Signal is based on a customer provide PT100 inside the container. A 4-20mA signal is provided for use by a customer provided VFD. Discrete IO is provided for starting and feedback signals to the VFD. It is assumed that the customer MCC will provide starter motor protection.

- Ventilation System Louver Control - Electrical and Control features are provided for louver opening and closing based on engine operation and compartment temperature. 4 Louver driver contacts are provided

- Discrete Input for Air Filter Differential Pressure – Additional Discrete Input and associated software for control

Per Unit Miscellaneous Controls - Diane XT4 System will be provided with the following additional features to operate a customer enclosure

- Additional Emergency Stop Signals - Additional Terminals for customer Estop switches

- Audible and Visual Alarm Indications - Hardware and software to drive a customer provided horn and strobe. Power for these devices is provided from the control system and is 24VDC

- SCR Control Signals – 2 additional discrete inputs and 1 analog will be required:
  - Discrete In 1 - Unit Operation/Engine Running (SSL20) to start the unit
  - Discrete In 2 - SCR Alarm (SS69) for display on the alarm Diane XT screen.
  - Analog Out 1 – Generator Power (0-100% = 4-20mA) for control of the SCR spray mechanism.

- Gas Flow Meter Trending - Gas Flowmeter Trending and Display (Flowmeter not included). Option includes a 4-20mA input that will accept the pressure and temperature corrected gas flow from a customer provided flow meter computer and will incorporate the signal into trending and displays in the Diane system.

- Gas Flow Meter Correction - Gas Flowmeter temperature and pressure compensation. Option includes three (3) 4-20mA inputs that will represent actual measured flow, pressure and temperature. Along with a customer provided flow meter calibration sheet, these 3 signals will be input to a calculation that will compensate the flowmeter flow signal to current gas conditions. The results will be incorporated into trending and displays in the Diane system.

4.00 Delivery, installation and commissioning

4.01 Carriage
According to contract.

4.02 Unloading
Unloading, moving of equipment to point of installation, mounting and adjustment of delivered equipment on intended foundations is not included in GE Jenbacher scope of supply.

4.03 Assembly and installation
Assembly and installation of all GE Jenbacher -components is not included in GE Jenbacher scope of supply.

4.04 Storage
The customer is responsible for secure and appropriate storage of all delivered equipment.

4.05 Emission measurement (exhaust gas analyzer)
Emission measurement by GE Jenbacher personnel, to verify that the guaranteed toxic agent emissions have been achieved (costs for measurement by an independent agency will be an extra charge).

5.01 Limits of delivery - Genset

Electrical:
- Genset:
  - At terminals of genset interface panel
  - At terminals of generator terminal box (screwed glands to be provided locally)
- Genset control panel:
  At terminal strips
- Auxiliaries:
  At terminals of equipment which is supplied separately

Cooling water
At inlet and outlet flanges on genset

Exhaust gas
At the exhaust gas exit of the engine

Combustion air
The air filters are set mounted

Fuel gas
- At inlet and outlet flange of gas train
- At inlet flange of gas pipework on genset

- At outlet flange of the pre-chamber gas train
- At inlet flange of pre-chamber gas pipework on genset
- At connection for boost pressure compensation on genset
- At connection for boost pressure compensation on gas pressure regulator of the pre-chamber gas train

Lube oil
At lube oil connections on genset

Draining connections and pressure relief
At genset

Insulation
Insulation of heat exchangers, pipework and exhaust gas silencer is not included in our scope of supply and must be provided locally.

First filling
The first filling of genset, (lube oil, engine jacket water, anti-freeze, anti-corrosive agent, battery acid) is not included in our scope of supply.

The composition and quality of the used consumables are to be strictly monitored in accordance with the "Technical Instructions" of GE JENBACHER.

Suitable bellows and flexible connections **must be provided locally** for all connections.
Cables from the genset must be flexible.

5.02 Factory tests and inspections

The individual module components shall undergo the following tests and inspections:

5.02.01 Engine tests

Carried out as combined Engine- and Module test according to DIN ISO 3046 at GE Jenbacher test bench.
The following tests are made at 100%, 75% and 50% load, and the results are reported in a test certificate:
- Engine output
- Fuel consumption
- Jacket water temperatures
- Lube oil pressure
- Lube oil temperatures
- Boost pressure
- Exhaust gas temperatures, for each cylinder

5.02.02 Generator tests

Carried out on the premises of the generator supplier.

5.02.03 Module tests

The engine will be tested with natural gas (methane number 94). The performance data achieved at the test bench may therefore vary from the data as defined in the technical specification due to differences in fuel gas quality.
Carried out as combined Engine- and Module test commonly with module control panel at GE Jenbacher test bench, according to ISO 8528, DIN 6280. The following tests are made and the results are reported in a test certificate:
Visual inspection of scope of supply per specifications.

- Functional tests per technical specification of control system.
  - Starting in manual and automatic mode of operation
  - Power control in manual and automatic mode of operation
  - Function of all safety systems on module
- Measurements at 100%, 75% and 50% load:
  - Frequency
  - Voltage
  - Current
  - Generator output
  - Power factor
  - Fuel consumption
  - Lube oil pressure
  - Jacket water temperature
  - Boost pressure
  - Mixture temperature
  - Exhaust emission (NOx)

The module test for operating frequenzy 50 Hz and 6,3-6,6kV / 10,5kV-11kV will be carried out with the original generator, except it is not possible because of the delivery date. Then a test generator will be used for the module test.
To prove characteristics of the above components, which are not tested on the test bench by GE JENBACHER, the manufacturers' certificate will be provided.

5.03 Documentation

Preliminary documentation 60 days after receipt of a technically and commercially clarified order:

- Module drawing 1)
- Technical diagram 1)
- Drawing of control panel 3)
- List of electrical interfaces 2)
- Technical specification of control system 2)
- Technical drawing auxiliaries (if included in GE Jenbacher-limit of delivery) 1)

At delivery:

- Wiring diagrams 3)
- Cable list 3)

At start-up and commissioning (or on clients request):

- Operating and maintenance manual 4)
- Spare parts manual 4)
- Operation report log 4)

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South Coast

AQMD

Annual Emission Report

Reporting Year: **2010**

Print Date: **10/24/2014**

Facility ID: **45262**

Facility Name: **LA COUNTY SANITATION DIST SCHOLL CANYON**

Facility Type:

B1 - Permitted Emissions from Fuel Combustion in Boilers, Ovens, Furnaces, and Heaters

Device Description	Application Number	Equipment Code& Description	Fuel Code Description	Annual Usage	Organic Gases		Nitrogen Oxides		Sulfur Oxides		Carbon Monoxide		Particulate Matter	
					Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions
Flare (Non-Refinery)	162689	6. Flare (Non-Refinery)	5. Landfill Gas (mmscf).	132.20	1.4800	195.52	14.3800	1,900.90	5.9600	787.91	0.9100	120.04	3.5500	469.84
Heater <10MMBTU/HR	322458	5a. Heater <10 MMBTU/HR	3. Diesel/Distillate Oil (1000 gals).	0.52	1.3200	0.69	20.0000	10.40	7.1000	3.69	5.0000	2.60	2.0000	1.04
Total Emissions in Pounds:						**196.21**		**1,911.30**		**791.60**		**122.64**		**470.88**
Total Emissions in Tons:						**0.10**		**0.96**		**0.40**		**0.06**		**0.24**

South Coast

AQMD

Annual Emission Report

Reporting Year: **2011**

Print Date: **10/24/2014**

Facility ID: **45262**

Facility Name: **LA COUNTY SANITATION DIST SCHOLL CANYON**

Facility Type:

B1 - Permitted Emissions from Fuel Combustion in Boilers, Ovens, Furnaces, and Heaters

Device Description	Application Number	Equipment Code& Description	Fuel Code Description	Annual Usage	Organic Gases		Nitrogen Oxides		Sulfur Oxides		Carbon Monoxide		Particulate Matter	
					Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions
Flare (Non-Refinery)	162689	6. Flare (Non-Refinery)	5. Landfill Gas (mmscf).	101.50	1.8400	186.86	13.2600	1,345.59	6.0700	615.75	0.8000	81.61	4.3900	445.99
Heater, <10 MMbtu/hr	322458	5a. Heater <10 MMBTU/HR	3. Diesel/Distillate Oil (1000 gals).	0.52	1.3200	0.69	20.0000	10.40	7.1000	3.69	5.0000	2.60	2.0000	1.04
Total Emissions in Pounds:						**187.55**		**1,355.99**		**619.44**		**84.21**		**447.03**
Total Emissions in Tons:						**0.09**		**0.68**		**0.31**		**0.04**		**0.22**

South Coast

AQMD

Annual Emission Report

Reporting Year: **2012**

Print Date: **10/24/2014**

Facility ID: **45262**

Facility Name: **LA COUNTY SANITATION DIST SCHOLL CANYON**

Facility Type:

B1 - Permitted Emissions from Fuel Combustion in Boilers, Ovens, Furnaces, and Heaters

Device Description	Application Number	Equipment Code& Description	Fuel Code Description	Annual Usage	Organic Gases		Nitrogen Oxides		Sulfur Oxides		Carbon Monoxide		Particulate Matter	
					Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions
Flare (Non-Refinery)	162689	6. Flare (Non-Refinery)	5. Landfill Gas (mmscf).	92.90	1.5800	146.41	13.3700	1,242.26	6.0200	559.26	0.8400	78.04	6.0400	561.12
Heater, <10 MMbtu/hr	322458	5a. Heater <10 MMBTU/HR	3. Diesel/Distillate Oil (1000 gals).	0.52	1.3200	0.69	20.0000	10.40	0.2100	0.11	5.0000	2.60	2.0000	1.04
Total Emissions in Pounds:						**147.10**		**1,252.66**		**559.37**		**80.64**		**562.16**
Total Emissions in Tons:						**0.07**		**0.63**		**0.28**		**0.04**		**0.28**

South Coast

AQMD

Annual Emission Report

Reporting Year: **2013**

Print Date: **10/24/2014**

Facility ID: **45262**

Facility Name: **LA COUNTY SANITATION DIST SCHOLL CANYON**

Facility Type:

B1 - Permitted Emissions from Fuel Combustion in Boilers, Ovens, Furnaces, and Heaters

Device Description	Application Number	Equipment Code& Description	Fuel Code Description	Annual Usage	Organic Gases		Nitrogen Oxides		Sulfur Oxides		Carbon Monoxide		Particulate Matter	
					Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions	Emission Factor	Emissions
Flare (Non-Refinery)	162689	6. Flare (Non-Refinery)	5. Landfill Gas (mmscf).	188.64	1.5800	297.30	13.3700	2,522.49	2.9600	558.75	0.8400	158.46	6.0400	1,139.01
Heater, <10 MMbtu/hr	322458	5a. Heater <10 MMBTU/HR	3. Diesel/Distillate Oil (1000 gals).	0.52	1.3200	0.69	20.0000	10.40	0.2100	0.11	5.0000	2.60	2.0000	1.04
Total Emissions in Pounds:						**297.98**		**2,532.89**		**558.86**		**161.06**		**1,140.05**
Total Emissions in Tons:						**0.15**		**1.27**		**0.28**		**0.08**		**0.57**

South Coast

AQMD

Annual Emission Report

Reporting Year: **2014**

Print Date: **10/01/2015**

Facility Id: **45262**

Facility Name **LA COUNTY SANITATION DIST SCHOLL CANYON**

Facility Type: **Landfill - Municipal Solid Waste**

Criteria Pollutants Permitted Emissions Summary

	VOC (tons)	SPOG (tons)	NOx (tons)	NOx RECLAIM (tons)	SOx (tons)	SOx RECLAIM (tons)	CO (tons)	PM (tons)
External Combustion	0.07	0.00	1.37	0.00	0.54	0.00	0.28	0.69
Internal Combustion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray Coating/ Spray Booth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Use of Organics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Process Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shutdown/Startup/Turnaround and Upsets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Permitted Emissions	**0.07**	**0.00**	**1.37**	**0.00**	**0.54**	**0.00**	**0.28**	**0.69**

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ANNUAL RULE 1150.1 SOURCE TEST
FLARE NO's. 8 AND 10
SCHOLL CANYON LANDFILL
MAY 2015

PREPARED FOR:
County Sanitation Districts of Los Angeles County
1955 Workman Mill Road
Whittier, California 90601

FOR SUBMITTAL TO:
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

TEST DATE:
May 20, 2015

ISSUE DATE:
June 23, 2015

TESTED BY:
Mr. Joe Adamiak, QSTI
SCEC
1631 E. Saint Andrew Place
Santa Ana, California 92705

Report No: 2025.5003.rpt1

Prepared By: _____
Joe Adamiak, Senior Project Manager

Reviewed By: _____
Rudy Nunez, District Manager

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

1.0 INTRODUCTION

SCEC was contracted by Los Angeles County Sanitation District (LACSD) to perform the 2015 annual source testing on two landfill gas fired flares located at the Scholl Canyon Landfill. The landfill is operated by LACSD. The annual testing was performed to satisfy requirements delineated by the Permit to Operate (PTO) No. G15467 and South Coast Air Quality District (SCAQMD) Rule 1150.1.

Measurements of the flare emissions and operating parameters were conducted at the flares exhaust and at the inlets (raw landfill gas) of each flare. Table 1-1 provides a test matrix of the parameters tested at each sample location. The test methodology, duration, and number of samples are in compliance with the normally requested SCAQMD test protocol.

The tests were conducted on May 20, 2015. Joe Adamiak and Jason DeBerg of SCEC performed the testing. Vikram Reddy of LACSD coordinated the source test program.

The results of the emission tests are summarized in Table 1-2 and 1-3. Detailed test results are presented in Section 4.0. All raw data, laboratory results, calculations and QA/QC data can be found in the Appendices.

Table 1-1
TEST MATRIX
SCHOLL CANYON LANDFILL GAS FLARES 8 AND 10
May 20, 2015

Parameter	Inlet	Exhaust
Oxygen (O_2)	X	X
Carbon Dioxide (CO_2)	X	X
Nitrogen (N_2)	X	X
Carbon Monoxide (CO)		X
Nitrogen Oxides (NO_x)		X
Moisture (H_2O)	X	X
Flow Rate (dscfm)	X	X
Temperature (^oF)	X	X
Total Particulate Matter (PM) as PM_{10}		X
Methane (CH_4)	X	X
Total Gaseous Non-Methane Organics (TGNMO)	X	X
Trace Volatile Organics (VOCs)	X	X
Hydrogen Sulfide (H_2S)	X	
Reduced Sulfur Compounds (TRS)	X	
Calorific Value (Btu/scf)	X	

TABLE 1-2
SUMMARY OF TEST RESULTS
LACSD Scholl Canyon
Flare 8
May 20, 2015

PARAMETER	INLET		EXHAUST		PERMIT LIMIT
			As Found	Defaulted[1]	
O_2, %	6.30		11.48		
CO_2, %	27.08		8.46		
N_2, %	33.56		80.05		
H_20, %	5.3		11.4		
Flow Rate, wscfm	741		5,890		LFG Flow 860
Flow Rate, dscfm	702		5,216		
Temperature, °F (as measured at sampling ports)	145		1,537		
Temperature, °F (as measured at by set thermocouple)			1,438		
Btu/scf	320				
NOx:					
ppm			14.75		
ppm @ 3% O_2			28.03		
lb/hr (as NO_2)			0.56		0.71
lb/MMBtu (as NO_2)			0.039		0.06
CO:					
ppm			4.4	20	2000 (Rule 407)
ppm @ 3% O_2			8.3	38.0	
lb/hr			0.10	0.46	0.67
Hydrocarbons:					
CH_4, ppm	314,000	<	10		
CH_4, lb/hr	558	<	0.13		
Destruction Eff. % CH_4		>	99.98		99
TGNMO, ppm (as CH_4)[2]	3,016		1.7		
TGNMO, lb/hr (as CH_4)	5.4		0.02		0.21
TGNMO, ppm (as hexane)			0.28		
TGNMO, ppm @ 3% O_2 (as hexane)			0.54		20[3]
Destruction Eff. % (DRE)			99.6		98[3]
Particulate (as PM_{10}):					
gr/dscf			0.0076		0.100
lb/hr			0.565		0.60
Total Sulfur Compounds,					
Total Reduced Sulfur Inlet, ppm	27.6				150 (Rule 431.1)
SOx Exhaust, lb/hr (as SO_2)[4]			0.20		0.36

Notes:
The results in this table are the averages of all measurements.
(1) Values presented reflect 20% of the selected analyzer range.
(2) TGNMO value based on the most conservative value from the sample tray. Results did not meet the precision criteria test.
(3) SCAQMD Rule 1150.1 and NSPS require that a flare meet the concentration standard or DRE.
(4) The exhaust SOx lb/hr and lb/day results are calculated from inlet reduced sulfur concentrations.

TABLE 1-3
SUMMARY OF TEST RESULTS
LACSD Scholl Canyon
Flare 10
May 20, 2015

PARAMETER	INLET		EXHAUST		PERMIT LIMIT
			As Found	Defaulted [1]	
O_2, %	5.89		11.16		
CO_2, %	28.46		8.77		
N_2, %	31.71		80.07		
H_20, %	5.6		11.5		
Flow Rate, wscfm	727		5,807		LFG Flow 860
Flow Rate, dscfm	686		5,140		
Temperature, °F (as measured at sampling ports)	145		1,292		
Temperature, °F (as measured at by set thermocouple)			1,427		
Btu/scf	335				
NOx:					
ppm			13.89		
ppm @ 3% O_2			25.54		
lb/hr (as NO_2)			0.52		0.71
lb/MMBtu (as NO_2)			0.036		0.06
CO:					
ppm			0.0	20	2000 (Rule 407)
ppm @ 3% O_2			0.0	36.8	
lb/hr			0.00	0.46	0.67
Hydrocarbons:					
CH_4, ppm	329,000	<	10		
CH_4, lb/hr	572	<	0.13		
Destruction Eff. % CH_4		>	99.98		99
TGNMO, ppm (as CH_4) [2]	3,091		3.1		
TGNMO, lb/hr (as CH_4)	5.4		0.04		0.21
TGNMO, ppm (as hexane)			0.52		
TGNMO, ppm @ 3% O_2 (as hexane)			0.95		20 [3]
Destruction Eff. % (DRE)			99.2		98 [3]
Particulate (as PM_{10}):					
gr/dscf			0.0060		0.100
lb/hr			0.480		0.60
Total Sulfur Compounds,					
Total Reduced Sulfur Inlet, ppm	36.1				150 (Rule 431.1)
SOx Exhaust, lb/hr (as SO_2) [4]			0.25		0.36

Notes:
The results in this table are the averages of all measurements.
(1) Values presented reflect 20% of the selected analyzer range.
(2) TGNMO value based on the most conservative value from the sample tray. Results did not meet the precision criteria test.
(3) SCAQMD Rule 1150.1 and NSPS require that a flare meet the concentration standard or DRE.
(4) The exhaust SOx lb/hr and lb/day results are calculated from inlet reduced sulfur concentrations.

American Analytics Landfill Gas Analysis For Sample Collected On 01/06/16

Analyte	Concentration	Method	Reporting Limit	Results	Sampling Media	Notes
Hydrogen	0-0.5 Mol%	EPA 3C (Mod)	0.1%	<0.1%	Polymer Bag	subcontracted
Carbon Dioxide	25-35 Mol%	EPA 3C (Mod)	0.1%	**28%**	Polymer Bag	
Oxygen/Argon	3-10 Mol%	EPA 3C (Mod)	0.1%	**4.5%**	Polymer Bag	
Nitrogen	20-50 Mol%	EPA 3C (Mod)	0.1%	**36.0%**	Polymer Bag	
Methane	30-60 Mol%	EPA 3C (Mod)	0.1%	**32.0%**	Polymer Bag	
Ethane	0-0.5 Mol%	GC/FID	20 ppmV	<100000 ppmV	Polymer Bag	
Propane	0-0.5 Mol%	GC/FID	20 ppmV	**18 ppmV**	Polymer Bag	
Pentane	0-0.5 Mol%	GC/FID	20 ppmV	<10 ppmV	Polymer Bag	
Hexane	0-0.5 Mol%	GC/FID	20 ppmV	<10 ppmV	Polymer Bag	
Benzene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	**0.97 ppmV**	Polymer Bag	
Toluene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	**3.2 ppmV**	Polymer Bag	
Ethylbenzene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	**1.1 ppmV**	Polymer Bag	
m,p-Xylene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	**1.5 ppmV**	Polymer Bag	
o-Xylene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	0.48 ppmV	Polymer Bag	
Styrene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	<0.23 ppmV	Polymer Bag	
C3 Benzenes	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	<0.4 ppmV	Polymer Bag	
Naphthalene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	<0.38 ppmV	Polymer Bag	
C1 Naphthalene	0-0.01 Mol%	EPA 8260B (Mod)	TIC*	not found	Polymer Bag	
C2 Naphthalene	0-0.01 Mol%	EPA 8260B (Mod)	TIC*	not found	Polymer Bag	
Hydrogen Sulfide	0-50 ppmv	ASTM D 5540-12	0.05 ppmV	**39 ppmV**	Polymer Bag	subcontracted
Carbonyl Sulfide	0-5 ppmv	ASTM D 5540-12	0.05 ppmV	**0.053 ppmV**	Polymer Bag	subcontracted
Carbon Disulfide	0-5 ppmv	ASTM D 5540-12	0.05 ppmV	**0.032 ppmV**	Polymer Bag	subcontracted
Methyl Mercaptan	0-5 ppmv	ASTM D 5540-12	0.05 ppmV	**1.0 ppmV**	Polymer Bag	subcontracted
Dimethyl Sulfide	0-5 ppmv	ASTM D 5540-12	0.05 ppmV	**1.5 ppmV**	Polymer Bag	subcontracted
Total Sulfur**	0-50 ppmv	ASTM D 5540-12	0.05 ppmV	**42 ppmV**	Polymer Bag	subcontracted
1,1,3,3-tetramethyldisiloxane	0-10 mg/m3	GC/MS (ALS AQL111)	TIC*	not found	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
pentamethyldisiloxane	0-10 mg/m3	GC/MS (ALS AQL111)	TIC*	not found	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
hexamethyldisilane	0-10 mg/m3	GC/MS (ALS AQL111)	TIC*	not found	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
hexamethyldisiloxane (L2)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**580 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Octamethyltrisiloxane (L3)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	<0.27 ug/m3	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Decamethyltetrasiloxane (L4)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	<0.28 ug/m3	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Dodecamethylpentasiloxane (L5)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	<0.28 ug/m3	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Hexamethylcyclotetrasiloxane (D3)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**63 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Octamethylcyclotetrasiloxane (D4)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**120 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Decamethylcyclopentasiloxane (D5)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**52 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Dodecamethylcyclohexasiloxane (D6)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	<0.28 ug/m3	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Trimethylsilanol	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**3500 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Total Silicon	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**1400 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Mercury	0-10 µg/m3	EPA 7471B (Mod)	0.5 ug/m3	<0.5 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Arsenic	0-50 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Beryllium	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Cadmium	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Copper	0-500 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Molybdenum	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Lead	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Antimony	0-50 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Selenium	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Zinc	0-500 µg/m3	EPA 6020B (Mod)	2 ug/m3	**7.4 ug/m3**	Filter Cassette; 4 hours @ 2L/min	

*: Tentatively Identified Compound

**: Total Reduced Sulfur as Hydrogen Sulfide

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A.3 AMBIENT AIR QUALITY MODELING RESULTS

APPENDIX A.3.1
AMBIENT AIR QUALITY ANALYSIS

APPENDIX A.3.1
MODELING PROTOCOL

APPENDIX A.3.2
AERMOD INPUT SUMMARY

APPENDIX A.3.3
AERMOD OUTPUT SUMMARY

(COMPLETE MODELING FILES ARE AVAILABLE IN ELECTRONIC FORMATS)

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Air Quality Impact Analysis (AQIA) Report
Glendale Water and Power
Biogas Renewable Generation Project

This report describes the air quality modeling results of estimated ground level concentrations resulting from the proposed emissions profile of Biogas Renewable Generation Project. Maximum modeled concentrations were added to the maximum background concentrations to calculate the total impacts of the proposed Project for comparison to the applicable and most stringent of state and national ambient air quality standards (AAQS). For pollutants that are non-attainment at the South Coast Air Basin, the impact of the proposed Project were compared with the State significance increase threshold.

Potential air quality impacts were evaluated based on air quality dispersion modeling using the Providence BEEST AERMOD software (version 16216r). A modeling protocol, provided in Appendix 3.1, was submitted and approved by the SCAQMD staff. All input and output modeling files are contained on a flash drive provided with this permit application.

The models were run for various criteria pollutants and averaging periods. NO_2, PM_{10} and $PM_{2.5}$ were modeled for comparison to the respective annual average AAQS. Short term air quality impacts were also evaluated, including 1-hour and 8-hour CO; 1-hour NO_2; 1-hour and 24-hour SO_2; and 24-hour PM_{10} and $PM_{2.5}$.

In accordance with SCAQMD AERMOD implementation guide, the models were run with flat terrain option on receptors located at lower elevations than the emission sources base elevation. The models were run with complex terrain options on the receptors located at higher elevations than the emission sources base elevation. The highest values from the models were selected as the overall project impact.

Table 1 presents the applicable AAQS for each of these pollutants, for each averaging period.

Table 1
Applicable Ambient Air Quality Standards
Grayson Power Plant Repowering Project

Pollutants	Averaging Periods	Most Stringent AAQS	Form	National or State Standard?
NO_2	1-Hour	100 ppb	98th Percentile of one-hour daily maximum concentrations, averaged over three years. [A]	National
	1-Hour	0.18 ppm	Not to be exceeded	California
	Annual	0.03 ppm	Annual Arithmetic Mean.	California
CO	1-Hour	20 ppm	Not to be exceeded more than once per year.	California
	8-Hour	9 ppm	Not to be exceeded more than once per year.	National
SO_2	1-Hour	75 ppb	99th Percentile of one-hour daily maximum concentrations, averaged over three years. [B]	National
	1-Hour	0.25 ppm	Not to be exceeded	California
	24-Hour	0.04 ppm	Not to be exceeded.	California
PM_{10}	24-Hour	2.5 μg/m^3	Allowable increase	California
	24-Hour	150 μg/m^3	The 6th highest of daily maximum concentrations, averaged over three years.	National
	Annual	1.0 μg/m^3	Allowable increase	California
$PM_{2.5}$	24-Hour	2.5 μg/m^3	Allowable increase	California
	24-Hour	35 μg/m^3	98th Percentile of daily maximum concentrations, averaged over three years.	National
	Annual	1.0 μg/m^3	Allowable increase	California
	Annual	12.0 μg/m^3	Annual mean, averaged over 3 years	National

A.) 8th highest of 1-hour maximum concentrations (NO_2) or 24-hour maximum concentrations ($PM_{2.5}$), averaged over a 5-year period for modeling.
B.) 4th highest of 1-hour maximum concentrations, averaged over a 5-year period for modeling.

In each modeling run, the regulatory default options were used with the exception of allowing flat terrain mode for the receptors below the emission sources base elevation. Additionally, the urban modeling option was selected to allow the model to incorporate the effects of increased surface

heating from the surrounding urban area on pollutant dispersion under stable atmospheric conditions. The urban area population was updated to reflect current approximate density in Los Angeles County (9,862,049 based on 2016 estimates from the U.S. Census Bureau). The equipment parameters, such as stack height and diameter, exhaust temperature and exit velocity, and elevation, are required for the AERMOD input, which is provided in the Appendix A.3.2.

For NO_2 modeling, the Ambient Ratio Method (ARM) was used in modeling the annual and 1-hour concentrations.

Modeling Scenarios

Table 2 shows the scenarios where the equipment produces the potential highest emissions for a 1-hour, 8-hour, 24-hour, and annual basis.

Table 2 – Air Dispersion Modeling Scenarios

Pollutant	Average Time	The Basis of Emission Rate
NO_2, CO, SO_2	1-hour Average	One engine operates one hour, which consists of startup, controlled, and shutdown emissions. Each of the remaining three engines operate one hour of controlled emissions without any startups or shutdowns.
CO	8-hour Average	One engine operates eight hours, which consists of six hours of uncontrolled emissions and two hours of startups, controlled emissions, and shutdowns. Each of the remaining three engines operate eight hours of controlled emissions without any startups or shutdowns.
PM10, PM2.5, SO_2	24-hour Average	One engine operates twenty four hours, which consists of ten hours of uncontrolled emissions, and fourteen hours of two startup and shutdowns and controlled emissions. Each of the remaining three engines operate twenty four hours of controlled emissions without any startups or shutdowns.
NO_2, PM10, PM2.5	Annual Average	Maximum Annual Emissions[1]

Note:

[1]The maximum annual emission of the engines includes the allowable 10 startups/shutdowns and 10 maintenance hours (uncontrolled emissions) for the whole year.

Modeling Results

Table 3 shows the modeling emission rates used for each pollutant and averaging period for the proposed Project, including air quality impact during commissioning period.

Table 3
Ambient Air Quality Impact Analysis Result
Scholl Canyon Repowering Generation Project

Pollutant	Avg. Period	Project Impact	Background[a]	New Ambient	Limiting Standard	Type of Standard
NO_2[b]	1-HR	0.030 ppm	0.09 ppm	0.12 ppm	0.18 ppm	CAAQS
NO_2[b]	1-HR (98^{th} %)	0.014 ppm	0.073 ppm	0.086 ppm	0.10 ppm	NAAQS
NO_2[c]	Annual	0.00015 ppm	0.022 ppm	0.022 ppm	0.03 ppm	CAAQS
CO	1-HR	0. 145 ppm	3.10 ppm	3.24 ppm	20 ppm	CAAQS
CO	8-HR	0.0344 ppm	2.20 ppm	2.23 ppm	9 ppm	CAAQS
PM10	24-HR	1.07 ug/m^3	88 ug/m^3	89.07 ug/m^3	Allowable increase of 2.5 ug/m^3	CAAQS / SCAQMD Allowable Increase
PM10[d]	24-HR (6^{th} highest over 5 years)	0.65 ug/m^3	88 ug/m^3	88.65 ug/m^3	150 ug/m^3	NAAQS
PM10	Annual	0.118 ug/m^3	35.4 ug/m^3	35.52 ug/m^3	Allowable increase of 1.0 ug/m^3	CAAQS / SCAQMD Allowable Increase
PM2.5	24-HR	1.07 ug/m^3	48.5 ug/m^3	49.57 ug/m3	Allowable increase of 2.5 ug/m^3	CAAQS / SCAQMD Allowable Increase

Pollutant	Avg. Period	Project Impact	Background[a]	New Ambient	Limiting Standard	Type of Standard
PM2.5[e]	24-HR (8th highest)	0.35 ug/m^3	29.80 ug/m^3	30.15 ug/m3	35 ug/m^3 Below SIL of 1.2 ug/m^3	NAAQS EPA Significant Impact Level (SIL)
PM2.5	Annual	0.118 ug/m^3	11.95 ug/m^3	12.07 ug/m^3	Below SIL of 0.3 ug/m^3 Allowable increase of 1.0 ug/m^3	EPA Significant Impact Level (SIL) CAAQS / SCAQMD Allowable Increase
SO_2	1-HR	0.0026 ppm	0.0126 ppm	0.0152 ppm	0.25 ppm	CAAQS
SO_2[f]	1-HR (99th %)	0.0014 ppm	0.0063 ppm	0.0077 ppm	0.075 ppm	NAAQS
SO_2	24-HR	0.0006 ppm	0.0054 ppm	0.0060 ppm	0.04 ppm	CAAQS

Notes:

a) The background values are based on the highest concentrations monitored during 2011 through 2015, except the year 2013, at West San Gabriel Valley (Pasadena) monitoring station. In 2013, the higher readings between Pasadena and Central Los Angeles monitoring station (Station No. 087) were used because the 2013 Pasadena background data were marked incomplete. Additionally, the background values of PM10 and SO_2 were based on the readings from the Central Los Angeles monitoring station since the Pasadena monitoring station did not record any background data for those pollutants.

b) The NO_2 1-hour modeling was refined using the AERMOD Ambient Ratio Method (ARM) option, which assumes an 80% conversion factor of NO_X to NO_2

c) The NO_2 annual modeling was refined using the AERMOD ARM option, which assumed a 75% conversion factor of NO_X to NO_2.

d) The PM10 24-hour modeled values were based on the maximum 6th highest concentration over 5 years period.

e) The PM2.5 24-hour modeled values were based on the 8th highest concentration averaged over 5 years period with the background concentrations of 98th percentile of 24-hour data averaged over 5 years period.

f) The SO_2 1-hour modeled values were based on the 4th highest concentration averaged over 5 years period with the background concentrations of 99th percentile of 1-hour data averaged over 5 years period.

g) There are receptors surrounding the facility at lower and higher elevations than the emission sources. The model was run on non-default option (flat terrain) on all receptors at lower elevations; and a default option (complex terrain) was selected to on receptors above the emission sources base elevation. The project impact values shown in the table above is the highest values from both model runs.

As shown in Table 3, the modeled highest concentration of NO_2, CO, and SO_2 plus the applicable background concentration did not result in any exceedances of the federal and state AAQS. For

PM10 and PM2.5, the modeled maximum concentrations from the Project did not cause any exceedances of the state significant thresholds. Appendix A.3.3 include additional information on the model files.

Additionally, the complete modeling files are provided in electronic copies.

APPENDIX A.3.1

MODELING PROTOCOL

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SCEC

October 2, 2015

Ms. Jillian Wong, Ph.D.
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Subject: Protocol for Air Dispersion Modeling (CEQA, AQIA, and HRA)
City of Glendale – Scholl Canyon Landfill Project

Dear Ms. Wong,

SCEC is submitting this protocol for air dispersion modeling on behalf of the City of Glendale ("Glendale"). The purpose of this document is to propose methodology by which dispersion modeling is set up and executed in support of a project for the Scholl Canyon Landfill ("landfill"). The project will include construction and operation of new power generation equipment that will burn landfill gas generated by the facility. The proposed modeling program will be used to estimate direct project operational impacts only, including a California Environmental Quality Act ("CEQA") analysis, an air quality impact analysis ("AQIA"), and a health risk assessment. SCEC is seeking South Coast Air Quality Management District ("SCAQMD") approval of the proposed modeling methodology to ensure that the model is prepared and executed in accordance with SCAQMD Modeling Guidance and standards. Once approved, SCEC will perform the required dispersion modeling pursuant to the methods outlined in this protocol.

Generally, SCEC proposes to use the latest version of the Trinity Consultants BREEZE AERMOD software to build and execute the required dispersion modeling. The model will be run in accordance with *SCAQMD Modeling Guidance for AERMOD*. This includes use of the regulatory default option (with one exception as explained in the following methodology discussion), AERMAP preprocessor, urban modeling option, BPIP for building downwash, SCAQMD-provided AERMOD meteorological data, appropriate averaging times and receptor grid spacing, and any other required options. The proposed model will not utilize the OLM or PVMRM options. More detailed modeling methodology can be found in following sections of this protocol.

Proposed Modeling Methodology

The landfill is located at 3001 Scholl Canyon Road in Glendale. SCEC will utilize a modeling projection in terms of Universal Transverse Mercator (UTM) with the World Geodetic System 1984 datum. The UTM zone and hemisphere selected for the modeling will reflect the physical location of the facility as follows:

- UTM zone: 11
- Hemisphere: Northern

Ms. Jillian Wong, Ph.D.
South Coast AQMD

Glendale is proposing to construct and operate new power generation equipment at the site and is considering two possible options for the technology. The first option includes the use of two (2) combustion turbines, while the second option will include four (4) reciprocating internal combustion engines. There are twelve (12) existing enclosed flares at the facility today, operated by another entity; however, due to the expectation that excess landfill gas not combusted in the proposed new power generation equipment would be sent to these devices, the flares will be included in the modeling for both scenarios as a matter of completeness. Separate models will be prepared to cover the two possible equipment scenarios, but the same general methodology will be used for both.

Each model will use the current AERMOD executable from EPA, Version 15181. Generally, the models will be executed using the urban model option in accordance with SCAQMD modeling guidelines. All sources will be modeled with urban effects using the population of Los Angeles County. SCAQMD suggests the Los Angeles County population to be 9,862,049, so this value will be used to characterize the urban area surrounding the proposed project.

Since exhaust from the combustion turbines or engines would be vented to dedicated vertical stacks, all of these sources will be categorized and modeled as point sources. Additionally, since the flares will be incorporated into the model and because they are not "candlestick" type flares, these will also be modeled as point sources. Source information such as exhaust exit temperature, flow rate, stack height, and stack diameter will be entered using manufacturer's literature or another reliable source. The emission rate for each source will be included as appropriate for each model to be run, both in terms of the pollutant and averaging period of interest. Each emissions source will be assigned to its own source group and flagged as an urban source. An additional urban source group will be created that includes all emission sources.

Buildings and significant permanent structures that are located within 5*L of a stack ("L" is the building/structure height above the stack base) can cause wake effects and must be incorporated into the model. Each building/structure that meets the criteria will be built into the model using actual dimensions (or reasonable estimates).

The facility boundary will be defined as the footprint of the entire landfill. Although SCAQMD modeling guidelines require that fenceline receptor spacing be based on the acreage of a facility, the proposed modeling will conservatively use the most refined spacing, placing fenceline receptors no more than 20 meters apart.

In addition to fenceline receptors, a uniform Cartesian receptor grid will be created to cover the extent of the modeling domain. The grid will cover an approximate area of 36 square kilometers with 50 meter spacing between receptors. Discrete receptors will be established for nearby sensitive and off-site worker receptor locations. No flagpole receptors will be included in the model.

Because the landfill is situated on a hilltop, most of the surrounding receptors are located below the base elevation of the sources being modeled. EPA's AERMOD Implementation Guide (rev.

Ms. Jillian Wong, Ph.D.
South Coast AQMD

8/3/2015), Section 4.1 suggests that AERMOD may underestimate concentrations in cases of terrain-following plumes and down-sloping terrain. In these cases, EPA suggests that it may be reasonable to assume flat, level terrain. In this case, the model will include some receptors that are lower and some that are higher than the base elevations of the sources. Pursuant to the SCAQMD Guidelines, the proposed modeling will be conducted using two types of model runs – one run will utilize the regulatory default option and complex terrain, and the second will use the non-regulatory default option and flat terrain. In accordance with the SCAQMD Guidelines, the results for both models will be presented.

For the flat terrain model run, AERMAP does not need to be run since no terrain data will be needed to execute the model. However, for the complex terrain model run, terrain data will be used in conjunction with the AERMAP preprocessor.

Terrain files for the area will be pulled down from the California Air Resources Board ("CARB") website at the following address: http://www.arb.ca.gov/toxics/harp/dems.htm. Based on the project location and availability of digital elevation model ("DEM") files, the "Pasadena" terrain file should provide adequate coverage for the proposed modeling domain. With the source, surrounding qualifying structures, and all receptors situated, the terrain file will be used to run AERMAP. In addition to applying terrain elevation information to the model, this process will apply base elevations to each of the sources, buildings, and receptors. AERMAP will be rerun to establish new base elevations if any objects in the model are subsequently moved, or added.

BPIP will be run to create a file of 36 direction-specific building widths, heights, and distances (one for each of the 36 10-degree sectors) that will be automatically imported into BREEZE AERMOD. This will allow the model to properly compute the plume downwash (i.e., adjusted plume center line and turbulent dispersion) downwind of tier influenced stacks. BPIP will be rerun prior to model execution if source and/or building coordinates are changed; source and/or building heights are changed; base elevations are changed; or buildings are added to the model. BPIP is not affected by meteorological data.

Meteorological data files for both surface and upper air characteristics are provided by SCAQMD. The files used for any particular model run should be selected based on the representativeness of the underlying data with respect to meteorological conditions at the proposed facility location. For this project, the SCAQMD Central LA (CELA) and Burbank (BURK) meteorological stations are both situated at approximately the same distance from the facility; however, historical prevailing wind direction is quite a bit different between the two stations. The Central LA station has a prevailing northeasterly wind, while Burbank appears to predominantly experience northwesterly winds. Since the site is between these two station locations and because it is unclear which wind pattern is more representative of actual site conditions, SCEC has elected to use the Burbank files. This is based on the inference that airflow at the proposed facility will be more similar to that experienced at the Burbank monitoring station than the Central LA station. Furthermore, the Burbank meteorological data is provided for the years 2008 through 2012, which is both more current than the data coverage period from Central LA, and includes five consecutive years of data.

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South Coast AQMD

In order to fully address the needs of the CEQA analysis and the AQIA, which both call for a determination of the operational impacts a project will have on ambient air quality, the proposed model will include runs for nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO2), and particulate matter (both PM10 and PM2.5). Proposed operational impacts will be determined by modeling for each applicable pollutant and averaging period and comparing the results to SCAQMD air quality significance thresholds, California ambient air quality standards ("CAAQS") and/or National ambient air quality standards ("NAAQS"). The following pollutants and averaging periods will be evaluated to estimate the potential direct operational impacts on ambient air quality, based on emissions from all modeled sources:

- NO_2 : 1-hour[1,2,3] & annual[1,2,3]
- CO : 1-hour[1,2,3] & 8-hour[1,2,3]
- SO_2 : 1-hour[1,2,3], 3-hour[2], 24-hour[1,3]
- $PM_{2.5}$: 24-hour[2,3] & Annual[1,2]
- PM_{10} : 24-hour[1,2,3] & Annual[1,3]

For comparison to:

1.) CAAQS
2.) NAAQS
3.) SCAQMD ambient air quality standards

The appropriate output tables and plot files will be generated by AERMOD during each model run. The applicable ground level concentration data will be extracted from these files and utilized for comparison with the associated standards.

Ambient background emissions data for each criteria pollutant and averaging period has been provided by SCAQMD and CARB, and is based on monitoring data taken from SCAQMD monitoring stations 88 (West San Gabriel Valley) and 87 (Central LA) for the years of 2010 through 2014. The data from Station No. 88 is considered more appropriate for the proposed project location; however, because data from 2013 was incomplete and not provided by SCAQMD or CARB, the 2013 data from Station No. 87 will be used instead. For the purposes of determining the applicable background concentration to be used in the CEQA analysis and AQIA, SCEC will conservatively select the highest concentration from the 5 years of monitoring data for each pollutant and averaging period.

For the CEQA analysis, SCEC will compare selected ambient background concentrations plus modeled concentrations (or just the modeled concentrations in the case of PM2.5 and PM10) to the respective threshold of significance presented in the table below. In cases where the significance threshold is in-line with either a CAAQS or NAAQS, the expectation is that the resulting combined background plus modeled concentration does not cause a violation of the standard. For PM2.5 and PM10, the CEQA significance thresholds reflect maximum allowable increases, so only the modeled concentration will be compared to the threshold in these cases.

Ms. Jillian Wong, Ph.D.
South Coast AQMD

SCAQMD Air Quality Significance Thresholds for CEQA

Pollutant and Averaging Period	Standard / Threshold
NO2	
- 1-hour average	0.18 ppm (CAAQS)
- Annual arithmetic mean	0.03 ppm (CAAQS) & 0.0534 ppm (NAAQS)
CO	
- 1-hour average	20 ppm (CAAQS) & 35 ppm (NAAQS)
- 8-hour average	9.0 ppm (CAAQS/NAAQS)
SO2	
- 1-hour average	0.25 ppm (CAAQS) & 0.075 ppm (NAAQS – 99th percentile)
- 24-hour average	0.04 ppm (CAAQS)
PM2.5	
- 24-hour	2.5 µg/m^3
PM10	
- 24-hour	2.5 µg/m^3
- Annual average	1.0 µg/m^3

For the AQIA, the methodology for determining compliance will be very similar to that of the CEQA analysis. For any pollutants that ambient background concentrations are below a particular emissions standard, the modeled increase to concentration resulting from the project will be added to the background. As long as the sum of background and modeled concentration does not cause an exceedance of the standard, then the project will be in compliance. If there are cases where the ambient background concentration is already above the applicable standard, the modeled concentration for the project will be compared to the respective significance threshold in Rule 1303, Table A-2.

The HRA for this project will be completed in accordance with the updated Risk Assessment Guidelines from the Office of Environmental Health Hazard Assessment ("OEHHA") that were released in 2015. This includes using the latest version of CARB's Hotspots Analysis and Reporting Program software ("HARP 2") in conjunction with the derived OEHHA methodology for risk assessment and dispersion modeling plot files generated by AERMOD.

More specifically, two additional dispersion model runs will be executed as described in this protocol (i.e., one for flat terrain and a second for complex terrain), except that the "Other" pollutant will be selected in the model options and a "unit emission rate" will be used for each point source (i.e., one gram per second). By normalizing the emission rate for all model sources in this manner, the maximum 1-hour and period ground level concentrations generated by AERMOD will act as scalers with which a program like HARP 2 can estimate ground level concentrations of toxic air contaminants ("TACs"). Two sets of plot files for the modeled "1-hour" and "Period"

concentrations will be loaded into HARP 2. In conjunction with a complete inventory of TACs estimated for the proposed project, HARP 2 will use the AERMOD plot files to predict ground level concentrations of each TAC. HARP 2 will automatically assign health risk values to each TAC, such as cancer potency ("CP") for carcinogens and reference exposure levels ("RELs") for compounds that may cause chronic or acute health conditions. Using the concentration of TACs at each receptor location, the assigned CPs and RELs associated with each TAC, receptor type, exposure pathways, and exposure duration, HARP 2 will calculate potential health risk. This includes an estimate of cancer risk, non-cancer chronic risk, and non-cancer acute risk. If necessary, the Cancer Burden will also be calculated.

SCAQMD Rule 1401 and the Agency's CEQA Guidelines require that a proposed project not exceed the following health risk levels for each risk category:

Risk Category	**Threshold**
Maximum Individual Cancer Risk ("MICR")	1×10^{-5}
Non-Cancer Acute Hazard Index	1.0
Non-Cancer Chronic Hazard Index	1.0
Cancer Burden*	0.5

*Calculation of cancer burden is only required if MICR $\geq 1 \times 10^{-5}$.

The risk assessment model will need to be run twice for each set of dispersion model results – once to evaluate sensitive and residential receptor risk levels and again for off-site worker risk. The following HRA modeling scenarios will be run in HARP 2:

To analyze risk for residential and sensitive receptors the following options will be used:

Analysis Type:	Cancer, Chronic, and Acute Risk
Receptor Type:	Individual Resident
Exposure Duration:	30 years
Intake Rate Percentile:	OEHHA derived method
Pathways to Evaluate (*):	Inhalation; Soil Ingestion; Dermal; and Mother's Milk

(*) The selected pathways reflect "mandatory minimum" pathways for residential/sensitive receptors.

To analyze risk for off-site worker receptors the following options will be used:

Analysis Type:	Cancer, Chronic, and Acute Risk
Receptor Type:	Worker
Exposure Duration:	25 years
Intake Rate Percentile:	OEHHA derived method
Pathways to Evaluate (*):	Inhalation; Soil Ingestion; and Dermal

(*) The selected pathways reflect all required "worker" pathways

Ms. Jillian Wong, Ph.D.
South Coast AQMD

Once both HARP 2 runs are completed, the model outputs will be evaluated to determine whether the project will comply with SCAQMD requirements. For both models, SCEC will determine risk levels for the maximally exposed individual ("MEI"). The MEI represents an actual receptor location where risk levels are the highest for one or more risk categories. The location of the MEI may vary depending on the risk category being analyzed and may not necessarily reflect the point of maximum impact ("PMI") for that risk category. In cases where the PMI is also the MEI, the PMI will be used to compare with the applicable risk threshold. When the PMI for a particular risk category does not reflect an actual receptor location, the MEI will be used with justification as to why it is more representative than the PMI.

Should it be required, cancer burden will be calculated manually in accordance with the instructions outlined in the SCAQMD Risk Assessment Procedures (Version 8.0, 6/5/2015). Since dispersion modeling and a refined HRA are being conducted for the project, SCEC will be able to use output files generated by HARP 2 to visualize risk level isopleths and easily determine the greatest downwind distance at which a potential receptor may be exposed to a MICR of one in one-million. By using this downwind distance as the radius (r), a circular area will be defined (using $\pi * r^2$) that will theoretically reflect the zone of impact for the project. If the actual population within the area is known then that value will be used in conjunction with the MICR to determine cancer burden. If the actual population is not known, then a conservative estimate of 7,000 people per square kilometer will be used.

We appreciate the expedited review of this protocol as SCEC is ready to begin the modeling and other analyses in support of the project immediately upon approval. Should SCAQMD have any questions or concerns regarding the modeling and analysis methodology proposed herein, please contact me directly at (714) 282-8240 (ext. 8609) or bwinchester@montrose-env.com.

Sincerely,
SCEC
An affiliate of Montrose Environmental Group, Inc.

MONTROSE ENVIRONMENTAL

Bill D. Winchester, C.P.P.
Senior Project Manager
Regulatory Compliance Services

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APPENDIX A.3.2

AERMOD INPUT SUMMARY

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Point Sources - 1 Hour Model

Model ID	Source Description	UTME (m)	UTMN (m)	Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Dia. (m)	NOx Emission (g/s)	CO Emission (g/s)	SO2 Emission (g/s)	PM Emission (g/s)
ENGINE1	Generator 1	390140.0	3779830.2	434.04	12.192	698.150	32.712	0.6096	3.94968	7.10960	0.10584	
ENGINE2	Generator 2	390147.2	3779828.8	434.04	12.192	698.150	32.712	0.6096	0.15372	1.10878	0.10584	
ENGINE3	Generator 3	390154.5	3779827.5	434.04	12.192	698.150	32.712	0.6096	0.15372	1.10878	0.10584	
ENGINE4	Generator 4	390161.7	3779827.4	434.04	12.192	698.150	32.712	0.6096	0.15372	1.10878	0.10584	

Point Sources - 8 Hour Model

Model ID	Source Description	UTME (m)	UTMN (m)	Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Dia. (m)	NOx Emission (g/s)	CO Emission (g/s)	SO2 Emission (g/s)	PM Emission (g/s)
ENGINE1	Generator 1	390140.0	3779830.2	434.04	12.192	698.150	32.712	0.6096		3.37631		
ENGINE2	Generator 2	390147.2	3779828.8	434.04	12.192	698.150	32.712	0.6096		1.10878		
ENGINE3	Generator 3	390154.5	3779827.5	434.04	12.192	698.150	32.712	0.6096		1.10878		
ENGINE4	Generator 4	390161.7	3779827.4	434.04	12.192	698.150	32.712	0.6096		1.10878		

Point Sources - 24 Hour Model

Model ID	Source Description	UTME (m)	UTMN (m)	Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Dia. (m)	NOx Emission (g/s)	CO Emission (g/s)	SO2 Emission (g/s)	PM Emission (g/s)
ENGINE1	Generator 1	390140.0	3779830.2	434.04	12.192	698.150	32.712	0.6096			0.10584	0.07669
ENGINE2	Generator 2	390147.2	3779828.8	434.04	12.192	698.150	32.712	0.6096			0.10584	0.07669
ENGINE3	Generator 3	390154.5	3779827.5	434.04	12.192	698.150	32.712	0.6096			0.10584	0.07669
ENGINE4	Generator 4	390161.7	3779827.4	434.04	12.192	698.150	32.712	0.6096			0.10584	0.07669

Point Sources - Annual Model

Model ID	Source Description	UTME (m)	UTMN (m)	Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Dia. (m)	NOx Emission (g/s)	CO Emission (g/s)	SO2 Emission (g/s)	PM Emission (g/s)
ENGINE1	Generator 1	389968.2	3779779.5	434.04	12.192	698.150	32.712	0.6096	0.20660			0.07669
ENGINE2	Generator 2	389967.3	3779788.2	434.04	12.192	698.150	32.712	0.6096	0.20660			0.07669
ENGINE3	Generator 3	389966.6	3779796.9	434.04	12.192	698.150	32.712	0.6096	0.20660			0.07669
ENGINE4	Generator 4	389965.8	3779805.4	434.04	12.192	698.150	32.712	0.6096	0.20660			0.07669

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APPENDIX A.3.3

AERMOD OUTPUT SUMMARY

(COMPLETE MODELING FILES ARE AVAILABLE IN ELECTRONIC FORMATS)

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Description	Pollutant	Averaging Period	Highest	Source Group	Conc (ug/m3)	UTME	UTMN	Conc Date mm/dd/yy/hh	Conc (ppm)	Background	Unit	Total	Unit	NAAQS	Unit	SCAQMD	Unit
CO State Standard/NAAQS																	
Scholl Canyon ICE 1hr COElevation_5yrs_CO	CO	1-HR	1ST	ALL	159.72	390407.0	3779876.0	10/25/12/20	0.14505	3.1	PPM	3.2451	PPM	35	PPM	20	PPM
Scholl Canyon ICE 1hr COElevation_5yrs_CO				ENGINE1	108.18	390407.0	3779876.0	10/25/12/20	0.09825			3.1982	PPM				
Scholl Canyon ICE 1hr COElevation_5yrs_CO				ENGINE2	17.01	390407.0	3779876.0	10/25/12/20	0.01545			3.1155	PPM				
Scholl Canyon ICE 1hr COElevation_5yrs_CO				ENGINE3	17.13	390407.0	3779876.0	10/25/12/20	0.01556			3.1156	PPM				
Scholl Canyon ICE 1hr COElevation_5yrs_CO				ENGINE4	17.39	390407.0	3779876.0	10/25/12/20	0.01580			3.1158	PPM				
Scholl Canyon ICE 8hr_5yrs_CO	CO	8-HR	1ST	ALL	37.86	390444.8	3779750.6	01/07/08/16	0.03438	2.2	PPM	2.2344	PPM	9	PPM	9	PPM
Scholl Canyon ICE 8hr_5yrs_CO				ENGINE1	18.47	390444.8	3779750.6	01/07/08/16	0.01677			2.2168	PPM				
Scholl Canyon ICE 8hr_5yrs_CO				ENGINE2	6.26	390444.8	3779750.6	01/07/08/16	0.00568			2.2057	PPM				
Scholl Canyon ICE 8hr_5yrs_CO				ENGINE3	6.46	390444.8	3779750.6	01/07/08/16	0.00587			2.2059	PPM				
Scholl Canyon ICE 8hr_5yrs_CO				ENGINE4	6.67	390444.8	3779750.6	01/07/08/16	0.00606			2.2061	PPM				
NO_2 State Standard - ARM																	
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_NO2	NO2	1-HR	1ST	ALL	53.80	390407.0	3779876.0	10/25/12/20	0.02974	0.09	PPM	0.1197	PPM		PPM	0.18	PPM
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_NO2				ENGINE1	48.08	390407.0	3779876.0	10/25/12/20	0.02658			0.1166	PPM				
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_NO2				ENGINE2	1.89	390407.0	3779876.0	10/25/12/20	0.00104			0.0910	PPM				
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_NO2				ENGINE3	1.90	390407.0	3779876.0	10/25/12/20	0.00105			0.0911	PPM				
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_NO2				ENGINE4	1.93	390407.0	3779876.0	10/25/12/20	0.00107			0.0911	PPM				
NO_2 NAAQS - ARM																	
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_NO2	NO2	8TH-HIGHEST MAX DAILY 1-HR	1ST	ALL	24.56	390407.0	3779876.0	5 YEARS	0.01357	0.0728	PPM	0.0864	PPM	0.10	PPM		PPM
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_NO2				ENGINE1	21.87	390407.0	3779876.0	5 YEARS	0.01209			0.0849	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_NO2				ENGINE2	0.87	390407.0	3779876.0	5 YEARS	0.00048			0.0733	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_NO2				ENGINE3	0.89	390407.0	3779876.0	5 YEARS	0.00049			0.0733	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_NO2				ENGINE4	0.92	390407.0	3779876.0	5 YEARS	0.00051			0.0733	PPM				
PM10/PM2.5 State Standard																	
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10	PM10/PM2.5	24-HR	1ST	ALL	1.07	390473.0	3779600.0	12/30/12/24				1.070	UG/M3			Threshold PM10 - 2.5 PM2.5 - 2.5	
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10				ENGINE1	0.26	390473.0	3779600.0	12/30/12/24				0.256	UG/M3				
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10				ENGINE2	0.26	390473.0	3779600.0	12/30/12/24			UG/M3	0.265	UG/M3		UG/M3		UG/M3
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10				ENGINE3	0.27	390473.0	3779600.0	12/30/12/24				0.271	UG/M3				
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10				ENGINE4	0.28	390473.0	3779600.0	12/30/12/24				0.278	UG/M3				
PM10 NAAQS Standard																	
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10	PM10	24-HR	6TH	ALL	0.65	390457.4	3779708.8	12/27/12/24		88	UG/M3	88.65	UG/M3	150	UG/M3		UG/M3
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10				ENGINE1	0.16	390457.4	3779708.8	12/27/12/24				88.16	UG/M3				
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10				ENGINE2	0.16	390457.4	3779708.8	12/27/12/24				88.16	UG/M3				
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10				ENGINE3	0.17	390457.4	3779708.8	12/27/12/24				88.17	UG/M3				
Scholl Canyon ICE 24hr PM10 SO2_5yrs_PM10				ENGINE4	0.17	390471.5	3779633.5	12/27/12/24				88.17	UG/M3				
PM2.5 NAAQS Standard																	
Scholl Canyon ICE 24hr PM25Elevation_5yrs_PM25	PM2.5	24-HR	8TH	ALL	0.354	389750.0	3780450.0	5 YEARS		32.4		32.75	UG/M3	35	UG/M3		UG/M3
Scholl Canyon ICE 24hr PM25Elevation_5yrs_PM25				ENGINE1	0.088	389750.0	3780450.0	5 YEARS				32.49	UG/M3				
Scholl Canyon ICE 24hr PM25Elevation_5yrs_PM25				ENGINE2	0.088	389750.0	3780450.0	5 YEARS				32.49	UG/M3				
Scholl Canyon ICE 24hr PM25Elevation_5yrs_PM25				ENGINE3	0.089	389750.0	3780450.0	5 YEARS				32.49	UG/M3				
Scholl Canyon ICE 24hr PM25Elevation_5yrs_PM25				ENGINE4	0.089	389750.0	3780450.0	5 YEARS				32.49	UG/M3				
SO_2 State Standard																	
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_SO2	SO2	1-HR	1ST	ALL	6.52	390407.0	3779876.0	10/25/12/20	0.00259	0.0126	PPM	0.0152	PPM		PPM	0.25	PPM
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_SO2				ENGINE1	1.61	390407.0	3779876.0	10/25/12/20	0.00064			0.0132	PPM				
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_SO2				ENGINE2	1.62	390407.0	3779876.0	10/25/12/20	0.00064			0.0132	PPM				
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_SO2				ENGINE3	1.63	390407.0	3779876.0	10/25/12/20	0.00065			0.0132	PPM				
Scholl Canyon ICE 1hr NO2 SO2StateElevation_5yrs_SO2				ENGINE4	1.66	390407.0	3779876.0	10/25/12/20	0.00066			0.0133	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2	SO2	3-HR	1ST	ALL	4.112	390471.5	3779633.5	11/04/08/24	0.00163	0.0054	PPM	0.0214	PPM		PPM	0.04	PPM
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE1	1.000	390471.5	3779633.5	11/04/08/24	0.00040			0.0202	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE2	1.019	390471.5	3779633.5	11/04/08/24	0.00040			0.0202	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE3	1.037	390471.5	3779633.5	11/04/08/24	0.00041			0.0202	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE4	1.056	390471.5	3779633.5	11/04/08/24	0.00042			0.0202	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2	SO2	24-HR	1ST	ALL	1.48	390473.0	3779600.0	12/30/10/24	0.00059	0.0198	PPM	0.0204	PPM	0.5	PPM	0.04	PPM
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE1	0.35	390473.0	3779600.0	12/30/10/24	0.00014			0.0199	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE2	0.37	390473.0	3779600.0	12/30/10/24	0.00015			0.0199	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE3	0.37	390473.0	3779600.0	12/30/10/24	0.00015			0.0199	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE4	0.38	390473.0	3779600.0	12/30/10/24	0.00015			0.0200	PPM				

Description	Pollutant	Averaging Period	Highest	Source Group	Conc (ug/m3)	UTME	UTMN	Conc Date mm/dd/yy/hh	Conc (ppm)	Background	Unit	Total	Unit	NAAQS	Unit	SCAQMD	Unit
SO_2 NAAQS																	
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2	SO2	4TH-HIGHEST MAX DAILY 1-HR	4TH	ALL	3.53	390407.0	3779876.0	5 YEARS	0.00140	0.0063	PPM	0.0077	PPM	0.075	PPM		PPM
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE1	0.84	390407.0	3779876.0	5 YEARS	0.00033			0.0066	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE2	0.87	390407.0	3779876.0	5 YEARS	0.00035			0.0066	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE3	0.90	390407.0	3779876.0	5 YEARS	0.00036			0.0067	PPM				
Scholl Canyon ICE 1hr NO2 SO2NAAQSElevation_5yrs_SO2				ENGINE4	0.92	390407.0	3779876.0	5 YEARS	0.00037			0.0067	PPM				

CO 1 Hour NAAQS = Not to be exceeded more than once per year. Design values based on highest 1 hour model result over 5 years and highest 1 hour monitored background 2011 - 2015.

CO 1 Hour SCAQMD = Not to be exceeded. Design values based on highest 1 hour model result over 5 years and highest 1 hour monitored background 2011 - 2015.

CO 8 Hour NAAQS = Not to be exceeded more than once per year. Design values based on highest 8 hour model result over 5 years and highest 8 hour monitored background 2011 - 2015.

CO 8 Hour SCAQMD = Not to be exceeded. Design values based on highest 8 hour model result over 5 years and highest 8 hour monitored background 2011 - 2015.

NO2 1 Hour NAAQS = 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years (approx 8th highest). Design value based on 98th percentile of 1-hour daily maximum concentrations, averaged over 5 years and the highest 98th percentile monitored concentration for years 2011-2015. ARM Method = 75%.

NO2 1 Hour SCAQMD = Not to be exceeded. Design values based on highest 1 hour model result over 5 years and highest 1 hour monitored background 2011 - 2015. ARM Method = 75%.

PM10/PM2.5 24 Hour SCAQMD = Not to exceeded significant threshold. Design value based on 1st highest max 5 year model result.

PM10 24 Hour NAAQS = Not to be exceeded more than once per year on average over 3 years (2nd Highest). Design value based on 6th highest max 5 year model result and highest monitored background 2011-2015.

PM2.5 24 Hour NAAQS = 98th percentile, averaged over 3 years (8th highest not including secondary). Design value based on 98th percentile, averaged over 5 years, and the highest 98th percentile 24 hour monitored background 2011 - 2015. No secondary emissions included.

SO2 1 Hour NAAQS = 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years (approx 4th highest). Design value based on 99th percentile of 1-hour daily maximum concentrations, averaged over 5 years and the highest 99th percentile 1 hour monitored background 2011 - 2015.

SO2 1 Hour SCAQMD = Not to be exceeded. Design values based on highest 1 hour model result over 5 years and highest 1 hour monitored background 2011 - 2015.

SO2 24 Hour SCAQMD = Not to be exceeded. Design values based on highest 24 hour model result over 5 years and highest 24 hour monitored background 2011 - 2015.

A.4 TOXIC EMISSION INVENTORY

APPENDIX A.4.

TOXIC EMISSION INVENTORY

APPENDIX A.4.1
TOXIC EMISSION INVENTORY FOR
THE PROPOSED ENGINES (OPERATIONAL IMPACT) AND
THE EXISTING FLARE SYSTEM (CONSTRUCTION IMPACT)

APPENDIX A.4.2
TOXIC EMISSION FACTORS AND ITS SUPPORTING DOCUMENTATION:

- **HYDROGEN CHLORIDE EMISSION FACTORS CALCULATION**
- **SCHOLL CANYON LANDFILL GAS LAB ANALYSIS (2013 – 2016)**
- **USEPA AP-42 TABLE 2.4-1: DEFAULT CONCENTRATIONS FOR LFG CONSTITUENTS**
- **FORMALEDHYDE EMISSION FACTORS FROM CATEF CLERAING HOUSE REPORT FOR ENGINE; SCAQMD AB2588 SUPPLEMENTAL INSTRUCATION FOR FLARE SYSTEM**
- **USEPA AP-42 TABLE 2.4-3: CONTROL EFFICIENCIES FOR LFG CONSTITUENTS**

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APPENDIX A.4.1

TOXIC EMISSION INVENTORY FOR THE PROPOSED ENGINES (OPERATIONAL IMPACT) AND THE EXISTING FLARE SYSTEM (CONSTRUCTION IMPACT)

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APPENDIX A.4.1
TOXIC EMISSION INVENTORY FOR THE ENGINES (OPERATIONAL IMPACT) AND FLARES (CONSTRUCTION IMPACT)
BIOGAS RENEWABLE GENERATION PROJECT

										RECIP ENGINE SCENARIO GE JGS620 GS-L.L (4 UNITS)		FLARES FLARES SYSTEM	
TAC Code	TAC Compounds	CAS	MW	Concentration, ppmv	Data Source	ICE Total Control Efficiency (% wt)[6]	ICE Controlled Emission Rate (lbs/mmscf)	Flare Destruction Efficiency (% wt)[5]	Flare Controlled Emission Rate (lbs/mmscf)	Hourly Emission (lbs/hr)	Yearly Emission (lbs/yr)	Hourly Emission (lbs/hr)	Yearly Emission (lbs/yr)
M8	1,1,1 - Trichloroethane	71-55-6	133.41	0.021	Note 1	99.8%	1.17E-05	98%	1.45E-04	3.87E-06	0.0339	4.34E-05	0.3805
T1	1,1,2,2 - Tetrachloroethane	79-34-5	167.85	1.11	Note 2	99.8%	7.75E-04	98%	9.63E-03	2.57E-04	2.2542	2.89E-03	25.3040
E5	1,2 - Dibromoethane	106-93-4	187.86	0.041	Note 1	99.8%	3.20E-05	98%	3.98E-04	1.06E-05	0.0932	1.19E-04	1.0461
D6	1,1 - Dichloroethane	75-34-3	98.97	0.039	Note 1	99.8%	1.61E-05	98%	1.99E-04	5.33E-06	0.0467	5.98E-05	0.5242
V5	1,1 - Dichloroethene	75-35-4	96.94	0.019	Note 1	99.8%	7.66E-06	98%	9.52E-05	2.54E-06	0.0223	2.86E-05	0.2502
E6	1,2 - Dichloroethane	107-06-2	98.96	0.102	Note 1	99.8%	4.20E-05	98%	5.22E-04	1.39E-05	0.1221	1.56E-04	1.3709
	1,2 - Dichloropropane	78-87-5	112.99	0.18	Note 2	99.8%	8.46E-05	98%	1.05E-03	2.81E-05	0.2461	3.15E-04	2.7622
I2	2 - Propanol	67-63-0	60.11	50.1	Note 2	99.7%	2.49E-02	98%	1.56E-01	8.26E-03	72.3533	4.67E-02	409.0052
	Acetonitrile	75-05-8	58.08	0.665	Note 1	99.7%	3.19E-04	98%	2.00E-03	1.06E-04	0.9279	5.99E-04	5.2456
A6	Acrylonitrile	107-31-1	53.06	6.33	Note 2	99.7%	2.77E-03	98%	1.74E-02	9.21E-04	8.0695	5.21E-03	45.6158
A9	Ammonia	7664-41-7	17.03	5	Note 7					2.70E-01	2365.2000	0.00E+00	0.0000
B1	Benzene	71-43-2	78.11	1.71	Note 1	99.7%	1.10E-03	98%	6.90E-03	3.66E-04	3.2091	2.07E-03	18.1404
B7	Benzyl chloride	100-44-7	126.58	0.13	Note 1	99.8%	6.85E-05	98%	8.50E-04	2.27E-05	0.1991	2.55E-04	2.2349
C3	Carbon disulfide	75-15-0	76.13	0.58	Note 1	99.7%	3.65E-04	98%	2.28E-03	1.21E-04	1.0609	6.85E-04	5.9969
C5	Carbon tetrachloride	56-23-5	153.84	0.021	Note 1	99.8%	1.34E-05	98%	1.67E-04	4.46E-06	0.0391	5.01E-05	0.4388
	Carbonyl sulfide	463-58-1	60.07	0.49	Note 1	99.7%	2.43E-04	98%	1.52E-03	8.07E-05	0.7072	4.56E-04	3.9976
C10	Chlorobenzene	108-90-7	112.56	0.159	Note 1	99.8%	7.45E-05	98%	9.25E-04	2.47E-05	0.2165	2.77E-04	2.4307
	Chlorodifluoromethane	75-45-6	86.47	1.3	Note 2	99.8%	4.68E-04	98%	5.81E-03	1.55E-04	1.3601	1.74E-03	15.2670
E4	Chloroethane	75-00-3	64.52	1.25	Note 2	99.8%	3.36E-04	98%	4.17E-03	1.11E-04	0.9758	1.25E-03	10.9534
C11	Chloroform	67-66-3	119.39	0.02	Note 1	99.8%	9.93E-06	98%	1.23E-04	3.30E-06	0.0289	3.70E-05	0.3243
	Chloromethane	74-87-3	50.49	1.21	Note 2	99.8%	2.54E-04	98%	3.16E-03	8.44E-05	0.7392	9.47E-04	8.2973
D4	Dichlorobenzene	106-46-7	147	0.82	Note 1	99.8%	5.01E-04	98%	6.23E-03	1.66E-04	1.4584	1.87E-03	16.3710
	Dichlorodifluoromethane	75-71-8	120.91	15.7	Note 2	99.8%	7.90E-03	98%	9.81E-02	2.62E-03	22.9678	2.94E-02	257.8139
	Dichlorofluoromethane	75-43-4	102.92	2.62	Note 2	99.8%	1.12E-03	98%	1.39E-02	3.72E-04	3.2626	4.18E-03	36.6223
M13	Dichloromethane (methylene chloride)	74-87-3	84.94	0.119	Note 1	99.8%	4.21E-05	98%	5.22E-04	1.40E-05	0.1223	1.57E-04	1.3728
E3	Ethylbenzene	100-41-4	106.16	2.748	Note 2	99.7%	2.41E-03	98%	1.51E-02	8.00E-04	7.0089	4.52E-03	39.6207
E5	Ethylene dibromide	106-93-4	187.88	0.001	Note 2	99.8%	7.82E-07	98%	9.71E-06	2.59E-07	0.0023	2.91E-06	0.0255
F2	Formaldehyde	50-00-0	NA	NA	Note 4	97.7%	2.97E-02		1.17E+00	9.85E-03	86.2899	3.51E-01	3072.1320
	Fluorotrichloromethane	75-69-4	137.38	0.76	Note 2	99.8%	4.34E-04	98%	5.40E-03	1.44E-04	1.2633	1.62E-03	14.1802
H6	Hexane, n-	110-54-3	86.18	6.57	Note 2	99.7%	4.68E-03	98%	2.93E-02	1.55E-03	13.6033	8.78E-03	76.8982
H9	Hydrogen chloride	7647-01-0	36.46	NA	Note 3	NA	5.35E+00	NA	5.35E+00	1.78E+00	15559.5	1.61E+00	14059.8
H12	Hydrogen sulfide	7783-06-4	34.08	33.65	Note 1	99.7%	9.47E-03	98%	5.93E-02	3.15E-03	27.5523	1.78E-02	155.7504
M3	Mercury (total)	7439-97-6	200.61	0.000292	Note 2	0.0%	1.51E-04	0%	1.51E-04	5.03E-05	0.4402	4.54E-05	0.3978
M9	Methyl ethyl ketone	78-93-3	72.11	7.09	Note 2	99.7%	4.22E-03	98%	2.64E-02	1.40E-03	12.2833	7.93E-03	69.4362

APPENDIX A.4.1
TOXIC EMISSION INVENTORY FOR THE ENGINES (OPERATIONAL IMPACT) AND FLARES (CONSTRUCTION IMPACT)
BIOGAS RENEWABLE GENERATION PROJECT

										RECIP ENGINE SCENARIO			FLARES	
										GE JGS620 GS-L.L (4 UNITS)			FLARES SYSTEM	
TAC Code	TAC Compounds	CAS	MW	Concentration, ppmv	Data Source	ICE Total Control Efficiency (% wt)[6]	ICE Controlled Emission Rate (lbs/mmscf)	Flare Destruction Efficiency (% wt)[5]	Flare Controlled Emission Rate (lbs/mmscf)	Hourly Emission (lbs/hr)	Yearly Emission (lbs/yr)		Hourly Emission (lbs/hr)	Yearly Emission (lbs/yr)
	Methyl isobutyl ketone	108-10-1	100.16	1.87	Note 2	99.7%	1.55E-03	98%	9.68E-03	5.14E-04	4.5000		2.90E-03	25.4378
P2	Tetrachloroethylene	127-18-4	165.83	0.154	Note 1	99.8%	1.06E-04	98%	1.32E-03	3.53E-05	0.3090		3.96E-04	3.4684
T3	Toluene	108-88-3	92.14	5.436	Note 1	99.7%	4.14E-03	98%	2.59E-02	1.37E-03	12.0338		7.77E-03	68.0255
T8	Trichloroethylene	79-01-6	131.4	0.089	Note 1	99.8%	4.87E-05	98%	6.04E-04	1.62E-05	0.1415		1.81E-04	1.5883
V4	Vinyl chloride	75-01-4	62.5	0.093	Note 1	99.8%	2.42E-05	98%	3.00E-04	8.03E-06	0.0703		9.01E-05	0.7894
X1	Xylenes	1330-20-7	106.16	4.828	Note 1	99.7%	4.23E-03	98%	2.65E-02	1.41E-03	12.3141		7.95E-03	69.6101

Notes:
1. Average analytical results from Scholl Canyon LFG Sampling 2013 - 2016
2. Based on USEPA default value from *AP-42, Table 2.4-1, Default Concentrations for LFG Constituents* .
3. Calculated based on chlorinated compounds in the average samplings and USEPA AP-42 default value, Table 2.4-1
4. Formaldehyde emission factors for tubine and engine are based on the CATEF Clearing house Report; Formaldehyde emission factor for flare is based on SCAQMD AB2588 Supplemental Instruction.
5. 98% Destruction efficiency of NMOC pursuant to SCAQMD rule 1150.1/NSPS Subpart WWW
6. ICE Control efficiency is calculated based on 97.7% control efficiency of catalyst (default value of SCAQMD Rule 1401 Calculator) and 86.1% or 93.0% control efficiency of ICE (USEPA AP-42, Table 2.4-3). The overall control efficiency is calculated as follow: Overall Control Efficiency = 1-(1-CE of catalyst)*(1-CE of ICE).
7. Ammonia emissions occur in operating IC Engines due to SCR. Concentration of ammonia is based on BACT/LAER limit.

APPENDIX A.4.2

TOXIC EMISSION FACTORS AND ITS SUPPORTING DOCUMENTATION:

- HYDROGEN CHLORIDE EMISSION FACTORS CALCULATION
- SCHOLL CANYON LANDFILL GAS LAB ANALYSIS (2013 – 2016)
- USEPA AP-42 TABLE 2.4-1: DEFAULT CONCENTRATIONS FOR LFG CONSTITUENTS
- FORMALEDHYDE EMISSION FACTORS FROM CATEF CLERAING HOUSE REPORT FOR TURBINE AND ENGINE; SCAQMD AB2588 SUPPLEMENTAL INSTRUCATION FOR FLARE SYSTEM
- USEPA AP-42 TABLE 2.4-3: CONTROL EFFICIENCIES FOR LFG CONSTITUENTS

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APPENDIX A.4.2
EMISSION FACTOR FOR HYDROGEN CHLORIDE EMISSIONS
SCHOLL CANYON LANDFILL GAS FACILITY

Hydrogen Chloride Emission Factor	5.35	lbs/mmcf
Hydrogen Chloride Molecular Weight	36.46	lb/mol

LFG Influent Chlorinated Compound	CAS	No. of Cl Atoms	Concentration, ppmv	Conversion Eff, (%Wt)	HCL Conversion, lb/mmcf
1,1,1 - Trichloroethane	71-55-6	3	0.021	100%	0.005935349
1,1,2,2 - Tetrachloroethane	79-34-5	4	1.11	100%	0.418300775
1,1 - Dichloroethane	75-34-3	2	0.039	100%	0.007348527
1,1 - Dichloroethene	75-35-4	2	0.019	100%	0.003580052
1,2 - Dichloroethane	107-06-2	2	0.102	100%	0.019219225
1,2 - Dichloropropane	78-87-5	2	0.18	100%	0.033916279
Benzyl chloride	100-44-7	1	0.13	100%	0.012247545
Carbon tetrachloride	56-23-5	4	0.021	100%	0.007913798
Chlorobenzene	108-90-7	1	0.159	100%	0.01497969
Chlorodifluoromethane	75-45-6	1	1.3	100%	0.122475452
Chloroethane	75-00-3	1	1.25	100%	0.117764858
Chloroform	67-66-3	3	0.02	100%	0.005652713
Chloromethane	74-87-3	1	1.21	100%	0.113996382
Dichlorobenzene	106-46-7	2	0.82	100%	0.154507494
Dichlorodifluoromethane	75-71-8	2	15.7	100%	2.95825323
Dichlorofluoromethane	75-43-4	2	2.62	100%	0.493670284
Dichloromethane (methylene chloride)	74-87-3	2	0.119	100%	0.022422429
Fluorotrichloromethane	75-69-4	3	0.76	100%	0.214803101
t-1,2-dichloroethene	156-59-2	2	2.84	100%	0.535123514
Tetrachloroethylene	127-18-4	4	0.154	100%	0.058034522
Trichloroethylene	79-01-6	3	0.089	100%	0.025154574
Vinyl chloride	75-01-4	1	0.093	100%	0.008761705

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APPENDIX A.4.2
TOXIC LAB ANALYSIS FOR LANDFILL GAS CONDUCTED FROM 2013 THROUGH 2016.
SCHOLL CANYON LANDFILL GAS FACILITY

LFG LAB ANALYSIS		7/16/2013		11/4/2013		3/10/2014			6/11/2014			7/23/2014		11/18/2014		1/26/2015		4/20/2015			5/20/2015		1/16/2016	
		North	South	North	South	North	South	South	North	North	South	North	South	North	South	North	South	North	North	South	Flare 8	Flare 10	Flare	AVG
Toxic Compounds	CAS	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Hydrogen sulfide	7783-06-4	28000	36000	37000	34000	37000	34000	24000	42000	46000	30000	28000	29000	22000	34000	23000	38000	36000	37000	39000	---	---	39000	33650
Carbonyl sulfide	463-58-1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	53	53
Carbon disulfide	75-15-0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	32	32
Dimethyl sulfide	67-68-5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1500	1500
Methylene chloride	74-87-3	62	140	98	140	68	220	150	71	72	130	63	150	86	160	170	170	97	99	130	110	110	---	119
Chloroform	**67-66-3**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**40**	**40**	**40**	**40**	**20**	**20**	**20**	**40**	**40**	---	**20**
1,1,1 - Trichloroethane	**71-55-6**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**41**	**41**	**41**	**41**	**21**	**21**	**21**	**40**	**40**	---	**21**
Carbon tetrachloride	**56-23-5**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**40**	**40**	**40**	**40**	**21**	**21**	**21**	**40**	**40**	---	**21**
1,1 - Dichloroethene	**75-35-4**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**41**	**41**	**41**	**41**	**19**	**19**	**19**	**43**	**43**	---	**19**
Trichloroethylene	79-01-6	100	81	110	84	110	89	65	100	110	84	98	84	91	78	89	90	90	97	70	75	77	---	89
Tetrachloroethylene	127-18-4	190	150	180	150	180	150	110	170	190	150	180	140	180	130	150	140	160	170	110	125	125	---	154
Chlorobenzene	108-90-7	230	120	220	120	230	110	79	170	200	120	230	100	220	110	190	140	170	190	110	135	145	---	159
Vinyl Chloride	75-01-4	170	56	170	78	160	66	42	150	120	57	130	54	140	56	110	49.5	100	110	20	54	61	---	93
1,1 - Dichloroethane	75-34-3	40	32	44	35	46	36	26	44	41	31	38	24	46	41	50	35	49	49	28	41	41	---	39
1,2 - Dichloroethane	107-06-2	100	100	100	100	100	100	100	100	100	100	100	100	100	120	100	130	100	100	100	100	100	---	102
Benzene	71-43-2	4000	1500	1100	1500	2400	1600	1100	3000	3000	1400	1700	1200	1300	3700	1100	1300	990	1000	1400	1200	1150	970	1710
Toluene	108-88-3	7400	4700	6200	4600	6500	4600	3300	6000	6500	4700	6200	4100	6700	5600	6200	5400	6400	6700	4700	4850	5050	3200	5436
Ethylbenzene	100-41-4	5000	2200	3100	2000	4200	2100	1500	3400	4100	2300	3800	2000	3700	2700	2900	2000	2900	3200	1900	2150	2200	1100	2748
Acetonitrile	75-05-8	760	660	660	660	660	660	660	660	660	660	660	660	660	660	660	660	660	660	660	660	660	---	665
1,2 - Dibromoethane	**106-93-4**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**19**	**41**	**41**	**41**	**41**	**41**	**41**	**41**	**41**	**41**	---	**41**
Benzyl Chloride	**100-44-7**	**130**	**130**	**130**	**130**	**130**	**130**	**130**	**130**	**130**	**130**	**130**	**130**	**170**	**170**	**210**	**210**	**520**	**520**	**520**	**520**	**520**	---	**130**
Xylenes	1330-20-7	6700	3710	6600	3810	7100	3780	2760	5200	6400	3840	6900	3550	6800	3110	5600	3650	5900	6700	3610	4160	4360	1980	4828
Dichlorobenzene	**106-46-7**	**820**	**820**	**820**	**820**	**820**	**820**	**820**	**820**	**820**	**820**	**820**	**820**	**930**	**930**	**820**	**820**	**820**	**820**	**820**	**940**	**940**	---	**820**

NOTES:
1. All readings for chloroform, 1,1,1-trichloroethane, carbon tetrachloride, and 1,1-dichloroethene are non-detect. Concentration is estimated based on detection Limit. Most samples used detection limit of 20 ppb for Chloroform, 21 ppb for 1,1,1-Trichloroethane, 21 ppb for Carbon tetrachloride, and 19 ppb for 1,1 - Dichloroethene.
2. All readings for 1,2-Dibromoethane are non-detect. Concentration is estimated based on detection Limit. Most samples used detection limit of 41 ppb.

4. All readings for Dichlorobenzene are non-detect. Concentration is estimated based on detection Limit. Most samples used detection limit of 820 ppb.

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American Analytics Landfill Gas Analysis For Sample Collected On 01/06/16

Analyte	Concentration	Method	Reporting Limit	Results	Sampling Media	Notes
Hydrogen	0-0.5 Mol%	EPA 3C (Mod)	0.1%	<0.1%	Polymer Bag	subcontracted
Carbon Dioxide	25-35 Mol%	EPA 3C (Mod)	0.1%	**28%**	Polymer Bag	
Oxygen/Argon	3-10 Mol%	EPA 3C (Mod)	0.1%	**4.5%**	Polymer Bag	
Nitrogen	20-50 Mol%	EPA 3C (Mod)	0.1%	**36.0%**	Polymer Bag	
Methane	30-60 Mol%	EPA 3C (Mod)	0.1%	**32.0%**	Polymer Bag	
Ethane	0-0.5 Mol%	GC/FID	20 ppmV	<100000 ppmV	Polymer Bag	
Propane	0-0.5 Mol%	GC/FID	20 ppmV	**18 ppmV**	Polymer Bag	
Pentane	0-0.5 Mol%	GC/FID	20 ppmV	<10 ppmV	Polymer Bag	
Hexane	0-0.5 Mol%	GC/FID	20 ppmV	<10 ppmV	Polymer Bag	
Benzene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	**0.97 ppmV**	Polymer Bag	
Toluene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	**3.2 ppmV**	Polymer Bag	
Ethylbenzene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	**1.1 ppmV**	Polymer Bag	
m,p-Xylene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	**1.5 ppmV**	Polymer Bag	
o-Xylene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	0.48 ppmV	Polymer Bag	
Styrene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	<0.23 ppmV	Polymer Bag	
C3 Benzenes	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	<0.4 ppmV	Polymer Bag	
Naphthalene	0-0.01 Mol%	EPA 8260B (Mod)	1 ppmV	<0.38 ppmV	Polymer Bag	
C1 Naphthalene	0-0.01 Mol%	EPA 8260B (Mod)	TIC*	not found	Polymer Bag	
C2 Naphthalene	0-0.01 Mol%	EPA 8260B (Mod)	TIC*	not found	Polymer Bag	
Hydrogen Sulfide	0-50 ppmv	ASTM D 5540-12	0.05 ppmV	**39 ppmV**	Polymer Bag	subcontracted
Carbonyl Sulfide	0-5 ppmv	ASTM D 5540-12	0.05 ppmV	**0.053 ppmV**	Polymer Bag	subcontracted
Carbon Disulfide	0-5 ppmv	ASTM D 5540-12	0.05 ppmV	**0.032 ppmV**	Polymer Bag	subcontracted
Methyl Mercaptan	0-5 ppmv	ASTM D 5540-12	0.05 ppmV	**1.0 ppmV**	Polymer Bag	subcontracted
Dimethyl Sulfide	0-5 ppmv	ASTM D 5540-12	0.05 ppmV	**1.5 ppmV**	Polymer Bag	subcontracted
Total Sulfur**	0-50 ppmv	ASTM D 5540-12	0.05 ppmV	**42 ppmV**	Polymer Bag	subcontracted
1,1,3,3-tetramethyldisiloxane	0-10 mg/m3	GC/MS (ALS AQL111)	TIC*	not found	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
pentamethyldisiloxane	0-10 mg/m3	GC/MS (ALS AQL111)	TIC*	not found	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
hexamethyldisilane	0-10 mg/m3	GC/MS (ALS AQL111)	TIC*	not found	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
hexamethyldisiloxane (L2)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**580 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Octamethyltrisiloxane (L3)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	<0.27 ug/m3	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Decamethyltetrasiloxane (L4)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	<0.28 ug/m3	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Dodecamethylpentasiloxane (L5)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	<0.28 ug/m3	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Hexamethylcyclotetrasiloxane (D3)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**63 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Octamethylcyclotetrasiloxane (D4)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**120 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Decamethylcyclopentasiloxane (D5)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**52 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Dodecamethylcyclohexasiloxane (D6)	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	<0.28 ug/m3	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Trimethylsilanol	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**3500 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Total Silicon	0-10 mg/m3	GC/MS (ALS AQL111)	200 ug/m3	**1400 ug/m3**	Sorbent Tube; 30 min @ 0.2L/min	subcontracted
Mercury	0-10 µg/m3	EPA 7471B (Mod)	0.5 ug/m3	<0.5 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Arsenic	0-50 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Beryllium	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Cadmium	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Copper	0-500 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Molybdenum	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Lead	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Antimony	0-50 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Selenium	0-10 µg/m3	EPA 6020B (Mod)	2 ug/m3	<2 ug/m3	Filter Cassette; 4 hours @ 2L/min	
Zinc	0-500 µg/m3	EPA 6020B (Mod)	2 ug/m3	**7.4 ug/m3**	Filter Cassette; 4 hours @ 2L/min	

*: Tentatively Identified Compound

**: Total Reduced Sulfur as Hydrogen Sulfide

ANNUAL RULE 1150.1 SOURCE TEST
FLARE NO's. 8 AND 10
SCHOLL CANYON LANDFILL
MAY 2015

PREPARED FOR:
County Sanitation Districts of Los Angeles County
1955 Workman Mill Road
Whittier, California 90601

FOR SUBMITTAL TO:
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

TEST DATE:
May 20, 2015

ISSUE DATE:
June 23, 2015

TESTED BY:
Mr. Joe Adamiak, QSTI
SCEC
1631 E. Saint Andrew Place
Santa Ana, California 92705

Report No: 2025.5003.rpt1

Prepared By: _____
Joe Adamiak, Senior Project Manager

Reviewed By: _____
Rudy Nunez, District Manager

4.0 RESULTS (Continued)

TABLE 4-3
TRACE ORGANIC SPECIES DESTRUCTION EFFICIENCY RESULTS
LACSD Scholl Canyon
Flare 8
May 20, 2015

Sample Location:	INLET		EXHAUST		Flare Destruction Efficiency
Test No.:	VOC - AVG 1 & 2		VOC - AVG 1, 2 & 3		
Time:					
Flow Rate, dscfm:	702		5,216		
Species	**ppb**	**lb/hr**	**ppb**	**lb/hr**	**%**
1,1,1-Trichloroethane	ND< 40	< 5.93E-04	ND< 0.10	< 1.10E-05	NA
1,1-Dichloroethane	ND< 41	< 4.51E-04	ND< 0.10	< 8.17E-06	NA
1,1-Dichloroethene	ND< 43	< 4.63E-04	ND< 0.11	< 8.80E-06	NA
1,2-Dibromoethane	ND< 41	< 8.56E-04	ND< 0.10	< 1.55E-05	NA
1,2-Dichlorobenzene	ND< 400	< 6.53E-03	ND< 1.0	< 1.21E-04	NA
1,2-Dichloroethane	ND< 100	< 1.10E-03	ND< 0.1	< 8.17E-06	NA
1,3-Butadiene	ND< 96	< 5.77E-04	ND< 0.24	< 1.07E-05	NA
1,3-Dichlorobenzene	ND< 210	< 3.43E-03	ND< 0.53	< 6.43E-05	NA
1,4-Dichlorobenzene	ND< 330	< 5.39E-03	ND< 0.49	< 5.95E-05	NA
Acetonitrile	ND< 660	< 3.01E-03	ND< 1.6	< 5.42E-05	NA
Benzene	1,200	1.04E-02	12.9	8.29E-04	92.04%
Benzyl chloride	ND< 520	< 7.31E-03	ND< 1.3	< 1.36E-04	NA
Carbon Tetrachloride	ND< 40	< 6.84E-04	ND< 0.10	< 1.27E-05	NA
Chlorobenzene	135	1.69E-03	0.13	1.24E-05	99.27%
Chloroform	ND< 40	< 5.31E-04	ND< 0.10	< 9.86E-06	NA
Ethylbenzene	2,150	2.54E-02	0.13	1.14E-05	99.96%
Methylene Chloride	110	1.04E-03	ND< 0.10	< 7.01E-06	> 99.3%
Tetrachloroethene	125	1.37E-03	ND< 0.10	< 8.17E-06	> 99.41%
Toluene	4,850	4.96E-02	0.78	5.91E-05	99.88%
Trichloroethene	75	8.25E-04	ND< 0.10	< 8.17E-06	> 99.01%
Trichlorofluoromethane	45	6.87E-04	ND< 0.09	< 1.02E-05	> 98.51%
Vinyl Chloride	54	3.72E-04	ND< 0.10	< 5.16E-06	> 98.61%
cis-1,2-Dichloroethene	170	1.83E-03	ND< 0.10	< 8.00E-06	> 99.56%
m+p-Xylenes	3,100	3.66E-02	ND< 0.52	< 4.56E-05	> 99.88%
o-Xylene	1,060	1.25E-02	ND< 0.23	< 2.02E-05	> 99.84%
tert-Butyl methyl ether (MTBE)	ND< 200	< 1.96E-03	ND< 0.49	< 3.57E-05	NA
Total Trace Organics:		< 1.75E-01		< 1.58E-03	> 99.10%

ND< - indicates that the species was not detected in the sample above the analytical detection limit for this species.
The values reported is this table are the detection limit for this species and the actual concentration is lower.
NA - indicates that the destruction efficiency cannot be calculated because the inlet concentration is below the detection limit.

TABLE 4-4
TRACE ORGANIC SPECIES DESTRUCTION EFFICIENCY RESULTS
LACSD Scholl Canyon
Flare 10
May 20, 2015

Sample Location:	INLET		EXHAUST		Flare Destruction Efficiency
Test No.:	VOC - AVG 1 & 2		VOC - AVG 1, 2 & 3		
Time:					
Flow Rate, dscfm:	686		5,140		
Species	**ppb**	**lb/hr**	**ppb**	**lb/hr**	**%**
1,1,1-Trichloroethane	ND< 40	< 5.80E-04	ND< 0.10	< 1.09E-05	NA
1,1-Dichloroethane	ND< 41	< 4.41E-04	ND< 0.10	< 8.05E-06	NA
1,1-Dichloroethene	ND< 43	< 4.53E-04	ND< 0.11	< 8.68E-06	NA
1,2-Dibromoethane	ND< 41	< 8.37E-04	ND< 0.10	< 1.53E-05	NA
1,2-Dichlorobenzene	ND< 400	< 6.39E-03	ND< 1	< 1.20E-04	NA
1,2-Dichloroethane	ND< 100	< 1.07E-03	ND< 0.10	< 8.05E-06	NA
1,3-Butadiene	ND< 96	< 5.64E-04	ND< 0.24	< 1.06E-05	NA
1,3-Dichlorobenzene	ND< 210	< 3.35E-03	ND< 0.53	< 6.34E-05	NA
1,4-Dichlorobenzene	ND< 330	< 5.27E-03	ND< 0.49	< 5.86E-05	NA
Acetonitrile	ND< 660	< 2.94E-03	4.8	1.59E-04	NA
Benzene	1,150	9.76E-03	2.3	1.47E-04	98.50%
Benzyl chloride	ND< 520	< 7.15E-03	ND< 1.3	< 1.34E-04	NA
Carbon Tetrachloride	ND< 40	< 6.68E-04	ND< 0.10	< 1.25E-05	NA
Chlorobenzene	145	1.77E-03	ND< 0.10	< 9.16E-06	> 99.48%
Chloroform	ND< 40	< 5.19E-04	ND< 0.10	< 9.71E-06	NA
Ethylbenzene	2,200	2.54E-02	0.11	9.79E-06	99.96%
Methylene Chloride	110	1.01E-03	ND< 0.1	< 6.91E-06	> 99.3%
Tetrachloroethene	125	1.34E-03	ND< 0.1	< 8.05E-06	> 99.40%
Toluene	5,050	5.05E-02	0.59	4.42E-05	99.91%
Trichloroethene	77	8.22E-04	ND< 0.10	< 8.05E-06	99.02%
Trichlorofluoromethane	48	7.16E-04	ND< 0.09	< 1.01E-05	98.60%
Vinyl Chloride	61	4.14E-04	ND< 0.10	< 5.08E-06	98.77%
cis-1,2-Dichloroethene	175	1.84E-03	ND< 0.10	< 7.89E-06	99.57%
m+p-Xylenes	3,250	3.75E-02	ND< 0.52	< 4.49E-05	99.88%
o-Xylene	1,110	1.28E-02	ND< 0.23	< 1.99E-05	99.84%
tert-Butyl methyl ether (MTBE)	ND< 200	< 1.91E-03	ND< 0.49	< 3.51E-05	NA
Total Trace Organics:		< 1.76E-01		< 9.74E-04	> 99.45%

ND< - indicates that the species was not detected in the sample above the analytical detection limit for this species.
The values reported is this table are the detection limit for this species and the actual concentration is lower.
NA - indicates that the destruction efficiency cannot be calculated because the inlet concentration is below the detection limit.

TABLE D

LANDFILL GAS MONITORING
SCHOLL CANYON LANDFILL
January 26, 2015

Compounds	North Header	South Header
Hydrogen Sulfide, ppm	23	38
Permanent Gases, %	97.5	97.9
Oxygen, %	5.6	5.1
Argon, %	0.33	0.35
Nitrogen, %	29.2	31.4
Methane, %	33.9	32.2
Carbon Dioxide, %	28.4	28.9
Methylene Chloride, ppb	170	170
Chloroform, ppb	< 40	< 40
1,1,1-Trichloroethane, ppb	< 20	< 20
Carbon Tetrachloride, ppb	< 21	< 21
1,1-Dichloroethene, ppb	< 21	< 21
Trichloroethylene, ppb	89	90
Tetrachloroethylene, ppb	150	140
Chlorobenzene, ppb	190	140
Vinyl Chloride, ppb	110	< 99
1,1-Dichloroethane, ppb	50	35
1,2-Dichloroethane, ppb	< 100	130
Benzene, ppb	1100	1300
Toluene, ppb	6200	5400
Ethylbenzene, ppb	2900	2000
Acetonitrile, ppb	< 660	< 660
1,2-Dibromoethane, ppb	< 41	< 41
Benzyl Chloride, ppb	< 210	< 210
Xylene, ppb	5600	3650
Dichlorobenzene, ppb	< 820	< 820

TABLE D

LANDFILL GAS MONITORING
SCHOLL CANYON LANDFILL
April 20, 2015

Compounds	North Header	North Header (Duplicate)	South Header
Hydrogen Sulfide, ppm	36	37	39
Permanent Gases, %	97.9	98.5	98
Oxygen, %	3.7	3.7	6.1
Argon, %	0.24	0.25	0.37
Nitrogen, %	24	22.7	32.6
Methane, %	38.1	39.1	31.5
Carbon Dioxide, %	31.9	32.7	27.5
Methylene Chloride, ppb	97	99	130
Chloroform, ppb	< 20	< 20	< 20
1,1,1-Trichloroethane, ppb	< 20	< 20	< 20
Carbon Tetrachloride, ppb	< 21	< 21	< 21
1,1-Dichloroethene, ppb	< 21	< 21	< 21
Trichloroethylene, ppb	90	97	70
Tetrachloroethylene, ppb	160	170	110
Chlorobenzene, ppb	170	190	110
Vinyl Chloride, ppb	100	110	< 40
1,1-Dichloroethane, ppb	49	49	28
1,2-Dichloroethane, ppb	< 100	< 100	< 100
Benzene, ppb	990	1000	1400
Toluene, ppb	6400	6700	4700
Ethylbenzene, ppb	2900	3200	1900
Acetonitrile, ppb	< 660	< 660	< 660
1,2-Dibromoethane, ppb	< 41	< 41	< 41
Benzyl Chloride, ppb	< 520	< 520	< 520
Xylene, ppb	5900	6700	3610
Dichlorobenzene, ppb	< 820	< 820	< 820

TABLE D

LANDFILL GAS MONITORING
SCHOLL CANYON LANDFILL
November 18, 2014

Compounds	North Header	South Header
Hydrogen Sulfide, ppm	22	34
Permanent Gases, %	98	98
Oxygen, %	5	5.8
Argon, %	0.32	0.41
Nitrogen, %	28.9	36.5
Methane, %	34.4	28.5
Carbon Dioxide, %	29.4	26.7
Methylene Chloride, ppb	86	160
Chloroform, ppb	< 40	< 40
1,1,1-Trichloroethane, ppb	< 41	< 41
Carbon Tetrachloride, ppb	< 40	< 40
1,1-Dichloroethene, ppb	< 41	< 41
Trichloroethylene, ppb	91	78
Tetrachloroethylene, ppb	180	130
Chlorobenzene, ppb	220	110
Vinyl Chloride, ppb	140	56
1,1-Dichloroethane, ppb	46	< 41
1,2-Dichloroethane, ppb	< 100	120
Benzene, ppb	1300	3700
Toluene, ppb	6700	5600
Ethylbenzene, ppb	3700	2700
Acetonitrile, ppb	< 660	1300
1,2-Dibromoethane, ppb	< 41	< 41
Benzyl Chloride, ppb	< 170	< 170
Xylene, ppb	6800	3110
Dichlorobenzene, ppb	< 930	< 930

TABLE D

LANDFILL GAS MONITORING
SCHOLL CANYON LANDFILL
July 23, 2014

Compounds	North Header	South Header
Hydrogen Sulfide, ppm	28	29
Permanent Gases, %	98.1	97.7
Oxygen, %	4.2	7.5
Argon, %	0.29	0.43
Nitrogen, %	26	38.3
Methane, %	36.6	27
Carbon Dioxide, %	31	24.4
Methylene Chloride, ppb	63	150
Chloroform, ppb	< 20	< 20
1,1,1-Trichloroethane, ppb	< 21	< 21
Carbon Tetrachloride, ppb	< 21	< 21
1,1-Dichloroethene, ppb	< 19	< 19
Trichloroethylene, ppb	98	84
Tetrachloroethylene, ppb	180	140
Chlorobenzene, ppb	230	100
Vinyl Chloride, ppb	130	54
1,1-Dichloroethane, ppb	38	24
1,2-Dichloroethane, ppb	< 100	< 100
Benzene, ppb	1700	1200
Toluene, ppb	6200	4100
Ethylbenzene, ppb	3800	2000
Acetonitrile, ppb	< 660	< 660
1,2-Dibromoethane, ppb	< 19	< 19
Benzyl Chloride, ppb	< 130	< 130
Xylene, ppb	6900	3550
Dichlorobenzene, ppb	< 820	< 820

TABLE D

LANDFILL GAS MONITORING
SCHOLL CANYON LANDFILL
June 11, 2014

Compounds	North Header	North Header (Duplicate)	South Header
Hydrogen Sulfide, ppm	42	46	30
Permanent Gases, %	97.8	97.8	97.7
Oxygen, %	4.9	4.8	5.4
Argon, %	0.34	0.34	0.37
Nitrogen, %	30.5	30.1	33.5
Methane, %	33.1	33.4	30.5
Carbon Dioxide, %	28.9	29.2	27.9
Methylene Chloride, ppb	71	72	130
Chloroform, ppb	< 20	< 20	< 20
1,1,1-Trichloroethane, ppb	< 21	< 21	< 21
Carbon Tetrachloride, ppb	< 21	< 21	< 21
1,1-Dichloroethene, ppb	< 19	< 19	< 19
Trichloroethylene, ppb	100	110	84
Tetrachloroethylene, ppb	170	190	150
Chlorobenzene, ppb	170	200	120
Vinyl Chloride, ppb	150	120	57
1,1-Dichloroethane, ppb	44	41	31
1,2-Dichloroethane, ppb	< 100	< 100	< 100
Benzene, ppb	3000	3000	1400
Toluene, ppb	6000	6500	4700
Ethylbenzene, ppb	3400	4100	2300
Acetonitrile, ppb	< 660	< 660	< 660
1,2-Dibromoethane, ppb	< 19	< 19	< 19
Benzyl Chloride, ppb	< 130	< 130	< 130
Xylene, ppb	5200	6400	3840
Dichlorobenzene, ppb	< 820	< 820	< 820

TABLE D

LANDFILL GAS MONITORING
SCHOLL CANYON LANDFILL
March 10, 2014

Compounds	North Header	South Header	South Header (Duplicate)
Hydrogen Sulfide, ppm	37	34	24
Permanent Gases, %	98.1	98.3	98.2
Oxygen, %	4.2	4.9	10.2
Argon, %	0.29	0.37	0.54
Nitrogen, %	26.4	32.7	47.2
Methane, %	36.3	31.3	21
Carbon Dioxide, %	31	29.1	19.3
Methylene Chloride, ppb	68	220	150
Chloroform, ppb	< 20	< 20	< 20
1,1,1-Trichloroethane, ppb	< 21	< 21	< 21
Carbon Tetrachloride, ppb	< 21	< 21	< 21
1,1-Dichloroethene, ppb	< 19	< 19	< 19
Trichloroethylene, ppb	110	89	65
Tetrachloroethylene, ppb	180	150	110
Chlorobenzene, ppb	230	110	79
Vinyl Chloride, ppb	160	66	42
1,1-Dichloroethane, ppb	46	36	26
1,2-Dichloroethane, ppb	< 100	< 100	< 100
Benzene, ppb	2400	1600	1100
Toluene, ppb	6500	4600	3300
Ethylbenzene, ppb	4200	2100	1500
Acetonitrile, ppb	< 660	< 660	< 660
1,2-Dibromoethane, ppb	< 19	< 19	< 19
Benzyl Chloride, ppb	< 130	< 130	< 130
Xylene, ppb	7100	3780	2760
Dichlorobenzene, ppb	< 820	< 820	< 820

TABLE D

LANDFILL GAS MONITORING
SCHOLL CANYON LANDFILL
November 4, 2013

Compounds	North Header	South Header
Hydrogen Sulfide, ppm	37	34
Permanent Gases, %	98.1	98.2
Oxygen, %	4.4	5.8
Argon, %	0.28	0.37
Nitrogen, %	25.4	33.2
Methane, %	36.9	31
Carbon Dioxide, %	31.2	27.8
Methylene Chloride, ppb	98	140
Chloroform, ppb	< 20	< 20
1,1,1-Trichloroethane, ppb	< 21	< 21
Carbon Tetrachloride, ppb	< 21	< 21
1,1-Dichloroethene, ppb	< 19	< 19
Trichloroethylene, ppb	110	84
Tetrachloroethylene, ppb	180	150
Chlorobenzene, ppb	220	120
Vinyl Chloride, ppb	170	78
1,1-Dichloroethane, ppb	44	35
1,2-Dichloroethane, ppb	< 100	< 100
Benzene, ppb	1100	1500
Toluene, ppb	6200	4600
Ethylbenzene, ppb	3100	2000
Acetonitrile, ppb	< 660	< 660
1,2-Dibromoethane, ppb	< 19	< 19
Benzyl Chloride, ppb	< 130	< 130
Xylene, ppb	6600	3810
Dichlorobenzene, ppb	< 820	< 820

TABLE D

LANDFILL GAS MONITORING
SCHOLL CANYON LANDFILL
July 16, 2013

Compounds	North Header	South Header
Hydrogen Sulfide, ppm	28	36
Permanent Gases, %	97	96.8
Oxygen, %	4.4	5.3
Argon, %	0.28	0.34
Nitrogen, %	25.2	30.4
Methane, %	36.4	32.2
Carbon Dioxide, %	30.7	28.5
Methylene Chloride, ppb	62	140
Chloroform, ppb	< 20	< 20
1,1,1-Trichloroethane, ppb	< 21	< 21
Carbon Tetrachloride, ppb	< 21	< 21
1,1-Dichloroethene, ppb	< 19	< 19
Trichloroethylene, ppb	100	81
Tetrachloroethylene, ppb	190	150
Chlorobenzene, ppb	230	120
Vinyl Chloride, ppb	170	56
1,1-Dichloroethane, ppb	40	32
1,2-Dichloroethane, ppb	< 100	< 100
Benzene, ppb	4000	1500
Toluene, ppb	7400	4700
Ethylbenzene, ppb	5000	2200
Acetonitrile, ppb	760	< 660
1,2-Dibromoethane, ppb	< 19	< 19
Benzyl Chloride, ppb	< 130	< 130
Xylene, ppb	6700	3710
Dichlorobenzene, ppb	< 820	< 820

Table 2.4-1. DEFAULT CONCENTRATIONS FOR LFG CONSTITUENTS[a]

(SCC 50100402, 50300603)

Compound	Molecular Weight	Default Concentration (ppmv)	Emission Factor Rating
1,1,1-Trichloroethane (methyl chloroform)[a]	133.41	0.48	B
1,1,2,2-Tetrachloroethane[a]	167.85	1.11	C
1,1-Dichloroethane (ethylidene dichloride)[a]	98.97	2.35	B
1,1-Dichloroethene (vinylidene chloride)[a]	96.94	0.20	B
1,2-Dichloroethane (ethylene dichloride)[a]	98.96	0.41	B
1,2-Dichloropropane (propylene dichloride)[a]	112.99	0.18	D
2-Propanol (isopropyl alcohol)	60.11	50.1	E
Acetone	58.08	7.01	B
Acrylonitrile[a]	53.06	6.33	D
Bromodichloromethane	163.83	3.13	C
Butane	58.12	5.03	C
Carbon disulfide[a]	76.13	0.58	C
Carbon monoxide[b]	28.01	141	E
Carbon tetrachloride[a]	153.84	0.004	B
Carbonyl sulfide[a]	60.07	0.49	D
Chlorobenzene[a]	112.56	0.25	C
Chlorodifluoromethane	86.47	1.30	C
Chloroethane (ethyl chloride)[a]	64.52	1.25	B
Chloroform[a]	119.39	0.03	B
Chloromethane	50.49	1.21	B
Dichlorobenzene[c]	147	0.21	E
Dichlorodifluoromethane	120.91	15.7	A
Dichlorofluoromethane	102.92	2.62	D
Dichloromethane (methylene chloride)[a]	84.94	14.3	A
Dimethyl sulfide (methyl sulfide)	62.13	7.82	C
Ethane	30.07	889	C
Ethanol	46.08	27.2	E
Ethyl mercaptan (ethanethiol)	62.13	2.28	D
Ethylbenzene[a]	106.16	4.61	B
Ethylene dibromide	187.88	0.001	E
Fluorotrichloromethane	137.38	0.76	B
Hexane[a]	86.18	6.57	B
Hydrogen sulfide	34.08	35.5	B
Mercury (total)[a,d]	200.61	2.92×10^{-4}	E

Table 2.4-1. (Concluded)

Compound	Molecular Weight	Default Concentration (ppmv)	Emission Factor Rating
Methyl ethyl ketone[a]	72.11	7.09	A
Methyl isobutyl ketone[a]	100.16	1.87	B
Methyl mercaptan	48.11	2.49	C
Pentane	72.15	3.29	C
Perchloroethylene (tetrachloroethylene)[a]	165.83	3.73	B
Propane	44.09	11.1	B
t-1,2-dichloroethene	96.94	2.84	B
Trichloroethylene (trichloroethene)[a]	131.40	2.82	B
Vinyl chloride[a]	62.50	7.34	B
Xylenes[a]	106.16	12.1	B

NOTE: This is not an all-inclusive list of potential LFG constituents, only those for which test data were available at multiple sites. References 10-67. Source Classification Codes in parentheses.

[a] Hazardous Air Pollutants listed in Title III of the 1990 Clean Air Act Amendments.

[b] Carbon monoxide is not a typical constituent of LFG, but does exist in instances involving landfill (underground) combustion. Therefore, this default value should be used with caution. Of 18 sites where CO was measured, only 2 showed detectable levels of CO.

[c] Source tests did not indicate whether this compound was the para- or ortho- isomer. The para isomer is a Title III-listed HAP.

[d] No data were available to speciate total Hg into the elemental and organic forms.

APPENDIX A.4.2
EMISSION FACTOR FOR HYDROGEN CHLORIDE EMISSIONS
SCHOLL CANYON LANDFILL GAS FACILITY

Hydrogen Chloride Emission Factor	5.35	lbs/mmcf
Hydrogen Chloride Molecular Weight	36.46	lb/mol

LFG Influent Chlorinated Compound	CAS	No. of Cl Atoms	Concentration, ppmv	Conversion Eff, (%Wt)	HCL Conversion, lb/mmcf
1,1,1 - Trichloroethane	71-55-6	3	0.021	100%	0.005935349
1,1,2,2 - Tetrachloroethane	79-34-5	4	1.11	100%	0.418300775
1,1 - Dichloroethane	75-34-3	2	0.039	100%	0.007348527
1,1 - Dichloroethene	75-35-4	2	0.019	100%	0.003580052
1,2 - Dichloroethane	107-06-2	2	0.102	100%	0.019219225
1,2 - Dichloropropane	78-87-5	2	0.18	100%	0.033916279
Benzyl chloride	100-44-7	1	0.13	100%	0.012247545
Carbon tetrachloride	56-23-5	4	0.021	100%	0.007913798
Chlorobenzene	108-90-7	1	0.159	100%	0.01497969
Chlorodifluoromethane	75-45-6	1	1.3	100%	0.122475452
Chloroethane	75-00-3	1	1.25	100%	0.117764858
Chloroform	67-66-3	3	0.02	100%	0.005652713
Chloromethane	74-87-3	1	1.21	100%	0.113996382
Dichlorobenzene	106-46-7	2	0.82	100%	0.154507494
Dichlorodifluoromethane	75-71-8	2	15.7	100%	2.95825323
Dichlorofluoromethane	75-43-4	2	2.62	100%	0.493670284
Dichloromethane (methylene chloride)	74-87-3	2	0.119	100%	0.022422429
Fluorotrichloromethane	75-69-4	3	0.76	100%	0.214803101
t-1,2-dichloroethene	156-59-2	2	2.84	100%	0.535123514
Tetrachloroethylene	127-18-4	4	0.154	100%	0.058034522
Trichloroethylene	79-01-6	3	0.089	100%	0.025154574
Vinyl chloride	75-01-4	1	0.093	100%	0.008761705

California Air Toxics Emission Factors - Detail Report

System

System Type:	Internal Combustion Engine
Material Type:	Landfill gas
APC Device:	None
Other Description:	None

Codes

SIC:	4959
SCC:	20100802
SCC Description 1:	INTERNLCOMBUSTION
SCC Description 2:	ELECTRIC GENERATN
SCC Description 3:	LANDFILL GAS
SCC Description 4:	RECIPROCATING

Substance

Substance Category:	VOC
Substance:	Formaldehyde
CAS:	50-00-0

Ratings

Method Rating:	C
Population Rating:	3
ARB Rating:	C3-v2
EPA Rating:	E

Factor

Mean:	1.29E+00	lbs/MMcf
Median:	6.95E-01	lbs/MMcf
Maximum:	4.47E+00	lbs/MMcf
Minimum:	5.70E-02	lbs/MMcf

Stats

Number of Sources:	2
RSD,%:	127.39
Uncertainty, %:	133.69
Detection Ratio:	1.00

Table B-6: DEFAULT EF FOR LANDFILL GAS COMBUSTION (LB / MMSCF)

(continued)

SOURCE: Flare, Non-Refinery

TAC Code	POLLUTANT	CAS NO.	ALL SIZES
2	Benzene	71432	0.159
12	Formaldehyde	50000	1.169
19	Total PAHs (excluding Naphthalene)	1151	0.003
19	Naphthalene	91203	0.011
29	Acetaldehyde	75070	0.043
30	Acrolein	107028	0.010
40	Ethyl benzene	100414	1.444
44	Hexane	110543	0.029
68	Toluene	108883	0.058
70	Xylene	1330207	0.029

SOURCE: Stationary and Portable Internal Combustion Engines (ICE) and Turbines

TAC Code	POLLUTANT	CAS NO.	ALL SIZES
2	Benzene	71432	0.00840
6	Carbon tetrachloride	56235	0.000720
16	Methylene chloride	75092	0.000920
18	Perchloroethylene	127184	0.00100
20	Trichloroethylene	79016	0.000760
21	Vinyl chloride	75014	0.000640
35	Chloroform	67663	0.000560
68	Toluene	108883	0.0440
70	Xylenes	1330207	0.0124

Table 2.4-3. CONTROL EFFICIENCIES FOR LFG CONSTITUENTS[a]

Control Device	Constituent[b]	Control Efficiency (%)		
		Typical	Range	Rating
Boiler/Steam Turbine (50100423)	NMOC	98.0	96-99+	D
	Halogenated Species	99.6	87-99+	D
	Non-Halogenated Species	99.8	67-99+	D
Flare[c] (50100410) (50300601)	NMOC	99.2	90-99+	B
	Halogenated Species	98.0	91-99+	C
	Non-Halogenated Species	99.7	38-99+	C
Gas Turbine (50100420)	NMOC	94.4	90-99+	E
	Halogenated Species	99.7	98-99+	E
	Non-Halogenated Species	98.2	97-99+	E
IC Engine (50100421)	NMOC	97.2	94-99+	E
	Halogenated Species	93.0	90-99+	E
	Non-Halogenated Species	86.1	25-99+	E

[a] References 10-67. Source Classification Codes in parentheses.
[b] Halogenated species are those containing atoms of chlorine, bromine, fluorine, or iodine. For any equipment, the control efficiency for mercury should be assumed to be 0. See section 2.4.4.2 for methods to estimate emissions of SO_2, CO_2, and HCl.
[c] Where information on equipment was given in the reference, test data were taken from enclosed flares. Control efficiencies are assumed to be equally representative of open flares.

A.5 HARP2 MODEL RESULTS

APPENDIX A.5

HAPR2 MODEL RESULTS

APPENDIX A.5.1
HARP2 OUTPUT SUMMARY

(COMPLETE MODELING FILES ARE AVAILABLE IN ELECTRONIC FORMAT)

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Health Risk Assessment
Glendale Water and Power
Biogas Renewable Generation Project

A detailed (Tier 4 level) health risk assessment (HRA) was performed to evaluate the potential cancer, chronic, and acute health impacts related to the Biogas Renewable Generation Project (Project). The HRA was prepared in accordance with Office of Environmental Health Hazard Assessment (OEHHA) guideline dated February 2015 and SCAQMD Risk Assessment Procedure for Rule 1401, 1401.1, and 212 Version 8.0 dated June 5, 2015. Two software programs, AERMOD and HARP2, were utilized for the HRA. AERMOD is an air dispersion model to estimate the ground level TAC concentrations and the Hotspots Analysis and Reporting Program (HARP2) is the software to estimate the cancer and non-cancer health impacts for individual receptors using ground level concentration data for multiple pollutants through multiple pathways.

The following Table 1 summarizes the maximum MICR, HIA, and HIC values at any receptors outside the facility boundary.

TABLE 1
HEALTH RISK ASSESSMENT RESULT

Equipment[a]	Residential MICR	Residential Acute HI	Residential Chronic HI	Worker MICR	Worker Acute HI	Worker Chronic HI
IC Engines[a]	4.74E-08	2.16E-03	9.52E-03	3.32E-09	2.16E-03	9.52E-03
Flares (construction phase)[a,b]	1.24E-07	1.23E-02	1.22E-03	1.86E-09	1.23E-03	1.22E-03

Note:
a) The MICR, HIA, and HIC values are the highest values of any receptors outside the landfill boundary. Since the values are already below the significance thresholds, no further analysis was conducted to obtain readings at the nearest residential or worker receptors.
b) The cancer risk of the flares was based on 2 years exposure duration for both residential and worker receptors to reflect impact during construction activities.

As shown in the above Table 1, the highest values of MICR are below the Rule 1401 threshold of 1.00E-06 and the highest values of HIA and HIC are also below the Rule 1401 threshold of 1.00. Additionally, cancer burden analysis is not conducted because MICR values at any receptor is below 1.00E-06. The complete modeling and HARP2 files are provided in electronic copies.

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APPENDIX A.5.1

HARP2 OUTPUT SUMMARY

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Appendix A.5.1 - Biogas Renewable Generation Project - Engines HARP2 Output Summary - Residential MICR - Top 50

*HARP - HRACalc v17023 6/22/2017 2:38:21 PM - Cancer Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\SCHOLL CANYON\hra\res_HRAInput.hra

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_RISK	MMILK_RISK	WATER_RISK	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISK	PIG_RISK	CHICKEN_RISK	EGG_RISK
85	ALL		390407	3779876	4.74E-08	30YrCancerDerived_Inh	4.74E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8535	ALL		389700	3780450	4.56E-08	30YrCancerDerived_Inh	4.56E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8536	ALL		389750	3780450	4.53E-08	30YrCancerDerived_Inh	4.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		389759	3780447	4.39E-08	30YrCancerDerived_Inh	4.39E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8638	ALL		389750	3780500	4.22E-08	30YrCancerDerived_Inh	4.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	ALL		390419.6	3779834.2	4.17E-08	30YrCancerDerived_Inh	4.17E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87	ALL		390432.2	3779792.4	4.09E-08	30YrCancerDerived_Inh	4.09E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8637	ALL		389700	3780500	4.08E-08	30YrCancerDerived_Inh	4.08E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		389767.5	3780482.5	4.04E-08	30YrCancerDerived_Inh	4.04E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	ALL		390438.3	3779909.3	3.91E-08	30YrCancerDerived_Inh	3.91E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8433	ALL		389650	3780400	3.86E-08	30YrCancerDerived_Inh	3.86E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8739	ALL		389750	3780550	3.85E-08	30YrCancerDerived_Inh	3.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7285	ALL		390450	3779800	3.78E-08	30YrCancerDerived_Inh	3.78E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		389721	3780420.2	3.74E-08	30YrCancerDerived_Inh	3.74E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7477	ALL		390450	3779900	3.74E-08	30YrCancerDerived_Inh	3.74E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	ALL		390444.8	3779750.6	3.72E-08	30YrCancerDerived_Inh	3.72E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7381	ALL		390450	3779850	3.70E-08	30YrCancerDerived_Inh	3.70E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7187	ALL		390450	3779750	3.64E-08	30YrCancerDerived_Inh	3.64E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL		389776	3780518	3.54E-08	30YrCancerDerived_Inh	3.54E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
83	ALL		390469.7	3779942.7	3.51E-08	30YrCancerDerived_Inh	3.51E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8843	ALL		389800	3780600	3.43E-08	30YrCancerDerived_Inh	3.43E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8432	ALL		389600	3780400	3.43E-08	30YrCancerDerived_Inh	3.43E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8948	ALL		389850	3780650	3.42E-08	30YrCancerDerived_Inh	3.42E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8332	ALL		389600	3780350	3.40E-08	30YrCancerDerived_Inh	3.40E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8738	ALL		389700	3780550	3.38E-08	30YrCancerDerived_Inh	3.38E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL		389869.7	3780642	3.36E-08	30YrCancerDerived_Inh	3.36E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89	ALL		390457.4	3779708.8	3.36E-08	30YrCancerDerived_Inh	3.36E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL		389855.3	3780676	3.35E-08	30YrCancerDerived_Inh	3.35E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8534	ALL		389650	3780450	3.30E-08	30YrCancerDerived_Inh	3.30E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		389607	3780339.8	3.27E-08	30YrCancerDerived_Inh	3.27E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		389645	3780366.6	3.25E-08	30YrCancerDerived_Inh	3.25E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		389683	3780393.4	3.24E-08	30YrCancerDerived_Inh	3.24E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		389874.5	3780717.5	3.23E-08	30YrCancerDerived_Inh	3.23E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		389908	3780725	3.22E-08	30YrCancerDerived_Inh	3.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		389569	3780313	3.22E-08	30YrCancerDerived_Inh	3.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		389539.5	3780308.5	3.19E-08	30YrCancerDerived_Inh	3.19E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		389482.5	3780271.8	3.18E-08	30YrCancerDerived_Inh	3.18E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
82	ALL		390501	3779976	3.17E-08	30YrCancerDerived_Inh	3.17E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		389455	3780239.5	3.16E-08	30YrCancerDerived_Inh	3.16E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9044	ALL		389450	3780700	3.16E-08	30YrCancerDerived_Inh	3.16E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7572	ALL		390500	3779950	3.16E-08	30YrCancerDerived_Inh	3.16E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		389510	3780304	3.15E-08	30YrCancerDerived_Inh	3.15E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8231	ALL		389500	3780300	3.14E-08	30YrCancerDerived_Inh	3.14E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8132	ALL		389450	3780250	3.14E-08	30YrCancerDerived_Inh	3.14E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
81	ALL		390511	3780015	3.11E-08	30YrCancerDerived_Inh	3.11E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8844	ALL		389850	3780600	3.11E-08	30YrCancerDerived_Inh	3.11E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		389427.5	3780207.2	3.11E-08	30YrCancerDerived_Inh	3.11E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8740	ALL		389800	3780550	3.10E-08	30YrCancerDerived_Inh	3.10E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7382	ALL		390500	3779850	3.08E-08	30YrCancerDerived_Inh	3.08E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9148	ALL		389500	3780750	3.07E-08	30YrCancerDerived_Inh	3.07E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix A.5.1 - Biogas Renewable Generation Project - Engines HARP2 Output Summary - Residential HIA - Top 50

*HARP - HRACalc v17023 6/22/2017 2:38:21 PM - Acute Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\SCHOLL CANYON\hra\res_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
85	ALL		390407	3779876	NonCancerAcute	0.00E+00	3.09E-04	2.64E-05	0.00E+00	4.58E-09	1.90E-04	1.81E-03	0.00E+00	2.16E-03	0.00E+00	0.00E+00	2.64E-05	0.00E+00	0.00E+00	2.16E-03
86	ALL		390419.6	3779834.2	NonCancerAcute	0.00E+00	2.65E-04	2.26E-05	0.00E+00	3.93E-09	1.63E-04	1.55E-03	0.00E+00	1.85E-03	0.00E+00	0.00E+00	2.26E-05	0.00E+00	0.00E+00	1.85E-03
87	ALL		390432.2	3779792.4	NonCancerAcute	0.00E+00	2.62E-04	2.24E-05	0.00E+00	3.89E-09	1.61E-04	1.54E-03	0.00E+00	1.83E-03	0.00E+00	0.00E+00	2.24E-05	0.00E+00	0.00E+00	1.83E-03
7381	ALL		390450	3779850	NonCancerAcute	0.00E+00	2.59E-04	2.21E-05	0.00E+00	3.84E-09	1.59E-04	1.52E-03	0.00E+00	1.81E-03	0.00E+00	0.00E+00	2.21E-05	0.00E+00	0.00E+00	1.81E-03
7285	ALL		390450	3779800	NonCancerAcute	0.00E+00	2.51E-04	2.14E-05	0.00E+00	3.73E-09	1.54E-04	1.47E-03	0.00E+00	1.76E-03	0.00E+00	0.00E+00	2.14E-05	0.00E+00	0.00E+00	1.76E-03
88	ALL		390444.8	3779750.6	NonCancerAcute	0.00E+00	2.41E-04	2.06E-05	0.00E+00	3.58E-09	1.48E-04	1.42E-03	0.00E+00	1.69E-03	0.00E+00	0.00E+00	2.06E-05	0.00E+00	0.00E+00	1.69E-03
7187	ALL		390450	3779750	NonCancerAcute	0.00E+00	2.38E-04	2.03E-05	0.00E+00	3.53E-09	1.46E-04	1.40E-03	0.00E+00	1.67E-03	0.00E+00	0.00E+00	2.03E-05	0.00E+00	0.00E+00	1.67E-03
7477	ALL		390450	3779900	NonCancerAcute	0.00E+00	2.37E-04	2.02E-05	0.00E+00	3.51E-09	1.45E-04	1.39E-03	0.00E+00	1.65E-03	0.00E+00	0.00E+00	2.02E-05	0.00E+00	0.00E+00	1.65E-03
89	ALL		390457.4	3779708.8	NonCancerAcute	0.00E+00	2.36E-04	2.02E-05	0.00E+00	3.50E-09	1.45E-04	1.39E-03	0.00E+00	1.65E-03	0.00E+00	0.00E+00	2.02E-05	0.00E+00	0.00E+00	1.65E-03
7382	ALL		390500	3779850	NonCancerAcute	0.00E+00	2.30E-04	1.97E-05	0.00E+00	3.41E-09	1.41E-04	1.35E-03	0.00E+00	1.61E-03	0.00E+00	0.00E+00	1.97E-05	0.00E+00	0.00E+00	1.61E-03
84	ALL		390438.3	3779909.3	NonCancerAcute	0.00E+00	2.23E-04	1.90E-05	0.00E+00	3.31E-09	1.37E-04	1.31E-03	0.00E+00	1.56E-03	0.00E+00	0.00E+00	1.90E-05	0.00E+00	0.00E+00	1.56E-03
7286	ALL		390500	3779800	NonCancerAcute	0.00E+00	2.23E-04	1.90E-05	0.00E+00	3.30E-09	1.37E-04	1.31E-03	0.00E+00	1.56E-03	0.00E+00	0.00E+00	1.90E-05	0.00E+00	0.00E+00	1.56E-03
83	ALL		390469.7	3779942.7	NonCancerAcute	0.00E+00	2.19E-04	1.87E-05	0.00E+00	3.24E-09	1.34E-04	1.28E-03	0.00E+00	1.53E-03	0.00E+00	0.00E+00	1.87E-05	0.00E+00	0.00E+00	1.53E-03
7478	ALL		390500	3779900	NonCancerAcute	0.00E+00	2.17E-04	1.85E-05	0.00E+00	3.22E-09	1.33E-04	1.27E-03	0.00E+00	1.52E-03	0.00E+00	0.00E+00	1.85E-05	0.00E+00	0.00E+00	1.52E-03
90	ALL		390470	3779667	NonCancerAcute	0.00E+00	2.17E-04	1.85E-05	0.00E+00	3.22E-09	1.33E-04	1.27E-03	0.00E+00	1.52E-03	0.00E+00	0.00E+00	1.85E-05	0.00E+00	0.00E+00	1.52E-03
7188	ALL		390500	3779750	NonCancerAcute	0.00E+00	2.15E-04	1.84E-05	0.00E+00	3.19E-09	1.32E-04	1.26E-03	0.00E+00	1.51E-03	0.00E+00	0.00E+00	1.84E-05	0.00E+00	0.00E+00	1.51E-03
7089	ALL		390500	3779700	NonCancerAcute	0.00E+00	2.14E-04	1.82E-05	0.00E+00	3.17E-09	1.31E-04	1.25E-03	0.00E+00	1.49E-03	0.00E+00	0.00E+00	1.82E-05	0.00E+00	0.00E+00	1.49E-03
91	ALL		390471.5	3779633.5	NonCancerAcute	0.00E+00	2.13E-04	1.82E-05	0.00E+00	3.17E-09	1.31E-04	1.25E-03	0.00E+00	1.49E-03	0.00E+00	0.00E+00	1.82E-05	0.00E+00	0.00E+00	1.49E-03
92	ALL		390473	3779600	NonCancerAcute	0.00E+00	2.03E-04	1.74E-05	0.00E+00	3.02E-09	1.25E-04	1.19E-03	0.00E+00	1.42E-03	0.00E+00	0.00E+00	1.74E-05	0.00E+00	0.00E+00	1.42E-03
7572	ALL		390500	3779950	NonCancerAcute	0.00E+00	2.03E-04	1.73E-05	0.00E+00	3.01E-09	1.25E-04	1.19E-03	0.00E+00	1.42E-03	0.00E+00	0.00E+00	1.73E-05	0.00E+00	0.00E+00	1.42E-03
7383	ALL		390550	3779850	NonCancerAcute	0.00E+00	2.02E-04	1.73E-05	0.00E+00	3.00E-09	1.24E-04	1.19E-03	0.00E+00	1.41E-03	0.00E+00	0.00E+00	1.73E-05	0.00E+00	0.00E+00	1.41E-03
6990	ALL		390500	3779650	NonCancerAcute	0.00E+00	1.98E-04	1.69E-05	0.00E+00	2.94E-09	1.22E-04	1.16E-03	0.00E+00	1.39E-03	0.00E+00	0.00E+00	1.69E-05	0.00E+00	0.00E+00	1.39E-03
7287	ALL		390550	3779800	NonCancerAcute	0.00E+00	1.96E-04	1.67E-05	0.00E+00	2.90E-09	1.20E-04	1.15E-03	0.00E+00	1.37E-03	0.00E+00	0.00E+00	1.67E-05	0.00E+00	0.00E+00	1.37E-03
7189	ALL		390550	3779750	NonCancerAcute	0.00E+00	1.94E-04	1.66E-05	0.00E+00	2.88E-09	1.19E-04	1.14E-03	0.00E+00	1.36E-03	0.00E+00	0.00E+00	1.66E-05	0.00E+00	0.00E+00	1.36E-03
7479	ALL		390550	3779900	NonCancerAcute	0.00E+00	1.93E-04	1.65E-05	0.00E+00	2.86E-09	1.19E-04	1.13E-03	0.00E+00	1.35E-03	0.00E+00	0.00E+00	1.65E-05	0.00E+00	0.00E+00	1.35E-03
6891	ALL		390500	3779600	NonCancerAcute	0.00E+00	1.92E-04	1.64E-05	0.00E+00	2.85E-09	1.18E-04	1.13E-03	0.00E+00	1.34E-03	0.00E+00	0.00E+00	1.64E-05	0.00E+00	0.00E+00	1.34E-03
81	ALL		390511	3780015	NonCancerAcute	0.00E+00	1.90E-04	1.62E-05	0.00E+00	2.81E-09	1.16E-04	1.11E-03	0.00E+00	1.33E-03	0.00E+00	0.00E+00	1.62E-05	0.00E+00	0.00E+00	1.33E-03
7090	ALL		390550	3779700	NonCancerAcute	0.00E+00	1.89E-04	1.61E-05	0.00E+00	2.80E-09	1.16E-04	1.11E-03	0.00E+00	1.32E-03	0.00E+00	0.00E+00	1.61E-05	0.00E+00	0.00E+00	1.32E-03
80	ALL		390521	3780054	NonCancerAcute	0.00E+00	1.88E-04	1.60E-05	0.00E+00	2.78E-09	1.15E-04	1.10E-03	0.00E+00	1.31E-03	0.00E+00	0.00E+00	1.60E-05	0.00E+00	0.00E+00	1.31E-03
82	ALL		390501	3779976	NonCancerAcute	0.00E+00	1.86E-04	1.59E-05	0.00E+00	2.76E-09	1.14E-04	1.09E-03	0.00E+00	1.30E-03	0.00E+00	0.00E+00	1.59E-05	0.00E+00	0.00E+00	1.30E-03
93	ALL		390497	3779559	NonCancerAcute	0.00E+00	1.82E-04	1.55E-05	0.00E+00	2.69E-09	1.11E-04	1.07E-03	0.00E+00	1.27E-03	0.00E+00	0.00E+00	1.55E-05	0.00E+00	0.00E+00	1.27E-03
6991	ALL		390550	3779650	NonCancerAcute	0.00E+00	1.79E-04	1.53E-05	0.00E+00	2.65E-09	1.10E-04	1.05E-03	0.00E+00	1.25E-03	0.00E+00	0.00E+00	1.53E-05	0.00E+00	0.00E+00	1.25E-03
7384	ALL		390600	3779850	NonCancerAcute	0.00E+00	1.78E-04	1.52E-05	0.00E+00	2.64E-09	1.09E-04	1.04E-03	0.00E+00	1.24E-03	0.00E+00	0.00E+00	1.52E-05	0.00E+00	0.00E+00	1.24E-03
7190	ALL		390600	3779750	NonCancerAcute	0.00E+00	1.73E-04	1.48E-05	0.00E+00	2.57E-09	1.06E-04	1.02E-03	0.00E+00	1.21E-03	0.00E+00	0.00E+00	1.48E-05	0.00E+00	0.00E+00	1.21E-03
7480	ALL		390600	3779900	NonCancerAcute	0.00E+00	1.73E-04	1.47E-05	0.00E+00	2.56E-09	1.06E-04	1.01E-03	0.00E+00	1.21E-03	0.00E+00	0.00E+00	1.47E-05	0.00E+00	0.00E+00	1.21E-03
6892	ALL		390550	3779600	NonCancerAcute	0.00E+00	1.73E-04	1.47E-05	0.00E+00	2.56E-09	1.06E-04	1.01E-03	0.00E+00	1.21E-03	0.00E+00	0.00E+00	1.47E-05	0.00E+00	0.00E+00	1.21E-03
79	ALL		390542	3780084	NonCancerAcute	0.00E+00	1.72E-04	1.47E-05	0.00E+00	2.55E-09	1.06E-04	1.01E-03	0.00E+00	1.20E-03	0.00E+00	0.00E+00	1.47E-05	0.00E+00	0.00E+00	1.20E-03
7288	ALL		390600	3779800	NonCancerAcute	0.00E+00	1.72E-04	1.47E-05	0.00E+00	2.55E-09	1.06E-04	1.01E-03	0.00E+00	1.20E-03	0.00E+00	0.00E+00	1.47E-05	0.00E+00	0.00E+00	1.20E-03
7091	ALL		390600	3779700	NonCancerAcute	0.00E+00	1.68E-04	1.44E-05	0.00E+00	2.50E-09	1.03E-04	9.87E-04	0.00E+00	1.18E-03	0.00E+00	0.00E+00	1.44E-05	0.00E+00	0.00E+00	1.18E-03
110	ALL		390115.5	3779357	NonCancerAcute	0.00E+00	1.68E-04	1.43E-05	0.00E+00	2.49E-09	1.03E-04	9.84E-04	0.00E+00	1.17E-03	0.00E+00	0.00E+00	1.43E-05	0.00E+00	0.00E+00	1.17E-03
109	ALL		390163.8	3779355.7	NonCancerAcute	0.00E+00	1.66E-04	1.42E-05	0.00E+00	2.47E-09	1.02E-04	9.76E-04	0.00E+00	1.16E-03	0.00E+00	0.00E+00	1.42E-05	0.00E+00	0.00E+00	1.16E-03
6793	ALL		390550	3779550	NonCancerAcute	0.00E+00	1.66E-04	1.42E-05	0.00E+00	2.46E-09	1.02E-04	9.73E-04	0.00E+00	1.16E-03	0.00E+00	0.00E+00	1.42E-05	0.00E+00	0.00E+00	1.16E-03
7758	ALL		390550	3780050	NonCancerAcute	0.00E+00	1.65E-04	1.41E-05	0.00E+00	2.45E-09	1.01E-04	9.68E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.41E-05	0.00E+00	0.00E+00	1.15E-03
94	ALL		390521	3779518	NonCancerAcute	0.00E+00	1.65E-04	1.41E-05	0.00E+00	2.44E-09	1.01E-04	9.66E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.41E-05	0.00E+00	0.00E+00	1.15E-03
108	ALL		390212.1	3779354.5	NonCancerAcute	0.00E+00	1.65E-04	1.41E-05	0.00E+00	2.44E-09	1.01E-04	9.66E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.41E-05	0.00E+00	0.00E+00	1.15E-03
6385	ALL		390100	3779350	NonCancerAcute	0.00E+00	1.64E-04	1.40E-05	0.00E+00	2.43E-09	1.01E-04	9.63E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.40E-05	0.00E+00	0.00E+00	1.15E-03
6992	ALL		390600	3779650	NonCancerAcute	0.00E+00	1.64E-04	1.40E-05	0.00E+00	2.43E-09	1.01E-04	9.62E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.40E-05	0.00E+00	0.00E+00	1.15E-03
6386	ALL		390150	3779350	NonCancerAcute	0.00E+00	1.64E-04	1.40E-05	0.00E+00	2.43E-09	1.01E-04	9.61E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.40E-05	0.00E+00	0.00E+00	1.15E-03
6387	ALL		390200	3779350	NonCancerAcute	0.00E+00	1.64E-04	1.40E-05	0.00E+00	2.43E-09	1.01E-04	9.61E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.40E-05	0.00E+00	0.00E+00	1.15E-03
107	ALL		390260.5	3779353.2	NonCancerAcute	0.00E+00	1.61E-04	1.38E-05	0.00E+00	2.39E-09	9.90E-05	9.46E-04	0.00E+00	1.13E-03	0.00E+00	0.00E+00	1.38E-05	0.00E+00	0.00E+00	1.13E-03

Appendix A.5.1 - Biogas Renewable Generation Project - Engines HARP2 Output Summary - Residential HIC - Top 50

*HARP - HRACalc v17023 6/22/2017 2:38:21 PM - Chronic Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\SCHOLL CANYON\hra\res_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
85	ALL		390407	3779876	NonCancerChronicDerived_Inh	0.00E+00	7.99E-05	0.00E+00	7.97E-05	8.73E-08	8.05E-05	9.51E-03	0.00E+00	9.67E-08	0.00E+00	1.90E-08	5.80E-06	0.00E+00	0.00E+00	9.51E-03
8535	ALL		389700	3780450	NonCancerChronicDerived_Inh	0.00E+00	7.70E-05	0.00E+00	7.68E-05	8.41E-08	7.76E-05	9.16E-03	0.00E+00	9.31E-08	0.00E+00	1.83E-08	5.59E-06	0.00E+00	0.00E+00	9.16E-03
8536	ALL		389750	3780450	NonCancerChronicDerived_Inh	0.00E+00	7.65E-05	0.00E+00	7.63E-05	8.35E-08	7.71E-05	9.10E-03	0.00E+00	9.25E-08	0.00E+00	1.82E-08	5.55E-06	0.00E+00	0.00E+00	9.10E-03
20	ALL		389759	3780447	NonCancerChronicDerived_Inh	0.00E+00	7.41E-05	0.00E+00	7.39E-05	8.09E-08	7.47E-05	8.82E-03	0.00E+00	8.96E-08	0.00E+00	1.76E-08	5.38E-06	0.00E+00	0.00E+00	8.82E-03
8638	ALL		389750	3780500	NonCancerChronicDerived_Inh	0.00E+00	7.12E-05	0.00E+00	7.10E-05	7.77E-08	7.17E-05	8.47E-03	0.00E+00	8.60E-08	0.00E+00	1.69E-08	5.16E-06	0.00E+00	0.00E+00	8.47E-03
86	ALL		390419.6	3779834.2	NonCancerChronicDerived_Inh	0.00E+00	7.04E-05	0.00E+00	7.02E-05	7.68E-08	7.09E-05	8.37E-03	0.00E+00	8.51E-08	0.00E+00	1.67E-08	5.10E-06	0.00E+00	0.00E+00	8.37E-03
87	ALL		390432.2	3779792.4	NonCancerChronicDerived_Inh	0.00E+00	6.89E-05	0.00E+00	6.87E-05	7.53E-08	6.94E-05	8.20E-03	0.00E+00	8.33E-08	0.00E+00	1.64E-08	5.00E-06	0.00E+00	0.00E+00	8.20E-03
8637	ALL		389700	3780500	NonCancerChronicDerived_Inh	0.00E+00	6.89E-05	0.00E+00	6.87E-05	7.52E-08	6.94E-05	8.19E-03	0.00E+00	8.32E-08	0.00E+00	1.64E-08	5.00E-06	0.00E+00	0.00E+00	8.19E-03
21	ALL		389767.5	3780482.5	NonCancerChronicDerived_Inh	0.00E+00	6.82E-05	0.00E+00	6.80E-05	7.45E-08	6.87E-05	8.12E-03	0.00E+00	8.25E-08	0.00E+00	1.62E-08	4.95E-06	0.00E+00	0.00E+00	8.12E-03
84	ALL		390438.3	3779909.3	NonCancerChronicDerived_Inh	0.00E+00	6.60E-05	0.00E+00	6.58E-05	7.21E-08	6.65E-05	7.86E-03	0.00E+00	7.98E-08	0.00E+00	1.57E-08	4.79E-06	0.00E+00	0.00E+00	7.86E-03
8433	ALL		389650	3780400	NonCancerChronicDerived_Inh	0.00E+00	6.51E-05	0.00E+00	6.49E-05	7.11E-08	6.56E-05	7.75E-03	0.00E+00	7.87E-08	0.00E+00	1.55E-08	4.72E-06	0.00E+00	0.00E+00	7.75E-03
8739	ALL		389750	3780550	NonCancerChronicDerived_Inh	0.00E+00	6.49E-05	0.00E+00	6.48E-05	7.09E-08	6.54E-05	7.73E-03	0.00E+00	7.85E-08	0.00E+00	1.54E-08	4.71E-06	0.00E+00	0.00E+00	7.73E-03
7285	ALL		390450	3779800	NonCancerChronicDerived_Inh	0.00E+00	6.37E-05	0.00E+00	6.35E-05	6.96E-08	6.42E-05	7.58E-03	0.00E+00	7.70E-08	0.00E+00	1.51E-08	4.62E-06	0.00E+00	0.00E+00	7.58E-03
19	ALL		389721	3780420.2	NonCancerChronicDerived_Inh	0.00E+00	6.31E-05	0.00E+00	6.30E-05	6.89E-08	6.36E-05	7.51E-03	0.00E+00	7.63E-08	0.00E+00	1.50E-08	4.58E-06	0.00E+00	0.00E+00	7.51E-03
7477	ALL		390450	3779900	NonCancerChronicDerived_Inh	0.00E+00	6.31E-05	0.00E+00	6.29E-05	6.89E-08	6.36E-05	7.51E-03	0.00E+00	7.63E-08	0.00E+00	1.50E-08	4.58E-06	0.00E+00	0.00E+00	7.51E-03
88	ALL		390444.8	3779750.6	NonCancerChronicDerived_Inh	0.00E+00	6.28E-05	0.00E+00	6.26E-05	6.86E-08	6.33E-05	7.47E-03	0.00E+00	7.59E-08	0.00E+00	1.49E-08	4.56E-06	0.00E+00	0.00E+00	7.47E-03
7381	ALL		390450	3779850	NonCancerChronicDerived_Inh	0.00E+00	6.24E-05	0.00E+00	6.23E-05	6.82E-08	6.29E-05	7.43E-03	0.00E+00	7.55E-08	0.00E+00	1.48E-08	4.53E-06	0.00E+00	0.00E+00	7.43E-03
7187	ALL		390450	3779750	NonCancerChronicDerived_Inh	0.00E+00	6.14E-05	0.00E+00	6.12E-05	6.70E-08	6.19E-05	7.31E-03	0.00E+00	7.42E-08	0.00E+00	1.46E-08	4.45E-06	0.00E+00	0.00E+00	7.31E-03
22	ALL		389776	3780518	NonCancerChronicDerived_Inh	0.00E+00	5.98E-05	0.00E+00	5.96E-05	6.53E-08	6.02E-05	7.11E-03	0.00E+00	7.23E-08	0.00E+00	1.42E-08	4.34E-06	0.00E+00	0.00E+00	7.11E-03
83	ALL		390469.7	3779942.7	NonCancerChronicDerived_Inh	0.00E+00	5.92E-05	0.00E+00	5.91E-05	6.47E-08	5.97E-05	7.05E-03	0.00E+00	7.16E-08	0.00E+00	1.41E-08	4.30E-06	0.00E+00	0.00E+00	7.05E-03
8843	ALL		389800	3780600	NonCancerChronicDerived_Inh	0.00E+00	5.79E-05	0.00E+00	5.77E-05	6.32E-08	5.83E-05	6.89E-03	0.00E+00	7.00E-08	0.00E+00	1.38E-08	4.20E-06	0.00E+00	0.00E+00	6.89E-03
8432	ALL		389600	3780400	NonCancerChronicDerived_Inh	0.00E+00	5.79E-05	0.00E+00	5.77E-05	6.32E-08	5.83E-05	6.89E-03	0.00E+00	7.00E-08	0.00E+00	1.38E-08	4.20E-06	0.00E+00	0.00E+00	6.89E-03
8948	ALL		389850	3780650	NonCancerChronicDerived_Inh	0.00E+00	5.77E-05	0.00E+00	5.75E-05	6.30E-08	5.81E-05	6.86E-03	0.00E+00	6.97E-08	0.00E+00	1.37E-08	4.18E-06	0.00E+00	0.00E+00	6.86E-03
8332	ALL		389600	3780350	NonCancerChronicDerived_Inh	0.00E+00	5.74E-05	0.00E+00	5.73E-05	6.27E-08	5.78E-05	6.83E-03	0.00E+00	6.94E-08	0.00E+00	1.36E-08	4.17E-06	0.00E+00	0.00E+00	6.83E-03
8738	ALL		389700	3780550	NonCancerChronicDerived_Inh	0.00E+00	5.70E-05	0.00E+00	5.69E-05	6.23E-08	5.74E-05	6.79E-03	0.00E+00	6.89E-08	0.00E+00	1.36E-08	4.14E-06	0.00E+00	0.00E+00	6.79E-03
26	ALL		389869.7	3780642	NonCancerChronicDerived_Inh	0.00E+00	5.67E-05	0.00E+00	5.66E-05	6.20E-08	5.72E-05	6.75E-03	0.00E+00	6.86E-08	0.00E+00	1.35E-08	4.12E-06	0.00E+00	0.00E+00	6.75E-03
89	ALL		390457.4	3779708.8	NonCancerChronicDerived_Inh	0.00E+00	5.66E-05	0.00E+00	5.65E-05	6.18E-08	5.70E-05	6.74E-03	0.00E+00	6.84E-08	0.00E+00	1.35E-08	4.11E-06	0.00E+00	0.00E+00	6.74E-03
27	ALL		389855.3	3780676	NonCancerChronicDerived_Inh	0.00E+00	5.64E-05	0.00E+00	5.63E-05	6.16E-08	5.69E-05	6.72E-03	0.00E+00	6.82E-08	0.00E+00	1.34E-08	4.10E-06	0.00E+00	0.00E+00	6.72E-03
8534	ALL		389650	3780450	NonCancerChronicDerived_Inh	0.00E+00	5.57E-05	0.00E+00	5.55E-05	6.08E-08	5.61E-05	6.63E-03	0.00E+00	6.73E-08	0.00E+00	1.32E-08	4.04E-06	0.00E+00	0.00E+00	6.63E-03
16	ALL		389607	3780339.8	NonCancerChronicDerived_Inh	0.00E+00	5.52E-05	0.00E+00	5.50E-05	6.02E-08	5.56E-05	6.57E-03	0.00E+00	6.67E-08	0.00E+00	1.31E-08	4.00E-06	0.00E+00	0.00E+00	6.57E-03
17	ALL		389645	3780366.6	NonCancerChronicDerived_Inh	0.00E+00	5.49E-05	0.00E+00	5.48E-05	6.00E-08	5.53E-05	6.53E-03	0.00E+00	6.64E-08	0.00E+00	1.31E-08	3.98E-06	0.00E+00	0.00E+00	6.53E-03
18	ALL		389683	3780393.4	NonCancerChronicDerived_Inh	0.00E+00	5.47E-05	0.00E+00	5.45E-05	5.97E-08	5.51E-05	6.51E-03	0.00E+00	6.61E-08	0.00E+00	1.30E-08	3.97E-06	0.00E+00	0.00E+00	6.51E-03
29	ALL		389874.5	3780717.5	NonCancerChronicDerived_Inh	0.00E+00	5.45E-05	0.00E+00	5.44E-05	5.95E-08	5.49E-05	6.49E-03	0.00E+00	6.59E-08	0.00E+00	1.30E-08	3.95E-06	0.00E+00	0.00E+00	6.49E-03
30	ALL		389908	3780725	NonCancerChronicDerived_Inh	0.00E+00	5.44E-05	0.00E+00	5.42E-05	5.94E-08	5.48E-05	6.47E-03	0.00E+00	6.58E-08	0.00E+00	1.29E-08	3.95E-06	0.00E+00	0.00E+00	6.47E-03
15	ALL		389569	3780313	NonCancerChronicDerived_Inh	0.00E+00	5.43E-05	0.00E+00	5.42E-05	5.93E-08	5.47E-05	6.47E-03	0.00E+00	6.57E-08	0.00E+00	1.29E-08	3.94E-06	0.00E+00	0.00E+00	6.47E-03
14	ALL		389539.5	3780308.5	NonCancerChronicDerived_Inh	0.00E+00	5.38E-05	0.00E+00	5.36E-05	5.87E-08	5.42E-05	6.40E-03	0.00E+00	6.50E-08	0.00E+00	1.28E-08	3.90E-06	0.00E+00	0.00E+00	6.40E-03
12	ALL		389482.5	3780271.8	NonCancerChronicDerived_Inh	0.00E+00	5.36E-05	0.00E+00	5.35E-05	5.85E-08	5.40E-05	6.38E-03	0.00E+00	6.48E-08	0.00E+00	1.27E-08	3.89E-06	0.00E+00	0.00E+00	6.38E-03
82	ALL		390501	3779976	NonCancerChronicDerived_Inh	0.00E+00	5.34E-05	0.00E+00	5.33E-05	5.83E-08	5.38E-05	6.36E-03	0.00E+00	6.46E-08	0.00E+00	1.27E-08	3.87E-06	0.00E+00	0.00E+00	6.36E-03
11	ALL		389455	3780239.5	NonCancerChronicDerived_Inh	0.00E+00	5.34E-05	0.00E+00	5.32E-05	5.83E-08	5.38E-05	6.35E-03	0.00E+00	6.45E-08	0.00E+00	1.27E-08	3.87E-06	0.00E+00	0.00E+00	6.35E-03
9044	ALL		389450	3780700	NonCancerChronicDerived_Inh	0.00E+00	5.33E-05	0.00E+00	5.31E-05	5.82E-08	5.37E-05	6.34E-03	0.00E+00	6.44E-08	0.00E+00	1.27E-08	3.87E-06	0.00E+00	0.00E+00	6.34E-03
7572	ALL		390500	3779950	NonCancerChronicDerived_Inh	0.00E+00	5.33E-05	0.00E+00	5.31E-05	5.82E-08	5.37E-05	6.34E-03	0.00E+00	6.44E-08	0.00E+00	1.27E-08	3.86E-06	0.00E+00	0.00E+00	6.34E-03
13	ALL		389510	3780304	NonCancerChronicDerived_Inh	0.00E+00	5.31E-05	0.00E+00	5.30E-05	5.80E-08	5.35E-05	6.32E-03	0.00E+00	6.42E-08	0.00E+00	1.26E-08	3.85E-06	0.00E+00	0.00E+00	6.32E-03
8231	ALL		389500	3780300	NonCancerChronicDerived_Inh	0.00E+00	5.30E-05	0.00E+00	5.29E-05	5.79E-08	5.34E-05	6.31E-03	0.00E+00	6.41E-08	0.00E+00	1.26E-08	3.85E-06	0.00E+00	0.00E+00	6.31E-03
8132	ALL		389450	3780250	NonCancerChronicDerived_Inh	0.00E+00	5.29E-05	0.00E+00	5.28E-05	5.78E-08	5.33E-05	6.30E-03	0.00E+00	6.40E-08	0.00E+00	1.26E-08	3.84E-06	0.00E+00	0.00E+00	6.30E-03
81	ALL		390511	3780015	NonCancerChronicDerived_Inh	0.00E+00	5.25E-05	0.00E+00	5.23E-05	5.73E-08	5.29E-05	6.24E-03	0.00E+00	6.34E-08	0.00E+00	1.25E-08	3.81E-06	0.00E+00	0.00E+00	6.24E-03
8844	ALL		389850	3780600	NonCancerChronicDerived_Inh	0.00E+00	5.24E-05	0.00E+00	5.23E-05	5.73E-08	5.28E-05	6.24E-03	0.00E+00	6.34E-08	0.00E+00	1.25E-08	3.81E-06	0.00E+00	0.00E+00	6.24E-03
10	ALL		389427.5	3780207.2	NonCancerChronicDerived_Inh	0.00E+00	5.24E-05	0.00E+00	5.23E-05	5.73E-08	5.28E-05	6.24E-03	0.00E+00	6.34E-08	0.00E+00	1.25E-08	3.80E-06	0.00E+00	0.00E+00	6.24E-03
8740	ALL		389800	3780550	NonCancerChronicDerived_Inh	0.00E+00	5.23E-05	0.00E+00	5.22E-05	5.71E-08	5.27E-05	6.23E-03	0.00E+00	6.33E-08	0.00E+00	1.24E-08	3.80E-06	0.00E+00	0.00E+00	6.23E-03
7382	ALL		390500	3779850	NonCancerChronicDerived_Inh	0.00E+00	5.20E-05	0.00E+00	5.18E-05	5.67E-08	5.24E-05	6.18E-03	0.00E+00	6.28E-08	0.00E+00	1.23E-08	3.77E-06	0.00E+00	0.00E+00	6.18E-03
9148	ALL		389500	3780750	NonCancerChronicDerived_Inh	0.00E+00	5.18E-05	0.00E+00	5.17E-05	5.66E-08	5.22E-05	6.17E-03	0.00E+00	6.27E-08	0.00E+00	1.23E-08	3.76E-06	0.00E+00	0.00E+00	6.17E-03

Appendix A.5.1 - Biogas Renewable Generation Project - Engines HARP2 Output Summary - Worker MICR - Top 50

*HARP - HRACalc v17023 6/22/2017 2:45:32 PM - Cancer Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\SCHOLL CANYON\hra\work_HRAInput.hra

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_RISK	MMILK_RISK	WATER_RISK	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISK	PIG_RISK	CHICKEN_RISK	EGG_RISK
85	ALL		390407	3779876	3.32E-09	25YrCancerDerived_InhSoilDerm	3.32E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8535	ALL		389700	3780450	3.19E-09	25YrCancerDerived_InhSoilDerm	3.19E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8536	ALL		389750	3780450	3.17E-09	25YrCancerDerived_InhSoilDerm	3.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		389759	3780447	3.07E-09	25YrCancerDerived_InhSoilDerm	3.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8638	ALL		389750	3780500	2.95E-09	25YrCancerDerived_InhSoilDerm	2.95E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	ALL		390419.6	3779834.2	2.92E-09	25YrCancerDerived_InhSoilDerm	2.92E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87	ALL		390432.2	3779792.4	2.86E-09	25YrCancerDerived_InhSoilDerm	2.86E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8637	ALL		389700	3780500	2.86E-09	25YrCancerDerived_InhSoilDerm	2.86E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		389767.5	3780482.5	2.83E-09	25YrCancerDerived_InhSoilDerm	2.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	ALL		390438.3	3779909.3	2.74E-09	25YrCancerDerived_InhSoilDerm	2.74E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8433	ALL		389650	3780400	2.70E-09	25YrCancerDerived_InhSoilDerm	2.70E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8739	ALL		389750	3780550	2.69E-09	25YrCancerDerived_InhSoilDerm	2.69E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7285	ALL		390450	3779800	2.64E-09	25YrCancerDerived_InhSoilDerm	2.64E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		389721	3780420.2	2.62E-09	25YrCancerDerived_InhSoilDerm	2.62E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7477	ALL		390450	3779900	2.62E-09	25YrCancerDerived_InhSoilDerm	2.62E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	ALL		390444.8	3779750.6	2.61E-09	25YrCancerDerived_InhSoilDerm	2.61E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7381	ALL		390450	3779850	2.59E-09	25YrCancerDerived_InhSoilDerm	2.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7187	ALL		390450	3779750	2.55E-09	25YrCancerDerived_InhSoilDerm	2.55E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL		389776	3780518	2.48E-09	25YrCancerDerived_InhSoilDerm	2.48E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
83	ALL		390469.7	3779942.7	2.46E-09	25YrCancerDerived_InhSoilDerm	2.46E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8843	ALL		389800	3780600	2.40E-09	25YrCancerDerived_InhSoilDerm	2.40E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8432	ALL		389600	3780400	2.40E-09	25YrCancerDerived_InhSoilDerm	2.40E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8948	ALL		389850	3780650	2.39E-09	25YrCancerDerived_InhSoilDerm	2.39E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8332	ALL		389600	3780350	2.38E-09	25YrCancerDerived_InhSoilDerm	2.38E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8738	ALL		389700	3780550	2.37E-09	25YrCancerDerived_InhSoilDerm	2.37E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL		389869.7	3780642	2.35E-09	25YrCancerDerived_InhSoilDerm	2.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89	ALL		390457.4	3779708.8	2.35E-09	25YrCancerDerived_InhSoilDerm	2.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL		389855.3	3780676	2.34E-09	25YrCancerDerived_InhSoilDerm	2.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8534	ALL		389650	3780450	2.31E-09	25YrCancerDerived_InhSoilDerm	2.31E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		389607	3780339.8	2.29E-09	25YrCancerDerived_InhSoilDerm	2.29E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		389645	3780366.6	2.28E-09	25YrCancerDerived_InhSoilDerm	2.28E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		389683	3780393.4	2.27E-09	25YrCancerDerived_InhSoilDerm	2.27E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		389874.5	3780717.5	2.26E-09	25YrCancerDerived_InhSoilDerm	2.26E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		389908	3780725	2.26E-09	25YrCancerDerived_InhSoilDerm	2.26E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		389569	3780313	2.25E-09	25YrCancerDerived_InhSoilDerm	2.25E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		389539.5	3780308.5	2.23E-09	25YrCancerDerived_InhSoilDerm	2.23E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		389482.5	3780271.8	2.22E-09	25YrCancerDerived_InhSoilDerm	2.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
82	ALL		390501	3779976	2.22E-09	25YrCancerDerived_InhSoilDerm	2.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		389455	3780239.5	2.21E-09	25YrCancerDerived_InhSoilDerm	2.21E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9044	ALL		389450	3780700	2.21E-09	25YrCancerDerived_InhSoilDerm	2.21E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7572	ALL		390500	3779950	2.21E-09	25YrCancerDerived_InhSoilDerm	2.21E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		389510	3780304	2.20E-09	25YrCancerDerived_InhSoilDerm	2.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8231	ALL		389500	3780300	2.20E-09	25YrCancerDerived_InhSoilDerm	2.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8132	ALL		389450	3780250	2.20E-09	25YrCancerDerived_InhSoilDerm	2.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
81	ALL		390511	3780015	2.18E-09	25YrCancerDerived_InhSoilDerm	2.18E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8844	ALL		389850	3780600	2.18E-09	25YrCancerDerived_InhSoilDerm	2.18E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		389427.5	3780207.2	2.18E-09	25YrCancerDerived_InhSoilDerm	2.18E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8740	ALL		389800	3780550	2.17E-09	25YrCancerDerived_InhSoilDerm	2.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7382	ALL		390500	3779850	2.16E-09	25YrCancerDerived_InhSoilDerm	2.16E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9148	ALL		389500	3780750	2.15E-09	25YrCancerDerived_InhSoilDerm	2.15E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix A.5.1 - Biogas Renewable Generation Project - Engines HARP2 Output Summary - Worker HIA - Top 50

*HARP - HRACalc v17023 6/22/2017 2:45:32 PM - Acute Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\SCHOLL CANYON\hra\work_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
85	ALL		390407	3779876	NonCancerAcute	0.00E+00	3.09E-04	2.64E-05	0.00E+00	4.58E-09	1.90E-04	1.81E-03	0.00E+00	2.16E-03	0.00E+00	0.00E+00	2.64E-05	0.00E+00	0.00E+00	2.16E-03
86	ALL		390419.6	3779834.2	NonCancerAcute	0.00E+00	2.65E-04	2.26E-05	0.00E+00	3.93E-09	1.63E-04	1.55E-03	0.00E+00	1.85E-03	0.00E+00	0.00E+00	2.26E-05	0.00E+00	0.00E+00	1.85E-03
87	ALL		390432.2	3779792.4	NonCancerAcute	0.00E+00	2.62E-04	2.24E-05	0.00E+00	3.89E-09	1.61E-04	1.54E-03	0.00E+00	1.83E-03	0.00E+00	0.00E+00	2.24E-05	0.00E+00	0.00E+00	1.83E-03
7381	ALL		390450	3779850	NonCancerAcute	0.00E+00	2.59E-04	2.21E-05	0.00E+00	3.84E-09	1.59E-04	1.52E-03	0.00E+00	1.81E-03	0.00E+00	0.00E+00	2.21E-05	0.00E+00	0.00E+00	1.81E-03
7285	ALL		390450	3779800	NonCancerAcute	0.00E+00	2.51E-04	2.14E-05	0.00E+00	3.73E-09	1.54E-04	1.47E-03	0.00E+00	1.76E-03	0.00E+00	0.00E+00	2.14E-05	0.00E+00	0.00E+00	1.76E-03
88	ALL		390444.8	3779750.6	NonCancerAcute	0.00E+00	2.41E-04	2.06E-05	0.00E+00	3.58E-09	1.48E-04	1.42E-03	0.00E+00	1.69E-03	0.00E+00	0.00E+00	2.06E-05	0.00E+00	0.00E+00	1.69E-03
7187	ALL		390450	3779750	NonCancerAcute	0.00E+00	2.38E-04	2.03E-05	0.00E+00	3.53E-09	1.46E-04	1.40E-03	0.00E+00	1.67E-03	0.00E+00	0.00E+00	2.03E-05	0.00E+00	0.00E+00	1.67E-03
7477	ALL		390450	3779900	NonCancerAcute	0.00E+00	2.37E-04	2.02E-05	0.00E+00	3.51E-09	1.45E-04	1.39E-03	0.00E+00	1.65E-03	0.00E+00	0.00E+00	2.02E-05	0.00E+00	0.00E+00	1.65E-03
89	ALL		390457.4	3779708.8	NonCancerAcute	0.00E+00	2.36E-04	2.02E-05	0.00E+00	3.50E-09	1.45E-04	1.39E-03	0.00E+00	1.65E-03	0.00E+00	0.00E+00	2.02E-05	0.00E+00	0.00E+00	1.65E-03
7382	ALL		390500	3779850	NonCancerAcute	0.00E+00	2.30E-04	1.97E-05	0.00E+00	3.41E-09	1.41E-04	1.35E-03	0.00E+00	1.61E-03	0.00E+00	0.00E+00	1.97E-05	0.00E+00	0.00E+00	1.61E-03
84	ALL		390438.3	3779909.3	NonCancerAcute	0.00E+00	2.23E-04	1.90E-05	0.00E+00	3.31E-09	1.37E-04	1.31E-03	0.00E+00	1.56E-03	0.00E+00	0.00E+00	1.90E-05	0.00E+00	0.00E+00	1.56E-03
7286	ALL		390500	3779800	NonCancerAcute	0.00E+00	2.23E-04	1.90E-05	0.00E+00	3.30E-09	1.37E-04	1.31E-03	0.00E+00	1.56E-03	0.00E+00	0.00E+00	1.90E-05	0.00E+00	0.00E+00	1.56E-03
83	ALL		390469.7	3779942.7	NonCancerAcute	0.00E+00	2.19E-04	1.87E-05	0.00E+00	3.24E-09	1.34E-04	1.28E-03	0.00E+00	1.53E-03	0.00E+00	0.00E+00	1.87E-05	0.00E+00	0.00E+00	1.53E-03
7478	ALL		390500	3779900	NonCancerAcute	0.00E+00	2.17E-04	1.85E-05	0.00E+00	3.22E-09	1.33E-04	1.27E-03	0.00E+00	1.52E-03	0.00E+00	0.00E+00	1.85E-05	0.00E+00	0.00E+00	1.52E-03
90	ALL		390470	3779667	NonCancerAcute	0.00E+00	2.17E-04	1.85E-05	0.00E+00	3.22E-09	1.33E-04	1.27E-03	0.00E+00	1.52E-03	0.00E+00	0.00E+00	1.85E-05	0.00E+00	0.00E+00	1.52E-03
7188	ALL		390500	3779750	NonCancerAcute	0.00E+00	2.15E-04	1.84E-05	0.00E+00	3.19E-09	1.32E-04	1.26E-03	0.00E+00	1.51E-03	0.00E+00	0.00E+00	1.84E-05	0.00E+00	0.00E+00	1.51E-03
7089	ALL		390500	3779700	NonCancerAcute	0.00E+00	2.14E-04	1.82E-05	0.00E+00	3.17E-09	1.31E-04	1.25E-03	0.00E+00	1.49E-03	0.00E+00	0.00E+00	1.82E-05	0.00E+00	0.00E+00	1.49E-03
91	ALL		390471.5	3779633.5	NonCancerAcute	0.00E+00	2.13E-04	1.82E-05	0.00E+00	3.17E-09	1.31E-04	1.25E-03	0.00E+00	1.49E-03	0.00E+00	0.00E+00	1.82E-05	0.00E+00	0.00E+00	1.49E-03
92	ALL		390473	3779600	NonCancerAcute	0.00E+00	2.03E-04	1.74E-05	0.00E+00	3.02E-09	1.25E-04	1.19E-03	0.00E+00	1.42E-03	0.00E+00	0.00E+00	1.74E-05	0.00E+00	0.00E+00	1.42E-03
7572	ALL		390500	3779950	NonCancerAcute	0.00E+00	2.03E-04	1.73E-05	0.00E+00	3.01E-09	1.25E-04	1.19E-03	0.00E+00	1.42E-03	0.00E+00	0.00E+00	1.73E-05	0.00E+00	0.00E+00	1.42E-03
7383	ALL		390550	3779850	NonCancerAcute	0.00E+00	2.02E-04	1.73E-05	0.00E+00	3.00E-09	1.24E-04	1.19E-03	0.00E+00	1.41E-03	0.00E+00	0.00E+00	1.73E-05	0.00E+00	0.00E+00	1.41E-03
6990	ALL		390500	3779650	NonCancerAcute	0.00E+00	1.98E-04	1.69E-05	0.00E+00	2.94E-09	1.22E-04	1.16E-03	0.00E+00	1.39E-03	0.00E+00	0.00E+00	1.69E-05	0.00E+00	0.00E+00	1.39E-03
7287	ALL		390550	3779800	NonCancerAcute	0.00E+00	1.96E-04	1.67E-05	0.00E+00	2.90E-09	1.20E-04	1.15E-03	0.00E+00	1.37E-03	0.00E+00	0.00E+00	1.67E-05	0.00E+00	0.00E+00	1.37E-03
7189	ALL		390550	3779750	NonCancerAcute	0.00E+00	1.94E-04	1.66E-05	0.00E+00	2.88E-09	1.19E-04	1.14E-03	0.00E+00	1.36E-03	0.00E+00	0.00E+00	1.66E-05	0.00E+00	0.00E+00	1.36E-03
7479	ALL		390550	3779900	NonCancerAcute	0.00E+00	1.93E-04	1.65E-05	0.00E+00	2.86E-09	1.19E-04	1.13E-03	0.00E+00	1.35E-03	0.00E+00	0.00E+00	1.65E-05	0.00E+00	0.00E+00	1.35E-03
6891	ALL		390500	3779600	NonCancerAcute	0.00E+00	1.92E-04	1.64E-05	0.00E+00	2.85E-09	1.18E-04	1.13E-03	0.00E+00	1.34E-03	0.00E+00	0.00E+00	1.64E-05	0.00E+00	0.00E+00	1.34E-03
81	ALL		390511	3780015	NonCancerAcute	0.00E+00	1.90E-04	1.62E-05	0.00E+00	2.81E-09	1.16E-04	1.11E-03	0.00E+00	1.33E-03	0.00E+00	0.00E+00	1.62E-05	0.00E+00	0.00E+00	1.33E-03
7090	ALL		390550	3779700	NonCancerAcute	0.00E+00	1.89E-04	1.61E-05	0.00E+00	2.80E-09	1.16E-04	1.11E-03	0.00E+00	1.32E-03	0.00E+00	0.00E+00	1.61E-05	0.00E+00	0.00E+00	1.32E-03
80	ALL		390521	3780054	NonCancerAcute	0.00E+00	1.88E-04	1.60E-05	0.00E+00	2.78E-09	1.15E-04	1.10E-03	0.00E+00	1.31E-03	0.00E+00	0.00E+00	1.60E-05	0.00E+00	0.00E+00	1.31E-03
82	ALL		390501	3779976	NonCancerAcute	0.00E+00	1.86E-04	1.59E-05	0.00E+00	2.76E-09	1.14E-04	1.09E-03	0.00E+00	1.30E-03	0.00E+00	0.00E+00	1.59E-05	0.00E+00	0.00E+00	1.30E-03
93	ALL		390497	3779559	NonCancerAcute	0.00E+00	1.82E-04	1.55E-05	0.00E+00	2.69E-09	1.11E-04	1.07E-03	0.00E+00	1.27E-03	0.00E+00	0.00E+00	1.55E-05	0.00E+00	0.00E+00	1.27E-03
6991	ALL		390550	3779650	NonCancerAcute	0.00E+00	1.79E-04	1.53E-05	0.00E+00	2.65E-09	1.10E-04	1.05E-03	0.00E+00	1.25E-03	0.00E+00	0.00E+00	1.53E-05	0.00E+00	0.00E+00	1.25E-03
7384	ALL		390600	3779850	NonCancerAcute	0.00E+00	1.78E-04	1.52E-05	0.00E+00	2.64E-09	1.09E-04	1.04E-03	0.00E+00	1.24E-03	0.00E+00	0.00E+00	1.52E-05	0.00E+00	0.00E+00	1.24E-03
7190	ALL		390600	3779750	NonCancerAcute	0.00E+00	1.73E-04	1.48E-05	0.00E+00	2.57E-09	1.06E-04	1.02E-03	0.00E+00	1.21E-03	0.00E+00	0.00E+00	1.48E-05	0.00E+00	0.00E+00	1.21E-03
7480	ALL		390600	3779900	NonCancerAcute	0.00E+00	1.73E-04	1.47E-05	0.00E+00	2.56E-09	1.06E-04	1.01E-03	0.00E+00	1.21E-03	0.00E+00	0.00E+00	1.47E-05	0.00E+00	0.00E+00	1.21E-03
6892	ALL		390550	3779600	NonCancerAcute	0.00E+00	1.73E-04	1.47E-05	0.00E+00	2.56E-09	1.06E-04	1.01E-03	0.00E+00	1.21E-03	0.00E+00	0.00E+00	1.47E-05	0.00E+00	0.00E+00	1.21E-03
79	ALL		390542	3780084	NonCancerAcute	0.00E+00	1.72E-04	1.47E-05	0.00E+00	2.55E-09	1.06E-04	1.01E-03	0.00E+00	1.20E-03	0.00E+00	0.00E+00	1.47E-05	0.00E+00	0.00E+00	1.20E-03
7288	ALL		390600	3779800	NonCancerAcute	0.00E+00	1.72E-04	1.47E-05	0.00E+00	2.55E-09	1.06E-04	1.01E-03	0.00E+00	1.20E-03	0.00E+00	0.00E+00	1.47E-05	0.00E+00	0.00E+00	1.20E-03
7091	ALL		390600	3779700	NonCancerAcute	0.00E+00	1.68E-04	1.44E-05	0.00E+00	2.50E-09	1.03E-04	9.87E-04	0.00E+00	1.18E-03	0.00E+00	0.00E+00	1.44E-05	0.00E+00	0.00E+00	1.18E-03
110	ALL		390115.5	3779357	NonCancerAcute	0.00E+00	1.68E-04	1.43E-05	0.00E+00	2.49E-09	1.03E-04	9.84E-04	0.00E+00	1.17E-03	0.00E+00	0.00E+00	1.43E-05	0.00E+00	0.00E+00	1.17E-03
109	ALL		390163.8	3779355.7	NonCancerAcute	0.00E+00	1.66E-04	1.42E-05	0.00E+00	2.47E-09	1.02E-04	9.76E-04	0.00E+00	1.16E-03	0.00E+00	0.00E+00	1.42E-05	0.00E+00	0.00E+00	1.16E-03
6793	ALL		390550	3779550	NonCancerAcute	0.00E+00	1.66E-04	1.42E-05	0.00E+00	2.46E-09	1.02E-04	9.73E-04	0.00E+00	1.16E-03	0.00E+00	0.00E+00	1.42E-05	0.00E+00	0.00E+00	1.16E-03
7758	ALL		390550	3780050	NonCancerAcute	0.00E+00	1.65E-04	1.41E-05	0.00E+00	2.45E-09	1.01E-04	9.68E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.41E-05	0.00E+00	0.00E+00	1.15E-03
94	ALL		390521	3779518	NonCancerAcute	0.00E+00	1.65E-04	1.41E-05	0.00E+00	2.44E-09	1.01E-04	9.66E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.41E-05	0.00E+00	0.00E+00	1.15E-03
108	ALL		390212.1	3779354.5	NonCancerAcute	0.00E+00	1.65E-04	1.41E-05	0.00E+00	2.44E-09	1.01E-04	9.66E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.41E-05	0.00E+00	0.00E+00	1.15E-03
6385	ALL		390100	3779350	NonCancerAcute	0.00E+00	1.64E-04	1.40E-05	0.00E+00	2.43E-09	1.01E-04	9.63E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.40E-05	0.00E+00	0.00E+00	1.15E-03
6992	ALL		390600	3779650	NonCancerAcute	0.00E+00	1.64E-04	1.40E-05	0.00E+00	2.43E-09	1.01E-04	9.62E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.40E-05	0.00E+00	0.00E+00	1.15E-03
6386	ALL		390150	3779350	NonCancerAcute	0.00E+00	1.64E-04	1.40E-05	0.00E+00	2.43E-09	1.01E-04	9.61E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.40E-05	0.00E+00	0.00E+00	1.15E-03
6387	ALL		390200	3779350	NonCancerAcute	0.00E+00	1.64E-04	1.40E-05	0.00E+00	2.43E-09	1.01E-04	9.61E-04	0.00E+00	1.15E-03	0.00E+00	0.00E+00	1.40E-05	0.00E+00	0.00E+00	1.15E-03
107	ALL		390260.5	3779353.2	NonCancerAcute	0.00E+00	1.61E-04	1.38E-05	0.00E+00	2.39E-09	9.90E-05	9.46E-04	0.00E+00	1.13E-03	0.00E+00	0.00E+00	1.38E-05	0.00E+00	0.00E+00	1.13E-03

Appendix A.5.1 - Biogas Renewable Generation Project - Engines HARP2 Output Summary - Worker HIC - Top 50

*HARP - HRACalc v17023 6/22/2017 2:45:32 PM - Chronic Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\SCHOLL CANYON\hra\work_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
85	ALL		390407	3779876	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.68E-04	0.00E+00	1.68E-04	8.73E-08	1.69E-04	9.51E-03	0.00E+00	9.67E-08	0.00E+00	1.90E-08	5.80E-06	0.00E+00	0.00E+00	9.51E-03
8535	ALL		389700	3780450	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.62E-04	0.00E+00	1.62E-04	8.41E-08	1.63E-04	9.16E-03	0.00E+00	9.31E-08	0.00E+00	1.83E-08	5.59E-06	0.00E+00	0.00E+00	9.16E-03
8536	ALL		389750	3780450	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.61E-04	0.00E+00	1.61E-04	8.35E-08	1.62E-04	9.10E-03	0.00E+00	9.25E-08	0.00E+00	1.82E-08	5.55E-06	0.00E+00	0.00E+00	9.10E-03
20	ALL		389759	3780447	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.56E-04	0.00E+00	1.56E-04	8.09E-08	1.57E-04	8.82E-03	0.00E+00	8.96E-08	0.00E+00	1.76E-08	5.38E-06	0.00E+00	0.00E+00	8.82E-03
8638	ALL		389750	3780500	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.50E-04	0.00E+00	1.50E-04	7.77E-08	1.50E-04	8.47E-03	0.00E+00	8.60E-08	0.00E+00	1.69E-08	5.16E-06	0.00E+00	0.00E+00	8.47E-03
86	ALL		390419.6	3779834.2	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.48E-04	0.00E+00	1.48E-04	7.68E-08	1.49E-04	8.37E-03	0.00E+00	8.51E-08	0.00E+00	1.67E-08	5.10E-06	0.00E+00	0.00E+00	8.37E-03
87	ALL		390432.2	3779792.4	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.45E-04	0.00E+00	1.45E-04	7.53E-08	1.46E-04	8.20E-03	0.00E+00	8.33E-08	0.00E+00	1.64E-08	5.00E-06	0.00E+00	0.00E+00	8.20E-03
8637	ALL		389700	3780500	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.45E-04	0.00E+00	1.45E-04	7.52E-08	1.45E-04	8.19E-03	0.00E+00	8.32E-08	0.00E+00	1.64E-08	5.00E-06	0.00E+00	0.00E+00	8.19E-03
21	ALL		389767.5	3780482.5	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.44E-04	0.00E+00	1.43E-04	7.45E-08	1.44E-04	8.12E-03	0.00E+00	8.25E-08	0.00E+00	1.62E-08	4.95E-06	0.00E+00	0.00E+00	8.12E-03
84	ALL		390438.3	3779909.3	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.39E-04	0.00E+00	1.39E-04	7.21E-08	1.39E-04	7.86E-03	0.00E+00	7.98E-08	0.00E+00	1.57E-08	4.79E-06	0.00E+00	0.00E+00	7.86E-03
8433	ALL		389650	3780400	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.37E-04	0.00E+00	1.37E-04	7.11E-08	1.37E-04	7.75E-03	0.00E+00	7.87E-08	0.00E+00	1.55E-08	4.72E-06	0.00E+00	0.00E+00	7.75E-03
8739	ALL		389750	3780550	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.37E-04	0.00E+00	1.36E-04	7.09E-08	1.37E-04	7.73E-03	0.00E+00	7.85E-08	0.00E+00	1.54E-08	4.71E-06	0.00E+00	0.00E+00	7.73E-03
7285	ALL		390450	3779800	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.34E-04	0.00E+00	1.34E-04	6.96E-08	1.35E-04	7.58E-03	0.00E+00	7.70E-08	0.00E+00	1.51E-08	4.62E-06	0.00E+00	0.00E+00	7.58E-03
19	ALL		389721	3780420.2	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.33E-04	0.00E+00	1.33E-04	6.89E-08	1.33E-04	7.51E-03	0.00E+00	7.63E-08	0.00E+00	1.50E-08	4.58E-06	0.00E+00	0.00E+00	7.51E-03
7477	ALL		390450	3779900	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.33E-04	0.00E+00	1.33E-04	6.89E-08	1.33E-04	7.51E-03	0.00E+00	7.63E-08	0.00E+00	1.50E-08	4.58E-06	0.00E+00	0.00E+00	7.51E-03
88	ALL		390444.8	3779750.6	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.32E-04	0.00E+00	1.32E-04	6.86E-08	1.33E-04	7.47E-03	0.00E+00	7.59E-08	0.00E+00	1.49E-08	4.56E-06	0.00E+00	0.00E+00	7.47E-03
7381	ALL		390450	3779850	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.31E-04	0.00E+00	1.31E-04	6.82E-08	1.32E-04	7.43E-03	0.00E+00	7.55E-08	0.00E+00	1.48E-08	4.53E-06	0.00E+00	0.00E+00	7.43E-03
7187	ALL		390450	3779750	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.29E-04	0.00E+00	1.29E-04	6.70E-08	1.30E-04	7.31E-03	0.00E+00	7.42E-08	0.00E+00	1.46E-08	4.45E-06	0.00E+00	0.00E+00	7.31E-03
22	ALL		389776	3780518	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.26E-04	0.00E+00	1.26E-04	6.53E-08	1.26E-04	7.11E-03	0.00E+00	7.23E-08	0.00E+00	1.42E-08	4.34E-06	0.00E+00	0.00E+00	7.11E-03
83	ALL		390469.7	3779942.7	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.25E-04	0.00E+00	1.24E-04	6.47E-08	1.25E-04	7.05E-03	0.00E+00	7.16E-08	0.00E+00	1.41E-08	4.30E-06	0.00E+00	0.00E+00	7.05E-03
8843	ALL		389800	3780600	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.22E-04	0.00E+00	1.22E-04	6.32E-08	1.22E-04	6.89E-03	0.00E+00	7.00E-08	0.00E+00	1.38E-08	4.20E-06	0.00E+00	0.00E+00	6.89E-03
8432	ALL		389600	3780400	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.22E-04	0.00E+00	1.22E-04	6.32E-08	1.22E-04	6.89E-03	0.00E+00	7.00E-08	0.00E+00	1.38E-08	4.20E-06	0.00E+00	0.00E+00	6.89E-03
8948	ALL		389850	3780650	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.21E-04	0.00E+00	1.21E-04	6.30E-08	1.22E-04	6.86E-03	0.00E+00	6.97E-08	0.00E+00	1.37E-08	4.18E-06	0.00E+00	0.00E+00	6.86E-03
8332	ALL		389600	3780350	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.21E-04	0.00E+00	1.21E-04	6.27E-08	1.21E-04	6.83E-03	0.00E+00	6.94E-08	0.00E+00	1.36E-08	4.17E-06	0.00E+00	0.00E+00	6.83E-03
8738	ALL		389700	3780550	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.20E-04	0.00E+00	1.20E-04	6.23E-08	1.20E-04	6.79E-03	0.00E+00	6.89E-08	0.00E+00	1.36E-08	4.14E-06	0.00E+00	0.00E+00	6.79E-03
26	ALL		389869.7	3780642	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.19E-04	0.00E+00	1.19E-04	6.20E-08	1.20E-04	6.75E-03	0.00E+00	6.86E-08	0.00E+00	1.35E-08	4.12E-06	0.00E+00	0.00E+00	6.75E-03
89	ALL		390457.4	3779708.8	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.19E-04	0.00E+00	1.19E-04	6.18E-08	1.20E-04	6.74E-03	0.00E+00	6.84E-08	0.00E+00	1.35E-08	4.11E-06	0.00E+00	0.00E+00	6.74E-03
27	ALL		389855.3	3780676	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.19E-04	0.00E+00	1.19E-04	6.16E-08	1.19E-04	6.72E-03	0.00E+00	6.82E-08	0.00E+00	1.34E-08	4.10E-06	0.00E+00	0.00E+00	6.72E-03
8534	ALL		389650	3780450	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.17E-04	0.00E+00	1.17E-04	6.08E-08	1.18E-04	6.63E-03	0.00E+00	6.73E-08	0.00E+00	1.32E-08	4.04E-06	0.00E+00	0.00E+00	6.63E-03
16	ALL		389607	3780339.8	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.16E-04	0.00E+00	1.16E-04	6.02E-08	1.17E-04	6.57E-03	0.00E+00	6.67E-08	0.00E+00	1.31E-08	4.00E-06	0.00E+00	0.00E+00	6.57E-03
17	ALL		389645	3780366.6	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.16E-04	0.00E+00	1.15E-04	6.00E-08	1.16E-04	6.53E-03	0.00E+00	6.64E-08	0.00E+00	1.31E-08	3.98E-06	0.00E+00	0.00E+00	6.53E-03
18	ALL		389683	3780393.4	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.15E-04	0.00E+00	1.15E-04	5.97E-08	1.16E-04	6.51E-03	0.00E+00	6.61E-08	0.00E+00	1.30E-08	3.97E-06	0.00E+00	0.00E+00	6.51E-03
29	ALL		389874.5	3780717.5	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.15E-04	0.00E+00	1.15E-04	5.95E-08	1.15E-04	6.49E-03	0.00E+00	6.59E-08	0.00E+00	1.30E-08	3.95E-06	0.00E+00	0.00E+00	6.49E-03
30	ALL		389908	3780725	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.14E-04	0.00E+00	1.14E-04	5.94E-08	1.15E-04	6.47E-03	0.00E+00	6.58E-08	0.00E+00	1.29E-08	3.95E-06	0.00E+00	0.00E+00	6.47E-03
15	ALL		389569	3780313	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.14E-04	0.00E+00	1.14E-04	5.93E-08	1.15E-04	6.47E-03	0.00E+00	6.57E-08	0.00E+00	1.29E-08	3.94E-06	0.00E+00	0.00E+00	6.47E-03
14	ALL		389539.5	3780308.5	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.13E-04	0.00E+00	1.13E-04	5.87E-08	1.14E-04	6.40E-03	0.00E+00	6.50E-08	0.00E+00	1.28E-08	3.90E-06	0.00E+00	0.00E+00	6.40E-03
12	ALL		389482.5	3780271.8	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.13E-04	0.00E+00	1.13E-04	5.85E-08	1.13E-04	6.38E-03	0.00E+00	6.48E-08	0.00E+00	1.27E-08	3.89E-06	0.00E+00	0.00E+00	6.38E-03
82	ALL		390501	3779976	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.12E-04	0.00E+00	1.12E-04	5.83E-08	1.13E-04	6.36E-03	0.00E+00	6.46E-08	0.00E+00	1.27E-08	3.87E-06	0.00E+00	0.00E+00	6.36E-03
11	ALL		389455	3780239.5	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.12E-04	0.00E+00	1.12E-04	5.83E-08	1.13E-04	6.35E-03	0.00E+00	6.45E-08	0.00E+00	1.27E-08	3.87E-06	0.00E+00	0.00E+00	6.35E-03
9044	ALL		389450	3780700	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.12E-04	0.00E+00	1.12E-04	5.82E-08	1.13E-04	6.34E-03	0.00E+00	6.44E-08	0.00E+00	1.27E-08	3.87E-06	0.00E+00	0.00E+00	6.34E-03
7572	ALL		390500	3779950	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.12E-04	0.00E+00	1.12E-04	5.82E-08	1.12E-04	6.34E-03	0.00E+00	6.44E-08	0.00E+00	1.27E-08	3.86E-06	0.00E+00	0.00E+00	6.34E-03
13	ALL		389510	3780304	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.12E-04	0.00E+00	1.12E-04	5.80E-08	1.12E-04	6.32E-03	0.00E+00	6.42E-08	0.00E+00	1.26E-08	3.85E-06	0.00E+00	0.00E+00	6.32E-03
8231	ALL		389500	3780300	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.12E-04	0.00E+00	1.11E-04	5.79E-08	1.12E-04	6.31E-03	0.00E+00	6.41E-08	0.00E+00	1.26E-08	3.85E-06	0.00E+00	0.00E+00	6.31E-03
8132	ALL		389450	3780250	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.11E-04	0.00E+00	1.11E-04	5.78E-08	1.12E-04	6.30E-03	0.00E+00	6.40E-08	0.00E+00	1.26E-08	3.84E-06	0.00E+00	0.00E+00	6.30E-03
81	ALL		390511	3780015	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.10E-04	0.00E+00	1.10E-04	5.73E-08	1.11E-04	6.24E-03	0.00E+00	6.34E-08	0.00E+00	1.25E-08	3.81E-06	0.00E+00	0.00E+00	6.24E-03
8844	ALL		389850	3780600	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.10E-04	0.00E+00	1.10E-04	5.73E-08	1.11E-04	6.24E-03	0.00E+00	6.34E-08	0.00E+00	1.25E-08	3.81E-06	0.00E+00	0.00E+00	6.24E-03
10	ALL		389427.5	3780207.2	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.10E-04	0.00E+00	1.10E-04	5.73E-08	1.11E-04	6.24E-03	0.00E+00	6.34E-08	0.00E+00	1.25E-08	3.80E-06	0.00E+00	0.00E+00	6.24E-03
8740	ALL		389800	3780550	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.10E-04	0.00E+00	1.10E-04	5.71E-08	1.10E-04	6.23E-03	0.00E+00	6.33E-08	0.00E+00	1.24E-08	3.80E-06	0.00E+00	0.00E+00	6.23E-03
7382	ALL		390500	3779850	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.09E-04	0.00E+00	1.09E-04	5.67E-08	1.10E-04	6.18E-03	0.00E+00	6.28E-08	0.00E+00	1.23E-08	3.77E-06	0.00E+00	0.00E+00	6.18E-03
9148	ALL		389500	3780750	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.09E-04	0.00E+00	1.09E-04	5.66E-08	1.09E-04	6.17E-03	0.00E+00	6.27E-08	0.00E+00	1.23E-08	3.76E-06	0.00E+00	0.00E+00	6.17E-03

Appendix A.5.1 - Biogas Renewable Generation Project - Flares HARP2 Output Summary - Residential MICR - Top 5(

*HARP - HRACalc v17023 7/3/2017 4:46:50 PM - Cancer Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\Flare3\SCHOLL CANYON FLARE\hra\res_HRAInput.hr

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_RISK	MMILK_RISK	WATER_RISK	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISK	PIG_RISK	CHICKEN_RISK	EGG_RISK
8536	ALL		389750	3780450	1.24E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		389759	3780447	1.21E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		389427.5	3780207.2	1.21E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8535	ALL		389700	3780450	1.21E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		389400	3780175	1.21E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		389455	3780239.5	1.19E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8034	ALL		389400	3780200	1.19E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8638	ALL		389750	3780500	1.18E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8132	ALL		389450	3780250	1.18E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		389482.5	3780271.8	1.16E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		389767.5	3780482.5	1.15E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		389355.6	3780183.6	1.15E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8131	ALL		389400	3780250	1.14E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8433	ALL		389650	3780400	1.13E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8033	ALL		389350	3780200	1.13E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		389569	3780313	1.13E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8332	ALL		389600	3780350	1.12E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8231	ALL		389500	3780300	1.12E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		389510	3780304	1.11E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		389539.5	3780308.5	1.11E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8637	ALL		389700	3780500	1.11E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8739	ALL		389750	3780550	1.11E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		389607	3780339.8	1.10E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8230	ALL		389450	3780300	1.10E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8130	ALL		389350	3780250	1.10E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		389311.2	3780192.2	1.09E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		389908	3780725	1.09E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		389721	3780420.2	1.09E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8948	ALL		389850	3780650	1.09E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8032	ALL		389300	3780200	1.08E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		389874.5	3780717.5	1.08E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8229	ALL		389400	3780300	1.08E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL		389855.3	3780676	1.07E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8432	ALL		389600	3780400	1.07E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL		389869.7	3780642	1.06E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		389645	3780366.6	1.06E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8129	ALL		389300	3780250	1.06E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8228	ALL		389350	3780300	1.05E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8843	ALL		389800	3780600	1.05E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL		389776	3780518	1.05E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		389266.9	3780200.9	1.05E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
31	ALL		389884.5	3780758.5	1.04E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8331	ALL		389550	3780350	1.03E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8330	ALL		389500	3780350	1.03E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8227	ALL		389300	3780300	1.03E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		389683	3780393.4	1.03E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8329	ALL		389450	3780350	1.02E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8128	ALL		389250	3780250	1.02E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8328	ALL		389400	3780350	1.01E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9155	ALL		389850	3780750	1.01E-07	2YrCancerDerived_InhSoilDermMMilk_FAH16to70	1.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix A.5.1 - Biogas Renewable Generation Project - Flares HARP2 Output Summary - Residential HIA - Top 50

*HARP - HRACalc v17023 7/3/2017 4:46:50 PM - Acute Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\Flare3\SCHOLL CANYON FLARE\hra\res_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE\	RESP	SKIN	EYE	BONE/TEE	ENDO	BLOOD	ODOR	GENERAL	MAXHI
86	ALL		390419.6	3779834	NonCancer	0.00E+00	9.64E-04	1.48E-04	0.00E+00	5.08E-08	2.95E-04	3.29E-05	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.48E-04	0.00E+00	0.00E+00	1.23E-02
7381	ALL		390450	3779850	NonCancer	0.00E+00	8.40E-04	1.29E-04	0.00E+00	4.43E-08	2.57E-04	2.87E-05	0.00E+00	1.07E-02	0.00E+00	0.00E+00	1.29E-04	0.00E+00	0.00E+00	1.07E-02
87	ALL		390432.2	3779792	NonCancer	0.00E+00	8.12E-04	1.24E-04	0.00E+00	4.28E-08	2.48E-04	2.77E-05	0.00E+00	1.04E-02	0.00E+00	0.00E+00	1.24E-04	0.00E+00	0.00E+00	1.04E-02
88	ALL		390444.8	3779751	NonCancer	0.00E+00	8.06E-04	1.24E-04	0.00E+00	4.25E-08	2.47E-04	2.76E-05	0.00E+00	1.03E-02	0.00E+00	0.00E+00	1.24E-04	0.00E+00	0.00E+00	1.03E-02
7187	ALL		390450	3779750	NonCancer	0.00E+00	7.93E-04	1.21E-04	0.00E+00	4.18E-08	2.42E-04	2.71E-05	0.00E+00	1.01E-02	0.00E+00	0.00E+00	1.21E-04	0.00E+00	0.00E+00	1.01E-02
85	ALL		390407	3779876	NonCancer	0.00E+00	7.80E-04	1.19E-04	0.00E+00	4.11E-08	2.38E-04	2.67E-05	0.00E+00	9.96E-03	0.00E+00	0.00E+00	1.19E-04	0.00E+00	0.00E+00	9.96E-03
7285	ALL		390450	3779800	NonCancer	0.00E+00	7.68E-04	1.18E-04	0.00E+00	4.05E-08	2.35E-04	2.62E-05	0.00E+00	9.81E-03	0.00E+00	0.00E+00	1.18E-04	0.00E+00	0.00E+00	9.81E-03
89	ALL		390457.4	3779709	NonCancer	0.00E+00	7.33E-04	1.12E-04	0.00E+00	3.87E-08	2.24E-04	2.51E-05	0.00E+00	9.37E-03	0.00E+00	0.00E+00	1.12E-04	0.00E+00	0.00E+00	9.37E-03
111	ALL		390067.2	3779358	NonCancer	0.00E+00	7.20E-04	1.10E-04	0.00E+00	3.80E-08	2.20E-04	2.46E-05	0.00E+00	9.20E-03	0.00E+00	0.00E+00	1.10E-04	0.00E+00	0.00E+00	9.20E-03
112	ALL		390018.9	3779360	NonCancer	0.00E+00	7.19E-04	1.10E-04	0.00E+00	3.79E-08	2.20E-04	2.46E-05	0.00E+00	9.19E-03	0.00E+00	0.00E+00	1.10E-04	0.00E+00	0.00E+00	9.19E-03
90	ALL		390470	3779667	NonCancer	0.00E+00	7.15E-04	1.10E-04	0.00E+00	3.77E-08	2.19E-04	2.45E-05	0.00E+00	9.14E-03	0.00E+00	0.00E+00	1.10E-04	0.00E+00	0.00E+00	9.14E-03
6384	ALL		390050	3779350	NonCancer	0.00E+00	7.12E-04	1.09E-04	0.00E+00	3.75E-08	2.18E-04	2.43E-05	0.00E+00	9.10E-03	0.00E+00	0.00E+00	1.09E-04	0.00E+00	0.00E+00	9.10E-03
110	ALL		390115.5	3779357	NonCancer	0.00E+00	7.07E-04	1.08E-04	0.00E+00	3.73E-08	2.16E-04	2.42E-05	0.00E+00	9.04E-03	0.00E+00	0.00E+00	1.08E-04	0.00E+00	0.00E+00	9.04E-03
113	ALL		389970.5	3779361	NonCancer	0.00E+00	7.07E-04	1.08E-04	0.00E+00	3.73E-08	2.16E-04	2.42E-05	0.00E+00	9.03E-03	0.00E+00	0.00E+00	1.08E-04	0.00E+00	0.00E+00	9.03E-03
6383	ALL		390000	3779350	NonCancer	0.00E+00	7.01E-04	1.07E-04	0.00E+00	3.69E-08	2.14E-04	2.40E-05	0.00E+00	8.95E-03	0.00E+00	0.00E+00	1.07E-04	0.00E+00	0.00E+00	8.95E-03
6385	ALL		390100	3779350	NonCancer	0.00E+00	6.92E-04	1.06E-04	0.00E+00	3.65E-08	2.11E-04	2.36E-05	0.00E+00	8.84E-03	0.00E+00	0.00E+00	1.06E-04	0.00E+00	0.00E+00	8.84E-03
91	ALL		390471.5	3779634	NonCancer	0.00E+00	6.92E-04	1.06E-04	0.00E+00	3.65E-08	2.11E-04	2.36E-05	0.00E+00	8.84E-03	0.00E+00	0.00E+00	1.06E-04	0.00E+00	0.00E+00	8.84E-03
109	ALL		390163.8	3779356	NonCancer	0.00E+00	6.86E-04	1.05E-04	0.00E+00	3.61E-08	2.10E-04	2.34E-05	0.00E+00	8.76E-03	0.00E+00	0.00E+00	1.05E-04	0.00E+00	0.00E+00	8.76E-03
7382	ALL		390500	3779850	NonCancer	0.00E+00	6.85E-04	1.05E-04	0.00E+00	3.61E-08	2.09E-04	2.34E-05	0.00E+00	8.75E-03	0.00E+00	0.00E+00	1.05E-04	0.00E+00	0.00E+00	8.75E-03
7478	ALL		390500	3779900	NonCancer	0.00E+00	6.83E-04	1.05E-04	0.00E+00	3.60E-08	2.09E-04	2.33E-05	0.00E+00	8.72E-03	0.00E+00	0.00E+00	1.05E-04	0.00E+00	0.00E+00	8.72E-03
7188	ALL		390500	3779750	NonCancer	0.00E+00	6.79E-04	1.04E-04	0.00E+00	3.58E-08	2.08E-04	2.32E-05	0.00E+00	8.67E-03	0.00E+00	0.00E+00	1.04E-04	0.00E+00	0.00E+00	8.67E-03
6386	ALL		390150	3779350	NonCancer	0.00E+00	6.78E-04	1.04E-04	0.00E+00	3.58E-08	2.07E-04	2.32E-05	0.00E+00	8.66E-03	0.00E+00	0.00E+00	1.04E-04	0.00E+00	0.00E+00	8.66E-03
92	ALL		390473	3779600	NonCancer	0.00E+00	6.64E-04	1.02E-04	0.00E+00	3.50E-08	2.03E-04	2.27E-05	0.00E+00	8.48E-03	0.00E+00	0.00E+00	1.02E-04	0.00E+00	0.00E+00	8.48E-03
116	ALL		389825.6	3779365	NonCancer	0.00E+00	6.58E-04	1.01E-04	0.00E+00	3.47E-08	2.01E-04	2.25E-05	0.00E+00	8.41E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.41E-03
6382	ALL		389950	3779350	NonCancer	0.00E+00	6.58E-04	1.01E-04	0.00E+00	3.47E-08	2.01E-04	2.25E-05	0.00E+00	8.41E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.41E-03
6387	ALL		390200	3779350	NonCancer	0.00E+00	6.58E-04	1.01E-04	0.00E+00	3.47E-08	2.01E-04	2.25E-05	0.00E+00	8.41E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.41E-03
6990	ALL		390500	3779650	NonCancer	0.00E+00	6.58E-04	1.01E-04	0.00E+00	3.47E-08	2.01E-04	2.25E-05	0.00E+00	8.41E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.41E-03
7286	ALL		390500	3779800	NonCancer	0.00E+00	6.56E-04	1.01E-04	0.00E+00	3.46E-08	2.01E-04	2.24E-05	0.00E+00	8.39E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.39E-03
7089	ALL		390500	3779700	NonCancer	0.00E+00	6.54E-04	1.00E-04	0.00E+00	3.45E-08	2.00E-04	2.23E-05	0.00E+00	8.35E-03	0.00E+00	0.00E+00	1.00E-04	0.00E+00	0.00E+00	8.35E-03
108	ALL		390212.1	3779355	NonCancer	0.00E+00	6.51E-04	9.98E-05	0.00E+00	3.43E-08	1.99E-04	2.23E-05	0.00E+00	8.32E-03	0.00E+00	0.00E+00	9.98E-05	0.00E+00	0.00E+00	8.32E-03
7477	ALL		390450	3779900	NonCancer	0.00E+00	6.44E-04	9.86E-05	0.00E+00	3.39E-08	1.97E-04	2.20E-05	0.00E+00	8.22E-03	0.00E+00	0.00E+00	9.86E-05	0.00E+00	0.00E+00	8.22E-03
115	ALL		389873.9	3779363	NonCancer	0.00E+00	6.37E-04	9.77E-05	0.00E+00	3.36E-08	1.95E-04	2.18E-05	0.00E+00	8.14E-03	0.00E+00	0.00E+00	9.77E-05	0.00E+00	0.00E+00	8.14E-03
6388	ALL		390250	3779350	NonCancer	0.00E+00	6.33E-04	9.70E-05	0.00E+00	3.34E-08	1.94E-04	2.16E-05	0.00E+00	8.09E-03	0.00E+00	0.00E+00	9.70E-05	0.00E+00	0.00E+00	8.09E-03
107	ALL		390260.5	3779353	NonCancer	0.00E+00	6.32E-04	9.69E-05	0.00E+00	3.33E-08	1.93E-04	2.16E-05	0.00E+00	8.08E-03	0.00E+00	0.00E+00	9.69E-05	0.00E+00	0.00E+00	8.08E-03
6263	ALL		390050	3779300	NonCancer	0.00E+00	6.31E-04	9.67E-05	0.00E+00	3.33E-08	1.93E-04	2.16E-05	0.00E+00	8.07E-03	0.00E+00	0.00E+00	9.67E-05	0.00E+00	0.00E+00	8.07E-03
6380	ALL		389850	3779350	NonCancer	0.00E+00	6.30E-04	9.66E-05	0.00E+00	3.32E-08	1.93E-04	2.16E-05	0.00E+00	8.05E-03	0.00E+00	0.00E+00	9.66E-05	0.00E+00	0.00E+00	8.05E-03
6891	ALL		390500	3779600	NonCancer	0.00E+00	6.30E-04	9.66E-05	0.00E+00	3.32E-08	1.93E-04	2.15E-05	0.00E+00	8.05E-03	0.00E+00	0.00E+00	9.66E-05	0.00E+00	0.00E+00	8.05E-03
117	ALL		389777.3	3779366	NonCancer	0.00E+00	6.26E-04	9.60E-05	0.00E+00	3.30E-08	1.91E-04	2.14E-05	0.00E+00	8.00E-03	0.00E+00	0.00E+00	9.60E-05	0.00E+00	0.00E+00	8.00E-03
6379	ALL		389800	3779350	NonCancer	0.00E+00	6.24E-04	9.56E-05	0.00E+00	3.29E-08	1.91E-04	2.13E-05	0.00E+00	7.97E-03	0.00E+00	0.00E+00	9.56E-05	0.00E+00	0.00E+00	7.97E-03
114	ALL		389922.2	3779362	NonCancer	0.00E+00	6.20E-04	9.50E-05	0.00E+00	3.27E-08	1.90E-04	2.12E-05	0.00E+00	7.92E-03	0.00E+00	0.00E+00	9.50E-05	0.00E+00	0.00E+00	7.92E-03
84	ALL		390438.3	3779909	NonCancer	0.00E+00	6.15E-04	9.42E-05	0.00E+00	3.24E-08	1.88E-04	2.10E-05	0.00E+00	7.85E-03	0.00E+00	0.00E+00	9.42E-05	0.00E+00	0.00E+00	7.85E-03
6264	ALL		390100	3779300	NonCancer	0.00E+00	6.08E-04	9.32E-05	0.00E+00	3.21E-08	1.86E-04	2.08E-05	0.00E+00	7.77E-03	0.00E+00	0.00E+00	9.32E-05	0.00E+00	0.00E+00	7.77E-03
6265	ALL		390150	3779300	NonCancer	0.00E+00	6.07E-04	9.30E-05	0.00E+00	3.20E-08	1.85E-04	2.07E-05	0.00E+00	7.75E-03	0.00E+00	0.00E+00	9.30E-05	0.00E+00	0.00E+00	7.75E-03
93	ALL		390497	3779559	NonCancer	0.00E+00	6.06E-04	9.28E-05	0.00E+00	3.19E-08	1.85E-04	2.07E-05	0.00E+00	7.74E-03	0.00E+00	0.00E+00	9.28E-05	0.00E+00	0.00E+00	7.74E-03
6262	ALL		390000	3779300	NonCancer	0.00E+00	6.06E-04	9.28E-05	0.00E+00	3.19E-08	1.85E-04	2.07E-05	0.00E+00	7.74E-03	0.00E+00	0.00E+00	9.28E-05	0.00E+00	0.00E+00	7.74E-03
6389	ALL		390300	3779350	NonCancer	0.00E+00	5.95E-04	9.12E-05	0.00E+00	3.14E-08	1.82E-04	2.03E-05	0.00E+00	7.60E-03	0.00E+00	0.00E+00	9.12E-05	0.00E+00	0.00E+00	7.60E-03
7383	ALL		390550	3779850	NonCancer	0.00E+00	5.93E-04	9.08E-05	0.00E+00	3.13E-08	1.81E-04	2.03E-05	0.00E+00	7.57E-03	0.00E+00	0.00E+00	9.08E-05	0.00E+00	0.00E+00	7.57E-03
6266	ALL		390200	3779300	NonCancer	0.00E+00	5.92E-04	9.07E-05	0.00E+00	3.12E-08	1.81E-04	2.02E-05	0.00E+00	7.57E-03	0.00E+00	0.00E+00	9.07E-05	0.00E+00	0.00E+00	7.57E-03
6991	ALL		390550	3779650	NonCancer	0.00E+00	5.88E-04	9.02E-05	0.00E+00	3.10E-08	1.80E-04	2.01E-05	0.00E+00	7.52E-03	0.00E+00	0.00E+00	9.02E-05	0.00E+00	0.00E+00	7.52E-03
7189	ALL		390550	3779750	NonCancer	0.00E+00	5.87E-04	9.00E-05	0.00E+00	3.10E-08	1.80E-04	2.01E-05	0.00E+00	7.50E-03	0.00E+00	0.00E+00	9.00E-05	0.00E+00	0.00E+00	7.50E-03

Appendix A.5.1 - Biogas Renewable Generation Project - Flares HARP2 Output Summary - Residential HIC - Top 50

*HARP - HRACalc v17023 7/3/2017 4:46:50 PM - Chronic Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\Flare3\SCHOLL CANYON FLARE\hra\res_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
8536	ALL		389750	3780450	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.47E-04	0.00E+00	2.46E-04	5.37E-07	2.51E-04	1.22E-03	0.00E+00	3.40E-07	0.00E+00	6.60E-08	2.02E-05	0.00E+00	0.00E+00	1.22E-03
20	ALL		389759	3780447	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.42E-04	0.00E+00	2.42E-04	5.28E-07	2.47E-04	1.20E-03	0.00E+00	3.35E-07	0.00E+00	6.49E-08	1.98E-05	0.00E+00	0.00E+00	1.20E-03
10	ALL		389427.5	3780207.2	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.42E-04	0.00E+00	2.41E-04	5.27E-07	2.46E-04	1.20E-03	0.00E+00	3.34E-07	0.00E+00	6.48E-08	1.98E-05	0.00E+00	0.00E+00	1.20E-03
8535	ALL		389700	3780450	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.41E-04	0.00E+00	2.41E-04	5.26E-07	2.46E-04	1.20E-03	0.00E+00	3.33E-07	0.00E+00	6.47E-08	1.97E-05	0.00E+00	0.00E+00	1.20E-03
9	ALL		389400	3780175	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.41E-04	0.00E+00	2.41E-04	5.26E-07	2.45E-04	1.19E-03	0.00E+00	3.33E-07	0.00E+00	6.46E-08	1.97E-05	0.00E+00	0.00E+00	1.19E-03
11	ALL		389455	3780239.5	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.39E-04	0.00E+00	2.38E-04	5.20E-07	2.43E-04	1.18E-03	0.00E+00	3.29E-07	0.00E+00	6.39E-08	1.95E-05	0.00E+00	0.00E+00	1.18E-03
8034	ALL		389400	3780200	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.37E-04	0.00E+00	2.37E-04	5.17E-07	2.41E-04	1.18E-03	0.00E+00	3.28E-07	0.00E+00	6.36E-08	1.94E-05	0.00E+00	0.00E+00	1.18E-03
8638	ALL		389750	3780500	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.35E-04	0.00E+00	2.35E-04	5.13E-07	2.39E-04	1.17E-03	0.00E+00	3.25E-07	0.00E+00	6.30E-08	1.92E-05	0.00E+00	0.00E+00	1.17E-03
8132	ALL		389450	3780250	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.35E-04	0.00E+00	2.34E-04	5.12E-07	2.39E-04	1.16E-03	0.00E+00	3.24E-07	0.00E+00	6.29E-08	1.92E-05	0.00E+00	0.00E+00	1.16E-03
12	ALL		389482.5	3780271.8	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.32E-04	0.00E+00	2.31E-04	5.05E-07	2.36E-04	1.15E-03	0.00E+00	3.20E-07	0.00E+00	6.21E-08	1.90E-05	0.00E+00	0.00E+00	1.15E-03
21	ALL		389767.5	3780482.5	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.30E-04	0.00E+00	2.29E-04	5.01E-07	2.34E-04	1.14E-03	0.00E+00	3.17E-07	0.00E+00	6.15E-08	1.88E-05	0.00E+00	0.00E+00	1.14E-03
8	ALL		389355.6	3780183.6	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.29E-04	0.00E+00	2.29E-04	4.99E-07	2.33E-04	1.13E-03	0.00E+00	3.16E-07	0.00E+00	6.13E-08	1.87E-05	0.00E+00	0.00E+00	1.13E-03
8131	ALL		389400	3780250	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.27E-04	0.00E+00	2.27E-04	4.95E-07	2.31E-04	1.12E-03	0.00E+00	3.13E-07	0.00E+00	6.08E-08	1.86E-05	0.00E+00	0.00E+00	1.12E-03
8433	ALL		389650	3780400	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.26E-04	0.00E+00	2.26E-04	4.93E-07	2.30E-04	1.12E-03	0.00E+00	3.12E-07	0.00E+00	6.06E-08	1.85E-05	0.00E+00	0.00E+00	1.12E-03
8033	ALL		389350	3780200	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.26E-04	0.00E+00	2.26E-04	4.93E-07	2.30E-04	1.12E-03	0.00E+00	3.12E-07	0.00E+00	6.06E-08	1.85E-05	0.00E+00	0.00E+00	1.12E-03
15	ALL		389569	3780313	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.25E-04	0.00E+00	2.24E-04	4.90E-07	2.29E-04	1.11E-03	0.00E+00	3.10E-07	0.00E+00	6.02E-08	1.84E-05	0.00E+00	0.00E+00	1.11E-03
8332	ALL		389600	3780350	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.24E-04	0.00E+00	2.24E-04	4.89E-07	2.28E-04	1.11E-03	0.00E+00	3.10E-07	0.00E+00	6.01E-08	1.83E-05	0.00E+00	0.00E+00	1.11E-03
8231	ALL		389500	3780300	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.23E-04	0.00E+00	2.23E-04	4.87E-07	2.27E-04	1.11E-03	0.00E+00	3.08E-07	0.00E+00	5.98E-08	1.83E-05	0.00E+00	0.00E+00	1.11E-03
13	ALL		389510	3780304	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.23E-04	0.00E+00	2.22E-04	4.85E-07	2.26E-04	1.10E-03	0.00E+00	3.07E-07	0.00E+00	5.96E-08	1.82E-05	0.00E+00	0.00E+00	1.10E-03
14	ALL		389539.5	3780308.5	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.23E-04	0.00E+00	2.22E-04	4.85E-07	2.26E-04	1.10E-03	0.00E+00	3.07E-07	0.00E+00	5.96E-08	1.82E-05	0.00E+00	0.00E+00	1.10E-03
8637	ALL		389700	3780500	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.21E-04	0.00E+00	2.21E-04	4.82E-07	2.25E-04	1.10E-03	0.00E+00	3.05E-07	0.00E+00	5.93E-08	1.81E-05	0.00E+00	0.00E+00	1.10E-03
8739	ALL		389750	3780550	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.21E-04	0.00E+00	2.21E-04	4.82E-07	2.25E-04	1.10E-03	0.00E+00	3.05E-07	0.00E+00	5.93E-08	1.81E-05	0.00E+00	0.00E+00	1.10E-03
16	ALL		389607	3780339.8	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.20E-04	0.00E+00	2.20E-04	4.80E-07	2.24E-04	1.09E-03	0.00E+00	3.04E-07	0.00E+00	5.90E-08	1.80E-05	0.00E+00	0.00E+00	1.09E-03
8230	ALL		389450	3780300	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.19E-04	0.00E+00	2.19E-04	4.78E-07	2.23E-04	1.09E-03	0.00E+00	3.03E-07	0.00E+00	5.88E-08	1.79E-05	0.00E+00	0.00E+00	1.09E-03
8130	ALL		389350	3780250	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.19E-04	0.00E+00	2.19E-04	4.78E-07	2.23E-04	1.09E-03	0.00E+00	3.03E-07	0.00E+00	5.87E-08	1.79E-05	0.00E+00	0.00E+00	1.09E-03
7	ALL		389311.2	3780192.2	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.18E-04	0.00E+00	2.18E-04	4.76E-07	2.22E-04	1.08E-03	0.00E+00	3.01E-07	0.00E+00	5.85E-08	1.78E-05	0.00E+00	0.00E+00	1.08E-03
30	ALL		389908	3780725	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.18E-04	0.00E+00	2.17E-04	4.75E-07	2.22E-04	1.08E-03	0.00E+00	3.01E-07	0.00E+00	5.83E-08	1.78E-05	0.00E+00	0.00E+00	1.08E-03
19	ALL		389721	3780420.2	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.18E-04	0.00E+00	2.17E-04	4.74E-07	2.21E-04	1.08E-03	0.00E+00	3.00E-07	0.00E+00	5.83E-08	1.78E-05	0.00E+00	0.00E+00	1.08E-03
8948	ALL		389850	3780650	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.17E-04	0.00E+00	2.16E-04	4.73E-07	2.21E-04	1.07E-03	0.00E+00	3.00E-07	0.00E+00	5.81E-08	1.77E-05	0.00E+00	0.00E+00	1.07E-03
8032	ALL		389300	3780200	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.15E-04	0.00E+00	2.15E-04	4.70E-07	2.19E-04	1.07E-03	0.00E+00	2.97E-07	0.00E+00	5.77E-08	1.76E-05	0.00E+00	0.00E+00	1.07E-03
29	ALL		389874.5	3780717.5	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.15E-04	0.00E+00	2.15E-04	4.70E-07	2.19E-04	1.07E-03	0.00E+00	2.97E-07	0.00E+00	5.77E-08	1.76E-05	0.00E+00	0.00E+00	1.07E-03
8229	ALL		389400	3780300	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.15E-04	0.00E+00	2.14E-04	4.69E-07	2.19E-04	1.07E-03	0.00E+00	2.97E-07	0.00E+00	5.76E-08	1.76E-05	0.00E+00	0.00E+00	1.07E-03
27	ALL		389855.3	3780676	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.14E-04	0.00E+00	2.14E-04	4.67E-07	2.18E-04	1.06E-03	0.00E+00	2.96E-07	0.00E+00	5.74E-08	1.75E-05	0.00E+00	0.00E+00	1.06E-03
8432	ALL		389600	3780400	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.14E-04	0.00E+00	2.13E-04	4.66E-07	2.18E-04	1.06E-03	0.00E+00	2.95E-07	0.00E+00	5.73E-08	1.75E-05	0.00E+00	0.00E+00	1.06E-03
26	ALL		389869.7	3780642	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.12E-04	0.00E+00	2.11E-04	4.62E-07	2.16E-04	1.05E-03	0.00E+00	2.92E-07	0.00E+00	5.67E-08	1.73E-05	0.00E+00	0.00E+00	1.05E-03
17	ALL		389645	3780366.6	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.12E-04	0.00E+00	2.11E-04	4.61E-07	2.15E-04	1.05E-03	0.00E+00	2.92E-07	0.00E+00	5.67E-08	1.73E-05	0.00E+00	0.00E+00	1.05E-03
8129	ALL		389300	3780250	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.11E-04	0.00E+00	2.11E-04	4.61E-07	2.15E-04	1.05E-03	0.00E+00	2.92E-07	0.00E+00	5.66E-08	1.73E-05	0.00E+00	0.00E+00	1.05E-03
8228	ALL		389350	3780300	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.10E-04	0.00E+00	2.10E-04	4.58E-07	2.14E-04	1.04E-03	0.00E+00	2.90E-07	0.00E+00	5.63E-08	1.72E-05	0.00E+00	0.00E+00	1.04E-03
8843	ALL		389800	3780600	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.10E-04	0.00E+00	2.09E-04	4.57E-07	2.13E-04	1.04E-03	0.00E+00	2.89E-07	0.00E+00	5.61E-08	1.71E-05	0.00E+00	0.00E+00	1.04E-03
22	ALL		389776	3780518	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.09E-04	0.00E+00	2.09E-04	4.56E-07	2.13E-04	1.04E-03	0.00E+00	2.89E-07	0.00E+00	5.60E-08	1.71E-05	0.00E+00	0.00E+00	1.04E-03
6	ALL		389266.9	3780200.9	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.09E-04	0.00E+00	2.08E-04	4.55E-07	2.12E-04	1.03E-03	0.00E+00	2.88E-07	0.00E+00	5.59E-08	1.71E-05	0.00E+00	0.00E+00	1.03E-03
31	ALL		389884.5	3780758.5	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.08E-04	0.00E+00	2.07E-04	4.53E-07	2.11E-04	1.03E-03	0.00E+00	2.87E-07	0.00E+00	5.56E-08	1.70E-05	0.00E+00	0.00E+00	1.03E-03
8331	ALL		389550	3780350	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.07E-04	0.00E+00	2.06E-04	4.50E-07	2.10E-04	1.02E-03	0.00E+00	2.85E-07	0.00E+00	5.53E-08	1.69E-05	0.00E+00	0.00E+00	1.02E-03
8330	ALL		389500	3780350	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.06E-04	0.00E+00	2.05E-04	4.48E-07	2.09E-04	1.02E-03	0.00E+00	2.84E-07	0.00E+00	5.51E-08	1.68E-05	0.00E+00	0.00E+00	1.02E-03
8227	ALL		389300	3780300	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.05E-04	0.00E+00	2.04E-04	4.47E-07	2.08E-04	1.02E-03	0.00E+00	2.83E-07	0.00E+00	5.49E-08	1.68E-05	0.00E+00	0.00E+00	1.02E-03
18	ALL		389683	3780393.4	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.05E-04	0.00E+00	2.04E-04	4.46E-07	2.08E-04	1.01E-03	0.00E+00	2.82E-07	0.00E+00	5.48E-08	1.67E-05	0.00E+00	0.00E+00	1.01E-03
8329	ALL		389450	3780350	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.04E-04	0.00E+00	2.04E-04	4.45E-07	2.08E-04	1.01E-03	0.00E+00	2.82E-07	0.00E+00	5.47E-08	1.67E-05	0.00E+00	0.00E+00	1.01E-03
8128	ALL		389250	3780250	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.04E-04	0.00E+00	2.03E-04	4.44E-07	2.07E-04	1.01E-03	0.00E+00	2.81E-07	0.00E+00	5.46E-08	1.67E-05	0.00E+00	0.00E+00	1.01E-03
8328	ALL		389400	3780350	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.02E-04	0.00E+00	2.02E-04	4.41E-07	2.06E-04	1.00E-03	0.00E+00	2.79E-07	0.00E+00	5.41E-08	1.65E-05	0.00E+00	0.00E+00	1.00E-03
9155	ALL		389850	3780750	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	2.01E-04	0.00E+00	2.01E-04	4.39E-07	2.05E-04	9.97E-04	0.00E+00	2.78E-07	0.00E+00	5.39E-08	1.64E-05	0.00E+00	0.00E+00	9.97E-04

Appendix A.5.1 - Biogas Renewable Generation Project - Flares HARP2 Output Summary - Worker MICR - Top 50

*HARP - HRACalc v17023 7/3/2017 4:53:18 PM - Cancer Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\Flare3\SCHOLL CANYON FLARE\hra\work_HRAInput.hra

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_RISK	MMILK_RISK	WATER_RISK	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISK	PIG_RISK	CHICKEN_RISK	EGG_RISK
8536	ALL		389750	3780450	1.87E-09	2YrCancerDerived_InhSoilDerm	1.87E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		389759	3780447	1.83E-09	2YrCancerDerived_InhSoilDerm	1.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		389427.5	3780207.2	1.83E-09	2YrCancerDerived_InhSoilDerm	1.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8535	ALL		389700	3780450	1.83E-09	2YrCancerDerived_InhSoilDerm	1.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		389400	3780175	1.82E-09	2YrCancerDerived_InhSoilDerm	1.82E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		389455	3780239.5	1.80E-09	2YrCancerDerived_InhSoilDerm	1.80E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8034	ALL		389400	3780200	1.79E-09	2YrCancerDerived_InhSoilDerm	1.79E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8638	ALL		389750	3780500	1.78E-09	2YrCancerDerived_InhSoilDerm	1.78E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8132	ALL		389450	3780250	1.78E-09	2YrCancerDerived_InhSoilDerm	1.78E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		389482.5	3780271.8	1.75E-09	2YrCancerDerived_InhSoilDerm	1.75E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL		389767.5	3780482.5	1.74E-09	2YrCancerDerived_InhSoilDerm	1.74E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		389355.6	3780183.6	1.73E-09	2YrCancerDerived_InhSoilDerm	1.73E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8131	ALL		389400	3780250	1.72E-09	2YrCancerDerived_InhSoilDerm	1.72E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8433	ALL		389650	3780400	1.71E-09	2YrCancerDerived_InhSoilDerm	1.71E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8033	ALL		389350	3780200	1.71E-09	2YrCancerDerived_InhSoilDerm	1.71E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		389569	3780313	1.70E-09	2YrCancerDerived_InhSoilDerm	1.70E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8332	ALL		389600	3780350	1.70E-09	2YrCancerDerived_InhSoilDerm	1.70E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8231	ALL		389500	3780300	1.69E-09	2YrCancerDerived_InhSoilDerm	1.69E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		389510	3780304	1.68E-09	2YrCancerDerived_InhSoilDerm	1.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		389539.5	3780308.5	1.68E-09	2YrCancerDerived_InhSoilDerm	1.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8637	ALL		389700	3780500	1.67E-09	2YrCancerDerived_InhSoilDerm	1.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8739	ALL		389750	3780550	1.67E-09	2YrCancerDerived_InhSoilDerm	1.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		389607	3780339.8	1.67E-09	2YrCancerDerived_InhSoilDerm	1.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8230	ALL		389450	3780300	1.66E-09	2YrCancerDerived_InhSoilDerm	1.66E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8130	ALL		389350	3780250	1.66E-09	2YrCancerDerived_InhSoilDerm	1.66E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		389311.2	3780192.2	1.65E-09	2YrCancerDerived_InhSoilDerm	1.65E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		389908	3780725	1.65E-09	2YrCancerDerived_InhSoilDerm	1.65E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		389721	3780420.2	1.65E-09	2YrCancerDerived_InhSoilDerm	1.65E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8948	ALL		389850	3780650	1.64E-09	2YrCancerDerived_InhSoilDerm	1.64E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8032	ALL		389300	3780200	1.63E-09	2YrCancerDerived_InhSoilDerm	1.63E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		389874.5	3780717.5	1.63E-09	2YrCancerDerived_InhSoilDerm	1.63E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8229	ALL		389400	3780300	1.63E-09	2YrCancerDerived_InhSoilDerm	1.63E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL		389855.3	3780676	1.62E-09	2YrCancerDerived_InhSoilDerm	1.62E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8432	ALL		389600	3780400	1.62E-09	2YrCancerDerived_InhSoilDerm	1.62E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL		389869.7	3780642	1.60E-09	2YrCancerDerived_InhSoilDerm	1.60E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		389645	3780366.6	1.60E-09	2YrCancerDerived_InhSoilDerm	1.60E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8129	ALL		389300	3780250	1.60E-09	2YrCancerDerived_InhSoilDerm	1.60E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8228	ALL		389350	3780300	1.59E-09	2YrCancerDerived_InhSoilDerm	1.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8843	ALL		389800	3780600	1.59E-09	2YrCancerDerived_InhSoilDerm	1.59E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL		389776	3780518	1.58E-09	2YrCancerDerived_InhSoilDerm	1.58E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		389266.9	3780200.9	1.58E-09	2YrCancerDerived_InhSoilDerm	1.58E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
31	ALL		389884.5	3780758.5	1.57E-09	2YrCancerDerived_InhSoilDerm	1.57E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8331	ALL		389550	3780350	1.56E-09	2YrCancerDerived_InhSoilDerm	1.56E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8330	ALL		389500	3780350	1.56E-09	2YrCancerDerived_InhSoilDerm	1.56E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8227	ALL		389300	3780300	1.55E-09	2YrCancerDerived_InhSoilDerm	1.55E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		389683	3780393.4	1.55E-09	2YrCancerDerived_InhSoilDerm	1.55E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8329	ALL		389450	3780350	1.54E-09	2YrCancerDerived_InhSoilDerm	1.54E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8128	ALL		389250	3780250	1.54E-09	2YrCancerDerived_InhSoilDerm	1.54E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8328	ALL		389400	3780350	1.53E-09	2YrCancerDerived_InhSoilDerm	1.53E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9155	ALL		389850	3780750	1.52E-09	2YrCancerDerived_InhSoilDerm	1.52E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix A.5.1 - Biogas Renewable Generation Project - Flares HARP2 Output Summary - Worker HIA - Top 50

*HARP - HRACalc v17023 7/3/2017 4:53:18 PM - Acute Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\Flare3\SCHOLL CANYON FLARE\hra\work_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
86	ALL		390419.6	3779834.2	NonCancerAcute	0.00E+00	9.64E-04	1.48E-04	0.00E+00	5.08E-08	2.95E-04	3.29E-05	0.00E+00	1.23E-02	0.00E+00	0.00E+00	1.48E-04	0.00E+00	0.00E+00	1.23E-02
7381	ALL		390450	3779850	NonCancerAcute	0.00E+00	8.40E-04	1.29E-04	0.00E+00	4.43E-08	2.57E-04	2.87E-05	0.00E+00	1.07E-02	0.00E+00	0.00E+00	1.29E-04	0.00E+00	0.00E+00	1.07E-02
87	ALL		390432.2	3779792.4	NonCancerAcute	0.00E+00	8.12E-04	1.24E-04	0.00E+00	4.28E-08	2.48E-04	2.77E-05	0.00E+00	1.04E-02	0.00E+00	0.00E+00	1.24E-04	0.00E+00	0.00E+00	1.04E-02
88	ALL		390444.8	3779750.6	NonCancerAcute	0.00E+00	8.06E-04	1.24E-04	0.00E+00	4.25E-08	2.47E-04	2.76E-05	0.00E+00	1.03E-02	0.00E+00	0.00E+00	1.24E-04	0.00E+00	0.00E+00	1.03E-02
7187	ALL		390450	3779750	NonCancerAcute	0.00E+00	7.93E-04	1.21E-04	0.00E+00	4.18E-08	2.42E-04	2.71E-05	0.00E+00	1.01E-02	0.00E+00	0.00E+00	1.21E-04	0.00E+00	0.00E+00	1.01E-02
85	ALL		390407	3779876	NonCancerAcute	0.00E+00	7.80E-04	1.19E-04	0.00E+00	4.11E-08	2.38E-04	2.67E-05	0.00E+00	9.96E-03	0.00E+00	0.00E+00	1.19E-04	0.00E+00	0.00E+00	9.96E-03
7285	ALL		390450	3779800	NonCancerAcute	0.00E+00	7.68E-04	1.18E-04	0.00E+00	4.05E-08	2.35E-04	2.62E-05	0.00E+00	9.81E-03	0.00E+00	0.00E+00	1.18E-04	0.00E+00	0.00E+00	9.81E-03
89	ALL		390457.4	3779708.8	NonCancerAcute	0.00E+00	7.33E-04	1.12E-04	0.00E+00	3.87E-08	2.24E-04	2.51E-05	0.00E+00	9.37E-03	0.00E+00	0.00E+00	1.12E-04	0.00E+00	0.00E+00	9.37E-03
111	ALL		390067.2	3779358.3	NonCancerAcute	0.00E+00	7.20E-04	1.10E-04	0.00E+00	3.80E-08	2.20E-04	2.46E-05	0.00E+00	9.20E-03	0.00E+00	0.00E+00	1.10E-04	0.00E+00	0.00E+00	9.20E-03
112	ALL		390018.9	3779359.5	NonCancerAcute	0.00E+00	7.19E-04	1.10E-04	0.00E+00	3.79E-08	2.20E-04	2.46E-05	0.00E+00	9.19E-03	0.00E+00	0.00E+00	1.10E-04	0.00E+00	0.00E+00	9.19E-03
90	ALL		390470	3779667	NonCancerAcute	0.00E+00	7.15E-04	1.10E-04	0.00E+00	3.77E-08	2.19E-04	2.45E-05	0.00E+00	9.14E-03	0.00E+00	0.00E+00	1.10E-04	0.00E+00	0.00E+00	9.14E-03
6384	ALL		390050	3779350	NonCancerAcute	0.00E+00	7.12E-04	1.09E-04	0.00E+00	3.75E-08	2.18E-04	2.43E-05	0.00E+00	9.10E-03	0.00E+00	0.00E+00	1.09E-04	0.00E+00	0.00E+00	9.10E-03
110	ALL		390115.5	3779357	NonCancerAcute	0.00E+00	7.07E-04	1.08E-04	0.00E+00	3.73E-08	2.16E-04	2.42E-05	0.00E+00	9.04E-03	0.00E+00	0.00E+00	1.08E-04	0.00E+00	0.00E+00	9.04E-03
113	ALL		389970.5	3779360.8	NonCancerAcute	0.00E+00	7.07E-04	1.08E-04	0.00E+00	3.73E-08	2.16E-04	2.42E-05	0.00E+00	9.03E-03	0.00E+00	0.00E+00	1.08E-04	0.00E+00	0.00E+00	9.03E-03
6383	ALL		390000	3779350	NonCancerAcute	0.00E+00	7.01E-04	1.07E-04	0.00E+00	3.69E-08	2.14E-04	2.40E-05	0.00E+00	8.95E-03	0.00E+00	0.00E+00	1.07E-04	0.00E+00	0.00E+00	8.95E-03
6385	ALL		390100	3779350	NonCancerAcute	0.00E+00	6.92E-04	1.06E-04	0.00E+00	3.65E-08	2.11E-04	2.36E-05	0.00E+00	8.84E-03	0.00E+00	0.00E+00	1.06E-04	0.00E+00	0.00E+00	8.84E-03
91	ALL		390471.5	3779633.5	NonCancerAcute	0.00E+00	6.92E-04	1.06E-04	0.00E+00	3.65E-08	2.11E-04	2.36E-05	0.00E+00	8.84E-03	0.00E+00	0.00E+00	1.06E-04	0.00E+00	0.00E+00	8.84E-03
109	ALL		390163.8	3779355.7	NonCancerAcute	0.00E+00	6.86E-04	1.05E-04	0.00E+00	3.61E-08	2.10E-04	2.34E-05	0.00E+00	8.76E-03	0.00E+00	0.00E+00	1.05E-04	0.00E+00	0.00E+00	8.76E-03
7382	ALL		390500	3779850	NonCancerAcute	0.00E+00	6.85E-04	1.05E-04	0.00E+00	3.61E-08	2.09E-04	2.34E-05	0.00E+00	8.75E-03	0.00E+00	0.00E+00	1.05E-04	0.00E+00	0.00E+00	8.75E-03
7478	ALL		390500	3779900	NonCancerAcute	0.00E+00	6.83E-04	1.05E-04	0.00E+00	3.60E-08	2.09E-04	2.33E-05	0.00E+00	8.72E-03	0.00E+00	0.00E+00	1.05E-04	0.00E+00	0.00E+00	8.72E-03
7188	ALL		390500	3779750	NonCancerAcute	0.00E+00	6.79E-04	1.04E-04	0.00E+00	3.58E-08	2.08E-04	2.32E-05	0.00E+00	8.67E-03	0.00E+00	0.00E+00	1.04E-04	0.00E+00	0.00E+00	8.67E-03
6386	ALL		390150	3779350	NonCancerAcute	0.00E+00	6.78E-04	1.04E-04	0.00E+00	3.58E-08	2.07E-04	2.32E-05	0.00E+00	8.66E-03	0.00E+00	0.00E+00	1.04E-04	0.00E+00	0.00E+00	8.66E-03
92	ALL		390473	3779600	NonCancerAcute	0.00E+00	6.64E-04	1.02E-04	0.00E+00	3.50E-08	2.03E-04	2.27E-05	0.00E+00	8.48E-03	0.00E+00	0.00E+00	1.02E-04	0.00E+00	0.00E+00	8.48E-03
116	ALL		389825.6	3779364.6	NonCancerAcute	0.00E+00	6.58E-04	1.01E-04	0.00E+00	3.47E-08	2.01E-04	2.25E-05	0.00E+00	8.41E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.41E-03
6382	ALL		389950	3779350	NonCancerAcute	0.00E+00	6.58E-04	1.01E-04	0.00E+00	3.47E-08	2.01E-04	2.25E-05	0.00E+00	8.41E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.41E-03
6387	ALL		390200	3779350	NonCancerAcute	0.00E+00	6.58E-04	1.01E-04	0.00E+00	3.47E-08	2.01E-04	2.25E-05	0.00E+00	8.41E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.41E-03
6990	ALL		390500	3779650	NonCancerAcute	0.00E+00	6.58E-04	1.01E-04	0.00E+00	3.47E-08	2.01E-04	2.25E-05	0.00E+00	8.41E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.41E-03
7286	ALL		390500	3779800	NonCancerAcute	0.00E+00	6.56E-04	1.01E-04	0.00E+00	3.46E-08	2.01E-04	2.24E-05	0.00E+00	8.39E-03	0.00E+00	0.00E+00	1.01E-04	0.00E+00	0.00E+00	8.39E-03
7089	ALL		390500	3779700	NonCancerAcute	0.00E+00	6.54E-04	1.00E-04	0.00E+00	3.45E-08	2.00E-04	2.23E-05	0.00E+00	8.35E-03	0.00E+00	0.00E+00	1.00E-04	0.00E+00	0.00E+00	8.35E-03
108	ALL		390212.1	3779354.5	NonCancerAcute	0.00E+00	6.51E-04	9.98E-05	0.00E+00	3.43E-08	1.99E-04	2.23E-05	0.00E+00	8.32E-03	0.00E+00	0.00E+00	9.98E-05	0.00E+00	0.00E+00	8.32E-03
7477	ALL		390450	3779900	NonCancerAcute	0.00E+00	6.44E-04	9.86E-05	0.00E+00	3.39E-08	1.97E-04	2.20E-05	0.00E+00	8.22E-03	0.00E+00	0.00E+00	9.86E-05	0.00E+00	0.00E+00	8.22E-03
115	ALL		389873.9	3779363.4	NonCancerAcute	0.00E+00	6.37E-04	9.77E-05	0.00E+00	3.36E-08	1.95E-04	2.18E-05	0.00E+00	8.14E-03	0.00E+00	0.00E+00	9.77E-05	0.00E+00	0.00E+00	8.14E-03
6388	ALL		390250	3779350	NonCancerAcute	0.00E+00	6.33E-04	9.70E-05	0.00E+00	3.34E-08	1.94E-04	2.16E-05	0.00E+00	8.09E-03	0.00E+00	0.00E+00	9.70E-05	0.00E+00	0.00E+00	8.09E-03
107	ALL		390260.5	3779353.2	NonCancerAcute	0.00E+00	6.32E-04	9.69E-05	0.00E+00	3.33E-08	1.93E-04	2.16E-05	0.00E+00	8.08E-03	0.00E+00	0.00E+00	9.69E-05	0.00E+00	0.00E+00	8.08E-03
6263	ALL		390050	3779300	NonCancerAcute	0.00E+00	6.31E-04	9.67E-05	0.00E+00	3.33E-08	1.93E-04	2.16E-05	0.00E+00	8.07E-03	0.00E+00	0.00E+00	9.67E-05	0.00E+00	0.00E+00	8.07E-03
6380	ALL		389850	3779350	NonCancerAcute	0.00E+00	6.30E-04	9.66E-05	0.00E+00	3.32E-08	1.93E-04	2.16E-05	0.00E+00	8.05E-03	0.00E+00	0.00E+00	9.66E-05	0.00E+00	0.00E+00	8.05E-03
6891	ALL		390500	3779600	NonCancerAcute	0.00E+00	6.30E-04	9.66E-05	0.00E+00	3.32E-08	1.93E-04	2.15E-05	0.00E+00	8.05E-03	0.00E+00	0.00E+00	9.66E-05	0.00E+00	0.00E+00	8.05E-03
117	ALL		389777.3	3779365.9	NonCancerAcute	0.00E+00	6.26E-04	9.60E-05	0.00E+00	3.30E-08	1.91E-04	2.14E-05	0.00E+00	8.00E-03	0.00E+00	0.00E+00	9.60E-05	0.00E+00	0.00E+00	8.00E-03
6379	ALL		389800	3779350	NonCancerAcute	0.00E+00	6.24E-04	9.56E-05	0.00E+00	3.29E-08	1.91E-04	2.13E-05	0.00E+00	7.97E-03	0.00E+00	0.00E+00	9.56E-05	0.00E+00	0.00E+00	7.97E-03
114	ALL		389922.2	3779362.1	NonCancerAcute	0.00E+00	6.20E-04	9.50E-05	0.00E+00	3.27E-08	1.90E-04	2.12E-05	0.00E+00	7.92E-03	0.00E+00	0.00E+00	9.50E-05	0.00E+00	0.00E+00	7.92E-03
84	ALL		390438.3	3779909.3	NonCancerAcute	0.00E+00	6.15E-04	9.42E-05	0.00E+00	3.24E-08	1.88E-04	2.10E-05	0.00E+00	7.85E-03	0.00E+00	0.00E+00	9.42E-05	0.00E+00	0.00E+00	7.85E-03
6264	ALL		390100	3779300	NonCancerAcute	0.00E+00	6.08E-04	9.32E-05	0.00E+00	3.21E-08	1.86E-04	2.08E-05	0.00E+00	7.77E-03	0.00E+00	0.00E+00	9.32E-05	0.00E+00	0.00E+00	7.77E-03
6265	ALL		390150	3779300	NonCancerAcute	0.00E+00	6.07E-04	9.30E-05	0.00E+00	3.20E-08	1.85E-04	2.07E-05	0.00E+00	7.75E-03	0.00E+00	0.00E+00	9.30E-05	0.00E+00	0.00E+00	7.75E-03
93	ALL		390497	3779559	NonCancerAcute	0.00E+00	6.06E-04	9.28E-05	0.00E+00	3.19E-08	1.85E-04	2.07E-05	0.00E+00	7.74E-03	0.00E+00	0.00E+00	9.28E-05	0.00E+00	0.00E+00	7.74E-03
6262	ALL		390000	3779300	NonCancerAcute	0.00E+00	6.06E-04	9.28E-05	0.00E+00	3.19E-08	1.85E-04	2.07E-05	0.00E+00	7.74E-03	0.00E+00	0.00E+00	9.28E-05	0.00E+00	0.00E+00	7.74E-03
6389	ALL		390300	3779350	NonCancerAcute	0.00E+00	5.95E-04	9.12E-05	0.00E+00	3.14E-08	1.82E-04	2.03E-05	0.00E+00	7.60E-03	0.00E+00	0.00E+00	9.12E-05	0.00E+00	0.00E+00	7.60E-03
7383	ALL		390550	3779850	NonCancerAcute	0.00E+00	5.93E-04	9.08E-05	0.00E+00	3.13E-08	1.81E-04	2.03E-05	0.00E+00	7.57E-03	0.00E+00	0.00E+00	9.08E-05	0.00E+00	0.00E+00	7.57E-03
6266	ALL		390200	3779300	NonCancerAcute	0.00E+00	5.92E-04	9.07E-05	0.00E+00	3.12E-08	1.81E-04	2.02E-05	0.00E+00	7.57E-03	0.00E+00	0.00E+00	9.07E-05	0.00E+00	0.00E+00	7.57E-03
6991	ALL		390550	3779650	NonCancerAcute	0.00E+00	5.88E-04	9.02E-05	0.00E+00	3.10E-08	1.80E-04	2.01E-05	0.00E+00	7.52E-03	0.00E+00	0.00E+00	9.02E-05	0.00E+00	0.00E+00	7.52E-03
7189	ALL		390550	3779750	NonCancerAcute	0.00E+00	5.87E-04	9.00E-05	0.00E+00	3.10E-08	1.80E-04	2.01E-05	0.00E+00	7.50E-03	0.00E+00	0.00E+00	9.00E-05	0.00E+00	0.00E+00	7.50E-03

Appendix A.5.1 - Biogas Renewable Generation Project - Flares HARP2 Output Summary - Worker HIC - Top 50

*HARP - HRACalc v17023 7/3/2017 4:53:18 PM - Chronic Risk - Input File: C:\Work\Bee\Glendale CA\Scholl Canyon Revised 6_17\HRA\Flare3\SCHOLL CANYON FLARE\hra\work_HRAInput.hra

REC	GRP	NETID	X	Y	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	MAXHI
8536	ALL		389750	3780450	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.68E-04	0.00E+00	1.67E-04	5.37E-07	1.72E-04	1.22E-03	0.00E+00	3.40E-07	0.00E+00	6.60E-08	2.02E-05	0.00E+00	0.00E+00	1.22E-03
20	ALL		389759	3780447	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.65E-04	0.00E+00	1.65E-04	5.28E-07	1.69E-04	1.20E-03	0.00E+00	3.35E-07	0.00E+00	6.49E-08	1.98E-05	0.00E+00	0.00E+00	1.20E-03
10	ALL		389427.5	3780207.2	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.65E-04	0.00E+00	1.64E-04	5.27E-07	1.69E-04	1.20E-03	0.00E+00	3.34E-07	0.00E+00	6.48E-08	1.98E-05	0.00E+00	0.00E+00	1.20E-03
8535	ALL		389700	3780450	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.64E-04	0.00E+00	1.64E-04	5.26E-07	1.69E-04	1.20E-03	0.00E+00	3.33E-07	0.00E+00	6.47E-08	1.97E-05	0.00E+00	0.00E+00	1.20E-03
9	ALL		389400	3780175	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.64E-04	0.00E+00	1.64E-04	5.26E-07	1.69E-04	1.19E-03	0.00E+00	3.33E-07	0.00E+00	6.46E-08	1.97E-05	0.00E+00	0.00E+00	1.19E-03
11	ALL		389455	3780239.5	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.63E-04	0.00E+00	1.62E-04	5.20E-07	1.67E-04	1.18E-03	0.00E+00	3.29E-07	0.00E+00	6.39E-08	1.95E-05	0.00E+00	0.00E+00	1.18E-03
8034	ALL		389400	3780200	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.62E-04	0.00E+00	1.61E-04	5.17E-07	1.66E-04	1.18E-03	0.00E+00	3.28E-07	0.00E+00	6.36E-08	1.94E-05	0.00E+00	0.00E+00	1.18E-03
8638	ALL		389750	3780500	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.60E-04	0.00E+00	1.60E-04	5.13E-07	1.64E-04	1.17E-03	0.00E+00	3.25E-07	0.00E+00	6.30E-08	1.92E-05	0.00E+00	0.00E+00	1.17E-03
8132	ALL		389450	3780250	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.60E-04	0.00E+00	1.59E-04	5.12E-07	1.64E-04	1.16E-03	0.00E+00	3.24E-07	0.00E+00	6.29E-08	1.92E-05	0.00E+00	0.00E+00	1.16E-03
12	ALL		389482.5	3780271.8	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.58E-04	0.00E+00	1.57E-04	5.05E-07	1.62E-04	1.15E-03	0.00E+00	3.20E-07	0.00E+00	6.21E-08	1.90E-05	0.00E+00	0.00E+00	1.15E-03
21	ALL		389767.5	3780482.5	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.56E-04	0.00E+00	1.56E-04	5.01E-07	1.60E-04	1.14E-03	0.00E+00	3.17E-07	0.00E+00	6.15E-08	1.88E-05	0.00E+00	0.00E+00	1.14E-03
8	ALL		389355.6	3780183.6	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.56E-04	0.00E+00	1.55E-04	4.99E-07	1.60E-04	1.13E-03	0.00E+00	3.16E-07	0.00E+00	6.13E-08	1.87E-05	0.00E+00	0.00E+00	1.13E-03
8131	ALL		389400	3780250	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.55E-04	0.00E+00	1.54E-04	4.95E-07	1.59E-04	1.12E-03	0.00E+00	3.13E-07	0.00E+00	6.08E-08	1.86E-05	0.00E+00	0.00E+00	1.12E-03
8433	ALL		389650	3780400	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.54E-04	0.00E+00	1.54E-04	4.93E-07	1.58E-04	1.12E-03	0.00E+00	3.12E-07	0.00E+00	6.06E-08	1.85E-05	0.00E+00	0.00E+00	1.12E-03
8033	ALL		389350	3780200	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.54E-04	0.00E+00	1.54E-04	4.93E-07	1.58E-04	1.12E-03	0.00E+00	3.12E-07	0.00E+00	6.06E-08	1.85E-05	0.00E+00	0.00E+00	1.12E-03
15	ALL		389569	3780313	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.53E-04	0.00E+00	1.53E-04	4.90E-07	1.57E-04	1.11E-03	0.00E+00	3.10E-07	0.00E+00	6.02E-08	1.84E-05	0.00E+00	0.00E+00	1.11E-03
8332	ALL		389600	3780350	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.53E-04	0.00E+00	1.52E-04	4.89E-07	1.57E-04	1.11E-03	0.00E+00	3.10E-07	0.00E+00	6.01E-08	1.83E-05	0.00E+00	0.00E+00	1.11E-03
8231	ALL		389500	3780300	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.52E-04	0.00E+00	1.52E-04	4.87E-07	1.56E-04	1.11E-03	0.00E+00	3.08E-07	0.00E+00	5.98E-08	1.83E-05	0.00E+00	0.00E+00	1.11E-03
13	ALL		389510	3780304	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.52E-04	0.00E+00	1.51E-04	4.85E-07	1.56E-04	1.10E-03	0.00E+00	3.07E-07	0.00E+00	5.96E-08	1.82E-05	0.00E+00	0.00E+00	1.10E-03
14	ALL		389539.5	3780308.5	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.52E-04	0.00E+00	1.51E-04	4.85E-07	1.55E-04	1.10E-03	0.00E+00	3.07E-07	0.00E+00	5.96E-08	1.82E-05	0.00E+00	0.00E+00	1.10E-03
8637	ALL		389700	3780500	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.51E-04	0.00E+00	1.50E-04	4.82E-07	1.55E-04	1.10E-03	0.00E+00	3.05E-07	0.00E+00	5.93E-08	1.81E-05	0.00E+00	0.00E+00	1.10E-03
8739	ALL		389750	3780550	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.51E-04	0.00E+00	1.50E-04	4.82E-07	1.55E-04	1.10E-03	0.00E+00	3.05E-07	0.00E+00	5.93E-08	1.81E-05	0.00E+00	0.00E+00	1.10E-03
16	ALL		389607	3780339.8	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.50E-04	0.00E+00	1.49E-04	4.80E-07	1.54E-04	1.09E-03	0.00E+00	3.04E-07	0.00E+00	5.90E-08	1.80E-05	0.00E+00	0.00E+00	1.09E-03
8230	ALL		389450	3780300	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.49E-04	0.00E+00	1.49E-04	4.78E-07	1.53E-04	1.09E-03	0.00E+00	3.03E-07	0.00E+00	5.88E-08	1.79E-05	0.00E+00	0.00E+00	1.09E-03
8130	ALL		389350	3780250	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.49E-04	0.00E+00	1.49E-04	4.78E-07	1.53E-04	1.09E-03	0.00E+00	3.03E-07	0.00E+00	5.87E-08	1.79E-05	0.00E+00	0.00E+00	1.09E-03
7	ALL		389311.2	3780192.2	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.49E-04	0.00E+00	1.48E-04	4.76E-07	1.52E-04	1.08E-03	0.00E+00	3.01E-07	0.00E+00	5.85E-08	1.78E-05	0.00E+00	0.00E+00	1.08E-03
30	ALL		389908	3780725	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.48E-04	0.00E+00	1.48E-04	4.75E-07	1.52E-04	1.08E-03	0.00E+00	3.01E-07	0.00E+00	5.83E-08	1.78E-05	0.00E+00	0.00E+00	1.08E-03
19	ALL		389721	3780420.2	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.48E-04	0.00E+00	1.48E-04	4.74E-07	1.52E-04	1.08E-03	0.00E+00	3.00E-07	0.00E+00	5.83E-08	1.78E-05	0.00E+00	0.00E+00	1.08E-03
8948	ALL		389850	3780650	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.48E-04	0.00E+00	1.47E-04	4.73E-07	1.52E-04	1.07E-03	0.00E+00	3.00E-07	0.00E+00	5.81E-08	1.77E-05	0.00E+00	0.00E+00	1.07E-03
8032	ALL		389300	3780200	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.47E-04	0.00E+00	1.46E-04	4.70E-07	1.51E-04	1.07E-03	0.00E+00	2.97E-07	0.00E+00	5.77E-08	1.76E-05	0.00E+00	0.00E+00	1.07E-03
29	ALL		389874.5	3780717.5	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.47E-04	0.00E+00	1.46E-04	4.70E-07	1.50E-04	1.07E-03	0.00E+00	2.97E-07	0.00E+00	5.77E-08	1.76E-05	0.00E+00	0.00E+00	1.07E-03
8229	ALL		389400	3780300	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.46E-04	0.00E+00	1.46E-04	4.69E-07	1.50E-04	1.07E-03	0.00E+00	2.97E-07	0.00E+00	5.76E-08	1.76E-05	0.00E+00	0.00E+00	1.07E-03
27	ALL		389855.3	3780676	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.46E-04	0.00E+00	1.46E-04	4.67E-07	1.50E-04	1.06E-03	0.00E+00	2.96E-07	0.00E+00	5.74E-08	1.75E-05	0.00E+00	0.00E+00	1.06E-03
8432	ALL		389600	3780400	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.46E-04	0.00E+00	1.45E-04	4.66E-07	1.49E-04	1.06E-03	0.00E+00	2.95E-07	0.00E+00	5.73E-08	1.75E-05	0.00E+00	0.00E+00	1.06E-03
26	ALL		389869.7	3780642	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.44E-04	0.00E+00	1.44E-04	4.62E-07	1.48E-04	1.05E-03	0.00E+00	2.92E-07	0.00E+00	5.67E-08	1.73E-05	0.00E+00	0.00E+00	1.05E-03
17	ALL		389645	3780366.6	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.44E-04	0.00E+00	1.44E-04	4.61E-07	1.48E-04	1.05E-03	0.00E+00	2.92E-07	0.00E+00	5.67E-08	1.73E-05	0.00E+00	0.00E+00	1.05E-03
8129	ALL		389300	3780250	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.44E-04	0.00E+00	1.44E-04	4.61E-07	1.48E-04	1.05E-03	0.00E+00	2.92E-07	0.00E+00	5.66E-08	1.73E-05	0.00E+00	0.00E+00	1.05E-03
8228	ALL		389350	3780300	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.43E-04	0.00E+00	1.43E-04	4.58E-07	1.47E-04	1.04E-03	0.00E+00	2.90E-07	0.00E+00	5.63E-08	1.72E-05	0.00E+00	0.00E+00	1.04E-03
8843	ALL		389800	3780600	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.43E-04	0.00E+00	1.42E-04	4.57E-07	1.46E-04	1.04E-03	0.00E+00	2.89E-07	0.00E+00	5.61E-08	1.71E-05	0.00E+00	0.00E+00	1.04E-03
22	ALL		389776	3780518	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.42E-04	0.00E+00	1.42E-04	4.56E-07	1.46E-04	1.04E-03	0.00E+00	2.89E-07	0.00E+00	5.60E-08	1.71E-05	0.00E+00	0.00E+00	1.04E-03
6	ALL		389266.9	3780200.9	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.42E-04	0.00E+00	1.42E-04	4.55E-07	1.46E-04	1.03E-03	0.00E+00	2.88E-07	0.00E+00	5.59E-08	1.71E-05	0.00E+00	0.00E+00	1.03E-03
31	ALL		389884.5	3780758.5	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.42E-04	0.00E+00	1.41E-04	4.53E-07	1.45E-04	1.03E-03	0.00E+00	2.87E-07	0.00E+00	5.56E-08	1.70E-05	0.00E+00	0.00E+00	1.03E-03
8331	ALL		389550	3780350	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.41E-04	0.00E+00	1.40E-04	4.50E-07	1.44E-04	1.02E-03	0.00E+00	2.85E-07	0.00E+00	5.53E-08	1.69E-05	0.00E+00	0.00E+00	1.02E-03
8330	ALL		389500	3780350	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.40E-04	0.00E+00	1.40E-04	4.48E-07	1.44E-04	1.02E-03	0.00E+00	2.84E-07	0.00E+00	5.51E-08	1.68E-05	0.00E+00	0.00E+00	1.02E-03
8227	ALL		389300	3780300	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.40E-04	0.00E+00	1.39E-04	4.47E-07	1.43E-04	1.02E-03	0.00E+00	2.83E-07	0.00E+00	5.49E-08	1.68E-05	0.00E+00	0.00E+00	1.02E-03
18	ALL		389683	3780393.4	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.39E-04	0.00E+00	1.39E-04	4.46E-07	1.43E-04	1.01E-03	0.00E+00	2.82E-07	0.00E+00	5.48E-08	1.67E-05	0.00E+00	0.00E+00	1.01E-03
8329	ALL		389450	3780350	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.39E-04	0.00E+00	1.39E-04	4.45E-07	1.43E-04	1.01E-03	0.00E+00	2.82E-07	0.00E+00	5.47E-08	1.67E-05	0.00E+00	0.00E+00	1.01E-03
8128	ALL		389250	3780250	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.39E-04	0.00E+00	1.38E-04	4.44E-07	1.42E-04	1.01E-03	0.00E+00	2.81E-07	0.00E+00	5.46E-08	1.67E-05	0.00E+00	0.00E+00	1.01E-03
8328	ALL		389400	3780350	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.38E-04	0.00E+00	1.37E-04	4.41E-07	1.41E-04	1.00E-03	0.00E+00	2.79E-07	0.00E+00	5.41E-08	1.65E-05	0.00E+00	0.00E+00	1.00E-03
9155	ALL		389850	3780750	NonCancerChronicDerived_InhSoilDerm	0.00E+00	1.37E-04	0.00E+00	1.37E-04	4.39E-07	1.41E-04	9.97E-04	0.00E+00	2.78E-07	0.00E+00	5.39E-08	1.64E-05	0.00E+00	0.00E+00	9.97E-04

Appendix B BIOLOGICAL RESOURCES TECHNICAL REPORT

Biogas Renewable Generation Project
Biological Resources Technical Report

Prepared for:
City of Glendale
141 North Glendale Avenue
Glendale, California 91206

Prepared by:
Stantec Consulting Services Inc.
290 Conejo Ridge Avenue
Thousand Oaks, California 91361

July 20, 2017

Sign-off Sheet

This document entitled Biogas Renewable Generation Project Biological Resources Technical Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of City of Glendale (the "Client"). Any reliance on this document by any third party other than City of Glendale Water and Power is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by _____
(signature)

Jenny Alvarado, Project Biologist

Reviewed and Updated by _____
(signature)

Saudamini Sindhar, Senior Biologist

Approved by _____
(signature)

Michael Weber, Principal Scientist

Stantec

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Executive Summary

This report serves as guidance for regulatory protection of special status resources occurring at the Biogas Renewable Generation Project (Proposed Project) and describes measures that may be implemented to mitigate for potential impacts to such resources.

The Proposed Project consists of three major sub areas: a 1.73-acre power plant sub area within the Scholl Canyon Landfill facility, a proposed 3" diameter, approximately 0.62-mile-long natural gas pipeline sub area and a proposed 12" diameter, approximately 0.88-mile-long water pipeline sub area. Additionally, two water tanks will be constructed within 0.35 acres of native vegetation to the east of the power plant sub area. The Project, currently owned by City of Glendale, proposes to build a new power plant at Scholl Canyon to burn low British Thermal Unit (BTU) Landfill Gas (LFG) generated by the Scholl Canyon Landfill. The Proposed Project will beneficially utilize the methane-rich renewable LFG as fuel to generate electricity. Gathering and combustion of the LFG is a mitigation measure to prevent its release to the environment. The LFG gas is transported to the Grayson Power Plant facility via a 6" diameter pipeline that is approximately five (5) miles long.

As a result of vegetation mapping and habitat assessment surveys, one special status plant community, coast live oak woodland, was detected within the Biological Survey Area (BSA; proposed areas of disturbance plus 500- foot buffer). Additionally, though not a special-status plant community, individual scrub oaks within the Scrub oak-chamise chaparral community are protected.

The Proposed Project is anticipated to result in permanent impacts to 0.37 acre of native vegetation and temporary impacts 0.11 acre of native vegetation through construction of the power plant, a 10-foot gas pipeline right-of-way (ROW), and a 14-foot water pipeline ROW. Seasonally timed rare plant surveys were conducted and no rare plants were detected at the time of the surveys. While no special-status species were observed during surveys, six special-status plant species and two special-status wildlife species have a moderate potential to occur within the BSA. One special status community, coast live oak woodland was noted adjacent to the project impact area. Additionally, no jurisdictional waters were detected during survey.

Pre-construction nesting bird surveys, monitoring during construction in the vicinity of sensitive plant communities and the use of best management construction practices, would further ensure avoidance of direct and indirect impacts to special status biological resources.

No active (occupied) or inactive nests were detected during surveys; however, suitable nesting bird habitat is present within the BSA. To mitigate for possible effects to bird nesting, a pre-construction nesting bird survey is recommended no earlier than 14 days prior to construction or site preparation activities during the nesting/breeding season of native bird species (typically February 1 through August 31).

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

The analysis presented in this Biological Resources Technical Report (BRTR) is intended to establish baseline conditions with respect to biological resources and recommend further studies or mitigation measures, if any, which will be appropriate for project permitting. This report describes the existing biological character of the BSA in terms of flora, wildlife, wildlife habitats and potential jurisdictional areas. Regulated or sensitive resources studies analyzed herein include special status plant and wildlife species, nesting birds and raptors, sensitive natural communities, and jurisdictional waters and wetlands.

1.2 PROJECT LOCATION

The Proposed Project is located within and to the northwest of the existing Scholl Canyon Landfill, situated in the City of Glendale, Los Angeles County, California, one half mile north of the 134 Freeway at 3001 Scholl Canyon Road (Figure 1). The site is depicted in Township 1 North, Range 13 West of the U.S. Geographical Survey (USGS) Burbank 7.5-minute topographic quadrangle. The proposed 1.73-acre power plant sub area occurs within existing, disturbed landfill areas, adjacent disturbed land to the east and west, and adjacent undeveloped slopes to the south. The proposed water tank area occurs within 0.35 acres of native vegetated areas immediately east of the main sub area. The proposed natural gas pipeline sub area occurs west of the power plant sub area through vegetated areas. The proposed pipeline is planned to connect the power plant facility to the existing Southern California Gas Company pipeline system located at the eastern end of Scholl Canyon Drive. The proposed water pipeline sub area occurs northwest of the power plant sub area through developed and vegetated areas and is planned to connect an existing line located on Glenoaks Boulevard to the power plant facility. Prior to initiating the analysis presented in this report, a BSA within which lands were surveyed was defined. The extent of the BSA includes the Proposed Project sub areas, plus a 500-foot buffer (Figure 2).

1.3 PROJECT DESCRIPTION

Glendale Water & Power (GWP) currently burns low BTU LFG from the Scholl Canyon Landfill at their Grayson Power Plant. Gathering and combustion of the LFG is a South Coast Air Quality Management District (SCAQMD) requirement to prevent its release into the environment. The LFG gas is transported to Grayson via a 6" diameter pipeline that is approximately five miles long. This pipeline is proposed to be decommissioned in place.

The purpose of the Proposed Project is to beneficially utilize the methane-rich renewable LFG as fuel to generate electricity. It includes construction and operation of an approximately 12-megawatt gross power generation facility on 1.73 acres of land at the Scholl Canyon Landfill.

The Proposed Project will be located adjacent to the existing LFG flare station and would include the following major equipment and systems:

- LFG compressors to increase the LFG pressure from near atmospheric to the pressures required by the LFG treatment system and engines;
- LFG treatment system to prevent damage to engines that will consist of vessels, coolers, heat exchangers and control systems designed to remove moisture and unwanted constituents from the LFG;
- Reciprocating engine generators to produce electricity using the LFG as fuel;
- Combustion exhaust gas cleanup system to comply with SCAQMD regulations, consisting of a reactive catalyst using Urea or Ammonia as a reactant;
- Continuous emission monitoring systems to be installed on the engines to assure that the exhaust gas emissions are as low as possible and the emissions comply with SCAQMD regulations;
- Electric switchgear to allow connection of the produced electricity to existing GWP electrical systems;
- Office, warehouse and other buildings required for operating and maintaining the power plant.

An approximate 0.62-mile-long natural gas pipeline is proposed to be constructed to connect the power plant facility to the existing Southern California Gas Company pipeline system located at the eastern end of Scholl Canyon Drive. This 3" diameter steel gas pipeline will be located above ground except for road crossings within the existing landfill. The natural gas will be utilized to augment the LFG only if the heat content of the LFG falls below required operating limits for the electrical generating equipment. The natural gas will also be utilized for starting the engines. A 12" diameter, approximately 0.88-mile-long water pipeline is also proposed to be constructed, to connect to an existing 16" pipeline located on Glenoaks Boulevard. This water line will also be above ground except at road crossings. Additionally, two water tanks will be constructed within 0.35 acres of native vegetation to the east of the power plant sub area.

1.4 ENVIRONMENTAL SETTING

The Proposed Project is located within the existing Scholl Canyon Landfill Property, and to the northwest within the City of Glendale, Los Angeles County, approximately one half mile north of the 134 Freeway on Scholl Canyon Road. Elevations range from approximately 1100-1450 feet above msl. The climate is semi-arid and characterized as having long, hot summers and moderately rainy winters. The average annual rainfall in Glendale is 23 inches, with maximum precipitation in December and January. July is the driest month of the year. Average daytime temperatures range from 68 degrees Fahrenheit in January to 91 degrees Fahrenheit in August.

Land Uses

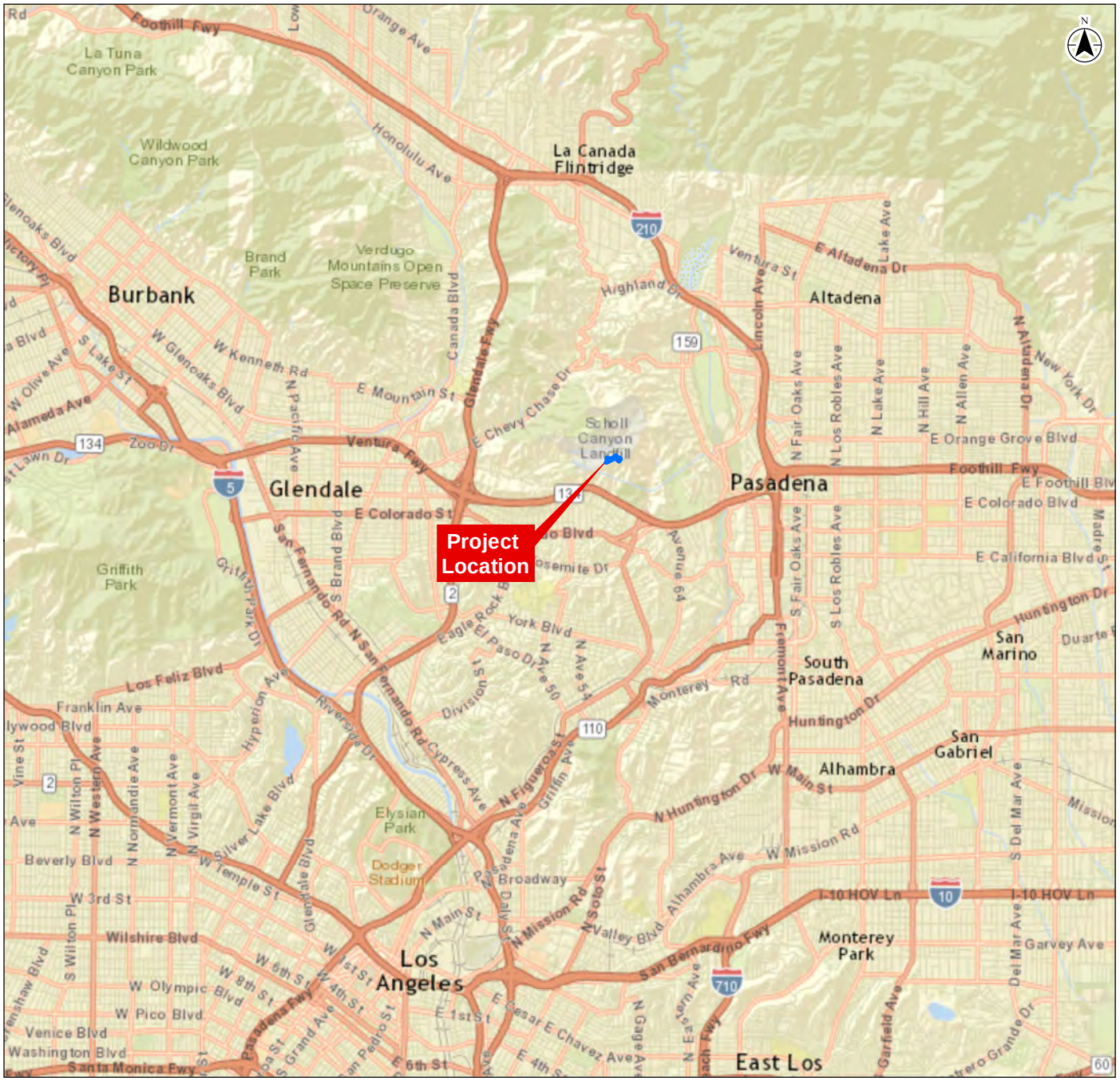
The Proposed Project sub areas are zoned as Special Recreation (SR) and Restricted Residential (R1R). Residential properties are located to the west of the Project; a golf course and open space to the north; open space to the south; and open space and disturbed land to the east.

Soils

The Proposed Project falls within the Fallbrook sandy loam series. Soils have moderate infiltration rates with moderately coarse textures. Soils are well drained and have intermediate holding capacity (Environmental Data Resources, Inc. 2015).

Hydrology

The Proposed Project is underlain by the San Fernando Groundwater Basin, which is generally dominated by unconsolidated Quaternary alluvial gravel, sand and silt deposited by streams flowing from the San Gabriel Mountains (California Department of Water Resources 2004). The BSA generally slopes to the southeast, with groundwater flowing to the southeast approximately 50 feet below ground surface (Environmental Data Resources, Inc. 2015).



Stantec

Legend

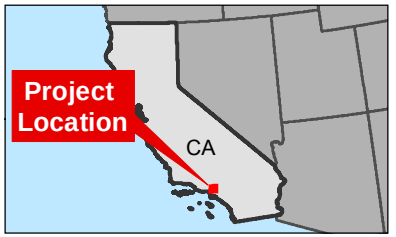
Proposed Power Plant Facility Boundary

0 1 2 Miles

1 in = 2 miles (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 11N
2. Basemap: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



Project Location Glendale, CA	Project No.: 2057123300 Prepared by JT on 2017-02-22 Technical Review by MW on 2017-02-22

Client/Project

City of Glendale Water and Power
Scholl Canyon Landfill Power Project
Biological Resources Technical Report

Figure Number/Title:

Figure 1
Project Location

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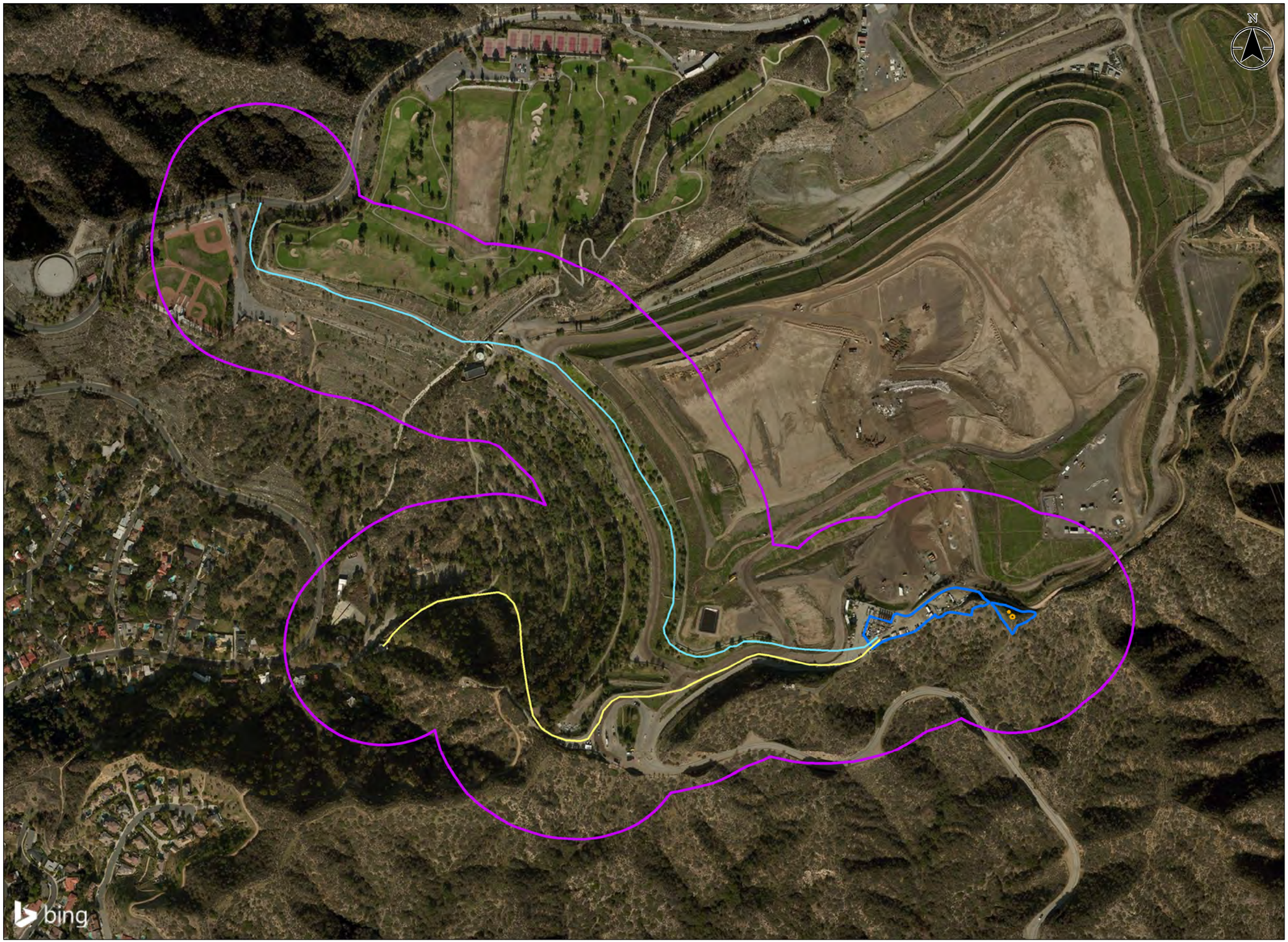

Stantec

Legend

- Proposed Gas Pipeline
- Proposed Water Pipeline
- Proposed Power Plant Facility Boundary
- New Water Tank
- Biological Survey Area

0 250 500 Feet

1 in = 500 feet (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

2. Basemap: Image courtesy of USGS Image courtesy of LAR-IAC Earthstar Geographics SIO © 2017 Microsoft Corporation

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand),

Project Location:
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-20
Technical Review by JA on 2017-07-20

Client/Project:
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure Number/Title:

Figure 2
Biological Survey Area

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2.0 METHODS

2.1 LITERATURE REVIEW

Prior to conducting the habitat assessment and reconnaissance-level biological surveys, a literature review was conducted to identify special-status biological resources present or potentially present in the vicinity of the BSA. As part of this effort, the California Natural Diversity Database (CNDDB) (California Department of Fish and Wildlife) CDFW 2015a) and California Native Plant Society (CNPS) (CNPS 2009) Inventory of Rare and Endangered Plants were reviewed. The database search included a search radius of five miles around the BSA. General information regarding wildlife species present in the region was obtained from the following sources: Sibley (2000), Peterson (1990), Shuford and Gardali (2008) and Ehrlich, et al (1988) for birds, Zeiner, et al. (1990) for mammals, Stebbins (2003) for reptiles and amphibians, and Emmel (1973) for butterflies. General information regarding plant species, identification, and nomenclature was obtained from Baldwin, et al. (2012).

2.2 FIELD SURVEY METHODS

Prior to implementing field surveys, Stantec analyzed CNDDB and CNPS data, reviewed maps, aerial photographs, and published literature available for the area surrounding the BSA (Figures 3-1 and 3-2). A field evaluation of biological resources was conducted on October 21, 2015, November 3, 2015, January 15, 2016, and July 11, 2017, to determine if local, state, or federal listed special-status plant or wildlife species are potentially present within the BSA (Appendix A). Seasonally timed rare plant surveys were conducted on January 15, April 15, and September 8, 2016, per agency protocol (CDFW 2009). Common wildlife species observed directly or by sign were noted (Appendix B). A comprehensive floral compendium was also drafted (Appendix C). Photographs were taken to depict biological resources and current site conditions (Appendix D).

All survey personnel were experienced in the undertaking of field surveys for special-status species, as well as knowledgeable of the identification and ecology of all species. All survey personnel were familiar with both federal and state statutes related to listed and sensitive species and their collection, in addition to being experienced with analyzing the impacts of development on special-status species, their habitats, and communities. In addition, field teams were knowledgeable of the habitat requirements for each of the target species, locations of various habitats within the BSA, and of the characteristics and vegetative habitat of each target species.

2.3 REGULATORY CONTEXT

Special-status species are those taxa that are legally protected under the State or Federal Endangered Species Act (ESA) or other regulations and considered sufficiently rare by the

scientific community to qualify for such listing. Special-status plants and animals generally fall into one or more of the following categories:

- Plants or animals listed or proposed for listing as Threatened or Endangered under the Federal ESA (USFWS 2015) (50 Code of Federal Regulations [CFR] 17.12 [listed plants], 1711 [listed animal] and various notices in the Federal Register [FR] [proposed species]);
- Plants or animals that are candidates for possible future listing as Threatened or Endangered under the Federal ESA (61 FR 40, February 28, 1996);
- Plants or animals listed or proposed for listing by the State of California as Threatened or Endangered under the California ESA (14 California Code of Regulations [CCR] 670.5);
- Animal Species of Special Concern to the California Department of Fish and Wildlife (CDFW) (Remsen 1978 [birds], Williams 1986 [mammals], Jennings and Hayes 1994 [reptiles and amphibians], Moyle et al. 1989 [fish]);
- Animals Fully Protected in California (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]);
- Bird species protected under the Migratory Bird Treaty Act;
- Plants contained on the CNPS California Rare Plant Rank (RPR) (CNPS 2001, 2013 and Skinner and Pavlik, 1994). Only Listed species and RPR Lists 1 and 2 are considered "special-status" species. This includes plants on List 1A = Plants presumed extinct in California; List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat); List 1B.2 = Rare or endangered in California and elsewhere; and fairly endangered in California (20-80% occurrences threatened). The RPR also includes Lists 3 and 4. Per the CDFW (2009), these plants typically do not warrant consideration under State CEQA Guidelines §15380 unless the specific circumstances relevant to local distributions make them of potential scientific interest.

A further discussion of the regulatory framework for this document is provided below.

2.4 PROTECTED SPECIES AND HABITATS

Sensitive habitats are those that are considered to support unique vegetation communities, are of particular value to special-status plant and wildlife species, or have a rank of S1–S3 on the California Department of Fish and Wildlife (CDFW) List of Terrestrial Communities. "S" denotes State Ranking. Unique vegetation communities include habitats found only in the region, local representatives of species not generally found in Los Angeles County, or outstanding examples of CDFW sensitive plant communities. In general, listed species are those plant or wildlife species that are listed as threatened or endangered by either the state of California or under the federal

Endangered Species Act. Special-status plants include listed species, candidates for listing, and species designated with a California Rare Plant Rank by the CDFW. Special-status wildlife species include federally or state-recognized listed species, candidates for potential listing, and species with a designation from CDFW of "Watch List", "Fully Protected", or "California Species of Concern." Appendix A provides an explanation of these terms.

2.5 MIGRATORY BIRD TREATY ACT (MBTA)

Native birds and active nests of birds, chicks and eggs are protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703). Under the MBTA it is illegal to directly kill or destroy a nest of nearly any native bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate the MBTA. Removal of unoccupied nests, or bird mortality resulting indirectly from disturbance activities, is not considered a violation of the MBTA.

In addition to this federal law, the California Department of Fish and Wildlife Code (FGC) 3513 also provide protection to native birds and "active" nests. Therefore, actions that would result in destruction of active bird nests, eggs, or nestlings can violate the MBTA and Fish and Wildlife Codes. "Active" is indicated by intact eggs, live chicks, or adults inside the nests.

2.6 JURISDICTIONAL WATERS

The U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA) regulate the discharge of dredge or fill material into "waters of the U.S." Under Section 404 of the Clean Water Act (CWA), "waters of the U.S." include wetlands and lakes, rivers, streams, and their tributaries. Wetlands are defined for regulatory purposes as areas "…inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated solid conditions" (333 Code of Federal Regulations [CFR] 328.3, 40 CFR 230.3). Areas not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions with no outlet for drainage (33 CFR, Part 328).

Section 401 of the CWA requires an applicant for any federal permit which may result in a discharge into "waters of the U.S.," to obtain a certification from the state that the discharge will comply with provisions of the CWA. The State of California established the State Water Resources Control Board (SWRCB) which oversees RWQCB through the Porter-Cologne Water Quality Control Act (Porter-Cologne). Any condition of water quality certification would be incorporated into the USACE permit. California has a policy of no-net-loss of wetlands and typically requires mitigation for impacts to wetlands before it will issue a water quality certification. It should also be noted that potential discharge of fill material into the waters of the State are not subject to jurisdiction of the USACE pursuant to Section 404 of the CWA, but may require authorization

pursuant to the Porter-Cologne Act, through application for Waste Discharge Requirements (WDRs) or through waiver of WDRs.

2.7 SECTION 3503.5 OF THE CALIFORNIA FISH AND WILDLIFE CODE

Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

2.8 CALIFORNIA ENDANGERED SPECIES ACT (CESA)

CDFW has jurisdiction over species listed as threatened or endangered under section 2080 of the California Fish and Wildlife Code. The California Endangered Species Act (CESA) prohibits take of state-listed threatened and endangered species. The state act differs from the federal act in that it does not include habitat destruction in its definition of take. The California Fish and Wildlife Code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CDFW may authorize take under the CESA through Sections 2081 agreements.

2.9 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) GUIDELINES SECTION 15380

CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a "candidate species" that has not yet been listed by the US Fish and Wildlife Service (USFWS) or CDFW. CEQA, therefore, enables an agency to protect a species from significant project impacts until the respective government agencies have an opportunity to list the species as protected, if warranted.

In general, plants appearing on the California Rare Plant Ranking, formally known as the California Native Plant Society List 1B (plants believed to be extant and rare, threatened or endangered plants in California) and List 2B (rare, threatened, or endangered plants in California but more numerous elsewhere) are considered to meet CEQA's Section 15380 criteria.

2.10 FEDERAL ENDANGERED SPECIES ACT (FESA)

The US Fish and Wildlife Service (USFWS) has jurisdiction over species listed as threatened or endangered under Section 9 of the FESA. The Act protects listed species from harm or take which is broadly defined as "...the action of harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct." For any project involving a federal agency in which a listed species could be

affected, the federal agency must consult with the USFWS in accordance with the FESA (USFWS 1973).

Further, the FESA provides specific mechanisms to achieve its purposes, which includes Section 7. Section 7 requires that Federal agencies develop a conservation program for listed species (i.e., Section 7(a) (1)) and that they avoid actions that will further harm species and their critical habitat (i.e., Section 7(a) (2)). The Section 7(a)(2) directs all Federal agencies to ensure that any action they authorize, fund, or carry-out does not jeopardize the continued existence of an endangered or threatened species or designated or proposed critical habitat (collectively, referred to as protected resources). The implementing regulations, 50 CFR 402, specify how Federal agencies are to fulfill their section 7 consultation requirements. Under the implementing regulations (50 CFR 402), Federal agencies must review their actions and determine whether the action may affect federally listed and proposed species or proposed or designated critical habitat. To accomplish this, Federal agencies must request from the USFWS a list of species and critical habitat that may be in the BSA or they can request USFWS concurrence with their species list. The USFWS must respond to either request within 30 days. Once a species list is obtained or verified as accurate, Federal agencies need to determine whether their actions may affect any of those species or their critical habitat. If no species or their critical habitat is affected, no further consultation is required. If they may be affected, consultation with the USFWS is required. This consultation will conclude either informally with written concurrence from the USFWS or through formal consultation with a biological opinion provided to the Federal agency (USFWS 2016).

Special Status Species

Common Name, Scientific Name, FESA Listing, CESA Listing

1) California Walnut Woodland, *California Walnut Woodland*, None, None
2) Coulter's goldfields, *Lasthenia glabrata ssp. coulteri*, None, None
3) Greata's aster, *Symphyotrichum greatae*, None, None
4) Los Angeles sunflower, *Helianthus nuttallii ssp. parishii*, None, None
5) mesa horkelia, *Horkelia cuneata var. puberula*, None, None
6) Nevin's barberry, *Berberis nevinii*, Endangered, Endangered
7) Parish's gooseberry, *Ribes divaricatum var. parishii*, None, None
8) Parry's spineflower, *Chorizanthe parryi var. parryi*, None, None
9) Plummer's mariposa-lily, *Calochortus plummerae*, None, None
10) Robinson's pepper-grass, *Lepidium virginicum var. robinsonii*, None, None
11) round-leaved filaree, *California macrophylla*, None, None
12) slender-horned spineflower, *Dodecahema leptoceras*, Endangered, Endangered
13) Southern Coast Live Oak Riparian Forest, *Southern Coast Live Oak Riparian Forest*, None, None
14) Southern Sycamore Alder Riparian Woodland, *Southern Sycamore Alder Riparian Woodland*, None, None
15) southern tarplant, *Centromadia parryi ssp. australis*, None, None
16) Walnut Forest, *Walnut Forest*, None, None
17) white rabbit-tobacco, *Pseudognaphalium leucocephalum*, None, None

Proposed Power Plant Facility Boundary

N

Stantec

Legend

Proposed Power Plant Facility Boundary

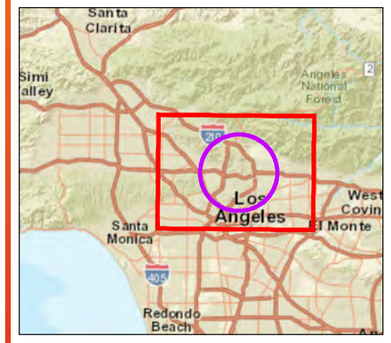
5-mile Buffer Area

0 5,000 10,000 Feet

1:100,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Basemap: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), Mapmyindia, © OpenStreetMap contributors, and the GIS User Community
3. Plant data obtained from California Natural Diversity Database



Project Location:
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-02-22
Technical Review by MW on 2017-02-22

Client/Project:
City of Glendale Water and Power
Scholl Canyon Landfill Power Project
Biological Resources Technical Report

Figure Number/Title:

Figure 3-1
Special Status Plant Map

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Special Status Species

Common Name, Scientific Name, FESA Listing, CESA Listing

1) American badger, *Taxidea taxus*, None, None
2) American peregrine falcon, *Falco peregrinus anatum*, Delisted, Delisted
3) bank swallow, *Riparia riparia*, None, Threatened
4) burrowing owl, *Athene cunicularia*, None, None
5) coast horned lizard, *Phrynosoma blainvillii*, None, None
6) Coast Range newt, *Taricha torosa*, None, None
7) hoary bat, *Lasiurus cinereus*, None, None
8) least Bell's vireo, *Vireo bellii pusillus*, Endangered, Endangered
9) pallid bat, *Antrozous pallidus*, None, None
10) silver-haired bat, *Lasionycteris noctivagans*, None, None
11) southern grasshopper mouse, *Onychomys torridus ramona*, None, None
12) southern mountain yellow-legged frog, *Rana muscosa*, Endangered, Endangered
13) southwestern willow flycatcher, *Empidonax traillii extimus*, Endangered, Endangered
14) western mastiff bat, *Eumops perotis californicus*, None, None
15) western pond turtle, *Emys marmorata*, None, None
16) western yellow bat, *Lasiurus xanthinus*, None, None

Proposed Power Plant Facility Boundary

N

Stantec

Legend

Proposed Power Plant Facility Boundary

5-mile Buffer Area

0 5,000 10,000 Feet

1:100,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Basemap: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
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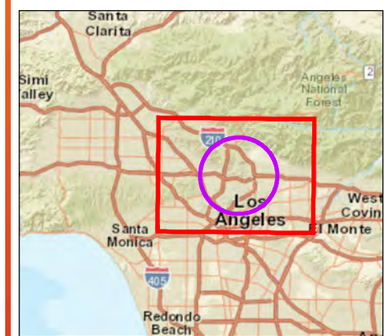

Project Location:
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-02-22
Technical Review by MW on 2017-02-22

Client/Project:
City of Glendale Water and Power
Scholl Canyon Landfill Power Project
Biological Resources Technical Report

Figure Number/Title:

Figure 3-2
Special Status Wildlife Map

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3.0 RESULTS

The habitats present within the BSA have the potential to support nesting birds, and special-status wildlife and plants. The majority of land within the power plant sub area contains disturbed or cleared land with minimal vegetation. Thus, the power plant sub area is not likely to support special-status wildlife or plants (Figure 3-1, 3-2). The proposed water tank, gas, and water pipeline sub areas contain habitats that could potentially support nesting birds, special-status wildlife and plants. Additionally, a majority of the buffer areas within the BSA contain habitats that could potentially support nesting birds, special-status wildlife and plants.

This section contains a discussion of special-status species; including vegetation communities, plants and wildlife, migratory birds and potential jurisdictional waters.

3.1 VEGETATION COMMUNITIES/LAND COVER TYPES

The mapping and description of plant communities follows the MCV II classification system provided and described in the second edition of A Manual of California Vegetation (Sawyer et al. 2009). Scientific names and common names are according to the second edition of The Jepson Manual (Baldwin et al., 2012).

The research and fieldwork conducted indicate that the BSA supports seven major types of vegetation communities, seven of which are native and one is non-native/ornamental: laurel sumac-chamise scrub (*Malosma laurina-Adenostoma fasciculatum* Shrubland Alliance), scrub oak-chamise chaparral (*Quercus berberidifolia- Adenostoma fasciculatum* Shrubland Alliance), disturbed scrub oak-chamise chaparral (*Quercus berberidifolia-Adenostoma fasciculatum* Shrubland Alliance), California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance), California sagebrush scrub (*Artemisia californica* Shrubland Alliance), coast live oak woodland (*Quercus agrifolia* Woodland Alliance), California encelia-black sage scrub (*Encelia californica-Salvia mellifera* Shrubland Alliance), and ornamental/non-native vegetation (Figure 4). Descriptions of the plant species present within each vegetation type are provided below. A list of plant species observed during the surveys is provided in Appendix C. Additionally, disturbed, cleared and developed areas are also present within the BSA.

Laurel sumac-chamise scrub (*Malosma laurina-Adenostoma fasciculatum* Shrubland Alliance)

This vegetation community observed within the BSA is not described within *A Manual of California Vegetation* (Sawyer, et al. 2009). At the time of survey, this community was observed along the slopes south of the proposed power plant and gas pipeline sub areas, as well as to the north of the proposed water pipeline north of Glenoaks Boulevard. Co-dominant species observed were laurel sumac and chamise. Associated species observed at the time of survey included lemonadeberry (*Rhus integrifolia*), toyon (*Heteromeles arbutifolia*), purple sage (*Salvia leucophylla*), black sage (*Salvia mellifera*), deerweed (*Acmispon glaber*), bush monkeyflower

(*Diplacus linearis*), big-pod ceanothus (*Ceanothus megacarpus*), California brickellbush (*Brickellia californica*), and non-native Russian thistle (*Salsola tragus*).

The Proposed Project will result in permanent impacts to 0.25 acre and temporary impacts to 0.09 acre of Laurel sumac-chamise scrub.

California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance)

This vegetation community observed within BSA as described within *A Manual of California Vegetation* (Sawyer, et al. 2009) is dominated or co-dominated by California buckwheat. Co-dominant plants and associated species commonly include California sagebrush, coyote brush (*Baccharis pilularis*), California encelia, bush monkeyflower, Menzies' isocoma (*Isocoma menziesii*), deerweed, chaparral mallow (*Malacothamnus fasciculatus*), white sage (*Salvia apiana*), and black sage. Emergent California juniper (*Juniperus californica*), Utah juniper (*J. osteosperma*), or Joshua tree (*Yucca brevifolia*) may be present at low cover. The shrub layer is less than 2 meters tall with continuous to intermittent cover at elevations of 0-1200 meters. The herbaceous understory is variable and may be grassy. This vegetation community is commonly found on upland slopes, intermittently flooded arroyos, channels and washes, and low-gradient deposits. Soils are coarse, well drained, and moderately acidic to slightly saline.

Within the BSA, California buckwheat scrub was observed along portions of the southern border of the proposed power plant sub area, as well as north of the proposed water pipeline sub area. Associated species observed at the time of survey included bush monkeyflower, black sage, California fuchsia (*Epilobium canum*), sawtooth goldenbush (*Hazardia squarrosa*), and the invasive black mustard (*Brassica nigra*).

The Proposed Project will result in permanent impacts to 0.09 acre and temporary impacts to 0.02 acre of California buckwheat scrub.

California sagebrush scrub (*Artemisia californica* Shrubland Alliance)

This vegetation community observed within the BSA as described within *A Manual of California Vegetation* (Sawyer, et al. 2009) is typically dominated or co-dominated by California sagebrush in the shrub canopy. Co-dominant plants and associated species commonly include chamise, coyote brush, bush monkeyflower, California encelia, chaparral yucca (*Hesperoyucca whipplei*), Menzies' isocoma, deerweed, climbing penstemon (*Keckiella cordifolia*), white sage, black sage, purple sage, and poison oak (*Toxicodendron diversilobum*). Taller shrubs of lemonadeberry or blue elderberry (*Sambucus nigra* ssp. *caerulea*) may be present at low cover. The shrub layer is less than 2 meters tall, or in two tiers with a second less than 5 meters tall, with an intermittent to continuous cover at elevations of 0-1200 meters. The herbaceous understory is variable. This vegetation community is commonly found on slopes that are usually steep and rarely flooded, or low-gradient deposits along streams. Soils are alluvial or colluvial derived and shallow.

Within the BSA, California sagebrush scrub was observed at the time of survey within a small portion of the proposed power plant sub area in the north corner. Associated species included California buckwheat, Russian thistle and non-native grasses.

The Proposed Project is not expected to directly impact this vegetation community.

Scrub oak-chamise chaparral (*Quercus berberidifolia-Adenostoma fasciculatum* Shrubland Alliance)

This vegetation community observed within the BSA as described in *A Manual of California Vegetation* (Sawyer et al. 2009) is typically co-dominated by scrub oak and chamise in the shrub canopy. Co-dominant plants and associated species commonly include manzanita (*Arctostaphylos* sp.), ceanothus sp., mountain mahogany (*Cercocarpus betuloides*), hollyleaf redberry (*Rhamnus ilicifolia*), toyon, and mission Manzanita (*Xylococcus bicolor*). Emergent knobcone pine (*Pinus attenuata*), coast live oak, or Engelmann's oak (*Quercus engelmannii*) trees may be present at low cover. The shrub layer is less than 6 meters tall with open to continuous cover at elevations of 400-1650 meters. The herbaceous understory is sparse. This vegetation community is commonly found on north-facing slopes of varying topography with deep to shallow soils.

Within the BSA, scrub oak-chamise chaparral was observed along the northwestern portion. Associated species observed at the time of survey included toyon, California buckwheat, bush monkeyflower, California sagebrush, ceanothus, and hollyleaf cherry (*Prunus ilicifolia*).

The Proposed Project will result in permanent impacts to 0.02 acre of Scrub Oak-Chamise Chaparral.

Disturbed scrub oak-chamise chaparral (*Quercus berberidifolia-Adenostoma fasciculatum* Shrubland Alliance)

This vegetation community observed within the BSA is not described within *A Manual of California Vegetation* (Sawyer, et al. 2009). At the time of survey, this community was observed along the access road adjacent to two existing water tanks southwest of the main Project sub area. Associated species observed at the time of survey included scrub oak, chamise, California sagebrush, California buckwheat, and non-native grasses.

The Proposed Project is not expected to directly impact this vegetation community.

Coast live oak woodland (*Quercus agrifolia* Woodland Alliance)

This vegetation community observed within the BSA as described within *A Manual of California Vegetation* (Sawyer, et al. 2009) is typically dominated or co-dominated by coast live oak. Co-dominant and associated species include California black walnut (*Juglans californica)*, western sycamore (*Platanus racemosa*), big leaf maple (*Acer macrophyllum*), Fremont cottonwood (*Populus fremontii*), arroyo willow (*Salix lasiolepis*), Engelmann oak, valley oak (*Quercus lobata*),

and bay laurel (*Umbellularia californica*). Trees are less than 30 meters tall, with an open to continuous canopy at elevations of 0-1200 meters. The shrub layer is sparse to intermittent and the herbaceous layer is sparse or grassy. This vegetation community is commonly found on alluvial terraces, canyon bottoms, stream banks, slopes, and flats. Soils are deep, sandy or loamy with a high organic matter.

Within the BSA, coast live oak woodland was observed directly south of a small portion of the proposed gas pipeline sub area, approximately 200 feet east of the western terminus of the pipeline. At the time of survey, toyon and laurel sumac were observed to be interspersed with oaks.

The Proposed Project is not expected to directly impact this vegetation community.

California encelia-black sage scrub (*Encelia californica-Salvia mellifera* Shrubland Alliance)

This vegetation community observed within the BSA is not described within *A Manual of California Vegetation* (Sawyer, et al. 2009). At the time of survey, this community was observed south of the proposed water pipeline sub area and north of the proposed gas pipeline sub area approximately one half mile northwest of the proposed power plant sub area. Co-dominant species observed were California encelia and black sage. Associated species observed at the time of survey included laurel sumac, chamise, and native and non-native grasses.

The Proposed Project is not expected to impact this vegetation community.

Ornamental/Non-native

This vegetation community observed within the BSA is not described within *A Manual of California Vegetation* (Sawyer, et al. 2009). Within the BSA, ornamental and non-natives were observed between and along portions of the proposed water and gas pipeline sub areas approximately one third mile west of the proposed power plant sub area. Associated species observed at the time of survey included California encelia, non-natives such as iceplant (*Caprobrotus edulis*), Peruvian pepper tree (*Schinus molle*), Washington fan palm (*Washingtonia robusta*), eucalyptus (*Eucalyptus* sp.), Russian thistle, red stemmed filaree (*Erodium cicutarium*), Lamb's quarters (*Chenopodium album*), fountaingrass (*Pennisetum setaceum*), English plantain (*Plantago lanceolata*), castor bean (*Ricinus communis*), wild oat (*Avena* sp.), and pampas grass (*Cortaderia* sp.).

The Proposed Project will result in permanent impacts to 0.06 acre and temporary impacts to 0.92 acre of ornamental/non-native vegetation.

Cleared/Developed Land

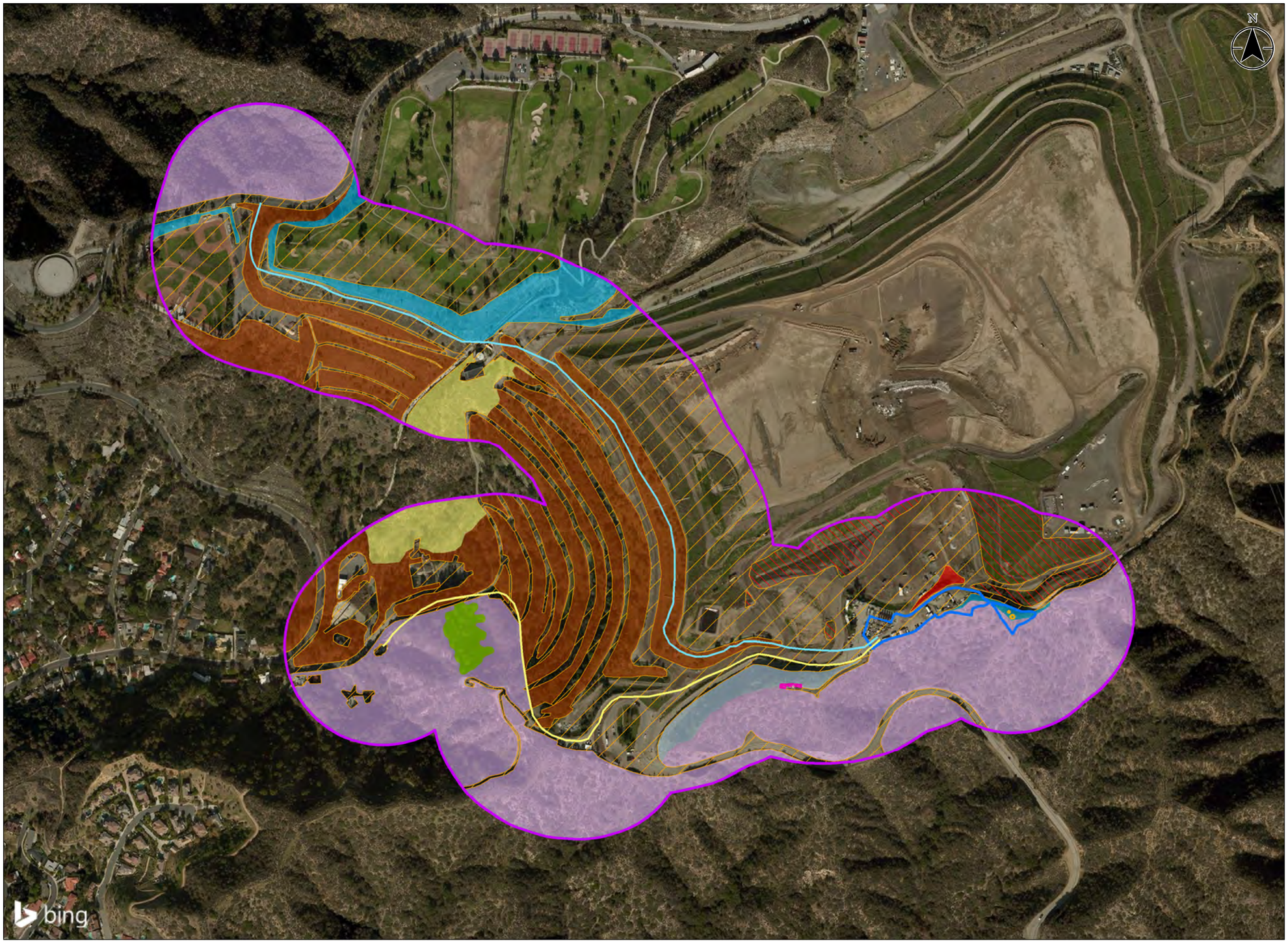
Cleared and developed land were observed throughout the BSA, and were comprised of bare, graded land, soil piles, dirt access roads, paved roads, residential and industrial buildings, a baseball field, and golf course.

The Proposed Project will result in permanent impacts to 1.45 acres and temporary impacts to 1.13 acres of cleared/developed land.

Disturbed

Disturbed land was observed throughout the eastern portion of the BSA north of the main Project sub area, and was observed to be comprised of undeveloped land and sparse, ruderal vegetation.

The Proposed Project is not anticipated to impact this community.



Stantec

Legend

- Proposed Gas Pipeline
- Proposed Water Pipeline
- Proposed Power Plant Facility Boundary
- New Water Tank
- Biological Survey Area

Plant Community Types

- California Buckwheat Scrub
- California Encelia-Black Sage Scrub
- California Sagebrush Scrub
- Laurel Sumac-Chamise Scrub
- Oak Woodland
- Ornamental/Non-Native
- Scrub Oak-Chamise Chaparral
- Disturbed Scrub Oak-Chamise Chaparral
- Cleared/Developed Land
- Disturbed

0 250 500 Feet

1 in = 500 feet (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

2. Basemap: Image courtesy of USGS Image courtesy of LAR-IAC Earthstar Geographics SIO © 2017 Microsoft Corporation

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand),

Project Location:
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-19
Technical Review by CH on 2017-07-19

Client/Project:
City of Glendale Water and Power
Biogas Renewable Generation Project
Initial Study/Mitigated Negative Declaration

Figure Number/Title:

Figure 3.4-1
Biological Survey Area and Plant Communities Map

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3.2 SPECIAL-STATUS VEGETATION COMMUNITIES

Per CDFW, alliances with state ranks of S1-S3 and all associations within them are considered to be highly imperiled (S1) to vulnerable (S3). Impacts to high-quality occurrences of S1, S2 and S3 communities may be considered significant under CEQA.

During the reconnaissance level surveys conducted on October 21, 2015, November 3, 2015, January 15, 2016, and July 11, 2017, one special-status plant community was detected within the BSA.

Coast live oak woodland (*Quercus agrifolia* Woodland Alliance)

Coast live oak woodland is protected under the California Oak Woodlands Act (Cal OWA). This community is not present within the Proposed Project sub areas, thus no direct impacts to this community are expected to result as a consequence of Project activities.

Additionally, though not a special-status plant community, individual scrub oaks within the Scrub oak-chamise chaparral (*Quercus berberidifolia-Adenostoma fasciculatum* Shrubland Alliance) are protected.

3.3 SPECIAL-STATUS PLANT SPECIES

"Listed" or special-status plant species are those that are regulated by resource agencies or are identified in local or regional plans and policies for protection. These include state or federally Threatened and Endangered Plant Species as well as plants contained on the CNPS California Rare Plant Rank (RPR). Only Listed species and RPR Lists 1 and 2 are considered "special status" species, per the RPR code definitions:

- List 1A = Plants presumed extinct in California;
- List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat);
- List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80% occurrences threatened);
- List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20% of occurrences threatened or no current threats known);
- List 2 = Rare, threatened or endangered in California, but more common elsewhere;

The RPR also includes Lists 3 and 4. Per the CDFW (2009), these plants typically do not warrant consideration under State CEQA Guidelines §15380 unless the specific circumstances relevant to local distributions make them of potential scientific interest.

The BSA contains habitat that could potentially support six special-status plant species: Nevin's barberry (*Berberis nevinii*), slender mariposa-lily (*Calochortus clavatus* var. *gracilis*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), mesa horkelia (*Horkelia cuneata* var. *puberula*), Davidson's bush-mallow (*Malacothamnus davidsonii*), and white rabbit-tobacco (*Pseudognaphalium leucocephalum*) (Appendix A). These species are discussed further in this section.

No special-status plant species were observed within the Project impact areas during the seasonally timed special-status plant surveys conducted on January 15, April 15 and September 8, 2016.

Nevin's barberry (*Berberis nevinii*)

Regulatory Status: Federally Endangered, State Endangered, California Rare Plant Ranking (CRPR) 1B.1.

Nevin's barberry is a native evergreen shrub endemic to California. It grows to a height of 1-4 meters. Its leaves are serrated with spine-tipped edges, and it produces yellow flowers followed by red or yellow-red berries. It blooms between March and June, and is typically found between elevations of 290-1575 meters. The species prefers chaparral, cismontane woodland, coastal scrub, and riparian scrub. It occurs on steep, north-facing slopes, or along low grade, sandy washes.

The Project sub areas provide moderately suitable chaparral habitat for the species. Nevin's barberry was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

Slender mariposa-lily (*Calochortus clavatus* var. *gracilis*)

Regulatory Status: California Rare Plant Ranking (CRPR) 1B.2.

Slender mariposa-lily is a perennial bulbiferous herb. It blooms between March and June, and is typically found within an elevation range of 320-1000 meters. It has slender, straight stems with yellow flowers that have a reddish-brown line above the nectary. Leaves are not recurved. The species is typically found in chaparral, coastal scrub, valley and foothill grassland, and shady foothill canyons. It prefers grassy slopes within other habitats.

The Project sub areas provide moderately suitable chaparral habitat for the species. Slender mariposa-lily was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

Parry's spineflower (*Chorizanthe parryi* var. *parryi*)

Regulatory Status: California Rare Plant Ranking (CRPR) 1B.1.

Parry's spineflower is an annual herb. It blooms between April and June, and is typically found between 225-1220 meters. The species is typically found in coastal scrub, chaparral, cismontane woodland, and valley and foothill grassland. It prefers dry slopes and flats, and is sometimes found at the interface of two vegetation types, such as chaparral and oak woodland. It prefers dry, sandy soils.

The Project sub areas provide moderately suitable chaparral habitat with dry slopes and sandy soil. Parry's spineflower was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

Mesa horkelia (*Horkelia cuneata* var. *puberula*)

Regulatory Status: California Rare Plant Ranking (CRPR) 1B.1.

Mesa horkelia is a perennial herb. It blooms between February and July, and is typically found between 70-810 meters. The species prefers chaparral, cismontane woodland and coastal scrub, within sandy or gravelly sites.

The Project sub areas provide moderate chaparral and sandy habitat. Mesa horkelia was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

Davidson's bush-mallow (*Malacothamnus davidsonii*)

Regulatory Status: California Rare Plant Ranking (CRPR) 1B.2.

Davidson's bush-mallow is a shrub with stout stems, rounded leaf blades, and pale pink, purple or white flowers. It blooms between June and January, and is typically found between 185-855 meters. The species prefers coastal scrub, riparian woodland, chaparral and cismontane woodland, and sandy washes.

The Project sub areas provide moderate chaparral and sandy habitat suitable for the species. Davidson's bush-mallow was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

White rabbit-tobacco (*Pseudognaphalium leucocephalum*)

Regulatory Status: California Rare Plant Ranking (CRPR) 2B.2.

White rabbit-tobacco is a perennial herb. It blooms between August and November, and is typically found between 0-2100 meters. The species prefers riparian woodland, cismontane woodland, coastal scrub and chaparral within sandy, gravelly sites.

The Project sub areas provide moderate chaparral and sandy habitat suitable for the species. White rabbit-tobacco was not detected during the seasonal floristic surveys conducted within the appropriate bloom period for the species.

3.4 SPECIAL-STATUS WILDLIFE SPECIES

In general, listed species are those species that are listed as threatened or endangered by either the state of California or under the federal Endangered Species Act. Special-status wildlife species include federally or state-recognized listed species, candidates for potential listing, and species with a designation from CDFW of "Watch List", "Fully Protected", or "California Species of Concern."

During the reconnaissance level surveys, conducted on October 21, 2015, November 3, 2015, January 15, 2016, and July 11, 2017, no special-status wildlife species were observed within the BSA. However, the BSA contains habitat that could potentially support two special-status wildlife species: coast horned lizard and silvery legless lizard (Appendix A). These species are discussed further in this section.

Coast horned lizard (*Phrynosoma blainvillii*)

Regulatory Status: California Species of Special Concern.

The coast horned lizard is a small, flat-bodied lizard with pointed scales on its upper body and tail, and large spines on its head. The sides of its body have two rows of pointed fringe scales, and the sides of its throat have two to three rows of enlarged pointed scales. Coloring can be reddish, brown, yellow or gray, with darker blotched markings on the back and sides of neck. The coast horned lizard is frequently found in a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. It needs open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects.

No coast horned lizard was observed within the BSA during the reconnaissance surveys. Portions of the Project sub areas provide moderate habitat suitability for the species, including open, loose soil areas, presence of grasses, scattered bushes and shrubs, and ants and other prey insects.

Silvery legless lizard (*Anniella pulchra pulchra*)

Regulatory Status: California Species of Special Concern.

The silvery legless lizard is a small, slender lizard with no legs and a shovel-shaped snout, smooth scales and a blunt tail. Coloring can be silvery, yellow, beige, brown, or blackish. The silvery legless lizard is frequently found in sandy or loose sandy loam soils under sparse vegetation, and prefers soils with high moisture content. The species can be found burrowing in sandy soil and foraging in sandy soil under leaf litter.

No silvery legless lizards were detected during the field reconnaissance survey of the BSA. The species is considered to have a moderate potential to be present within the vegetated portions of the BSA, particularly the gas pipeline sub area due to the presence of suitable moist, loose substrate and leaf litter within the chaparral and woodland habitat communities.

3.5 RESIDENT AND MIGRATORY BIRDS

Native and non-native vegetation within the BSA and the vegetated portions of the Proposed Project support foraging and nesting habitat for raptors and passerines. The Proposed Project sub areas are comprised of several plant communities that provide suitable vegetative cover for nesting and foraging. In addition, existing structures within developed areas could support nesting birds.

3.6 JURISDICTIONAL WATERS

No jurisdictional features are present within the BSA. USACE (22 CFR Part 328) and Environmental Protection Agency definition of “Waters of the United States” the Clean Water Act; Proposed Rule (40 CFR Part 110, 112, 116, et al.) exempts irrigation ditches and maintained drainage ditches controlled by farmers, ranchers, and foresters from the Clean Water Act Section 404. Drainages that are excavated in dry land, do not flow perennially, or do not flow into a jurisdictional water area, are not considered “Waters of the U.S.”

4.0 IMPACT ANALYSIS

4.1 DIRECT IMPACTS

As the word indicates, 'direct' impacts are those that result in direct disturbance to habitat or result in direct adverse impacts to wildlife, generally occurring at the time of construction and from activities such as excavation, grading or grubbing. Direct impacts to wildlife could be injury or mortality of individuals from construction equipment or vehicles either by being struck or run over by vehicles. Grading can also crush or entrap animals occupying burrows. Direct impacts include both permanent and temporary impacts. Permanent impacts include the permanent grading and development of the proposed power plant sub area. Temporary impacts include grading of the gas and water pipeline ROWs. Direct impacts are further addressed in Section 4.3 below.

4.2 INDIRECT IMPACTS

Indirect impacts from development projects often include those from dust, noise, night-time lighting, runoff/decreased water quality, and colonization/spread of invasive, non-native plant species. These potential indirect impacts are addressed below.

Dust

Activities such as grading and driving equipment on unpaved roadways have the potential to result in indirect impacts to surrounding vegetation communities from increased levels of dust that may settle on the plants. Increased levels of dust on plants can adversely affect plants' photosynthetic capabilities, adversely affect their productivity and nutritional qualities, and degrade the overall health of the vegetation communities, which may also adversely affect wildlife dependent on them. These impacts are expected to be less than significant as the Proposed Project would be required to comply with SCAQMD's Rule 403 (Fugitive Dust) that would minimize creation of dust.

Noise

Breeding birds and mammals may temporarily or permanently leave their territories to avoid noisy activities, which could lead to reduced reproductive success and increased mortality. These impacts would be adverse but less than significant for animal species that are not of special status.

4.3 IMPACTS TO VEGETATION AND DISTURBED/DEVELOPED AREAS

Table 1 indicates the estimated direct impacts to vegetation from Proposed Project implementation.

TABLE 1: SUMMARY OF IMPACTS TO LAND COVER/VEGETATION TYPES WITHIN THE PROJECT SUB-AREAS (GAS LINE, WATER LINE AND POWER PLANT).

Vegetation Type	Estimated Permanent Impact (acres)	Estimated Temporary Impact (acres)	CDFW Nature Serve Protection Status*
Laurel Sumac-Chamise Scrub	0.39	0.09	G4, S4
California Buckwheat Scrub	0.29	0.02	G5, S5
California Sagebrush Scrub	--	--	G5, S5
Scrub Oak-Chamise Chaparral	--	--	G4, S4 Indigenous (Protected) Tree Program
Coast Live Oak Woodland	--	--	G4, S4 Indigenous (Protected) Tree Program
California Encelia-Black Sage Scrub	--	--	G4, S4
Disturbed Scrub Oak-Chamise Chaparral	--	--	G4, S4 Indigenous (Protected) Tree Program
Total Impacts to Native Vegetation	**0.68**	**0.11**	--
Ornamental/Non-Native Vegetation	0.06	0.92	--
Disturbed Land	--	--	--
Cleared/Developed Land	1.45	1.13	--
Total	**2.19**	**2.16**	

*CDFG Rare:
G1 or S1..... Critically Imperiled Globally or Subnationally (state)
G2 or S2..... Imperiled Globally or Subnationally (state)
G3 or S3..... Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4 or S4.....Uncommon but not rare Globally or Subnationally (state)
G5 or S5.....Common and widespread Globally or Subnationally (state)
Cal OWA..... Protected by the California Oak Woodlands Act

4.4 IMPACTS TO SENSITIVE HABITATS/VEGETATION COMMUNITIES

One sensitive habitat, Coast Live Oak Woodland, is present within the BSA. Individual Scrub Oaks present within the Scrub Oak-Chamise Chaparral plant community are protected from removal, damage, or encroachment under the Indigenous (Protected) Tree Report Program. A botanist/arborist will be present onsite during construction activities near the Coast Live Oak Woodland and Scrub Oak-Chamise Chaparral vegetation communities to avoid and reduce project impacts to protected trees such as coast live oak as well as impacts to scrub oak, to a less than significant level.

4.5 IMPACTS TO SPECIAL-STATUS PLANT SPECIES

Based on existing conditions within the BSA and analysis of the species occurrence potential (Appendix A), six special-status plant species mentioned above have a moderate potential to occur within the BSA. No special-status plant species were detected during the seasonally timed floristic surveys.

4.6 IMPACTS TO SPECIAL-STATUS WILDLIFE SPECIES

Special-Status Wildlife

As previously discussed, habitat within the portions of the project impact areas is moderately suitable for coast horned lizard and silvery legless lizard. In addition to preconstruction surveys, the use of best management construction practices, as discussed in Section 5.0, would further ensure avoidance of direct and indirect impacts to these species.

Nesting Birds

Nesting birds can be adversely affected from noise or human activity generated during construction, resulting in decreased reproductive success or abandonment of a nest or an area defined as nesting habitat. These adverse effects, if they occur, would result in violation of the MBTA, which would be considered a significant impact.

No active (occupied) or inactive nests were detected during the surveys; however, the surveys were not conducted during typical nesting bird season. As mentioned above, the BSA supports potential nesting habitat for raptors and passerines; therefore, construction activities have the potential to indirectly impact nesting birds, particularly if activity occurs within nesting bird season (typically February 1 through August 31). To mitigate for possible effects to bird nesting, it is recommended that no earlier than 14 days prior to construction or site preparation the applicant will have a field survey conducted by a qualified biologist to determine if active nests of any bird species protected by the state or federal Endangered Species Acts, Migratory Bird Treaty Act, and/or the California Fish and Wildlife Code Sections 3503, 3503.5, or 3511 are present in the construction zone or within 500 feet of the construction zone. If active nests are found within the survey area, construction activities will not commence until the biologist

establishes an appropriate setback commensurate with the species involved (25 feet for urban-adapted species and up to 500 feet for certain raptors). Consultation with CDFW or USFWS may be applicable for listed species.

4.7 JURISDICTIONAL WATERS

No jurisdictional features are present within the BSA, therefore the currently Proposed Project will not likely be subject to USACE jurisdiction ("Waters of the U.S."), California Department of Fish and Wildlife (CDFW), or Regional Water Quality Control Board (RWQCB) jurisdiction ("Waters of the State").

5.0 PROPOSED MITIGATION MEASURES

The proposed mitigation measures identified in this section have been recommended to ensure the protection of sensitive habitat, special-status species, their habitats, and nesting birds.

5.1 PRE-CONSTRUCTION SURVEY FOR COAST HORNED LIZARD AND SILVERY LEGLESS LIZARD

The BSA contains potentially suitable habitat for coast horned lizard and silvery legless lizard. A pre-construction special-status species survey will be conducted by a qualified biologist 14 days prior to initiating ground disturbance activities. The survey will consist of full coverage of the proposed disturbance limits and a 500- foot buffer, and can be performed concurrently with the nesting bird survey. If coast horned lizard, silvery legless lizard or any special-status species are found during pre-construction surveys, a biological monitor may be needed during construction. If determined necessary, biological compliance monitoring will be conducted by a qualified biologist during construction.

5.2 NESTING BIRD SURVEYS

Protection of nesting birds would be required in compliance with the MBTA and to avoid impacts to nesting birds. To avoid impacts to nesting birds and to comply with the MBTA, clearing of vegetation should occur between non-nesting (or non-breeding) season for birds (generally, September 1 to February 1). If this avoidance schedule is not feasible, the alternative is to carry out the clearing of vegetation associated with construction under the supervision of a qualified biologist. This will entail a pre-construction nesting bird survey conducted by a qualified biologist 14 days prior to initiating ground disturbance activities. The survey will consist of full coverage of the proposed disturbance limits and a 500- foot buffer. The buffer will be determined by the biologist and will take into account the species nesting in the area and the habitat present. If no active nests are found, no additional measures are required. If "occupied" nests are found, the nest locations will be mapped by the biologist, utilizing GPS equipment. The nesting bird species will be documented and, to the degree feasible, the nesting stage (e.g., incubation of eggs, feeding of young, near fledging). The biologist will establish a no-disturbance buffer around each active nest. The buffer will be determined by the biologist based on the species present and surrounding habitat. No construction or ground disturbance activities will be conducted within the buffer until the biologist has determined the nest is no longer active and has informed the construction supervisor that activities may resume.

5.3 BIOLOGICAL COMPLIANCE MONITORING TO AVOID IMPACTS TO SENSITIVE HABITATS AND NATIVE TREES

To avoid and reduce project impacts to coast live oaks and scrub oaks, to a less than significant level, an arborist or a botanist shall be present onsite to monitor construction within 15 feet of all Oaks and other native trees.

Construction shall be avoided within the Tree Protection Zone (TPZ), which is typically 5 feet beyond the dripline of a native tree or a minimum of 15 feet from the trunk, when feasible. When construction within the TPZ is unavoidable, as few roots as possible shall be trimmed, and shall total less than 20% of a single tree's root system. In addition, no equipment, soil, or construction materials shall be placed within the TPZ of any native tree. If impacts or encroachment of a protected tree are determined to be unavoidable (i.e., >20% of tree's roots need to be cut), the applicant shall obtain the appropriate tree permit prior to any impacts to protected trees.

5.4 CONSTRUCTION MONITORING AND BEST MANAGEMENT PRACTICES

If pre-construction surveys determine either the presence of special status species, sensitive biological resources, or nesting birds, a biological monitor may be needed during construction to ensure that there is 'no take' of special status species. If determined necessary, biological compliance monitoring during construction will be conducted by a qualified biologist. The biologist shall be given authority to execute the following functions:

- Establish construction exclusion zones and make recommendations for implementing erosion control measures in temporary impact areas.
- Ensure all construction activities stay within the staked construction zone and do not go beyond the limits of disturbance.
- Minimize trimming/removal of vegetation to within the Project sub areas.
- Restrict non-essential equipment to the existing roadways and/or disturbed areas to avoid disturbance to existing adjacent native vegetation.
- Install and maintain appropriate erosion/sediment control measures, as needed, throughout the duration of work activities.

During construction, biological monitors will inspect and verify field conditions, as needed, to ensure that wildlife and vegetation adjacent to the Project sub areas are not harmed. The biological monitor will coordinate with the construction foreman and construction crew and shall have the authority to immediately stop any activity that has the potential to impact special-status species or remove vegetation not specified in this report.

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Appendix A SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE BSA

Special-Status Species Potentially Occurring in the Biological Survey Area Scholl Canyon Landfill Power Plant			
Common Name/ Scientific Name	**Listing Status**	**Habitat Requirements**	**Potential for Occurrence in the Project Sub Areas (Power Plant, Gas Pipeline, Water Pipeline) and BSA**
Wildlife			
Santa Ana speckled dace/ *Rhinichthys osculus*	SSC S	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	**Not Expected** No suitable permanent flowing stream habitat present in the proposed Project sub areas. This species was not observed during surveys.
Santa Ana Sucker/ *Catostomus santaanae*	FT SSC	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, & algae.	**Not Expected** No suitable stream habitat present in the Project sub areas. This species was not observed during surveys.
Coast Range Newt/ *Taricha torosa*	SSC	Found in coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km (0.62 mile) to breed in ponds, reservoirs & slow moving streams.	**Not Expected** No suitable habitat (drainage/stream) present in the Project sub areas. Verdugo Wash is approximately 5 miles west of the site. This species was not observed during surveys.
Southern mountain yellow-legged frog/ *Rana muscosa*	FE SE SSC S	Federal listing refers to populations in the San Gabriel, San Jacinto & San Bernardino Mountains (southern DPS). Northern DPS was determined to warrant listing as endangered, Apr 2014, effective Jun 30, 2014. Always encountered within	**Not Expected** No suitable habitat (drainage/stream) present in the Project sub areas. This species was not observed during surveys.

		a few feet of water. Tadpoles may require 2 - 4 yrs. to complete aquatic development.	
Coast horned lizard/ *Phrynosoma blainvillii*	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.	**Moderate Potential to Occur** Open areas, scattered bushes and loose soil present within the Project sub areas. The closest documented occurrence (CNDDB) is two and a half miles northwest of the proposed Project.
Silvery legless lizard/ *Anniella pulchra pulchra*	SSC	Prefers sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	**Moderate Potential to Occur** Sandy loose soil habitat with high moisture content observed in portions of the Project (gas pipeline sub areas and areas within laurel sumac-chamise Plant Community). This species was not observed during surveys, and the closest documented occurrence (CNDDB) is greater than five miles north of the proposed Project.
Western pond turtle/ *Emys marmorata*	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6000 ft. elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Not expected** No suitable stream, pond or marsh habitats present in the Project sub areas. This species was not observed during surveys.
American peregrine falcon/ *Falco peregrinus anatum*	SD FD BCC	Found near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an	**Low Potential to Occur (nesting)** No water observed within the BSA; however cliffs, banks and mounds (foraging habitat) are present within and

		open site.	adjacent to the BSA. This species was not observed during surveys, but there are previous CNDDB occurrences within one mile of the BSA.
Bank swallow/ *Riparia riparia*	ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Not Expected (nesting and foraging)** Suitable nesting riparian habitat not present within the BSA. This species was not observed during surveys.
Burrowing owl/ *Athene cunicularia*	SSC, BCC	Prefers grassland, sparse lowland scrub, agriculture, coastal dunes, and other artificial open areas. Requires well-drained, slightly elevated ground with burrows created by rodents or other mammals, or artificial ground shelters such as culverts.	**Low Potential to Occur (nesting and foraging)** Low quality habitat present within the BSA. No suitable burrows observed within the BSA. The site has heavy vehicle and equipment traffic. This species was not observed during surveys, although there are CNDDB occurrences approximately three miles west of the BSA.
Coastal California gnatcatcher/ *Polioptila californica californica*	FT SSC	Generally prefers open sage scrub with California sagebrush (*Artemisia californica*) as a dominant or co-dominant species. More abundant near sage scrub-grassland interface than where sage scrub grades into chaparral.	**Low Potential to Occur (nesting and foraging)** Marginal suitable foraging or nesting sagebrush scrub habitat present within the BSA. This species was not observed during surveys and the nearest documented CNDDB occurrence is greater than five miles east of the BSA.
Least Bell's vireo/ *Vireo bellii pusillus*	FE SE	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	**Not Expected** No suitable foraging or nesting, riparian, water or river bottoms present within the BSA. This species was not observed during surveys, although there are CNDDB occurrences within one mile of the BSA.

Southwestern willow flycatcher/ *Empidonax traillii extimus*	FE SE	Prefers dense riparian vegetation along rivers, streams, or other wetlands. Almost all Southwestern Willow Flycatcher breeding habitat is within close proximity (less than 20 yards) of water or very saturated soil.	**Not Expected** No suitable foraging or nesting riparian or stream habitat present in the BSA. This species was not observed during surveys, but there are previous CNDDB records within one mile of the BSA.
Swainson's hawk/ *Buteo swainsoni*	ST BCC LC	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Not Expected** No suitable foraging or nesting grassland, riparian, agricultural habitat present in the BSA. This species was not observed during surveys.
American badger/ *Taxidea taxus*	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils & open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Not Expected** No suitable soils or habitat present in the Project sub areas. This species was not observed during surveys.
Pallid bat/ *Antrozous pallidus*	SSC S	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Low Potential to Occur** Marginal shrubland foraging habitat only; no suitable roosting habitat. This species was not observed during surveys, although there are documented CNDDB occurrences within three miles of the proposed Project.
western yellow bat/ *Lasiurus xanthinus*	SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	**Not Expected** No suitable foraging or roosting habitat present in the Project sub areas. This species was not observed during surveys.

Western mastiff bat/ *Eumops perotis californicus*	SSC	Found in many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees & tunnels.	**Low Potential to Occur** Marginal suitable roosting or foraging chaparral habitat/trees present in the Project sub areas. This species was not observed during surveys, but there are documented CNDDB occurrences within one mile of the BSA.
Big free-tailed bat/ *Nyctinomops macrotis*	SSC	Found in low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	**Not Expected** No suitable roosting or foraging habitat present in the Project sub areas. This species was not observed during surveys.
San Diego desert woodrat/ *Neotoma lepida intermedia*	SSC	Found in coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops & rocky cliffs & slopes.	**Low Potential to Occur** Marginal suitable habitat and trees present in the Project sub areas. This species was not observed during surveys, but there are documented CNDDB occurrences greater than five miles north of the proposed Project.
Southern grasshopper mouse/ *Onychomys torridus ramona*	SSC	Found in desert areas; especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions & orthopteran insects.	**Not Expected** Suitable soils not present in the Project sub areas. This species was not observed during surveys.
Plants			
Atriplex parishii/ Parish's brittlescale	S 1B.1	Annual herb, blooms Jun-Oct. Prefers alkali meadows, vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils. 25-1900 m.	**Not Expected** No alkali meadows, vernal pools, chenopod scrub or playas present in the Project sub areas. This species was not observed during surveys.

Atriplex serenana var. *davidsonii*/ Davidson's saltscale	1B.2	Annual herb, blooms Apr-Oct. Prefers coastal bluff scrub, coastal scrub. Alkaline soil. 10-200 m.	**Not Expected** Coastal scrub and alkaline soil not present in the Project sub areas. This species was not observed during surveys.
Berberis nevinii/ Nevin's barberry	FE SE 1B.1	Shrub, blooms Mar-Jun. Found on nearly flat sandy washes, terraces, and canyon floors to ridges and mountain summits. Also found in mesic habitats and plant communities such as alluvial scrub, chamise chaparral, coastal sage scrub, oak woodland, and riparian scrub or woodland. On steep, north-facing slopes or in low grade sandy washes. 290-1575 m.	**Moderate Potential to Occur** Chamise habitat present in the Project sub areas. This species was not detected during surveys, although there are CNDDB occurrences within five miles of the proposed Project.
California macrophylla/ round-leaved filaree	1B.2	Annual herb, blooms Mar-May. Prefers cismontane woodland, valley and foothill grassland. Clay soils. 15-1200 m.	**Low Potential to Occur** Marginal suitable cismontane woodland habitat observed in the Project sub areas, although clayey soils were not noted. This species was not detected during surveys.
Calochortus clavatus var. *gracilis*/ slender mariposa-lily	1B.2	Perennial bulbiferous herb, blooms Mar-Jun. Prefers chaparral, coastal scrub, valley and foothill grassland. Shaded foothill canyons; often on grassy slopes within other habitat. 320-1000 m.	**Moderate Potential to Occur** Suitable chaparral habitat observed in the Project sub areas. This species was not detected during surveys. The closest documented CNDDB occurrence is greater than five miles of the proposed Project.
Centromadia parryi ssp. *australis*/ southern tarplant	1B.1	Annual herb, blooms May-Nov. Prefers marshes and swamps (margins), valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. 0-975 m.	**Not Expected** No suitable marsh, pool or grassland habitat observed in the Project sub areas. This species was not detected during surveys.

Chorizanthe parryi var. *fernandina*/ San Fernando Valley spineflower	FC SE 1B.1	Annual herb, blooms Apr-Jul. Prefers coastal scrub, valley and foothill grassland. Sandy soils. 150-1220 m.	**Not Expected** No suitable scrub or grassland habitat observed in the Project sub areas. This species was not detected during surveys.
Chorizanthe parryi var. *parryi*/ Parry's spineflower	1B.1	Annual herb, blooms Apr-Jun. Prefers coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland; dry, sandy soils. 225-1220 m.	**Moderate Potential to Occur** Suitable chaparral and dry sandy slope habitat observed in the Project sub areas. This species was not detected during surveys. The closest documented occurrence is two miles north of the proposed Project.
Cladium californicum/ California saw-grass	2B.2	Perennial grasslike herb, blooms Jun-Sep. Prefers moisture and alkaline soils and is generally found in freshwater marshes. 60-1600 m.	**Not Expected** No suitable substrate observed in the Project sub areas. This species was not detected during surveys.
Cuscuta obtusiflora var. *glandulosa*/ Peruvian dodder	2B.2	Annual herb/parasitic vine, blooms Jul-Oct. Prefers freshwater marshes and swamps. 15-280 m.	**Not Expected** No suitable marsh habitat observed in the Project sub areas. This species was not detected during surveys.
Dodecahema leptoceras/ slender-horned spineflower	FE SE 1B.1	Annual herb, blooms Apr-Jun. Prefers chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes; associates include *Encelia, Dalea, Lepidospartum*, etc. Sandy soils. 200-760 m.	**Low Potential to Occur** Some suitable chaparral habitat observed in the Project sub areas but terraces and washes absent. This species was not detected during surveys. The closest documented CNDDB occurrence is five miles north of the proposed Project.
Dudleya multicaulis/ many-stemmed dudleya	1B.2	Perennial herb, blooms Apr-Jul. Prefers chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 15-790 m.	**Low Potential to Occur** Some suitable chaparral habitat observed in the BSA but clayey soils and grassy slopes absent. This species was not detected during surveys. The closest documented CNDDB

			occurrence is greater than five miles from the proposed Project.
Galium grande/ San Gabriel bedstraw	1B.2	Shrub, blooms Jan-Jul. Prefers chaparral, broadleaved upland forests, cismontane and lower montane conifer woodlands. 680-1140 m.	**Low Potential to Occur** Some suitable chaparral habitat observed in the Project sub areas. This species was not detected during surveys. The closest documented CNDDB occurrence is greater than five miles from the proposed Project.
Helianthus nuttallii ssp. *parishii*/ Los Angeles sunflower	1A	Perennial rhizomatous herb, blooms Aug-Oct. Prefers marshes and swamps (coastal salt and freshwater). 10-1675 m.	**Not Expected** Suitable marsh or swamp habitat not observed in the Project sub areas. This species was not detected during surveys.
Horkelia cuneata var. *puberula*/ mesa horkelia	1B.1	Perennial herb, blooms Feb-Jul. Prefers chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. 70-810 m.	**Moderate Potential to Occur** Suitable chaparral habitat observed and sandy soils present in the Project sub areas. This species was not detected during surveys. The closest documented occurrence is one and a half miles west of the proposed Project.
Lasthenia glabrata ssp. *coulteri*/ Coulter's goldfields	1B.1	Annual herb, blooms Feb-Jun. Prefers coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1200 m.	**Not Expected** Suitable marsh, playa or vernal pool habitat not observed in the Project sub areas. This species was not detected during surveys.
Linanthus concinnus/ San Gabriel linanthus	1B.2	Annual herb, blooms Apr-Jul. Found in red fir and yellow pine forest. 1450-2880 m.	**Not Expected** No suitable red fir or yellow pine forest habitat observed in the Project sub areas. This species was not detected during surveys.
Malacothamnus davidsonii/ Davidson's bush-mallow	1B.2	Shrub, blooms Jun-Jan. Prefers coastal scrub, riparian woodland, chaparral, cismontane woodland. Sandy washes. 185-855 m.	**Moderate Potential to Occur** Suitable chaparral habitat observed in the Project sub areas. This species was not detected during surveys. The closest documented CNDDB occurrence is greater than five miles from the proposed Project.

Navarretia prostata/ prostate vernal pool navarretia	1B.1	Annual herb, blooms Apr-Jul. Prefers coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. 3-1235 m.	**Not Expected** Suitable grassland or vernal pool habitat not observed in the Project sub areas. This species was not detected during surveys.
Pseudognaphalium leucocephalum/ white rabbit-tobacco	2B.2	Perennial herb, blooms Aug-Nov. Prefers riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 0-2100 m.	**Moderate Potential to Occur** Suitable chaparral habitat observed and sandy soils present in the Project sub areas. This species was not detected during surveys. The closest documented CNDDB occurrence is two miles east of the proposed Project.
Ribes divaricatum var. *parishii*/ Parish's gooseberry	1A	Shrub, blooms Feb-Apr. Prefers riparian woodland. Salix swales in riparian habitats. 65-300 m.	**Not Expected** Suitable riparian habitat not observed in the Project sub areas. This species was not detected during surveys.
Scutellaria bolanderi ssp. *austromontana*/ southern mountains skullcap	1B.2	Perennial rhizomatous herb, blooms Jun-Aug. Found in chaparral, foothill woodland, yellow pine forest and wetland riparian areas. 590-2390 m.	**Low Potential to Occur** While the Project sub areas are not within species' typical elevation range, marginally suitable chaparral habitat is present. This species was not detected during surveys. The closest documented CNDDB occurrence is greater than five miles from the proposed Project.
Symphyotrichum defoliatum/ San Bernardino aster	1B.2	Perennial rhizomatous herb, blooms Jul-Nov. Prefers meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 2-2040 m.	**Low Potential to Occur** Suitable wetland habitat not observed in the Project sub areas. This species was not detected during surveys.
Symphyotrichum greatae/ Greata's aster	1B.3	Perennial rhizomatous herb, blooms Jul-Oct. Prefers chaparral, cismontane	**Low Potential to Occur** Suitable mesic habitat not observed in the Project sub

		woodland, broadleaved upland forest, lower montane coniferous forest, riparian woodland. Mesic canyons. 300-2010 m.	areas. This species was not detected during surveys. The closest documented CNDDB occurrence is greater than five miles from the proposed Project.
Thelypteris puberula var. *sonorensis*/ Sonoran maiden fern	2B.2	Rhizomatous fern, blooms Jan-Sep. Prefers meadows, seeps and wetland riparian areas. 40-790 m.	**Not Expected** Suitable meadow, seep or wetland habitat not observed in the Project sub areas. This species was not detected during surveys.

Listing Status	
FE = Federally listed Endangered	SR = State Rare Species
FT = Federally listed Threatened	SP = State Protected Species
FC = Federal Candidate	ST = State Listed Threatened
FD = Federally de-listed	SE = State listed Endangered
FP = CDFW Fully Protected	SCE=State Candidate Endangered
BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern	SCT =State Candidate Threatened
	SA = State Special Animal
	SSC = CDFW California Species of Special Concern
	SD=State de-listed

California Rare Plant Ranking (CRPR) System (Formerly CNPS Lists)	
CRPR 1A = Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere	**CRPR Threat Ranks** 0.1- Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat) 0.2- Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat) 0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
CRPR 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere	
CRPR 2A = Plants Presumed Extirpated in California, But More Common Elsewhere	
CRPR 2B = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere	
CRPR 3=Plants About Which We Need More Information- A Review List	

Appendix B WILDLIFE SPECIES OBSERVED IN THE BSA

Wildlife Species Observed in the BSA		
Scientific Name	**Common Name**	**Occurrence**
Aphelocoma californica	Western Scrub-jay	Observed onsite
Calypte anna	Anna's Hummingbird	Observed onsite
Carpodacus mexicanus	House Finch	Observed onsite
Colaptes auratus	Northern Flicker	Observed onsite
Corvus brachyrhynchos	American Crow	Observed Immediately adjacent to the site/flyover
Mimus polyglottos	Northern Mockingbird	Observed onsite
Larus sp.	Gull sp.	Observed onsite
Pipilo crissalis	California Towhee	Observed onsite
Pipilo maculatus	Spotted Towhee	Observed Immediately adjacent to the site/flyover
Poecile gambeli	Mountain Chickadee	Observed onsite
Sayornis nigricans	Black Phoebe	Observed onsite
Sceloporus occidentalis	Western Fence Lizard	Observed onsite
Setophaga coronata	Yellow-rumped Warbler	Observed onsite
Spinus psaltria	Lesser Goldfinch	Observed onsite
Sturnella neglecta	Western Meadowlark	Observed onsite
Turdus migratorius	American Robin	Observed onsite
Toxostoma redivivum	California Thrasher	Observed onsite

Appendix C PLANT SPECIES OBSERVED IN THE BSA

Plant Species observed within the BSA	
Scientific Name	**Common Name**
Acacia sp.	*Acacia**
Acmispon glaber	Deerweed
Ambrosia acanthicarpa	Annual ragweed
Artemisia californica	California sagebrush
Avena fatua	Wild oats*
Baccharis pilularis	Coyotebrush
Baccharis salicifolia	Mulefat
Brassica nigra	Black mustard*
Brickellia californica	California brickellbush
Bromus catharticus	Rescuegrass*
Bromus diandrus	Ripgut brome*
Bromus madritensis ssp. *rubens*	Foxtail brome*
Caprobrotus edulis	Ice plant*
Ceanothus crassifolius	Hoaryleaf Ceanothus
Cercocarpus betuloides	Birch leaf mountain mahogany
Chrysanthemum sp.	Chrysanthemum*
Claytonia parviflora	Miner's lettuce
Centaurea melitensis	Tocalote*
Conium maculatum	Poison hemlock*
Cuscuta sp.	Dodder
Diplacus linearis	Bush monkeyflower
Encelia californica	California brittlebush
Epilobium canum	California fuschia
Erigeron canadensis	Canada horseweed
Eriogonum fasciculatum	California buckwheat
Eriophyllum confertiflorum	Golden yarrow
Erodium botrys	Broad leaf filaree*
Eucalyptus sp.	Blue gum tree*
Eucrypta chrysanthemifolia	Common eucrypta
Eulobus californicus	California primrose
Festuca perennis	Italian rye grass*
Galium angustifolium	Narrowleaf bedstraw
Heteromeles arbutifolia	Toyon
Heterotheca grandiflora	Telegraph weed
Hordeum murinum	Foxtail barley*
Malacothrix saxatilis	Cliff aster
Malosma laurina	Laurel Sumac

Scientific Name	Common Name
Malva parviflora	Cheeseweed mallow*
Marah macrocarpus	Wild cucumber
Nicotiana glauca	Tree tobacco*
Oxalis pes-caprae	Sourgrass*
Pennisetum setaceum	Fountaingrass*
Pinus sp.	Pine*
Piptatherum miliaceum	Smilo grass*
Prunus ilicifolia	Hollyleaf cherry
Pseudognaphalium californicum	Ladies' tobacco
Quercus agrifolia	Coast live oak
Quercus berberidifolia	Scrub oak
Ribes californicum	California gooseberry
Ribes speciosum	Fuchsia flower gooseberry
Ricinus communis	Castor bean*
Rhus ovata	Sugarbush
Rhus integrifolia	Lemonade berry
Salsola tragus	Russian thistle*
Salvia leucophylla	Purple sage
Salvia mellifera	Black sage
Schinus molle	Peruvian pepper tree*
Scrophularia californica	California figwort
Silibum murinum	Milk thistle*
Sisymbrium altissimum	Tumble mustard*
Solanum douglasii	Douglas'nightshade
Solanum sp.	nightshade
Sonchus asper	Prickly sow-thistle*
Stipa pulchra	Purple needle grass
Symphoricarpos mollis	Creeping snowberry
Toxicodendron diversilobum	Poison oak
Washingtonia robusta	Washington fan palm*
Xanthium strumarium	Cocklebur
*** = non-native species**	

Appendix D PHOTO LOG OF BSA

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Glendale	**Job Number:** 2057123300
Site Name: Scholl Canyon Landfill Power Plant	**Photographer:** J. Alvarado

Photo 1: October 21, 2015

Photo showing the proposed power plant sub area. Photograph was taken by the southwestern edge of the landfill facing north.

Photo 2: October 21, 2015

Photo showing the proposed power plant sub area facing southwest.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Glendale	**Job Number:** 2057123300
Site Name: Scholl Canyon Landfill Power Plant	**Photographer:** J. Alvarado

Photo 3: October 21, 2015

Photo showing landfill and non-native vegetation in foreground, north of the proposed power plant sub area. Photo taken looking west.

Photo 4: October 21, 2015

Photo showing proposed gas pipeline alignment. Photo taken looking north.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Glendale	**Job Number:** 2057123300
Site Name: Scholl Canyon Landfill Power Plant	**Photographer:** J. Alvarado

Photo 5: October 21, 2015

Photo showing existing structures and non-native vegetation to the east of the proposed power plant sub area. Photo taken looking north.

Photo 6: October 21, 2015

Photo of laurel sumac-chamise scrub within the BSA buffer area south of the proposed power plant sub area. Photo taken looking south.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Glendale	**Job Number:** 2057123300
Site Name: Scholl Canyon Landfill Power Plant	**Photographer:** J. Alvarado

Photo 7: October 21, 2015

Photo of Russian thistle and chaparral vegetation within the BSA buffer area south of the proposed power plant sub area. Photo taken looking west.

Photo 8: October 21, 2015

Photo showing scrub oak-chamise vegetation south of existing Scholl Canyon Road, south of proposed power plant and gas pipeline sub areas. View facing east.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Glendale	**Job Number:** 2057123300
Site Name: Scholl Canyon Landfill Power Plant	**Photographer:** J. Alvarado
Photo 9: October 21, 2015	

Photo showing landfill area west of the proposed power plant sub area. Photo taken looking northwest.

Appendix C CULTURAL RESOURCES ASSESSMENT REPORT

CULTURAL RESOURCES ASSESSMENT REPORT ON BEHALF OF GLENDALE WATER AND POWER FOR THE PROPOSED BIOGAS RENEWABLE GENERATION PROJECT, SAN RAFAEL HILLS, GLENDALE, LOS ANGELES COUNTY, CALIFORNIA

- Phase I cultural resources survey of 20.5 acres in unsectioned portions of Rancho San Rafael, as depicted on the Pasadena, CA (1994) USGS 7.5-minute topographic quadrangle
- Historic period resource SC-1
- Cultural resources survey of locations for the proposed Biogas Renewable Generation Project
- San Rafael Hills, Glendale, Los Angeles County, California

Stantec

Submitted to:
City of Glendale
Water and Power Department

Submitted by:
Hubert Switalski and Michelle Cross
Stantec Consulting Services Inc.
5500 Ming Avenue, Suite 300
Bakersfield, CA 93309-4627

July 2017

This document may contain sensitive archaeological information. Not for public distribution.

This document entitled *CULTURAL RESOURCES ASSESSMENT REPORT ON BEHALF OF GLENDALE WATER AND POWER FOR THE PROPOSED BIOGAS RENEWABLE GENERATION PROJECT, SAN RAFAEL HILLS, GLENDALE, LOS ANGELES COUNTY, CALIFORNIA* was prepared by Stantec Consulting Services Inc. for the account of *City of Glendale Water and Power Department*. The material in it reflects Stantec Consulting Services Inc. best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Prepared by  (signature)

Hubert Switalski, Senior Archaeologist

Reviewed by  (signature)

Michelle Cross, Cultural Resources Program Manager, MA, RPA

Cover page: Overview of the Project Area with Scholl Canyon Landfill in background, view northwest (Stantec IMG_3518).

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

1.0 MANAGEMENT SUMMARY

Between October 19, 2015 and February 23, 2017, Stantec Consulting Services Inc. (Stantec) conducted a cultural resource Phase I study on behalf of Glendale Water and Power (GWP) of approximately 20.5 acres of land located within the San Rafael Hills, Glendale, Los Angeles County, California. The study was conducted as part of the Biogas Renewable Energy Project (the Project), which intends to construct a 12 megawatt (MW) power generation facility, and auxiliary water and natural gas pipelines within the Scholl Canyon Landfill (SCLF).

The proposed Project is subject to compliance with the California Environmental Quality Act (CEQA) requirements regarding the project's impacts on cultural resources. CEQA (Public Resources Code Sections 21000 etc.) requires that, before approving most discretionary projects, the Lead Agency must identify and examine any significant adverse environmental effects that may result from activities associated with such projects (Public Resources Code Sections 21083.2 and 21084.1). CEQA explicitly requires that the initial study examine whether the project may result in a significant adverse change to "historical resources" and "unique archaeological resources." Under these requirements, a cultural resources inventory was conducted in order to determine impacts of the proposed Project on any cultural resources potentially eligible for nomination to California Register of Historical Resources (CRHR), as well as locally significant resources potentially eligible to the City of Glendale Register of Historic Resources (Glendale Municipal Code Chapter 15.20).

The cultural resources study reported herein consisted of a cultural resource archival records search conducted at the South Central Coastal Information Center (SCCIC), located at California State University, Fullerton (CSUF), as well as an intensive pedestrian survey of the Project Area, for a total of 20.5-acres. The initial survey took place on October 20, 2015 and included the 3-acre footprint of the proposed power generation facility. Subsequently, as additional project information was added and the proposed alignments of gas and water lines were finalized, additional survey took place on January 15, 2016 to account for those changes and to ensure that the entire Project Area was surveyed for cultural resources. A third field survey occurred on February 23, 2017 to account for project changes incorporating an area planned for removal and replacement of existing water tanks, including an existing access road. Overall, approximately 20.5 acres of land were surveyed between October 20, 2015 and February 23, 2017.

A single, historic period water storage tank (SC-1) was identified and documented during the course of the study. Based on field data and archival research the newly documented resource does not appear to represent unique historical resource, thus, it does not appear eligible to the California Register of Historical Resources (CRHR) or local Registers of Historic Resources. Therefore, based on the results of this study, the proposed Project will not cause a substantial adverse change to the significance of historical and/or archaeological resources as defined in Section 15064.5. No construction constraints or additional cultural resources studies are recommended at this time.

This is a final draft submitted to GWP in July 2017. This version supersedes any previous iterations of this report. This version of the report may include areas that were surveyed for archaeological resources by Stantec between October 2015 and January 2017 that may no longer be part of the current Project due to design and engineering changes.

2.0 REGULATORY FRAMEWORK

This proposed Project is subject to compliance with the CEQA requirements regarding cultural resources on lands proposed for development. CEQA (Public Resources Code Sections 21000 etc.) requires that before approving most discretionary projects, the Lead Agency must identify and examine any significant adverse environmental effects that may result from activities associated with such projects (Public Resources Code Sections 21083.2 and 21084.1). CEQA explicitly requires that the initial study examine whether the project may have a significant effect on "historical resources" and "unique archaeological resources." Under these requirements, a cultural resources inventory was conducted in order to determine impacts of the proposed Project on cultural resources potentially eligible for nomination to the CRHR.

California Environmental Quality Act (California Public Resources Code Section 21000 et seq.) (1970) established that historical and archaeological resources are afforded consideration and protection by the California Environmental Quality Act (CEQA) (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under three regulatory designations: historical resources, tribal cultural resources, and unique archaeological resources. These designations permit for a fair amount of overlap.

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR"; or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]). Historical resources automatically listed in the CRHR include California cultural resources listed in or formally determined eligible for the NRHP and California Registered Historical Landmarks from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Tribal cultural resources (TCRs) are similar to the traditional cultural property designation within the National Historic Preservation Act guidance. These can be sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Tribe. To qualify as a TCR, it must either be 1) listed on or eligible for listing on the California Register or a local historic register or, 2) or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC Section 21074). TCRs can include "non-unique archaeological resources" (see "unique archaeological resource" below) that, rather than being important for "scientific" value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and cultural affiliated geographic area (PRC Section 21080.3.1(a)).

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, "is associated with the lives of persons important to local, California, or national history."
3. Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.
4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of "the local area, California, or the nation."

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can meet CEQA's definition of a unique archaeological resource even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if "it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Public Resources Code 5097.98. This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

Health and Safety Code 7050.5. This code establishes that any person, who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American human remains.

Additionally, the City of Glendale has the Glendale Register of Historic Resources for resources considered eligible, which is similar criteria and actually matches the California Register of Historical Resources (CRHR) (City of Glendale 2014). Although the CRHR criteria consider local and regional significance for historic resource, the Glendale Register criteria includes additional criterion (Criterion 5) that specifically addresses potentially significant local resources that exemplify the early heritage of the city (Glendale Municipal Code Chapter 15.20).

The Project Area for the above referenced project is defined as the three acre footprint for the proposed power plant, including a 30-meter wide buffer to account for any project/design changes, and 30-meter wide buffer on centerline of the proposed water and natural gas pipelines, and areas scheduled for tank removal and replacement, for a total of 20.5 acres. It is expected that any potential adverse impacts to cultural resources will be contained within this acreage. The Study Area for the project is defined as a one-half mile buffer surrounding the Project Area.

3.0 PROJECT LOCATION

The Project Area is located in San Rafael Hills in the south-central portion of Los Angeles County, California (Fig. 1). The Project Area is located within and immediately adjacent to the SCLF and is located within the southeastern portion of City of Glendale, which is bound to the south and east by the political boundary of City of Los Angeles and Pasadena, respectively. Specifically, the Project Area is situated within an unsectioned portion of San Rafael Spanish Land Grant, as depicted on the Pasadena, CA (1994) USGS 7.5-minute series topographic quadrangle (Fig. 2).

4.0 PROJECT DESCRIPTION

The SCLF is an existing Class III nonhazardous landfill facility that accepts municipal solid waste and is not a generator of, or repository for, hazardous wastes. The landfill site occupies approximately 535 acres with portions owned by the City of Glendale, Los Angeles County and by Southern California Edison Company (SCE). The 95 acre area owned by Los Angeles County is not certified for landfill operations and consists of soil stockpiles, a scale and site operations facility, undisturbed areas, and a debris basin. The northern inactive portion of the site is approximately 126 acres. The active site is 314 acres, within which refuse has been landfilled on 239 acres. The proposed power plant will be located on an approximately three acre segment of land within the inactive portion of the landfill. At the current fill rate, the closing date of the landfill is estimated to be in the mid 2020's. However the current operator of the landfill, County of Los Angeles Sanitation District, is in the process of preparing documentation to increase the life of the landfill an additional 22 to 32 years. The landfill permitted capacity is based on volume; therefore, the closing date of the landfill, including the request for increased life, could be sooner or later depending on disposal rates.

South Coast Air Quality Management District (SCAQMD) requires the installation of a Landfill Gas (LFG) collection system to minimize the emissions of LFG from the surface of the landfill. There are two options available for disposing the collected LFG. At most landfills, the LFG is simply combusted in flares and not utilized for beneficial use. The second option is to remove moisture and some of the undesirable constituents from the LFG and utilize the LFG in power generation equipment as fuel.

The current LFG collection system at SCLF conveys the collected LFG to a central location within the landfill property where the LFG is compressed, liquids are removed and the raw LFG is piped to Glendale Water and Power's (GWP) Grayson Power Plant via an underground dedicated pipeline. At Grayson, the LFG is mixed with natural gas and is combusted in old and inefficient boilers to make steam for electricity generation. The proposed SCLFP will utilize the LFG to produce electricity at the landfill where the LFG is generated and collected.

4.1 Power Generation Facility

The Proposed Project would involve new construction activity on approximately 2.2 acres of land. This would include the proposed power plant facility, natural gas pipeline, water pipeline and two water tanks. The Proposed Project includes construction and operation of an approximately 12 megawatt (MW) power generation facility that would utilize landfill gas as fuel to generate renewable energy. The majority of the existing equipment owned and operated by GWP required to treat the LFG prior to sending it to the Grayson Power Plant would be demolished; only the existing blowers and LFG flaring station would remain.

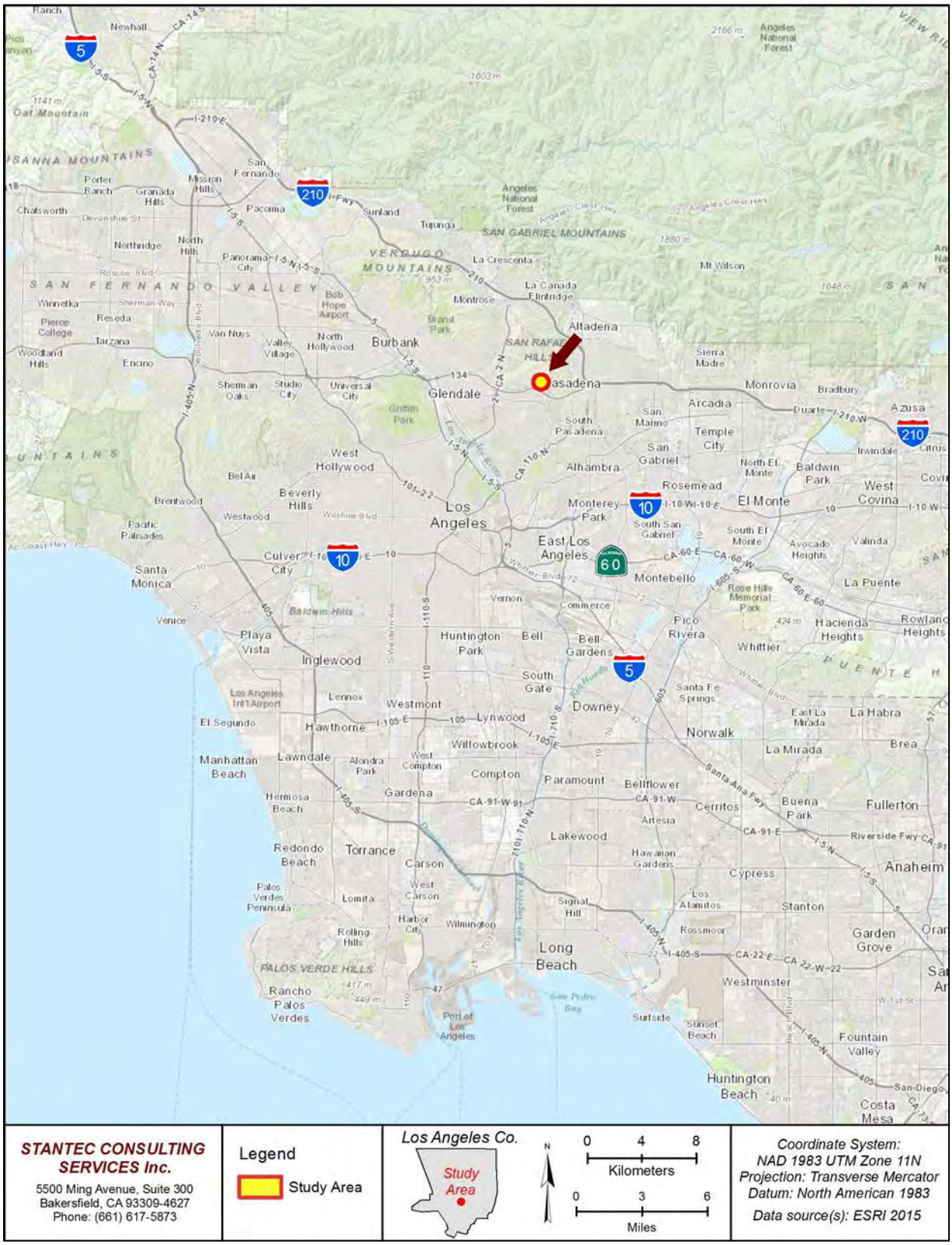

Figure 1. Project location and vicinity map.

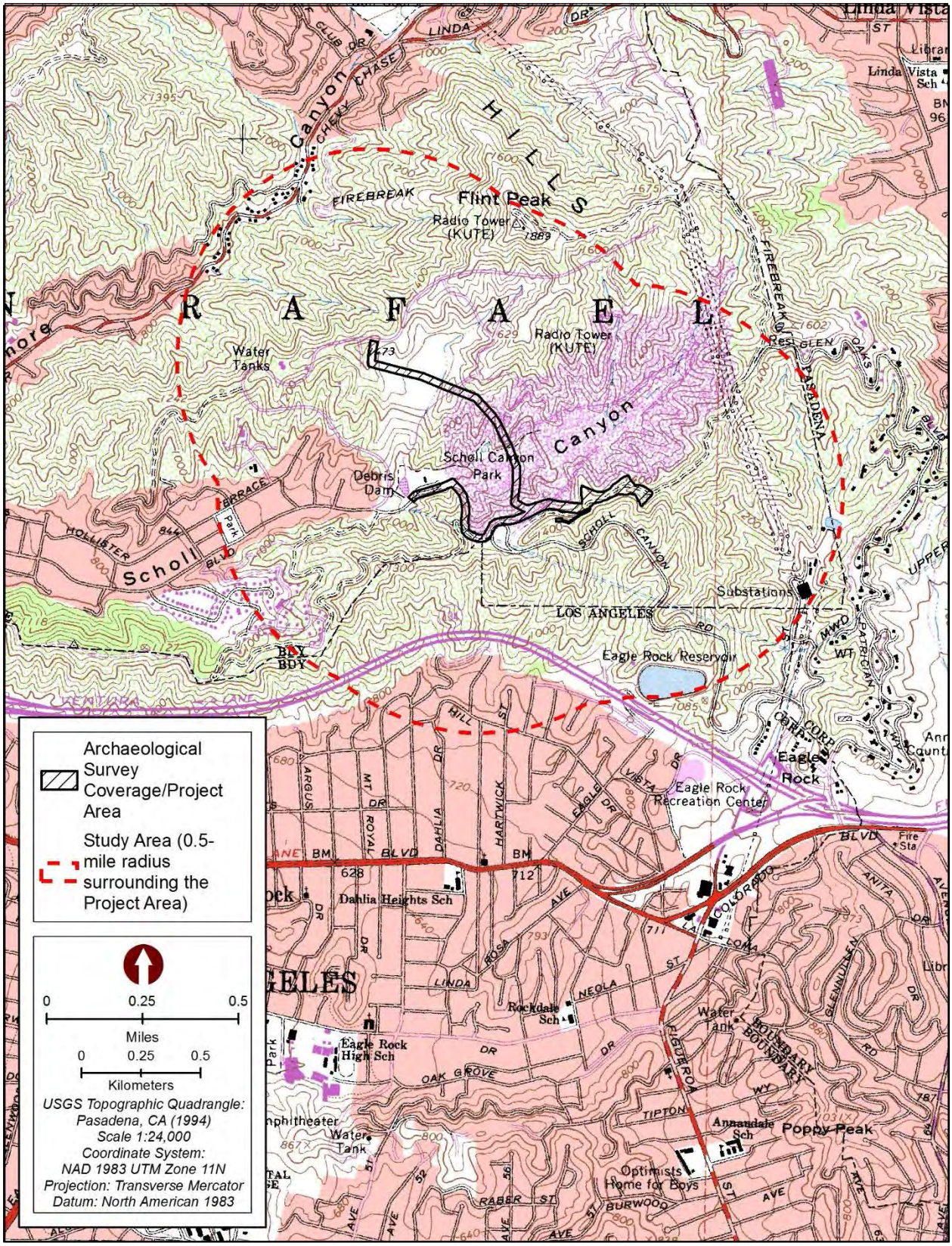

Figure 2. Archaeological survey coverage with the Project Area depicted on the Pasadena, CA (1994), USGS 7.5-minute series topographic quadrangle.

The Project would be located adjacent to the existing LFG flare station and would include the following equipment and systems:

- LFG compressors to increase the LFG pressure so that the LFG can be treated and conveyed to the electrical generation equipment.
- LFG treatment system to prevent damage to the electrical generation equipment and would consist of vessels, coolers, heat exchangers and control systems designed to remove moisture and impurities from the LFG. The treatment system would also include a regeneration ground flare to assure that the LFG treatment system is performing efficiently and continuously.
- Condensate treatment system to allow collected condensate to comply with the City's existing Industrial Waste Discharge requirements prior to disposing the condensate into the existing sewer system.
- Electrical generating equipment consisting of reciprocating engine generators to produce electricity using the LFG as fuel. Each of the electrical generating equipment would be self-contained and located in individual enclosures.
- Combustion exhaust gas cleanup system to comply with SCAQMD regulations, consisting of reactive catalyst using 19 percent Aqueous Ammonia as reactant to minimize the emissions of nitrogen oxides (NOx) and a Carbon Monoxide (CO) catalyst to minimize the emissions of CO.
- Continuous emission monitoring systems installed on the engines to assure that the exhaust gas emissions comply with SCAQMD regulations.
- Electric switchgear to allow connection of the produced electricity to the existing GWP electrical system. No electric transmission system modification is anticipated.
- Small office and small storage building, less than 1,000 square feet each, required for operating and maintaining the Project.
- Fire protection and safety system to comply with National Fire Protection Association and Glendale Fire Department requirements.
- A new 60,000-gallon fire water tank would be constructed to provide water for fire protection. In addition, a new approximately 10,000-gallon water storage tank would be provided for domestic purposes.
- The entire facility would be enclosed in fencing, and area lighting for safety and security would be provided.

4.2 Natural Gas and Water Pipeline

Approximately two-thirds of a mile (3,500 feet) of natural gas pipeline would be constructed to connect the facility to the existing Southern California Gas Company pipeline system located at the eastern end of Scholl Canyon Drive. This three-inch, schedule 40 steel gas pipeline would be located within the boundary of the landfill, aboveground except for at road crossings. The natural gas would be utilized to assure continuous operations of the internal combustion engines on the naturally occurring landfill gas. SCAQMD regulations allow the LFG to be augmented by up to a maximum of ten percent of the total fuel consumed by the engines to be natural gas.

A new 60,000-gallon water storage tank for fire protection and a new approximately 10,000-gallon domestic water storage tank would also be installed.

During construction, water would be used for dust control, soil compaction, concrete curing, and other construction activities. All cooling systems would be closed circulating glycol type with no open cooling towers required. Besides using water for domestic purposes, fire protection and construction, no other water consumption is contemplated.

To provide water to the Project an approximately one-mile-long, 12-inch steel pipeline would be connected to an existing 16-inch pipeline located north of the landfill on Glen Oaks Blvd. This water line would also be aboveground except for road crossings. The water line would be connected to fire hydrants as required by the City of Glendale Fire Department. Additional water pipelines would be installed belowground to connect the power plant facility with the new fire protection and domestic water tanks, which would be located just east of the facility. A water fill-line would be installed belowground extending across the Project facility from a water tie-in at the southwest portion of the Project site to facilitate the new water tanks (Fig. 3).

The unprocessed LFG as it comes from the landfill is saturated with liquids. The liquids would be separated from the LFG, collected, and piped to a condensate treatment system where impurities of the condensate would be removed, collected, and disposed of in accordance with required rules and regulations. The remaining liquids would be piped to the existing sewer system located nearby.

4.3 Existing Pipeline Decommissioning

The existing approximately five-mile-long six-inch diameter underground pipeline currently used to carry LFG to the Grayson Power Plant would be abandoned in place. As part of the abandonment process, the line would be purged with an inert gas such as nitrogen, and capped with cement plugs or similar items on each end. The existing line follows surface streets within an existing utility corridor.

5.0 ENVIRONMENTAL BACKGROUND

The Study Area is located at the eastern terminus of San Rafael Hills, which are bound to the west by San Fernando Valley, San Gabriel Valley to the east and Los Angeles Basin to the south. San Rafael Hills are part of the lower Transverse Ranges, which unlike most mountain ranges in North America, lie on east-west axis. The Transverse Ranges form the northern border of the Los Angeles Basin and include Santa Monica, San Gabriel and San Bernardino Mountains, which are located to the west and north of the Project Area (Schoenherr 1992:8-9).

The Study Area is associated with a Mediterranean climate, which is characterized by long, hot summers (Schoenherr 1992:9). Temperatures in the basin range from a mean of about 40°F in the winter to a mean of about 76°F in the summer, depending on elevation (Miles and Goudey 1997). Mean annual precipitation of the basin and the surrounding mountain ranges varies from 8 to 30 inches. This range of precipitation from 8 inches at the coast, to 30 inches in the mountains is a clear example of the effects of elevation on precipitation.

Slope effect is superimposed upon the effects of temperature and precipitation. Mediterranean climate with its long, hot summer, accentuates slope effect. South facing slope, with their great degree of drought stress are cloaked with drought tolerant vegetation. The plants associated with the foothills of the San Gabriel Mountains consist primarily of chaparral plant community with areas of riparian communities from the numerous streams and drainages. Dominant species include Chamise (*Adenostoma fasciculatum),* Manzanita (*Arctostaphylos spp.),* Ceanothus spp.,

Figure 3. Map of the proposed facilities to be constructed as part of the Biogas Renewable Generation Project.

Mountain mahogany (*Cercocarpus betuloides*), and Yucca (*Yucca whipplei*). Common animals in the area include the California jay, plain titmouse, canyon wren, brush rabbit, gray fox, and spotted skunk, with frequent Bobcat and deer sightings.

6.0 CULTURAL BACKGROUND

While no cultural sequence has been developed specifically for the Study Area, regional chronologies for other parts of southern California and the Southwest have been employed for this locality (Elsasser 1978; Jones and Klar 2007; Moratto 1980; Warren and Crabtree 1986). Such sequences are generally based on the presence of temporally diagnostic artifacts, such as projectile points, pottery, or beads. The most recent chronological clarification of the prehistory of the southern California area has been presented by Sutton (2010) and Sutton and Gardner (2010). The more recent chronology is presented below.

6.1 Archaeological Background

The earliest period of human occupation in southern California is referred to by various terms, including Clovis, Paleoindian, and Early Systems Period. This is a time believed to have commenced about 12,000 years ago Before Present (BP), lasting until about 10,000 years BP. While some scholars have championed the idea of a Pre-Projectile Point Tradition predating this time, it is not considered here, as there are no documented sites of this age near the current Study Area. The following cultural periods reflect human adaptations that occurred among prehistoric societies in inland California. While these are broad generalizations, there appear to be similarities among various populations in southern California, particularly in the inland areas.

Prehistoric chronological sequences for the area can be represented by the Encinitas Tradition and the Del Rey Tradition. The Encinitas Tradition is characterized by an abundance of grinding implements (manos and metates), rough core and flaked stone and bone tools, and shell ornaments but few projectile points and hunting implements (Sutton and Gardner 2010). Subsistence focused on collecting rather than hunting with faunal remains, varying by site, including marine mammals, fish, shell fish, and land animals (Sutton and Gardner 2010:7). The Encinitas Tradition has four regional expressions: The Topanga in coastal Los Angeles and Orange county areas, the La Jolla in the coastal San Diego area, Pauma in inland San Diego areas, and the Greven Knoll in inland Los Angeles, Orange, San Bernardino, and Riverside County areas (Sutton and Gardner 2010:8-25).

6.1.1 Greven Knoll Phases

Greven Knoll Phase I (9,400 to 4,000 BP) is characterized by manos and metates (though no mortars and pestles), large projectile points, hammerstones, flexed inhumations and few cremations (Sutton and Gardner 2010:25, 8). Greven Knoll I groups seem to have been influenced by Mojave Desert groups based on similarities in material culture (Sutton and Gardner 2010). The "Cogstone Point" Site located further southeast in the Prado Basin contained manos, metates, discoidals, cogstones, Pinto-style points but no scrapers, as is common in Greven Knoll I sites. Shell artifacts are also rare at sites dating to this phase of Greven Knoll.

Greven Knoll Phase II (4,000 to 3,000 BP) shared many similarities with Greven Knoll I but is differentiated by an increase in percentages of manos and a decrease in percentages of flaked stone points and bone tools (Sutton and Gardner 2010:8,29). Pinto-style points are still found but Elko-style points become more common. Many Greven Knoll II sites also contain Greven Knoll I components, indicating little change in settlement patterns (Sutton and Gardner 2010:30).

Greven Knoll III (3,000 to 1,000 BP), formerly known as Sayles Complex, is characterized by abundant manos and metates, Elko-style points, scraper planes and choppers, hammerstones, late discoidals, few mortars and pestles and an absence of shell artifacts (Sutton and Gardner 2010:8, 32). Flexed inhumations under rock cairns and yucca and other seeds are also noted during this phase (Sutton and Gardener 2010:8, 32).

The Greven Knoll Phases were replaced in the Study Area at about 1,000 BP by new cultural traditions with Takic influences moving east from the coastal areas (Sutton and Gardner 2010:34). Known as the Del Rey Tradition this period represents the development of the Gabrielino culture in southern California (Sutton 2010). The Del Rey Tradition is divided into three phases for this area and is referred to as the Angeles Phase.

6.1.2 Angeles Phase

Angeles Phase IV (1,000 to 800 BP) is characterized by Cottonwood-style arrow points, *Olivella* cupped beads and *Mytillus* shell disk beads, imported pottery and possibly ceramic pipes. Population increases lead to fewer but larger permanent settlements as well (Sutton 2010).

Angeles Phase V (800 to 450 BP) is characterized by an increase in both size and number of steatite ornaments and vessels, and more elaborate effigies (Sutton 2010). This phase also saw the development of the mainland Gabrielino dialect and a decline in exploitation of marine resources with an increase in use of small seeds (Sutton 2010). Settlement shifted from woodlands to open grasslands (Sutton 2010).

Angeles Phase VI (450 to 150 BP) reflects cultural patterns into the post-contact period (roughly AD 1542). One of the most noticeable changes would likely have been the extreme population loss due to disease and missionization of the native populations. *Olivella* shell beads drilled with metal needles, glass beads, and metal tools as well as locally made ceramics and the use of domesticated animals were noted in Angles VI (Sutton 2010).

6.2 Ethnography

Early Native American peoples of this area are poorly understood, though the cultural traditions represented in archaeological data are presented above. The presence of occupation in this area by the ethnohistoric Gabrielino (*Tongva*) people began to be demonstrated about 1,000 years ago. The term Gabrielino most likely came from the group's association with Mission San Gabriel Arcangel, established in 1771. However, today the group prefers to be known by their ancestral name Tongva. The current Study Area appears to be located within the core territory of the Tongva. Ethnohistorically, the *Tongva* were semi-sedentary hunters and gatherers whose language is one of the Cupan languages in the Takic family, part of the Uto-Aztecan linguistic stock (Bean and Smith 1978).

The *Tongva* territory encompassed a vast area that stretched from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 square miles (Bean and Smith 1978; McCawley 1996). At European contact, the tribe consisted of more than 5,000 people living in various settlements throughout the area (McCawley 1996). Some of the villages could be quite large, housing up to 150 people. The *Tongva* are considered to have been one of the wealthiest tribes and they appear to have greatly influenced tribes they traded with (Kroeber 1976:621).

The *Tongva* practiced hunting and gathering economy, and subsistence zones exploited were marine, woodland and grassland (Bean and Smith 1978). At the time of contact plant foods

were the more significant part of the *Tongva* diet with acorns being the most important food source exploited. Therefore, it was necessary that villages be located near water sources to allow for the leaching or removal of tannic acids from the acorns. Grass seeds and chia were also heavily utilized. Seeds were parched then ground and cooked as mush in various combinations according to taste and availability. Other fruit and plant foods would be eaten raw or cooked and they could be dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were made from flowers, fruits, stems, and roots for medicinal cures as well as beverages (Bean and Smith 1978:538-540).

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks, and other birds (Bean and Smith 1978). Predators were largely avoided as food, as were tree squirrels and most reptiles (Bean and Smith 1978). Fresh water fish were caught in the streams and rivers, while salmon were available when they ran in the larger creeks (Bean and Smith 1978). Sea mammals, fish, and crustaceans were hunted and gathered from both the shoreline and the open ocean, using reed and dugout canoes by coastal *Tongva* groups. Shellfish were the most common resource, including abalone, turbans, mussels, clams, scallops, bubble shells, and others (Bean and Smith 1978:538-540).

Houses were domed, circular structures thatched with tule or similar materials (Bean and Smith 1978:542). The *Tongva* are renowned for their workmanship of steatite and these artifacts were highly prized (Bean and Smith 1978). Common everyday items were often decorated with inlaid shell or carvings reflecting the intricately developed skill (Bean and Smith 1978:542).

6.3 History

The first known historical account of travel to the Los Angeles Basin was Juan Rodriguez Cabrillo in 1542. This was followed by Gaspar de Portola and missionary Juan Crespi in 1769. This was followed by the first significant European settlement of California which began during the Spanish Period when 21 missions and four presidios were established between San Diego to the south and Sonoma to the north. The purpose of the missions was primarily Indian control and forced assimilation into Spanish society and Catholicism, along with economics support of the newly established presidios (Castillo 1978). Between then and secularization in 1834, many of the native peoples were forcibly removed to the missions (Beattie and Beattie 1939:366), after which too few remained to reestablish their native ways of life.

The Mexican Period (1821-1848) began with the success of the Mexican Revolution in 1821. When secularization of the missions occurred in the 1830s, the vast land holdings of the missions in California were divided into large land grants called ranchos. The Mexican government granted ranchos throughout California to Spanish and Hispanic soldiers and settlers (Castillo 1978).

In 1848, the Treaty of Guadalupe Hidalgo ended the Mexican-American War and marked the beginning of the American Period. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. From that point on, the Gold Rush ushered a massive deluge of white settlers, prospectors, and gold seekers. Subsequently, fortune seekers bound for gold mines pushed aside any natives in their path. Soon, the inland territory was dotted with mines and mining claims, which eventually led to occasional clashes between the natives and the newcomers. This process of disposition proved relatively easy as the settlers, sometimes forcibly, removed Indian families and communities (Wallace 1978:469). As a result, the remaining Native Americans were restricted to small reservations and many more were scattered throughout the state (Grant 1978:507).

6.3.1 Rancho San Rafael

The current Study Area is located within portions of Rancho San Rafael which was a 36,403-acre Spanish land grant given in 1784 to Jose Maria Verdugo (Baker 1914:242; Cowan 1956:87). Corporal Jose Maria Verdugo was a Spanish soldier who had served within the 1769 Portola-Serra Expedition, and received provisional eight square leagues from his army commander Pedro Fages. Following the Treaty of Guadalupe Hidalgo and cession of California to the United States, a claim was filed with the Public Lands Commission in 1852 and the grant was patented to Julio and Catalina Verdugo in 1882. This was the second of the great Spanish land concession, preceded only by Rancho San Pedro (Cowan 1956:87).

6.3.2 City of Glendale

The general area that is currently known as the City of Glendale was previously occupied by the Tongva, who were later referred to as the Gabrielinos by the Spanish missionaries after the nearby Mission San Gabriel Arcangel. Subsequently, much of the surrounding land comprised the 36,403-acre Rancho San Rafael, which was claimed by Jose Maria Verdugo and later patented by Julio and Catalina Verdugo. By the early 1880s Verdugo's descendants sold the ranch in various parcels and by 1884 new residents gathered to form a townsite and called it Glendale.

Glendale was incorporated in 1906 and annexed the nearby community of Tropico in 1918. By 1920, Glendale was booming, and began annexing neighboring communities into their city limits in extending their limits to 7,000 acres, boasting a population of over 13,536 residents (City of Glendale 2012; Los Angeles Almanac 2015). During this time, Glendale experienced a construction boom on the main streets of town, particularly Brand Boulevard, which was lined with modern commercial buildings, entertainment and nearby orchards and vineyards which became residential neighborhoods. By the early 1930s population of Glendale reached 62,000 residents, who lived on approximately 13, 000 acres. In 2010, the United Census Bureau reported that Glendale had a population of 191,719 residents. Today, Glendale remains a hub of business, tourist, and recreational activities.

6.4 Current Land Use

The Project Area is located within an active landfill which is operated in part by Sanitation Districts of Los Angeles County. The landfill is situated in the San Rafael Hills and accepts solids waste from nearby communities. Most of the area occupied by the SCLF is characterized by paved access roads, facility structures, gas and water pipelines, and overhead distribution lines. The SCLF is surrounded by residential areas to the west, a recently developed golf course to the north and Highway 134 to the south. As the SCLF is located in the San Rafael Hills, it is surrounded by steep hills intersected with intermittent drainages and washes. The western portion of the SCLF is comprised of terraced slopes with access roads and gas pipelines and irrigation pipes.

7.0 METHODOLOGY

Cultural resources investigations reported herein consisted of a records search conducted at the SCCIC at CSUF, as well as an intensive pedestrian survey of approximately 20.5 acres of land.

7.1 Native American Notification and AB52

California Public Resources Code Sections 5097.94(a) and 5097.96 authorize the Native American Heritage Commission (NAHC) in Sacramento to hold records of Native American sacred sites and burial sites in the Sacred Lands File. The NAHC also holds records of individuals that have particular expertise and knowledge of Native American resources.

On November 15, 2015 Stantec on behalf of GWP, contacted the NAHC and requested a Sacred Lands File search for the entire Project Area. A response from the NAHC was received on December 7, 2015 indicating that they have no knowledge of Native American resources within or immediately adjacent to the Project Area. They provided a list of eight individuals/organizations for Los Angeles County that may have knowledge of Native American and tribal cultural resources that could potentially present within or immediately adjacent to the Project Area. Stantec on behalf of GWP submitted notification/consultation letters to these individuals/organizations on January 27, 2016. Results of the Native American notification with the NAHC and NA contacts for Los Angeles County are provided in Appendix A.

As of the date of this report, no Native American groups or tribes have contacted the City of Glendale (lead state agency for AB-52 for the Project) in regard to AB-52 consultation and listing. Please note that Native American outreach was initiated per contact with the NAHC and as of the date of this report, only two responses were received. In an email dated February 2, 2016, Mr. Salas of the Gabrieleno Band of Mission Indians-Kizh Nation requested that a Tribal monitor to be present during all ground disturbing activities, including but not limited to pot-holing, pavement removal, augering, boring, grading, trenching and excavations. In a letter dated February 29, 2016, Mr. Ontiveros of the Soboba Band of Luiseno Indians indicated that the tribe had not concerns regarding any cultural resources near the Project Area, however, he requested that a qualified Native American monitor should be present during any ground disturbing activities. Responses to the NAHC request and any further outreach will be included and appended to this report in Appendix A.

7.2 Records Search

A records search of the entire Project Area was conducted by Stantec personnel at the SCCIC on October 15, 2015. The search entailed a review of all previously recorded prehistoric and historic archaeological sites located within a ½-mile radius of the Project Area, as well as a review of all known cultural resource survey reports, excavation reports and regional cultural overviews.

Results of the records search indicated that no cultural resources studies were previously conducted within the current Project Area; however, five negative cultural resource surveys (Bonner 2004a, 2004b; Brunell 2014; Singer 1987; Wlodarski 1981) were conducted within a ½ mile radius of the current Project Area (Table 1).

Additionally, the records search results indicated that no cultural resources were previously documented within the current Project Area; however, one historic period resource was previously documented within a ½-mile radius of the current Project Area (Table 2). The resource is a historic period steel lattice Eagle Rock-Laguna Bell 220kV transmission line, which is currently in use and is maintained and operated by SCE. No other cultural resources were previously documented within the Project Area or within a ½-mile radius of the Project Area.

As part of the archival research at the SCCIC, the following sources were consulted: the *California Archaeological Inventory Records, NRHP*, *California Historic Landmark Registry, California Points of Historical Interest, Inventory of Historic Structures,* and *Historical Landmarks for Los Angeles County*. Additionally, the following historic period maps were consulted: Pasadena, CA (1894; 1900 edition, reprinted in 1940; 1953; 1966 and 1995) 15-minute topographic quadrangles.

TABLE 1
SUMMARY OF CULTURAL RESOURCE PROJECTS PREVIOUSLY CONDUCTED WITHIN A ½-MILE RADIUS OF THE PROJECT AREA.

Author	Year	Level of Investigation	Results	Report Reference No.
Bonner, W.	2004a	Survey	Negative	LA12657
Bonner, W.	2004b	Survey	Negative	LA07446
Brunell, D.	2014	Survey	Negative	LA07453
Singer, C.	1987	Survey	Negative	LA01662
Wlodarski, R.	1981	Survey	Negative	LA00943

TABLE 2
SUMMARY OF KNOWN CULTURAL RESOURCES LOCATED WITHIN A ½-MILE RADIUS OF THE PROJECT AREA.

Quad	Trinomial	Primary No.	Component	Description
Various	-	19-186870	Historic	SCE Eagle Rock-Laguna Bell 220kV transmission line

7.3 Field Methods

A pedestrian survey of the Project Area was conducted on October 20, 2015 and January 15, 2016. The initial survey took place in October, 2015 and included the 3-acre footprint of the proposed power generation facility. Subsequently, as additional project information was added and the proposed alignments of gas and water lines were finalized, additional survey took place on January 15, 2016 to account for those changes and to ensure that the entire Project Area was surveyed for cultural resources. A third field survey occurred on February 23, 2017 to account for project changes incorporating an area planned for removal and replacement of existing water tanks, including an existing access road. Overall, approximately 20.5 acres of land were surveyed between October 20, 2015 and February 23, 2017.

Per the California Office of Historic Preservation (1995) guidelines, Stantec examined surface and subsurface exposures such as rodent burrows and cut banks for physical manifestations of human activity greater than 45 years in age. Documentation included field notes and photographs. The extent of the survey coverage was recorded with a Trimble Juno 5 hand-held GPS unit, with between 2 to 4 meter horizontal accuracy, with the Universal Transverse Mercator (UTM), North American Datum of 1983 (NAD 83), Zone 11, meters, as the spatial reference. Photographs were taken with a Canon PowerShot A530 digital camera to document the built environment within the Project Area. The extent of the survey coverage was drawn on the Pasadena, CA (1994) USGS 7.5-minute series topographic quadrangle (see Fig. 2).

8.0 SURVEY RESULTS

The entire survey was conducted by walking east-west transects within the footprint of the proposed generation facility and transects parallel to the proposed gas and water lines, which were spaced at approximately 10 meters apart. Survey of the proposed power generation facility was conducted on a sunny and bright day, with ground visibility between 80-100 percent, albeit in mostly disturbed context. The area designated for the proposed power generation facility comprises an existing paved roadway, an above-ground gas pipeline installed on 2 ft. sleepers, and portions of which appear to have been graded to accommodate buried facilities,

such as water line, irrigation, gas, and communication. Southern and southeastern portion of this area appear to be located on steep hillside, with slope between 10-15° overlooking the paved access road (Scholl Canyon Road) to SCLF (Figs. 4 and 5).

Figure 4. Overview of the Project Area with an existing power plant and active landfill in background, view west. Photo taken on October 19, 2015 (Stantec IMG_3516).

Figure 5. Overview of the Project Area, view south towards the Los Angeles Basin. Note Scholl Canyon Road in foreground and the steep topography immediately south of the Project Area. Photo taken on October 19, 2015 (Stantec IMG_3517).

Once this area was inventoried for cultural resources, the survey followed the proposed water line in westerly direction for approximately 300 meters at which point the survey continued north and northwest on east side of an existing paved access road (Fig. 6). The survey continued northwest on a south side of an existing golf course and continued further north along a terraced slope (bench 11) towards East Glen Oaks Blvd. Once this portion of the survey was complete, the survey followed the proposed alignment of the gas line, which started at the proposed power generation facility and continued west, near the entrance to the SCLF and

north down the terraced slope towards Lower Scholl Canyon Park. This portion of the survey was characterized by relatively dense vegetation and terraced slope with irrigation pipes and a paved access road which followed the terraced slope (Fig. 7).

Figure 6. Overview of the Project Area along the proposed waterline alignment, view southeast. Photo taken on January 15, 2016 (Stantec IMG_3826).

Figure 7. Overview of the Project Area along the proposed gas line alignment, view northwest. Note the terraced slope with dense vegetation and existing aboveground pipelines. Photo taken on January 15, 2016 (Stantec IMG_3834).

Survey conducted on February 23, 2017, commenced near an existing and active LFG facility and proceeded southwest along an existing access road (Fig. 8). Survey transects were conducted parallel to an existing road and were spaced approximately 10 meters apart. The survey was conducted on bright and sunny day with excellent visibility. Ground visibility within this portion of the Project Area varied from open ground to moderately overgrown with ground visibility between 60 and 100%, with slope less than 15°. This portion of the survey concluded near

an existing water tank facility, comprised of two water tanks located on top of a ridge overlooking the SCLF.

Figure 8. Overview of the Project Area along an existing access road with water tanks visible in background, view west. Photo taken on February 23, 2017 (Stantec IMG_3901).

9.0 CULTURAL RESOURCES

As a result of cultural resources study presented herein, a single, historic period resource was identified and documented during the survey conducted on February 23, 2017 (Table 3). The new resource was recorded on the on California Department of Parks and Recreation Historical Resource Record forms (series DPR 523 1/95), including Primary and/or Archaeological Site Record forms appropriate for all such resources. Recordation adhered to the *Instructions for Recording Historical Resources* (Office of Historic Preservation 1995).

TABLE 3
SUMMARY OF NEW RESOURCES DOCUMENTED DURING THE CURRENT STUDY.

Quad	Temporary Field. No.	Primary No.	Trinomial	Description
Pasadena	SC-1	-	-	Water storage tank

9.1 Resource SC-1

Resource SC-1 is a historic period water tank constructed in the 1960s. This abandoned water storage tank appears to have been constructed of 4-foot panels of corrugated metal and covered with a domed top (Fig. 9). The tank is 14 feet in diameter and approximately 18 feet in height. The tank sits on top of a round gravel pad measuring approximately 16 feet in diameter. The tank has been retrofitted with a new water valve manufactured in 1990. A newer water tank, mounted on a concrete pad and constructed in 1990, is located immediately east of resource SC-1. While the exact construction date is unknown, the tank with its access road appears on aerial imagery of the Pasadena and Glendale area taken in the 1960s (USGS 2017).

Figure 9. Overview of Resource SC-1, view east. Photo taken on February 23, 2017 (Stantec IMG_3904).

10.0 MANAGEMENT RECOMMENDATIONS

As part of the current cultural resources study, 20.5 acres of land were inventoried to determine whether cultural resources would be affected by the proposed Project. A single historic period resource SC-1 was identified and documented during the course of the study. Based on field documentation and archival research it appears that the resource does not appear to be eligible for nomination to the CRHR as it does not appear to be directly associated with significant known historical events or specific persons significant to California's history (Criteria 1 and 2), nor is the resource distinctive nor does it possess high artistic value in a fashion that would qualify under Criterion 3; nor does the resource appear to contain potential that could yield information to California's history (Criterion 4). Furthermore, the resource does not appear to be a significant resource important to local history under Criterion 5. Additionally, the resource does not appear to be eligible as a contributing element to a larger, significant, and potentially CRHR eligible and/or listed district. Based on the findings in this study the proposed Project will not cause a substantial adverse change to the significance of cultural resources as defined in Section 15064.5, nor will the proposed Project have impacts on significant local resources as defined in Chapter 15.20 of the City of Glendale Municipal Code. Therefore, no additional cultural resources studies or additional construction constraints are recommended at this time.

The methods and techniques used by Stantec are considered sufficient for the identification and evaluation of cultural resources visible at the ground surface. However, there is always a possibility that buried archaeological deposits could be found during construction and earth disturbing activities. In the event that cultural resources are encountered during construction activities, all work must stop and a qualified archaeologist should be contacted immediately. Further, if human remains are encountered during construction, State Health and Safety Code Section 7050.5 requires that no further work shall continue at the location of the find until the County Coroner has made all the necessary findings as to the origin and distribution of such remains pursuant to Public Code Resources Code Section 5097.98.

11.0 REFERENCES

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APPENDIX A – NATIVE AMERICAN NOTIFICATION/SACRED FILE SEARCH CORRESPONDENCE

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 FAX

December 7, 2015

Hubert Switalski
Stantec Consulting Services, Inc.

Sent by Email: Hubert.switalski@stantec.com
Number of Pages: 3

RE: Scholl Canyon Power Plant Project, Glendale, Los Angeles County

Dear Mr. Switalski:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced project. Government Code §65352.3 requires local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of protecting, and/or mitigating impacts to tribal cultural resources in creating or amending general plans, including specific plans. As of July 1, 2015, Public Resources Code Sections 21080.1, 21080.3.1 and 21080.3.2 require public agencies to consult with California Native American tribes identified by the NAHC for the purpose mitigating impacts to tribal cultural resources under the California Environmental Quality Act (CEQA). In accordance with Public Resources Code Section 21080.1(d):

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions. The NAHC believes that in fact that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.1(d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC believes that agencies should also include with their notification letters information regarding any cultural resources assessment that has been completed on the APE, such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

   - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE;
   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
   - If the probability is low, moderate, or high that cultural resources are located in the APE.
   - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential APE; and
   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measurers.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure in accordance with Government Code Section 6254.10.

3. The results of any Sacred Lands File (SLF) check conducted through Native American Heritage Commission. A SLF search was completed with negative results.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a cultural place. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the case that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: rw_nahc@pacbell.net.

Sincerely,

Rob Wood
Associate Environmental Planner

Native American Heritage Commission
Tribal Consultation List
Los Angeles County
December 7, 2015

Soboba Band of Mission Indians
Rosemary Morillo, Chairperson; Attn: Carrie Garcia
P.O. Box 487
San Jacinto , CA 92581
carrieg@soboba-nsn.gov
(951) 654-2765
Luiseno
Cahuilla

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490
Bellflower , CA 90707
gtongva@verizon.net
(562) 761-6417 Voice/Fax
Gabrielino Tongva

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega Jr., President
1019 2nd Street
San Fernando , CA 91340
(818) 837-0794 Office
Fernandeno
Tataviam

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
1999 Avenue of the Stars, Suite 1100
Los Angeles , CA 90067
(626) 676-1184 Cell
Gabrielino

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
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Newhall , CA 91322
tsen2u@hotmail.com
(760) 885-0955 Cell
Fernandeño
Tataviam
Serrano
Vanyume
Kitanemuk

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina , CA 91723
gabrielenoindians@yahoo.com
(626) 926-4131
Gabrielino

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 483-3564 Cell
Gabrielino Tongva

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231
Los Angeles , CA 90012
sgoad@gabrielino-tongva.com
(951) 807-0479
Gabrielino Tongva

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.
This list applicable only for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Scholl Canyon Power Plant Project, Glendale, Los Angeles County.

Contact Name, Affiliation, and Address	Date and Method of First Contact	Date and Method of Second Contact	Date and Method of Third Contact	Response
Soboba Band of Mission Indians Rosemary Morillo, Chairperson ATTN: Carrie Garcia P.O. Box 487 San Jacinto, CA 92581	Letter via Registered USPS Mail, dated January 27, 2016	-	-	Response via mail received on February 29, 2016. The tribe responded by stating that the Soboba Band does not have any specific concerns regarding known cultural resources in the area that the project encompasses, but requests that the appropriate consultation should continue. Additionally, the tribe requests for an approved Native American Monitor to be present during ground distrubing activities.
Fernandeno Tataviam Band of Mission Indians Rudy Ortega Jr., President 1019 2nd Street San Fernando, CA 91340	Letter via Registered USPS Mail, dated January 27, 2016	-	-	-
San Fernando Band of Mission Indians John Valenzuela, Chairperson P.O. Box 221838 Newhall, CA 91322	Letter via Registered USPS Mail, dated January 27, 2016	-	-	-
Gabrieleno/Tongva San Gabriel Band of Mission Indians Anthony Morales, Chairperson P.O. Box 693 San Gabriel, CA 91778	Letter via Registered USPS Mail, dated January 27, 2016	-	-	-
Gabrielino/Tongva Nation Sandonne Goad, Chairperson 106 1/2 Judge John Aiso St. #231 Los Angeles, CA 90012	Letter via Registered USPS Mail, dated January 27, 2016	-	-	-
Gabrielino/Tongva Indians of California Tribal Council Robert Dorame, Tribal Chair/Cultural Resources P.O. Box 490 Bellflower, CA 90707	Letter via Registered USPS Mail, dated January 27, 2016	-	-	Response via email received on February 2, 2016. The tribe requests for a Tribal monitor to be present during all ground disturbing activities, including but not limited to pavement removal, pot-holing or augering, boring, grading, excavation and trenching.
Gabrielino-Tongva Tribe Linda Candelaria, Co-Chairperson 1999 Avenue of the Stars, Suite 1100 Los Angeles, CA 90067	Letter via Registered USPS Mail, dated January 27, 2016	-	-	-
Gabrieleno Band of Mission Indians - Kihz Nation Andrew Salas, Chairperson P.O. Box 393 Covina, CA 91723	Letter via Registered USPS Mail, dated January 27, 2016	-	-	-

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5500 Ming Avenue, Suite 300
Bakersfield, CA 93309-4627
Tel: (661) 617-5873
Fax: (661) 396-3771

January 27, 2016

Gabrieleno Band of Mission Indians – Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina, CA 91723

Subject: *Scholl Canyon Landfill Power Project, Glendale, Los Angeles County, California.*

Dear Mr. Salas,

Glendale Water and Power (GWP) is proposing to construct a power generation facility with auxiliary water and natural gas pipelines within the Scholl Canyon Landfill, Glendale, Los Angeles County, California. The proposed project will entail construction of a new 13 megawatt (MW) facility which be constructed adjacent to an existing and active facility. An approximately two thirds of a mile of natural gas pipeline will be constructed to connect the facility to the existing pipeline system. This three inch steel gas pipeline will be located above ground except for road crossings. For fire protection and domestic water use, a one mile long, 14 inch steel pipeline will be connected to an existing 16 inch pipeline located north of the landfill on East Glen Oaks Blvd. This water line will also be above ground except for road crossings (Fig. 1). Additionally, the existing approximately seven mile long 6-inch diameter underground pipeline currently used to carry landfill gas (LFG) to the existing power plant would be decommissioned in place. Ground disturbance will be limited to areas within and adjacent to an existing Scholl Canyon Landfill. As stated above, in some cases existing underground utilities will be decommissioned in place.

Stantec is in the process of conducting an archaeological study, under the guidelines of the California Environmental Quality Act (CEQA), and documenting any impacts that could potentially adversely affects known archaeological sites and historic properties. On behalf of the GWP, we have submitted a request to the Native American Heritage Commission (NAHC) in Sacramento to determine whether any Sacred Lands or sites could potentially be affected by the above referenced project. While the search failed to indicate the presence of Native American traditional cultural places within the Project Area, there could be a potential for Native American sites to be located in close proximity to the Project Area.

We would greatly appreciate your review of our project area (e.g. Project and Study Areas are marked on the enclosed copy of USGS 7.5' topographic quadrangle) for any information you may have in reference to known Native American sacred sites/lands and Traditional Cultural Properties, or any cultural resources that could be affected by the proposed project. The project is on a fast time schedule and your prompt assistance either via fax or electronic mail regarding this matter would be enormously appreciated. Please do not hesitate to contact us if you have any questions or concerns about this project, as we would be happy to discuss them with you over the telephone.

Respectfully,

Hubert Switalski
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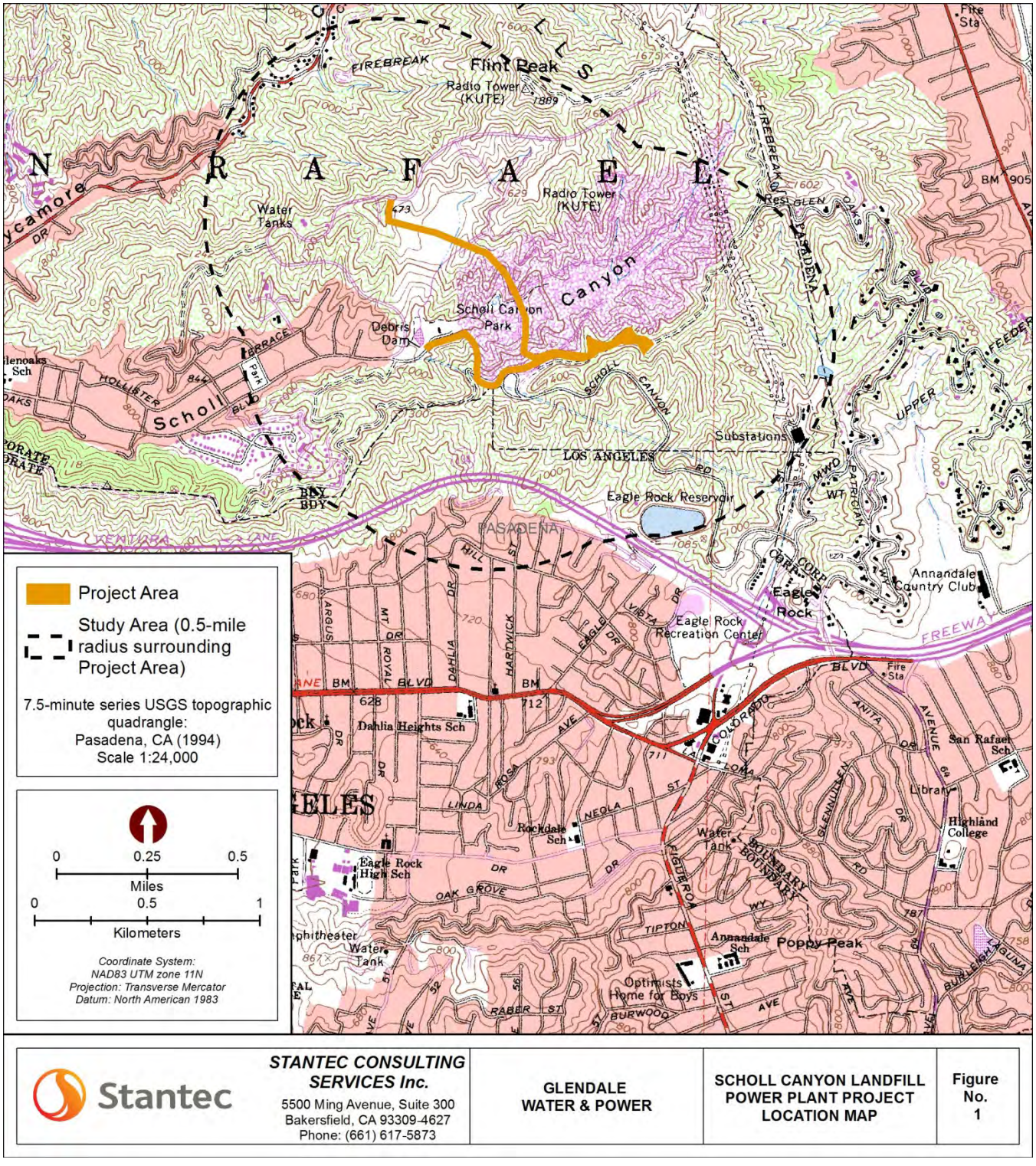

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January 27, 2016

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA 91778

Subject: *Scholl Canyon Landfill Power Project, Glendale, Los Angeles County, California.*

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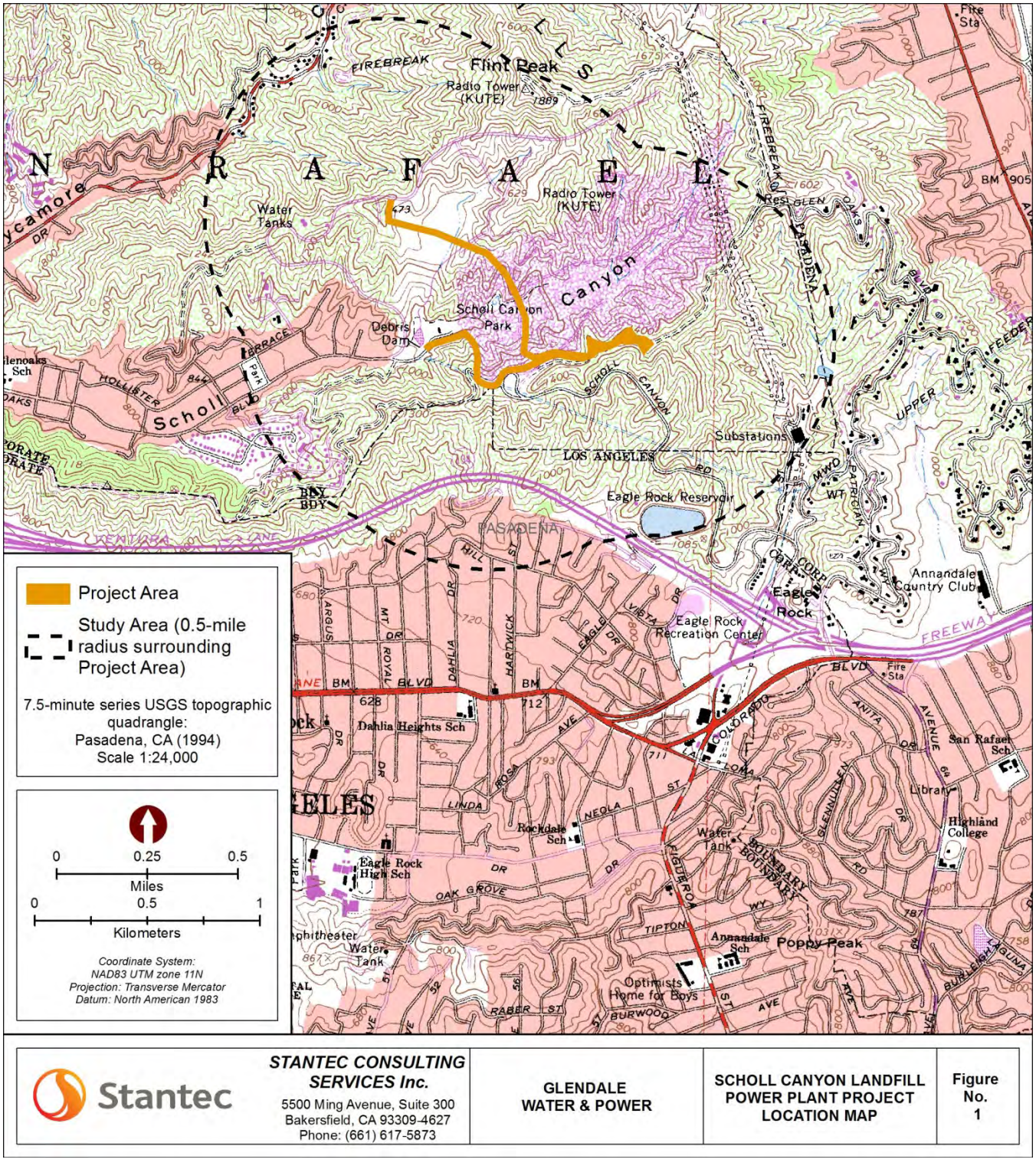

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January 27, 2016

Soboba Band of Mission Indians
Attn: Carrie Garcia
P.O. Box 487
San Jacinto, CA 92581

Subject: *Scholl Canyon Landfill Power Project, Glendale, Los Angeles County, California.*

Dear Ms. Garcia,

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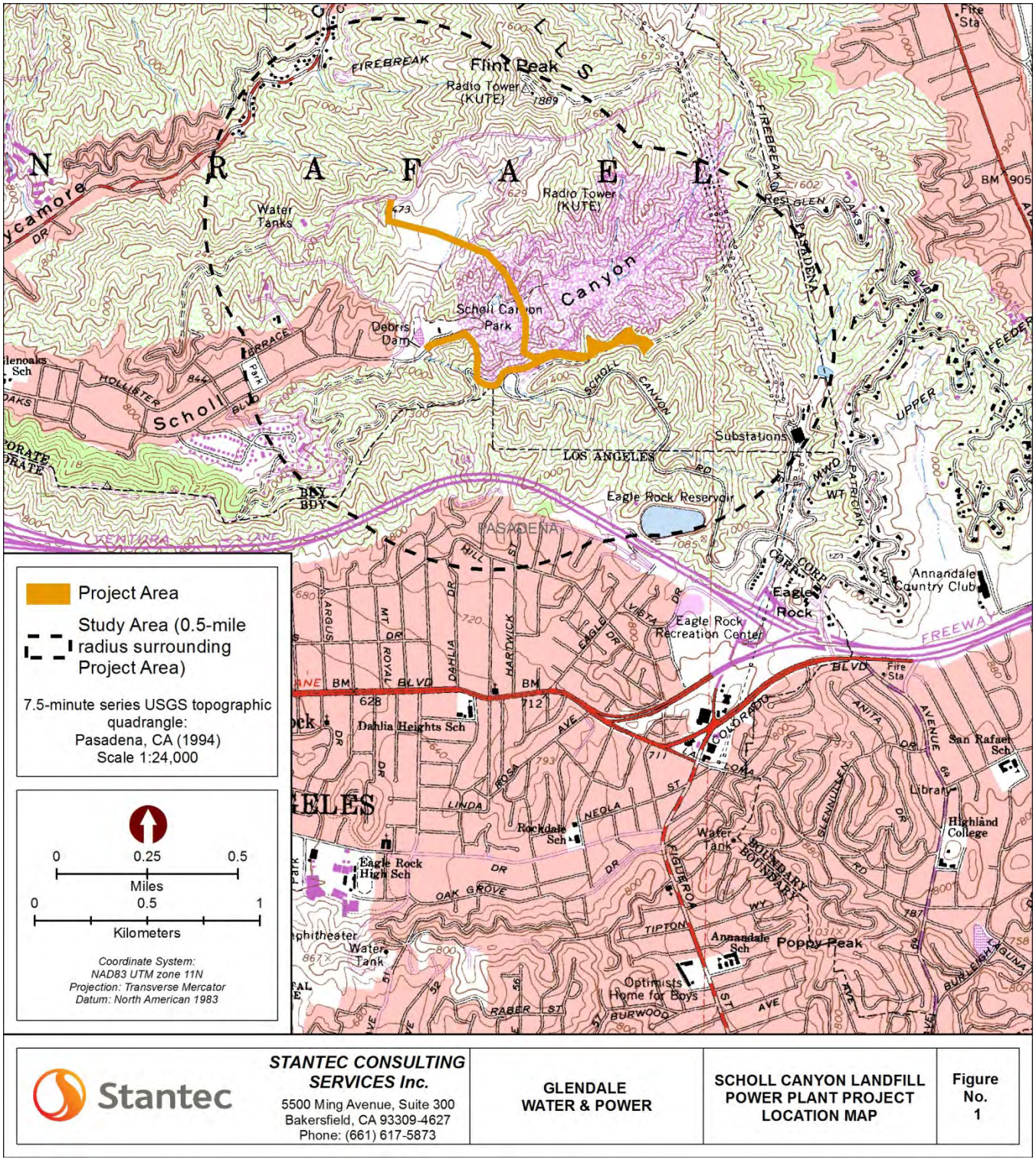

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January 27, 2016

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838
Newhall, CA 91322

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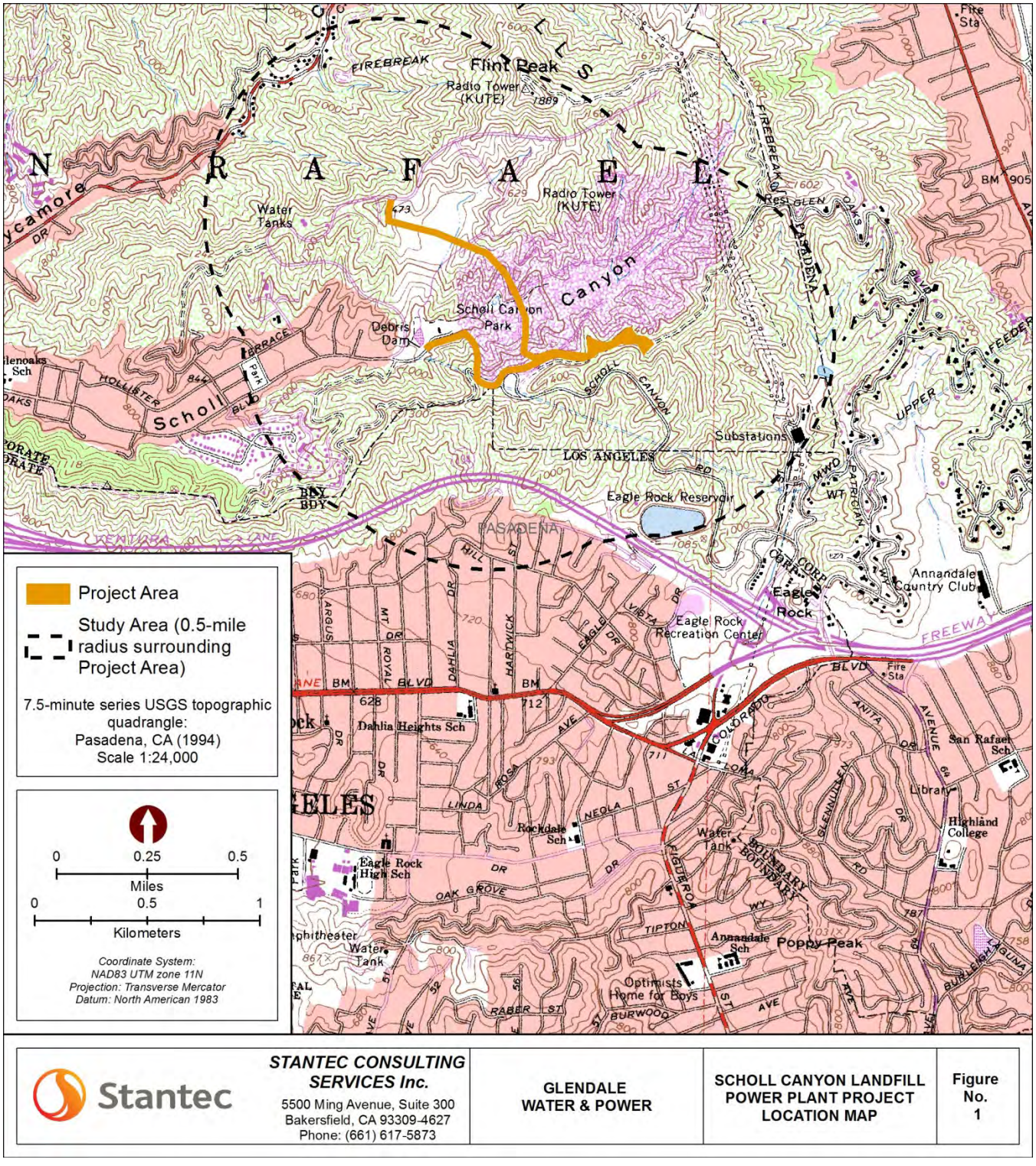

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January 27, 2016

Gabrielino-Tongva Tribe
Linda Candelaria. Co-Chairperson
1999 Avenue of the Stars, Suite 1100
Los Angeles, CA 90067

Subject: *Scholl Canyon Landfill Power Project, Glendale, Los Angeles County, California.*

Dear Ms. Candelaria,

Glendale Water and Power (GWP) is proposing to construct a power generation facility with auxiliary water and natural gas pipelines within the Scholl Canyon Landfill, Glendale, Los Angeles County, California. The proposed project will entail construction of a new 13 megawatt (MW) facility which be constructed adjacent to an existing and active facility. An approximately two thirds of a mile of natural gas pipeline will be constructed to connect the facility to the existing pipeline system. This three inch steel gas pipeline will be located above ground except for road crossings. For fire protection and domestic water use, a one mile long, 14 inch steel pipeline will be connected to an existing 16 inch pipeline located north of the landfill on East Glen Oaks Blvd. This water line will also be above ground except for road crossings (Fig. 1). Additionally, the existing approximately seven mile long 6-inch diameter underground pipeline currently used to carry landfill gas (LFG) to the existing power plant would be decommissioned in place. Ground disturbance will be limited to areas within and adjacent to an existing Scholl Canyon Landfill. As stated above, in some cases existing underground utilities will be decommissioned in place.

Stantec is in the process of conducting an archaeological study, under the guidelines of the California Environmental Quality Act (CEQA), and documenting any impacts that could potentially adversely affects known archaeological sites and historic properties. On behalf of the GWP, we have submitted a request to the Native American Heritage Commission (NAHC) in Sacramento to determine whether any Sacred Lands or sites could potentially be affected by the above referenced project. While the search failed to indicate the presence of Native American traditional cultural places within the Project Area, there could be a potential for Native American sites to be located in close proximity to the Project Area.

We would greatly appreciate your review of our project area (e.g. Project and Study Areas are marked on the enclosed copy of USGS 7.5' topographic quadrangle) for any information you may have in reference to known Native American sacred sites/lands and Traditional Cultural Properties, or any cultural resources that could be affected by the proposed project. The project is on a fast time schedule and your prompt assistance either via fax or electronic mail regarding this matter would be enormously appreciated. Please do not hesitate to contact us if you have any questions or concerns about this project, as we would be happy to discuss them with you over the telephone.

Respectfully,

Hubert Switalski
Archaeologist
Stantec Consulting Services, Inc.
5500 Ming Avenue, Suite 300
Bakersfield, CA 93309-4627
Office: 661.617.5873
hubert.switalski@stantec.com

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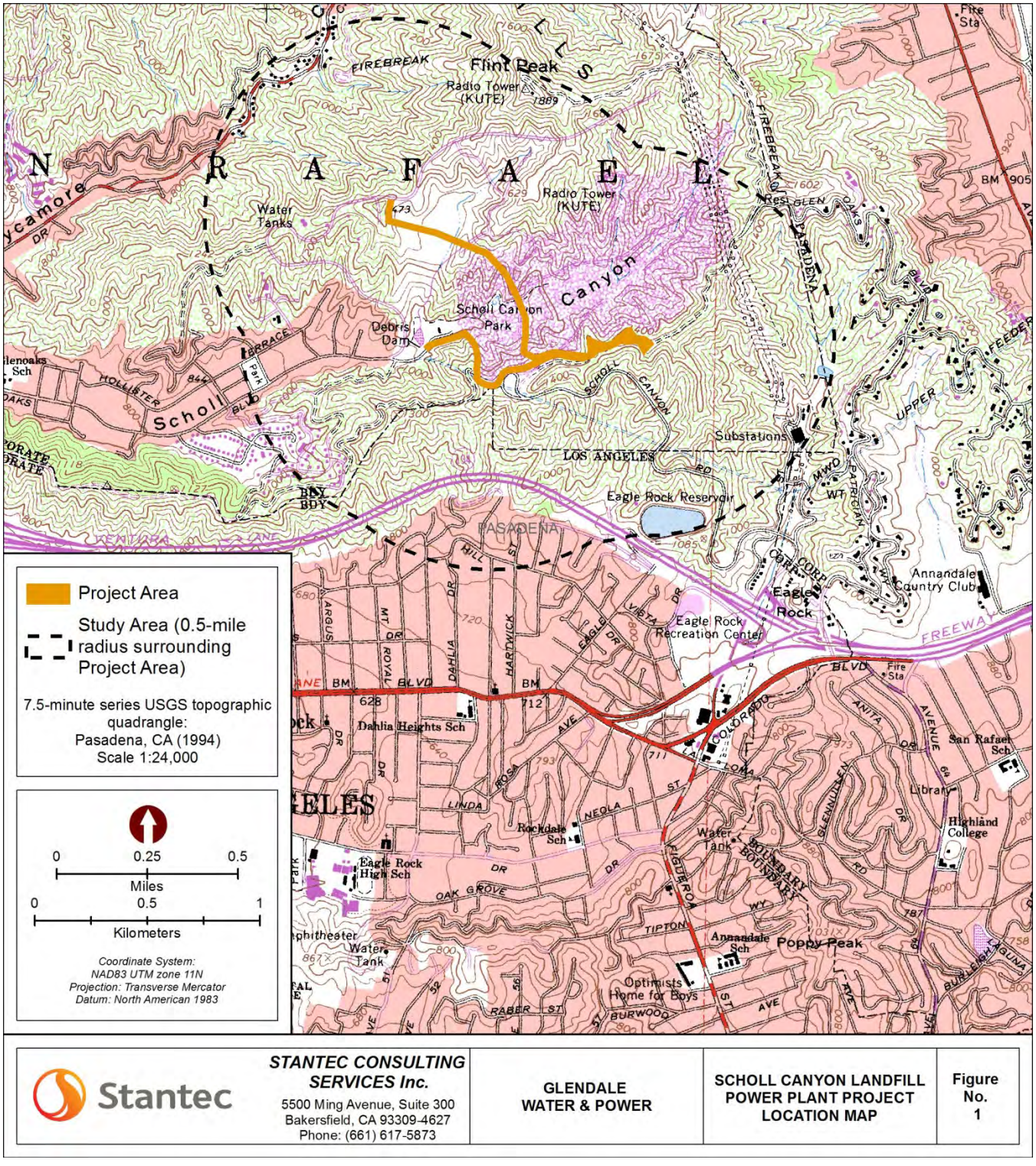
Tel: (661) 617-5873
Fax: (661) 396-3771



Map 1. Project Area and the ½ mile buffer surrounding the Project Area depicted on the Pasadena, CA (1994) USGS 7.5-minute series topographic quadrangle. Extent of the proposed project is shown in orange.

Stantec Consulting Services Inc.
5500 Ming Avenue, Suite 300
Bakersfield, CA 93309-4627
Tel: (661) 617-5873
Fax: (661) 396-3771

January 27, 2016

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Tribal Chair/Cultural Resources
P.O. Box 490
Bellflower, CA 90707

Subject: *Scholl Canyon Landfill Power Project, Glendale, Los Angeles County, California.*

Dear Mr. Dorame,

Glendale Water and Power (GWP) is proposing to construct a power generation facility with auxiliary water and natural gas pipelines within the Scholl Canyon Landfill, Glendale, Los Angeles County, California. The proposed project will entail construction of a new 13 megawatt (MW) facility which be constructed adjacent to an existing and active facility. An approximately two thirds of a mile of natural gas pipeline will be constructed to connect the facility to the existing pipeline system. This three inch steel gas pipeline will be located above ground except for road crossings. For fire protection and domestic water use, a one mile long, 14 inch steel pipeline will be connected to an existing 16 inch pipeline located north of the landfill on East Glen Oaks Blvd. This water line will also be above ground except for road crossings (Fig. 1). Additionally, the existing approximately seven mile long 6-inch diameter underground pipeline currently used to carry landfill gas (LFG) to the existing power plant would be decommissioned in place. Ground disturbance will be limited to areas within and adjacent to an existing Scholl Canyon Landfill. As stated above, in some cases existing underground utilities will be decommissioned in place.

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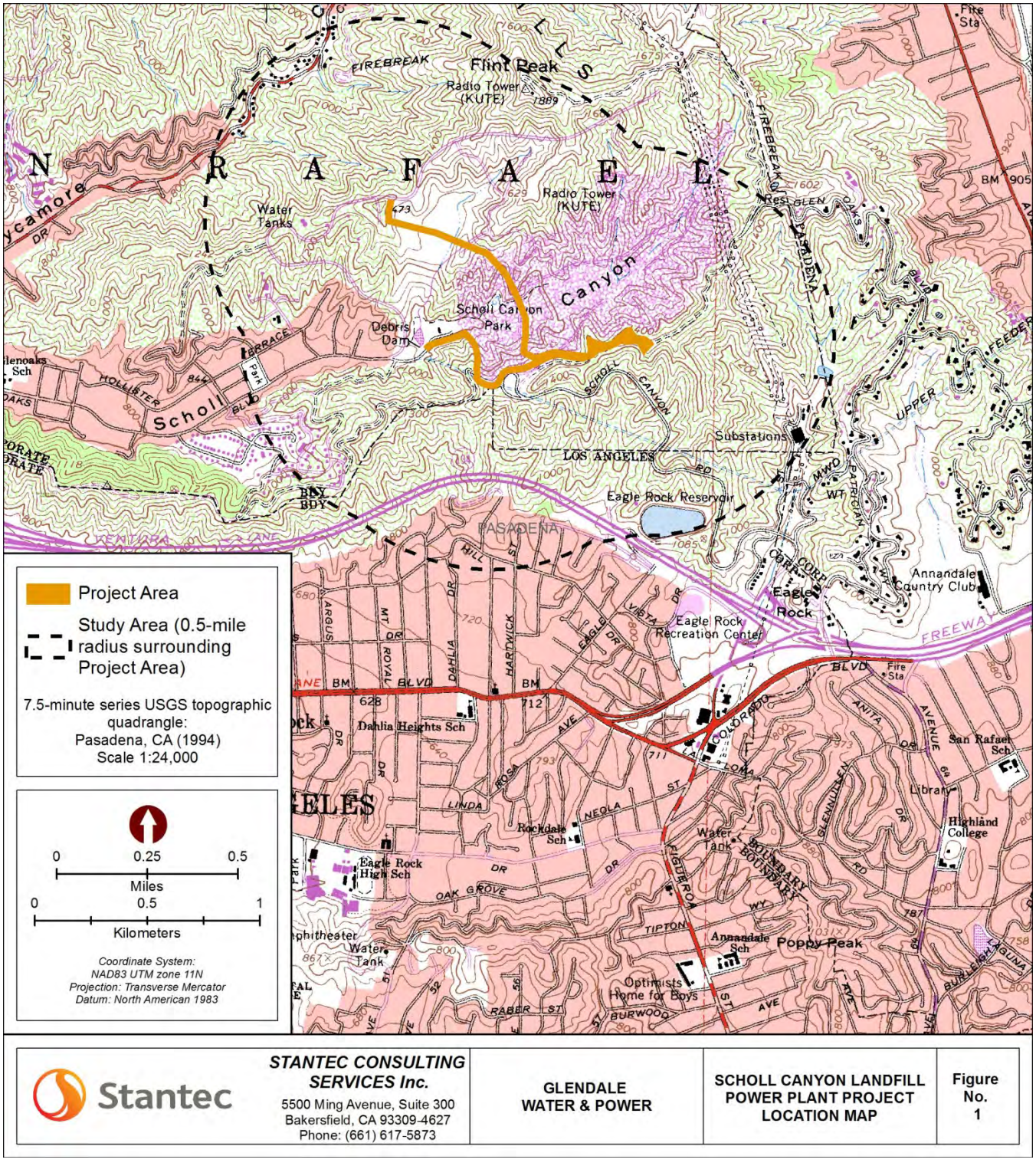

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January 27, 2016

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega Jr., President
1019 2nd Street
San Fernando, CA 91340

Subject: *Scholl Canyon Landfill Power Project, Glendale, Los Angeles County, California.*

Dear Mr. Ortega,

Glendale Water and Power (GWP) is proposing to construct a power generation facility with auxiliary water and natural gas pipelines within the Scholl Canyon Landfill, Glendale, Los Angeles County, California. The proposed project will entail construction of a new 13 megawatt (MW) facility which be constructed adjacent to an existing and active facility. An approximately two thirds of a mile of natural gas pipeline will be constructed to connect the facility to the existing pipeline system. This three inch steel gas pipeline will be located above ground except for road crossings. For fire protection and domestic water use, a one mile long, 14 inch steel pipeline will be connected to an existing 16 inch pipeline located north of the landfill on East Glen Oaks Blvd. This water line will also be above ground except for road crossings (Fig. 1). Additionally, the existing approximately seven mile long 6-inch diameter underground pipeline currently used to carry landfill gas (LFG) to the existing power plant would be decommissioned in place. Ground disturbance will be limited to areas within and adjacent to an existing Scholl Canyon Landfill. As stated above, in some cases existing underground utilities will be decommissioned in place.

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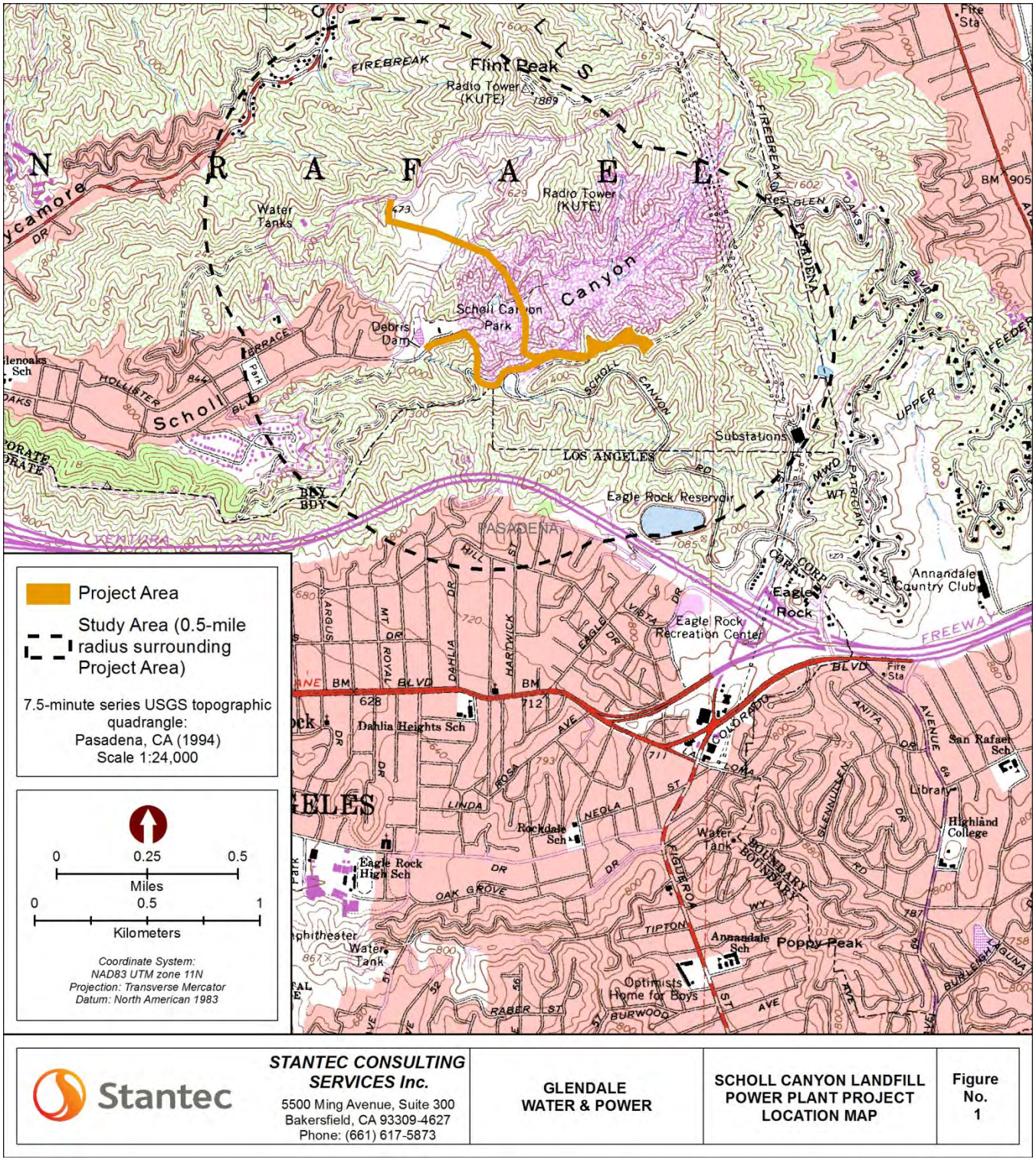

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Stantec

January 27, 2016

Gabrielino/Tongva Nation
Sandonne Goad, Chairperson
106 ½ Judge John Aiso St., #231
Los Angeles, CA 90012

Subject: *Scholl Canyon Landfill Power Project, Glendale, Los Angeles County, California.*

To Whom It May Concern,

Glendale Water and Power (GWP) is proposing to construct a power generation facility with auxiliary water and natural gas pipelines within the Scholl Canyon Landfill, Glendale, Los Angeles County, California. The proposed project will entail construction of a new 13 megawatt (MW) facility which be constructed adjacent to an existing and active facility. An approximately two thirds of a mile of natural gas pipeline will be constructed to connect the facility to the existing pipeline system. This three inch steel gas pipeline will be located above ground except for road crossings. For fire protection and domestic water use, a one mile long, 14 inch steel pipeline will be connected to an existing 16 inch pipeline located north of the landfill on East Glen Oaks Blvd. This water line will also be above ground except for road crossings (Fig. 1). Additionally, the existing approximately seven mile long 6-inch diameter underground pipeline currently used to carry landfill gas (LFG) to the existing power plant would be decommissioned in place. Ground disturbance will be limited to areas within and adjacent to an existing Scholl Canyon Landfill. As stated above, in some cases existing underground utilities will be decommissioned in place.

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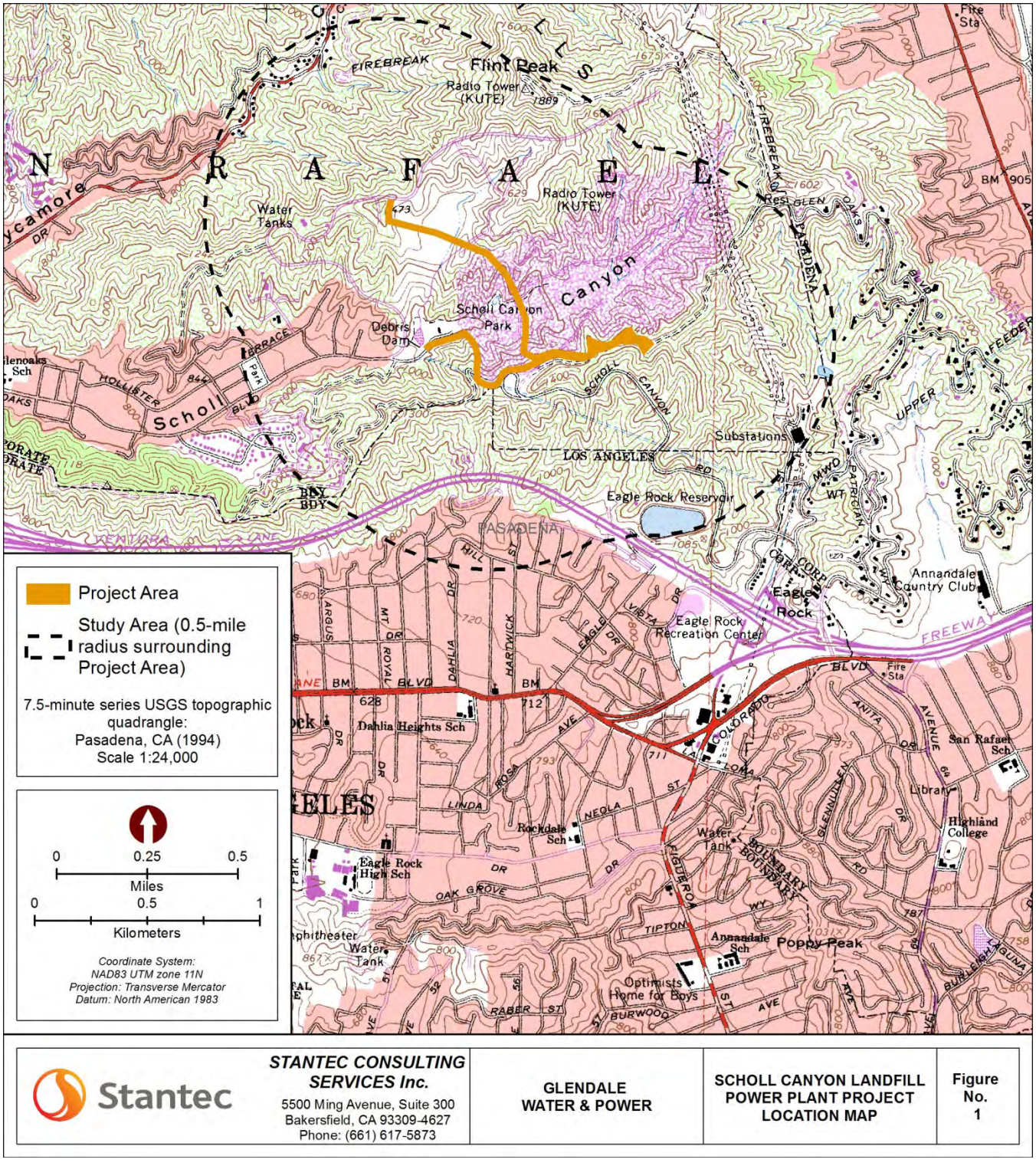

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GABRIELENO BAND OF MISSION INDIANS - KIZH NATION
Historically known as The San Gabriel Band of Mission Indians
Recognized by the State of California as the aboriginal tribe of the Los Angeles basin

Hubert Switalski
Archaeologist
Stantec Cosulting Services,Inc
5500 Ming Ave, Suite 300
Bakersfield CA 93309-4627

Subject: Scholl Canyon Landfill Power Project, Glendale, Los Angeles County, California.

Dear Hubert
Thank you for your letter regarding your proposed project for the Scholl canyon Landfill Power Project, Glendale, Los Angeles County Prominent village of ***HAHAMONGNA*** , however there were many more Gabrieleño settlements with in this location. ***HAHAMONGNA*** covered a Mass area of what was historically known as Rancho San Rafael then Rancho de Los Verdugos . These areas later became known to be Glendale, Eagle rock and also parts of Pasadena. We would like to request one of our Tribal monitors to be on site at this project location during all ground disturbance (this includes but is not limited to pavement removal, pot-holing or auguring, boring, grading, excavation and trenching). Our priority is to avoid and protect cultural resources without delay or conflicts to the lead agency or property owner. Our monitor will provide daily written reports (as well as photographic proof) of all activities including construction along with any cultural materials identified. Liability insurance, consultation with our Tribal archaeologists and Tribal biologists can also be provided and utilized if necessary.

Often, we are told that an archaeological monitor will be present and there's no need for a Native American monitor. It is well known that archaeologists do not recognize sites that Native Americans do. Archaeologists are trained to recognize man made items even though they often misinterpret what the item is used for. This is what Tribal Monitors do – what we are trained to do. The purpose of SHPO, Section 106, ACHP and now AB52 is to provide Tribes with the laws necessary to protect potential cultural resources.

In addition, we are also often told that an area has been previously developed or disturbed and thus there are no concerns for cultural resources and thus minimal impacts would be expected. I have two major recent examples of how similar statements on other projects were proven very inadequate. An archaeological study claimed there would be no impacts to an area adjacent to the Plaza Church at Olvera Street, the original Spanish settlement of Los Angeles, now in downtown Los Angeles. In fact, this site was the Gabrieleno village of Yangna long before it became what it is now today. The new development wrongfully began their construction and they, in the process, dug up and desecrated 118 burials. The area that was dismissed as culturally sensitive was in fact the First Cemetery of Los Angeles where it had been well documented at the Huntington Library that 400 of our Tribe's ancestors were buried there along with the founding families of Los Angeles (Picos, Sepulvedas, and Alvardos to name a few). In addition, there was another inappropriate study for the development of a new sports complex at Fedde Middle School in the City of Hawaiian Gardens could commence. Again, a village and burial site were desecrated despite their mitigation measures. Thankfully, we were able to work alongside the school district to quickly and respectfully mitigate a mutually beneficial resolution.

Given all the above, the proper thing to do for your project would be for our Tribe to monitor ground disturbing construction work. Because we are the lineal descendants of the vast area of Los Angeles and Orange Counties, we hold sacred the ability to protect what little of our culture remains. We thank you for taking seriously your role and responsibility in assisting us in preserving our culture.

With respect,

Andrew Salas, Chairman

cell (626)926-4131

Addendum: clarification regarding some confusions regarding consultation under AB52:

AB52 clearly states that consultation must occur with tribes that claim traditional and cultural affiliation with a project site. Unfortunately, this statement has been left open to interpretation so much that neighboring tribes are claiming affiliation with projects well outside their traditional tribal territory. The territories of our surrounding Native American tribes such as the Luiseno, Chumash, and Cahuilla tribal entities. Each of our tribal territories has been well defined by historians, ethnographers, archaeologists, and ethnographers – a list of resources we can provide upon request. Often, each Tribe as well educates the public on their very own website as to the definition of their tribal boundaries. You may have received a consultation request from another Tribe. We are responding because your project site lies within our ***Traditional and Cultural Affiliated tribal territory,*** tribal territory, which, again, has been well documented. If you have questions regarding the validity of the "traditional and cultural affiliation" of another Tribe, we urge you to contact the Native American Heritage Commission directly. Section 5 section 21080.3.1 (c) states "…the Native American Heritage Commission shall assist the lead agency in identifying the California Native American tribes that are traditionally and culturally affiliated with the project area." In addition, please see the map below.

APPENDIX 1: Map 1-2; Bean and Smith 1978 map.

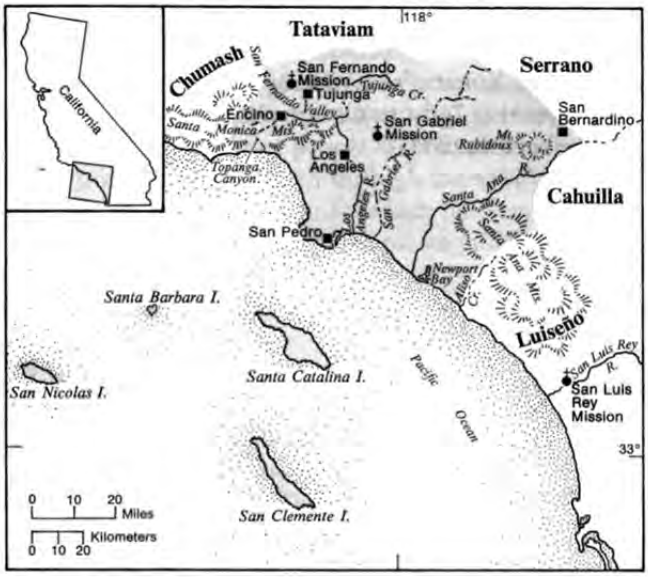


Fig. 1. Tribal territory.

The United States National Museum's Map of Gabrielino Territory:

Bean, Lowell John and Charles R. Smith
1978 Gabrielino IN *Handbook of North American Indians, California,* Vol. 8, edited by R.F. Heizer, Smithsonian Institution Press, Washington, D.C., pp. 538-549

Andrew Salas, Chairman | Nadine Salas, Vice-Chairman | Christina Swindall Martinez, secretary

Albert Perez, treasurer I | Martha Gonzalez Lemos, treasurer II | Richard Gradias, Chairman of the council of Elders

PO Box 393 Covina, CA 91723 www.gabrielenoindians@yahoo.com gabrielenoindians@yahoo.com

February 25, 2016

Attn: Hubert Switalski, Archaeologist
Stantec Consulting Services, Inc.
5500 Ming Avenue, Suite 300
Bakersfield, CA 93309-4627

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

RE: Scholl Canyon Landfill Power Project, Glendale, Los Angeles County, CA

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project(s) has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. At this time the Soboba Band does not have any specific concerns regarding known cultural resources in the specified areas that the project encompasses, but does request that the appropriate consultation continue to take place between the tribes, project proponents, and government agencies.

Also, working in and around traditional use areas intensifies the possibility of encountering cultural resources during any future construction/excavation phases that may take place. For this reason the Soboba Band of Luiseño Indians requests that approved Native American Monitor(s) be present during any future ground disturbing proceedings, including surveys and archaeological testing, associated with this project. The Soboba Band recommends that you contact Gabrieleño Tribal Consultants, who are closer to the project area. Please feel free to contact me with any additional questions or concerns.

Sincerely,

Joseph Ontiveros
Cultural Resource Director
Soboba Band of Luiseño Indians
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

APPENDIX B – SITE RECORDS

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

 *Resource Name or #: SC-1

P1. Other Identifier:
***P2. Location:** ■**Not for Publication** ☐ **Unrestricted** ***a. County:** Los Angeles
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad:** Pasadena, CA **Date:** 1994 unsectioned portion of San Rafael Land Grant
c. Address: City: Zip:
d. UTM: NAD83 CONUS, Zone: 11S; 389861mE/ 3779695mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) From junction of Scholl Canyon Road and Figueroa Road, take Scholl Canyon Road to the Scholl Canyon Sanitary Landfill for approximately 0.75 miles. Proceed thorugh the gate and continue right for approximately 0.25 miles. The resource is located 150 meters at the end of an existing access road.

***P3a. Description:** This resource is a historic period water tank constructed sometime in the 1960s. This inactive water tank appears to have been constructed of 4-foot panels of corrugated metal and covered with a domed top. The tank is 14 feet in diameter and approximately 18 feet in height. The tank sits on top of a round gravel pad measuring approximately 16 feet in diameter. The tank has been retrofitted with a new water valve manufactured in 1990. A newer water tank, mounted on a concrete pad and constructed in 1990, is located immediately east. While the exact construction date is unknown, the tank with its access road appears on aerial imagery of the Pasadena and Glendale area which were taken in the 1960s.

***P3b. Resource Attributes:** AH-6 Water conveyance/storage system

***P4. Resources Present:** ☐Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ■Other (Isolates, etc.)

P5b. Description of Photo: Overview of resource SC-1, view east (Stantec IMG_3901).

***P6. Date Constructed/Age and Sources:** ■Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
City of Glendale
Water and Power Department

***P8. Recorded by:**
Hubert Switalski,
Stantec Consulting Services, Inc.
5500 Ming Ave., Suite 300
Bakersfield, CA 93309-4627

***P9. Date Recorded:**
02/23/2017

***P10. Survey Type:** Intensive pedestrian survey.

***P11. Report Citation:** H. Switalski, and M. Cross. 2017. *Cultural Resources Assessment Report on Behalf of Glendale Water and Power for the Proposed Scholl Canyon Landfill Power Project, San Rafael Hills, Glendale, Los Angeles County, California.*

***Attachments:** ☐NONE ■Location Map ☐Sketch Map ☐Continuation Sheet ☐Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

State Of California—The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #

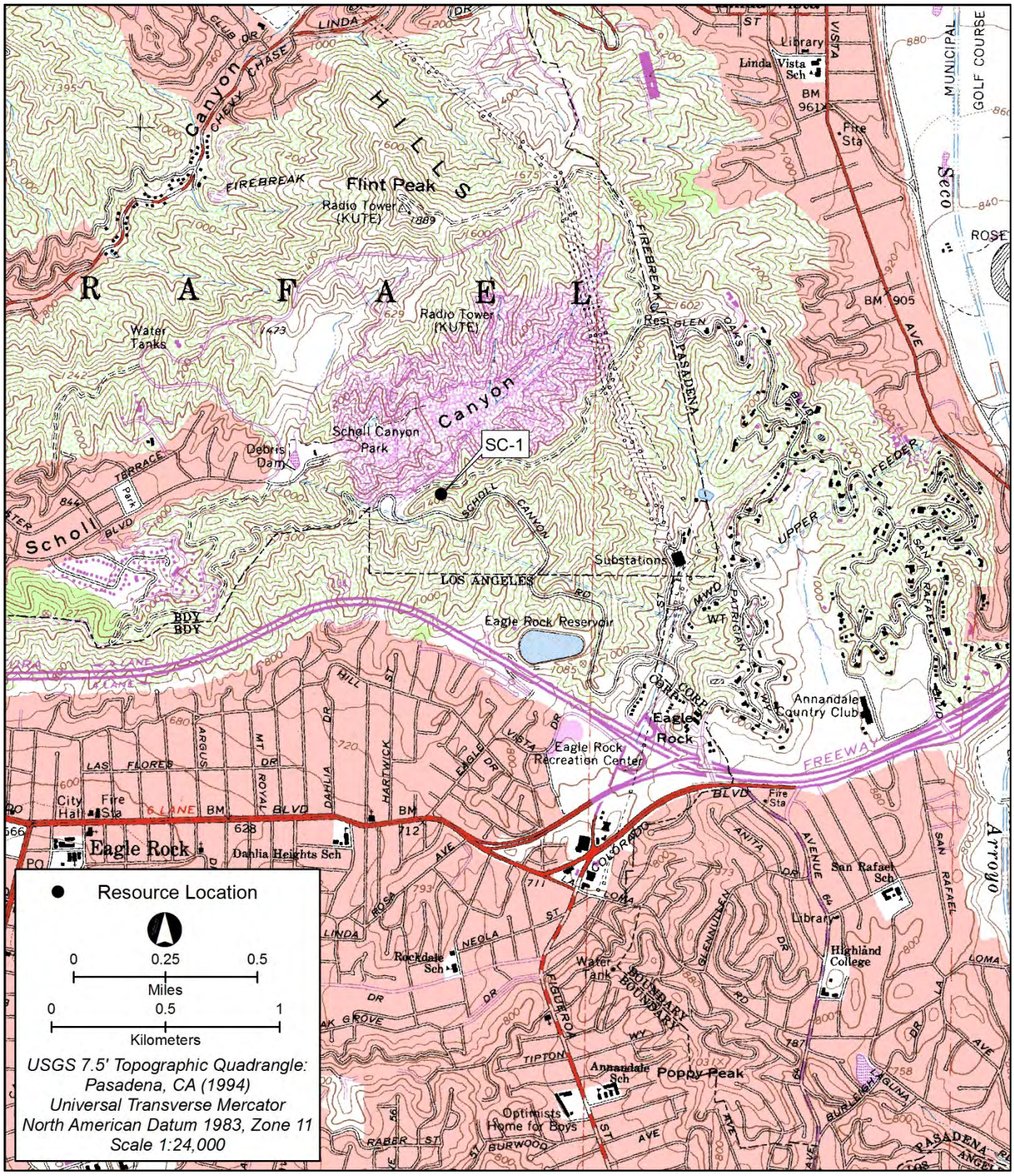
Trinomial

***Resource Name or #:** SC-1

***Map Name:** Pasadena, CA

***Scale:** 1:24,000

***Date of Map:** 1994



***Required information**

Appendix D GEOTECHNICAL INVESTIGATION REPORT

Geotechnical Investigation Report

Biogas Renewable Generation Project
7721 Figueroa Street
Los Angeles, California

Prepared for:
City of Glendale
141 North Glendale Avenue
Glendale, California 91206

Prepared by:
Stantec Consulting Services Inc.
25864-F Business Center Drive
Redlands, California 92374

Project No: 2057123300

January 4, 2016

Sign-off Sheet

This document entitled Geotechnical Investigation Report dated January 4, 2016 was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of the City of Glendale (the "Client"). The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client.

Prepared by _____
(signature)

Jaret Fischer, P.E.

LICENSED PROFESSIONAL ENGINEER
JARET FISCHER
C 80383
EXP. 3/31/17
CIVIL
STATE OF CALIFORNIA

Reviewed by _____
(signature)

James Stone, G.E.

Table of Contents

LIST OF FIGURES

LIST OF APPENDICES

Facility: Biogas Renewable Generation Project
Location: 7721 North Figueroa Street
Los Angeles, California

Consultant: Stantec
Stantec JN: 2057123300

REPORT SUMMARY

Footing Bearing Pressures	4,500 psf
Passive Lateral Pressures	350D psf/ft
D = Depth to bottom of footing	
Coefficient of Friction	0.35
Expansive Soils	o Yes x No
R-Value	30 (estimated)
Automobile Traffic (TI = 4)	4.0" AC / 4.0" AB
Automobile and Truck Traffic (TI = 6)	4.0" AC / 5.0" AB
Artificial Fill Landfill debris encountered in the vicinity of Soil Boring B-8	x Yes o No
Relatively Loose Near-Surface Soils	x Yes o No
Groundwater Within 20 Feet of Surface	o Yes x No
Monitoring Well Installed	o Yes x No
Hydrocarbons Detected	o Yes x No
Existing Underground Tanks	o Yes x No
Existing Structures	x Yes o No

1.0 INTRODUCTION

1.1 AUTHORIZATION AND LIMITATIONS

This report presents the results of a geotechnical investigation performed at the request of the City of Glendale, by Stantec Consulting Services Inc. (Stantec), for the proposed power plant at the Scholl Canyon Landfill, located at 7721 North Figueroa Street in the City of Los Angeles, California. This report has been prepared for the City of Glendale and their project design consultants to be used solely in the design of the proposed project, as described herein. This report may not contain sufficient information for other uses or the purposes of other parties.

1.2 PURPOSE AND SCOPE OF WORK

The objective of this investigation was to assess the nature and engineering properties of the encountered subsurface materials and to provide geotechnical design recommendations for the proposed power plant. The scope of work consisted of the following tasks:

- Review available subsurface information for the Site,
- Drill, log and sample eleven test borings,
- Hand dig, map, and sample seven test pits,
- Conduct a geophysical seismic refraction and electrical resistivity study,
- Perform laboratory testing on selected samples,
- Evaluate geotechnical properties of materials encountered pertinent to the design and construction of the project, and
- Develop conclusions and recommendations regarding:
    - Foundation recommendations for the proposed buildings and equipment,
    - Subgrade preparation beneath new foundations and pavements,
    - Fill and backfill materials along with fill and backfill slope placement and compaction criteria,
    - Appropriate foundation type(s) for support of new structures along with geotechnical criteria for foundation design,
    - Lateral earth pressures for permanent retaining walls,
    - New flexible pavement structural sections for driveway areas,
    - Corrosivity of Site soils with respect to steel and concrete.

1.3 SITE DESCRIPTION

The Site is irregular in shape, approximately 3.9 acres in size, and partially occupied by an existing landfill gas scrubbing and pumping facility. A portion of the site is vacant. The existing facility includes liquid flammable gas compression equipment, a landfill gas flare system, and several small buildings.

2.0 PROJECT DESCRIPTION

Stantec Consulting Services Inc. of Pasadena, California provided the preliminary layout for the proposed project. The proposed development will consist of a new electric generation power plant consisting of engine or turbine generators utilizing landfill gas as fuel. The power plant will include gas and air compressors, pumps, heat exchangers, electrical equipment, and other systems. Several buildings will also be constructed on the site to house the engine generators, an office, control room, and warehouse. The Site location is shown on Figure 1 and the layout of the proposed facility areas are shown on Figure 2.

There were no structural plans or design loads available at the time of this report. Based on our experience with similar projects and the available information, it is assumed that building loads will be relatively light. We understand that the equipment is typically founded on square concrete spread footings approximately two to three feet in width or thickened mat foundations. The foundation loads for the proposed equipment were estimated for the purpose of this report at less than 100 kilopounds (kips) for equipment and less than 3.5 kips per linear foot (klf) for continuous building wall footing loads. If actual design loading conditions differ from those indicated above, the recommendations in this report may have to be re-evaluated.

Grading plans have not yet been finalized. Final grading plan should be reviewed by the Project Geotechnical Engineer. The recommendations in this report may need to be changed based on the final grading plan.

3.0 SUSBURFACE INVESTIGATION

3.1 DRILLING

Eleven test borings were drilled with hollow-stem auger equipment at the locations shown on Figure 2. The borings were logged by a Stantec representative who also collected samples of the materials encountered for examination and laboratory testing. Samples were obtained using a 2.5-inch inner diameter California Modified sampler (ASTM D3550) and during Standard Penetration Testing (SPT, ASTM D1586). The samplers were driven with a 140-pound hammer falling 30 inches. The blows required to drive the samplers each 6 inches (or less) of an 18-inch derive were recorded and are noted on the boring logs.

The logs of the test borings are in Appendix A. Soils are classified according to the Unified Soil Classification explained in Appendix A. Rock is described in terms of its physical characteristics.

3.2 GEOLOGIC TEST PITS

Seven geologic test pits (TP-1 through TP-7) were hand excavated at locations on the southern slope and aligned parallel with the face of the slope. The soil trenches were approximately 4 feet long and 4 feet wide and were excavated to depths ranging from 2 to 3.5 feet bgs. The trenches were continuously logged and mapped at locations shown on Figure 2, and slide hammer soil samples were collected for materials laboratory testing.

3.3 LABORATORY TESTING

The following laboratory tests were performed on samples collected at the Site either in general accordance with the American Society for Testing and Materials (ASTM) or contemporary practices of the soil engineering profession:

- In-Situ Moisture and Density (ASTM D2216): In-situ moisture and density are calculated by weighing and measuring the drive samples obtained from the borings to determine their in-place moisture and density. These results are used to analyze the density or consistency of the subsurface soils.
- Direct Shear Test (ASTM D3080): The tests were performed on an undisturbed sandy soil sample in order to obtain the soil shear strength values, which are among the basic soil parameters that are used to estimate soil bearing capacity and lateral earth pressures.
- Sieve Analysis (ASTM D422 and ASTM C136): This test is used to evaluate the distribution of soil grain sizes, which constitute the soil fabric and is used in soil classification and assessment of soil engineering behavior.
- Maximum Dry Density and Optimum Moisture Content (ASTM D1557): The compaction curve defines the relationship between water content and dry unit weight of soils compacted soils effort. The maximum dry density and optimum water content are used

to determine the relative density of existing soils and to determine the level of compaction during grading activities.

- Chemical Tests for Corrosion Potential (Applicable EPA, ASTM or local test methods): The pH, resistivity, soluble sulfate content, and chloride ion content were evaluated in a near surface soil sample.

The laboratory test results are presented in Appendix B.

3.4 SEISMIC REFRACTION STUDY

A Geophysical Survey that included seismic refraction and electrical resistivity measurements was completed by Southwest Geophysics, Inc. (SGI). Four P-wave refraction profiles, two refraction microtremor (ReMi) profiles, and electrical resistivity profiles were conducted in the locations shown on Figure 2. The results of the geophysical study are included in Appendix C.

4.0 REGIONAL GEOLOGIC CONDITIONS

4.1 REGIONAL PHYSIOGRAPHIC CONDITIONS

The Site is located in the northwestern portion of the Transverse Range Geomorphic Province in the southwestern part of California. The region is separated by an east to west trending series of steep mountain ranges and valleys, subparallel to faults branching from the San Andreas Fault. The Site resides in the portion of the Province drained by the Los Angeles River.

California Highway 134 is located approximately 0.4 miles southwest of the site, California Highway 210 is located approximately 2 miles east of the Site, and the Los Angeles River is located approximately 4.9 miles west of the Site. Based on interpretation of the ground surface elevation contour lines drawn on the topographic map, the Site is located at an elevation of approximately 1,410 to 1,485 feet (1988 NAVD). The topography in the vicinity of the Site is hilly, with a slope to the south then southwest toward the Los Angeles River (USGS, 1995).

4.2 REGIONAL GEOLOGY

Based on information depicted on the 2005 Geologic Map of Los Angeles, the Site is underlain by Mesozoic age quartz diorite deposits composed of plagioclase feldspar (oligoclase-andesine, hornblende, biotite, and minor quartz). Sometimes referred to as the Wilson Diorite, this unit is the most widespread bedrock type in the Glendale area. The bulk of the Verdugo Mountains and the San Rafael Hills are comprised of quartz diorite. The color of the rock is typically a light gray to light brown. The texture is generally medium grained and the structure is massive). In the central part of the San Rafael Hills, just north of Highway 134, at the southeastern margin of Glendale, the mineral grains are aligned, giving the rock a distinct banding or “foliation” resulting in a somewhat layered structure. In this area, the structure dips 60 to 70 degrees to the east and northeast (ECI, 2003).

4.3 REGIONAL HYDROGEOLOGY

According to the California Department of Water Resources (CDWR) Bulletin 118 Report, the Site is not located within a mapped groundwater basin. The closest groundwater basin is the San Fernando Valley Groundwater Basin of the South Coast Hydrologic Region (4-12), located to the west of the Site. The basin is approximately 226 square miles and is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills (DWR, 2004).

5.0 REGIONAL SEISMIC CONDITIONS

5.1 REGIONAL SEISMICITY

The Site, as is most of California, is located in a seismically active area. The estimated distance of the Site to the nearest expected surface expression of nearby faults is presented in the table below.

Fault	Distance (miles) (1)	Maximum Moment Magnitude (1)
Verdugo	0.3	6.9
Raymond	2.3	6.8
Hollywood	3.3	6.7
Sierra Madre (connected)	3.9	7.2
Elysian Park Thrust	6.1	6.7
Santa Monica	6.2	7.4
Sierra Madre (San Fernando)	10.5	6.7
Clamshell-Sawpit	11.1	6.7
Puente Hills (LA Basin)	11.5	7.0
San Gabriel	12.4	7.3
Elsinore	13.7	7.8
Newport – Inglewood (L.A. Basin)	13.7	7.5
Santa Monica	13.9	7.3
Northridge	15.2	6.9
Puente Hills (Santa Fe Springs)	17.3	6.7
San Jose	19.6	6.7
Puente Hills (Coyote Hills)	19.9	6.9
Malibu Coast	21.0	6.7
Anacapa – Dume	22.7	7.2
Palos Verdes	24.4	7.7

1. Measured from 2008 National Seismic Hazard Maps - USGS (USGS, 2008).

5.2 CALIFORNIA BUILDING CODE SEISMIC CRITERIA

Based on the specified design criteria of the 2016 California Building Code (using available 2015 International Building Code data), the following Site seismic information may be considered for earthquake design.

Design Criteria	Design Value
Site Class	C
Mapped Spectral Response Acceleration for Short Periods S_s (g)	2.912
Mapped Spectral Response Acceleration for 1-second Period S_1 (g)	1.016

Design Criteria	Design Value
Maximum Considered Earthquake Spectral Acceleration for Short Periods S_{MS} (g)	2.912
Maximum Considered Earthquake Spectral Response Acceleration for 1-second Periods S_{M1} (g)	1.321
5-percent Design Spectral Response Acceleration for Short Periods S_{DS} (g)	1.942
5-percent Design Spectral Response Acceleration for 1-second Periods S_{D1} (g)	0.881
Site Coefficient F_a	1.0
Site Coefficient F_v	1.3

5.3 REGIONAL SEISMIC HAZARDS

5.3.1 Fault Rupture Hazard

The Site is not located within a currently mapped California Earthquake Fault Zone. As described above, the nearest fault is the Verdugo Fault, located approximately 0.3 miles southwest of the Site. Based on available geologic data, there is low potential for surface fault rupture from the Verdugo Fault and other nearby active faults propagating to the surface of the Site during the design life of the proposed development.

5.3.2 Liquefaction and Seismically Induced Settlements

Subsurface conditions underlying the Site consist mainly of dense to very dense silty sands over slightly weathered, hard bedrock. In addition, the groundwater level is very deep. The Site is located in an area where water bearing soils are not present. Consequently, the potential for liquefaction beneath this Site is negligible.

6.0 SURFACE AND SUSBURFACE CONDITIONS

6.1 SURFACE CONDITIONS

The Site is bordered by natural slopes on the south and southeast. The north, west and northeast sides abut the existing landfill.

Most of the area to be developed is relatively flat, at an elevation of approximately 1410 feet. The surface begins to steepen in the northeastern portion of the site, rising to almost 1500 feet east of the northeast corner of the site, where a cut slope is proposed. The ground surface has been cleared and is devoid of vegetation, except in limited areas in the northeastern part of the site, where portions of the landfill are exposed at the surface. Existing structures and equipment associated with operation of the landfill are located throughout the area.

6.2 SUBSURFACE CONDITIONS

Except in the northeastern portion, in the vicinity of boring B8, the Site is underlain by Wilson Quartz Diorite rock. The rock has weathered to a dense silty sand soil in the central portion of the Site (borings B2, B3, B4, and B11). The rock encountered beneath the remainder of the Site outside of the northeastern corner is hard, strong and moderately weathered.

Fill, consisting of medium dense to dense silty sand with landfill debris, was encountered in boring B8 in the northeast corner of the site. The fill extended to a depth of about 27 feet. Moderately weathered, hard, strong quartz diorite rock was encountered below the fill and extended to the maximum depth explored in this boring, 36-½ feet.

No groundwater was encountered in the borings. It is anticipated that the groundwater level is below a depth that would affect planned construction.

A more detailed description of the subsurface profile in each borehole is presented on boring logs in Appendix A. The stratigraphy shown represents the predominant materials encountered at various depths. Also, stratification lines indicate the approximate boundary between the major material types. The actual transition may be gradual.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

The new structures and equipment can be supported on shallow spread footing or mat foundations with bottom levels in weathered rock. Relatively high bearing pressures can be used. Post-construction total and differential settlements will be small.

Foundations for facilities in the northeastern end of the Site, in the vicinity of boring B8, may need to be deepened to extend into weathered rock. Current plans indicate (Figure 6) that 4 to 5 feet of excavation below planned final grade could be needed to reach the rock. Foundations could be constructed in excavations into the rock, or the excavations can be backfilled to typical shallow foundation levels with sand/cement slurry. Final procedures when final facility types and locations have been determined for this area.

A cut slope 40 to 50 feet high currently is proposed at the northeast end of the project area. At present, the slope is configured at 1.75:1 (horizontal:vertical). Based on the shear wave velocities measured in the geophysical survey (Appendix C), and the materials encountered in the borings, the rock in this area is expected to be rippable with a Caterpillar D9R bulldozer equipped with a multi- or single-shank ripper (Caterpillar, Inc., 2000). Shallower parts of the cut area could expose weathered rock susceptible to erosion. Erosion protection will be needed to reduce the potential for sloughing and raveling from the face of the slope.

Regional foliation shown on geologic maps prepared by Dibblee (1989) exhibits a north-south strike accompanied by dips to the east ranging from 55 to 60 degrees. Slopes on the south and east sides of the area to be developed exhibit moderately- to poorly-defined foliation (a planar arrangement of textural or structural features in rock). Mapped foliation shows dominant northwest to north-south strikes accompanied by dips to the north and east, respectively, ranging from 7 to 69 degrees, as shown on Figure 2. Foliation planes are either supported in the down-dip direction or project into the slope, consistent with the description by Dibblee (1989). Based on the mapped geologic data, foliation exposed on the cut slope is expected to be favorably oriented.

7.2 FOUNDATION DESIGN

Shallow spread footings or mat foundations for facilities with bottom levels in the weathered rock can be designed for the following maximum soil bearing pressures:

Load Type	Allowable Bearing Pressure (psf)
Dead Load Only	4,500
Dead Plus Live Load	5,200
Total Load, Including Wind and Seismic Loads	5,980

Footings should be at least 12 inches in width and founded a minimum of 18 inches below the lowest adjacent finish grade.

Resistance to lateral forces should be based upon a passive lateral earth pressure (equivalent fluid pressure) of 350D psf/ft where D corresponds to the embedment depth of the footing in feet, and a coefficient of friction between concrete and rock equal to 0.35. The passive earth pressure and frictional resistance can be combined without reduction.

The following parameters may be used in the foundation design:

Parameter	Value	Units
Modulus of Subgrade Reaction	250	lb/in^3
Shear Wave Velocity, V_s	1,020	ft/sec
Modulus of Elasticity (Young's Modulus), E_s	9,200	lb/in^2
Shear Modulus, G_d	4,000	lb/in^2
Poisson's Ratio, μ	0.2	--

7.3 FOUNDATION CONSTRUCTION

The Project Geotechnical Engineer should review and approve the foundation plans and observe foundation excavations prior concrete placement to check that foundation excavations extend into suitable material. The bottom of the foundation excavations should be clean and free of loose or sloughed material, debris and unsuitable material before concrete is placed.

7.4 CONCRETE SLAB-ON-GRADE FLOORS

If concrete-slab-on-grade floors will be used, the subgrade surface beneath floor areas should be proof-rolled with a smooth-wheel roller prior to slab construction. Any soft, loose, or yielding areas should be removed to the depth and extent directed by the Project Geotechnical Engineer and replaced with suitable material. The subgrade surface should be maintained at or above optimum moisture content until concrete is placed for the slab.

Where floor coverings will be placed, or if required due to proximity to the landfill, a plastic membrane at least 10 mils thick should be placed beneath the slab. The membrane should be underlain by a 4-inch thick layer of clean, free-draining crushed rock to provide uniform support for the slab and serve as a break to the rise of capillary moisture. It is recommended that a specialist be consulted regarding applicable membrane types and installation procedures where resistance to landfill gas migration is required.

Current practice commonly includes a sand layer placed between the plastic membrane and the underside of the slab. The sand can provide a degree of protection to the membrane during construction. However, the sand layer absorbs water during concrete curing and allows the

accumulation of water vapor on the bottom of the slab, considerably increasing the time required for slab moisture to reach a level suitable for installation of floor coverings. It is suggested that the concrete slab-on-grade be poured directly on the plastic membrane. Structural design of the slab should consider the potential for edge curling where the slab is poured directly on the membrane.

Slab on grade floors should be at least 6 inches in thick. Minimum reinforcement for concrete slabs-on-grade should be No. 4 deformed reinforcing bars, spaced at 18 inches on center each way. Additional reinforcing and/or slab thickness should be provided as structural conditions dictate. It is essential that during construction the slab reinforcing bars be properly supported on rebar supports to keep the reinforcing bars centralized (mid-height) in the slab during concrete placement.

Other design and construction criteria for concrete floor slabs, such as mix design, strength, durability, reinforcement, joint spacing, etc., should conform to the current specifications of the American Concrete Institute (ACI).

7.5 PERMANENT RETAINING WALLS

For cantilevered retaining walls capable of deflecting a minimum of 0.1% of the wall height at the top of wall, the following lateral earth pressures (equivalent fluid pressures with a triangular pressure distribution) may be used in design up to a wall height of 20 feet. The outside bottom edge of retaining wall foundations should have a minimum setback of 10 feet from the face of the closest adjacent slope. Alternative setbacks may be feasible. The Project Geotechnical Engineer can review retaining wall plans and determine final setback limits when the layout has been finalized.

Active:	40H psf/ft,
Passive:	350D psf/ft,

where H is the vertical height of the wall measured from the ground surface to the heel of the footing (or base of keyway) and D is the embedment depth of the footing measured from the ground surface to the bottom of the toe in front of the retaining wall (unless pavement or hardscape are present, exclude the upper foot when calculating passive resistance to account for erosion). These equivalent fluid pressures should be applied as a triangular pressure distribution behind the retaining wall and assume level backfill behind and in front of retaining wall unless otherwise noted.

Walls restrained against movement should be designed to resist at-rest pressures. An at-rest equivalent fluid pressure of 45H psf/ft is considered appropriate, where H is the vertical height of the wall measured from the ground surface to the heel of the footing (or base of keyway).

The earth pressures are based on predominately granular backfill with drained conditions, the assumption that the retaining wall is vertical, and the ground surface in front and behind the

retaining wall is level. For different wall geometries or loading conditions, the above lateral earth pressures will need to be reevaluated. The passive earth pressure indicated above does not include a safety factor; therefore, the retaining wall design should include an appropriate safety factor with respect to the overall performance of the system.

Earthquake forces on the wall can be modeled assuming an inverted triangular pressure distribution ranging from 0 at the base of the wall to 25 psf at the top of the wall.

7.6 PAVEMENT DESIGN

Preliminary flexible pavement structural sections were developed based on the visual onsite soil classifications, an assumed subgrade R-Value of 30, an equivalent single axle load (ESAL) value comparable to the referenced traffic index (TI) value below, and an AASHTO Reliability Factor of 75%. Preliminary flexible pavement sections are as follows:

Traffic Type	Auto Traffic TI = 5.0	Auto and Truck Traffic TI = 7.0
Asphalt Concrete (AC) Thickness	4.0"	4.0"
Class 2 Aggregate Base (AB) Thickness	4.0"	6.0"

*AASHTO Highway Design Manual

Proposed portland cement concrete pavement areas that are subject to vehicle traffic loads, should have a minimum thickness of six inches overlying a minimum of six inches of Class 2 Aggregate Base.

The subgrade surface below new pavements should be proof rolled with a smooth-wheeled roller before aggregate base is placed. The aggregate base for asphalt concrete pavement sections should meet Caltrans specifications for Class 2 base of Processed Miscellaneous Base (PMB), as contained in the "Greenbook" Standard Specifications for Public Works Construction. Aggregate base should be compacted to at least 95% relative compaction with uniform moisture content near optimum, as determined by ASTM D1557.

It is possible that Site grading, use of import fill soils, utility line backfilling, and related earthwork could alter the distribution of near-surface materials, thus requiring re-evaluation of the recommended pavement structural sections. Stantec recommends that at least one near surface soil sample be tested to evaluate the subgrade R-value following rough grading of the pavement areas.

7.7 EXPANSIVE SOIL POTENTIAL

The near-surface materials (upper 8 feet) consist of silty sand and quartz diorite bedrock. The predominantly granular soils and rock are not expansive. Design for expansive soils is not required.

If imported soils are used for earthwork, the proposed materials should be evaluated for expansion potential prior to import. Imported soils should be approved by the Project Geotechnical Engineer prior to utilization.

7.8 CORROSIVE SOIL POTENTIAL

Chemical tests to evaluate corrosive soil potential of near surface soils were performed by Converse Consultants. The test results indicate a soil pH ranging from 7.81 to 7.93, water soluble sulfate of 0.001 to 0.023% by weight, soluble chlorides ranging from 125 ppm to 145 ppm, and saturated resistivity ranging from 1,900 ohm-cm to 14,000 ohm-cm.

Field Wenner four-point resistivity testing was conducted by Southwest Geophysics at the Site. The results of the field resistivity testing indicate variable corrosion potential in the subsurface profile (Appendix C). In general, the resistivity decreases (higher corrosion potential) with increasing water content and salt concentration. In dry arid environments like that of the Site, seasonal low moisture content in near surface soils and evapotranspiration are important factors influencing corrosion potential of the soil profile. The field data (Appendix C) indicate relatively low (5,668 to 9,859 ohm-cm) and apparent moderate corrosion potential to ferrous metal in the near surface materials to a depth of at least four feet (note: the depth of the measured average resistivity in the soil profile is assumed to be equivalent to the probe spacing). Laboratory testing on saturated samples showed much lower resistivities, indicating moderate to severe corrosion potential.

The materials underlying the site form a low corrosive environment with respect to reinforced concrete and mild to severe corrosive environment with respect to ferrous metals. Nevertheless, Type II modified portland cement is recommended for use in concrete in contact with ground. Special corrosion-resistant coatings are not considered necessary for reinforcing steel. Adequate cover should be provided over the reinforcing steel in accordance with good construction practice.

7.9 SITE PREPARATION AND GRADING

7.9.1 Site Preparation

Existing loose soils, debris and vegetation, if any, should be removed from beneath area to be graded and where new facilities will be located. It is expected that earthwork outside of building and equipment areas will be minimal and generally consist of excavations for new utility lines, subgrade preparation for hardscape and pavements, and slopes for drainage. The bottoms of

excavations for utility trenches and below pavements and hardscape should be checked by the Project Geotechnical Engineer. Soft, wet, or otherwise unsuitable material should be excavated to the depth and extent determined by the Project Geotechnical Engineer and replaced with compacted fill.

The bottoms of excavations, and the existing ground surface where new fill will be placed, should be scarified to a depth of 12 inches, moisture conditioned to at least 2 percentage points above optimum moisture content and compacted to at least 90% relative compaction. The maximum dry density and optimum moisture content for the evaluation of relative compaction should be determined in accordance with ASTM D 1557. All references to optimum moisture content and relative compaction in this report are based on this test method.

7.9.2 Fill Materials

Excavated materials determined by the geotechnical engineer to be satisfactory can be replaced as compacted fill. It is anticipated the majority of the excavated materials can be used as compacted fill following mixing of clayey and sand soils. The geotechnical engineer should approve the fill material before placement.

Imported soil should consist of predominately granular non-detrimentally expansive (Expansion Index less than 20) material free of organics, debris and rocks greater than 4 inches in any dimension. The EI of the material should be determined in accordance with ASTM D 4829. Stantec should approve the soil to be used as fill prior to importation.

7.9.3 Fill and Backfill Placement and Compaction

Fill and backfill should be placed in 6- to 8-inch thick loose lifts, moisture conditioned to at least 2 percentage points above optimum moisture content, and compacted to at least 90% relative compaction. Fill and backfill placed within the upper 12 inches of finish grade beneath new pavements should be compacted to at least 95% relative compaction.

7.9.4 Cut and Fill Slopes

Maximum cut slope of the existing hill located on the northwest portion of the project shall not exceed 1-½:1 (horizontal:vertical). Fill placed on slopes that are steeper than 5:1 (horizontal:vertical) should be started on a level bench and keyed and benched into the existing hillside as the fill level is raised. Maximum recommended fill slopes are 2:1 (horizontal:vertical).

7.9.5 Surface Drainage

Final surface grades in the new building and equipment area should be designed to collect and direct surface water away from the new features and toward appropriate drainage facilities. In general, we recommend that the ground adjacent to structures slope away at a gradient of at

least 2%. Densely vegetated areas where runoff can be impaired should have a minimum gradient of at least 5% within the first 5 feet from the structure.

Drainage patterns established at the time of fine grading should be maintained throughout the life of the project. Site irrigation should be limited to the minimum necessary to sustain landscape growth.

Drainage on the cut slope at the northeast end of the project should be designed to prevent surface water from flowing over the face of the slope. At least one drainage swale or bench should be provided at the top of the slope and one approximately mid-way down on the face of the slope. Runoff water should be directed to suitable discharge facilities to reduce the potential for ponding at the toe of the slope.

Weathered rock exposed on the face on the cut slope is expected to be readily erodible. Erosion protection such as erosion-resistant vegetation, commercial erosion control mats or other means should be provided to minimize sloughing and raveling.

7.10 POST INVESTIGATION SERVICES

Post investigation services are an important and necessary continuation of this investigation, and it is recommended that Stantec be retained as the Project Geotechnical Engineer to perform such services. Final project grading and foundation plans, foundation details and specifications should be reviewed by Stantec prior to construction to check that the intent of the recommendations presented herein have been applied to the design. Following review of plans and specifications, observation during construction should be performed to correlate the findings of this investigation with the actual subsurface conditions exposed during construction.

During construction, the Project Geotechnical Engineer's representatives should be present at the Site to observe the geotechnical aspects of the project and to observe and test the earthwork.

8.0 CLOSURE

Our conclusions, recommendations and discussions presented herein are (1) based upon an evaluation and interpretation of the findings of the field and laboratory programs, (2) based upon an interpolation of subsurface conditions between and beyond the explorations, (3) subject to confirmation of the actual conditions encountered during construction, and (4) based upon the assumption that sufficient observation and testing will be provided by Stantec during construction.

Any person using this report for bidding or construction purposes should perform such independent investigations as he deems necessary to satisfy himself as to the surface and subsurface conditions to be encountered and the procedures to be used in the performance of work on this project.

This report contains information which is valid as of this date. However, conditions that are beyond our control or that may occur with the passage of time may invalidate, either partially or wholly, the conclusions and recommendations presented herein.

The conclusions in this report are based on interpolation and extrapolation of subsurface conditions encountered at the boring locations. The actual subsurface conditions at unexplored locations may be different. Consequently, the findings and recommendations in this report may require re-evaluation if subsurface conditions different than stated herein are encountered.

Inherent in most projects performed in the heterogeneous subsurface environment, continuing subsurface investigations and analyses may reveal conditions that are different than those presented herein. This facet of the geotechnical profession should be considered when formulating professional opinions on the limited data collected on this project.

The findings and recommendations contained in this report were developed in accordance with generally accepted current professional principles and practice ordinarily exercised, under similar circumstances, by geotechnical engineers and geologists practicing in this locality. No other warranty, express or implied, is made.

9.0 REFERENCES

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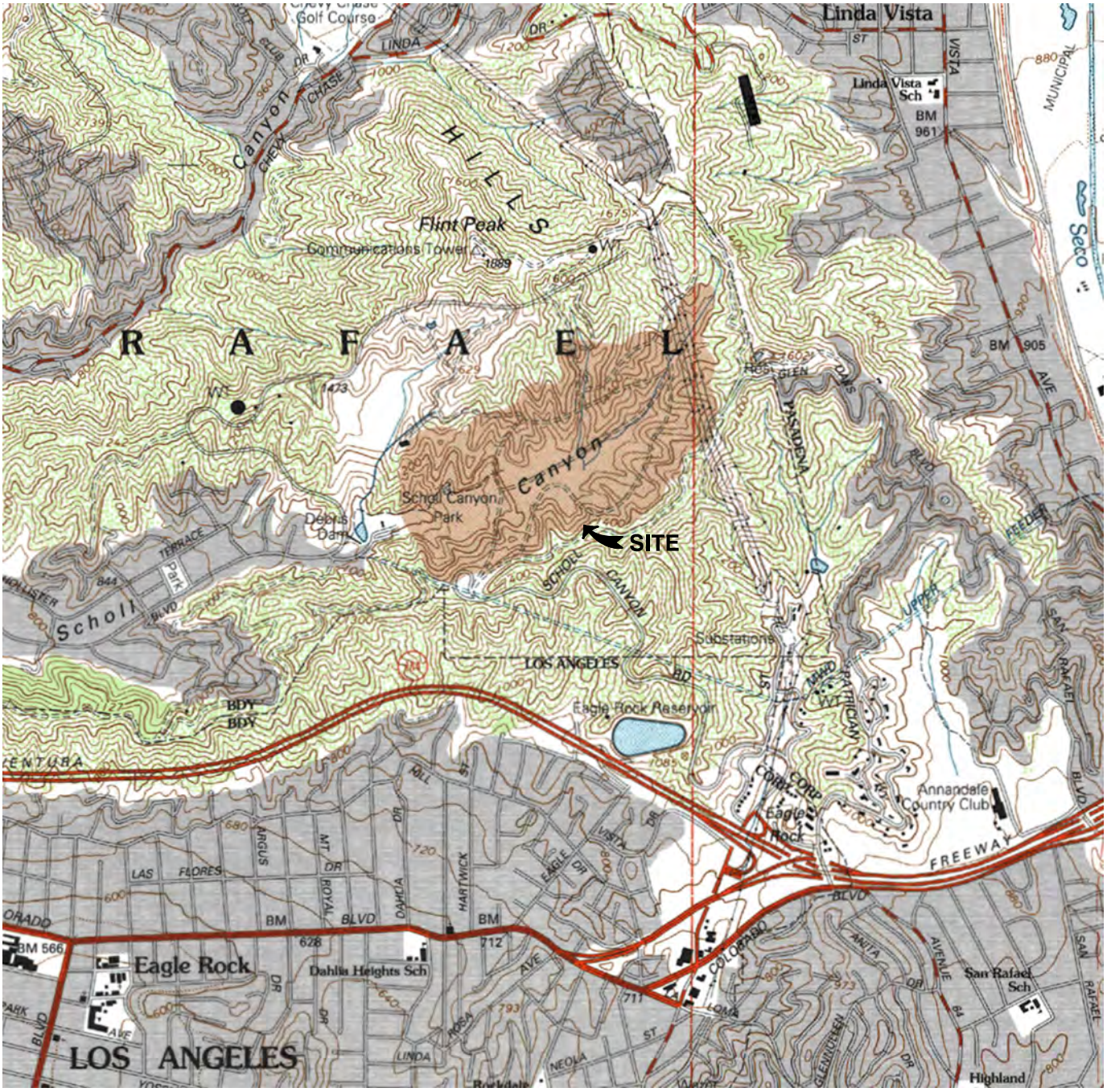
FIGURES



CALIFORNIA

1 1/2 0 1

SCALE IN MILE

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE IN FEET

REFERENCE: USGS 7.5 X 15 MINUTE QUADRANGLE; PASADENA; 1995.

Stantec 25864-F BUSINESS CENTER DRIVE REDLANDS, CA 92374 PHONE: (909) 335-6116 FAX: (909) 335-6120	FOR: City of Glendale GLENDALE, CALIFORNIA		SITE LOCATION MAP		FIGURE: 1
	JOB NUMBER: 2057123300	DRAWN BY: EJB	CHECKED BY: JF	APPROVED BY: JF	DATE: 12/26/15

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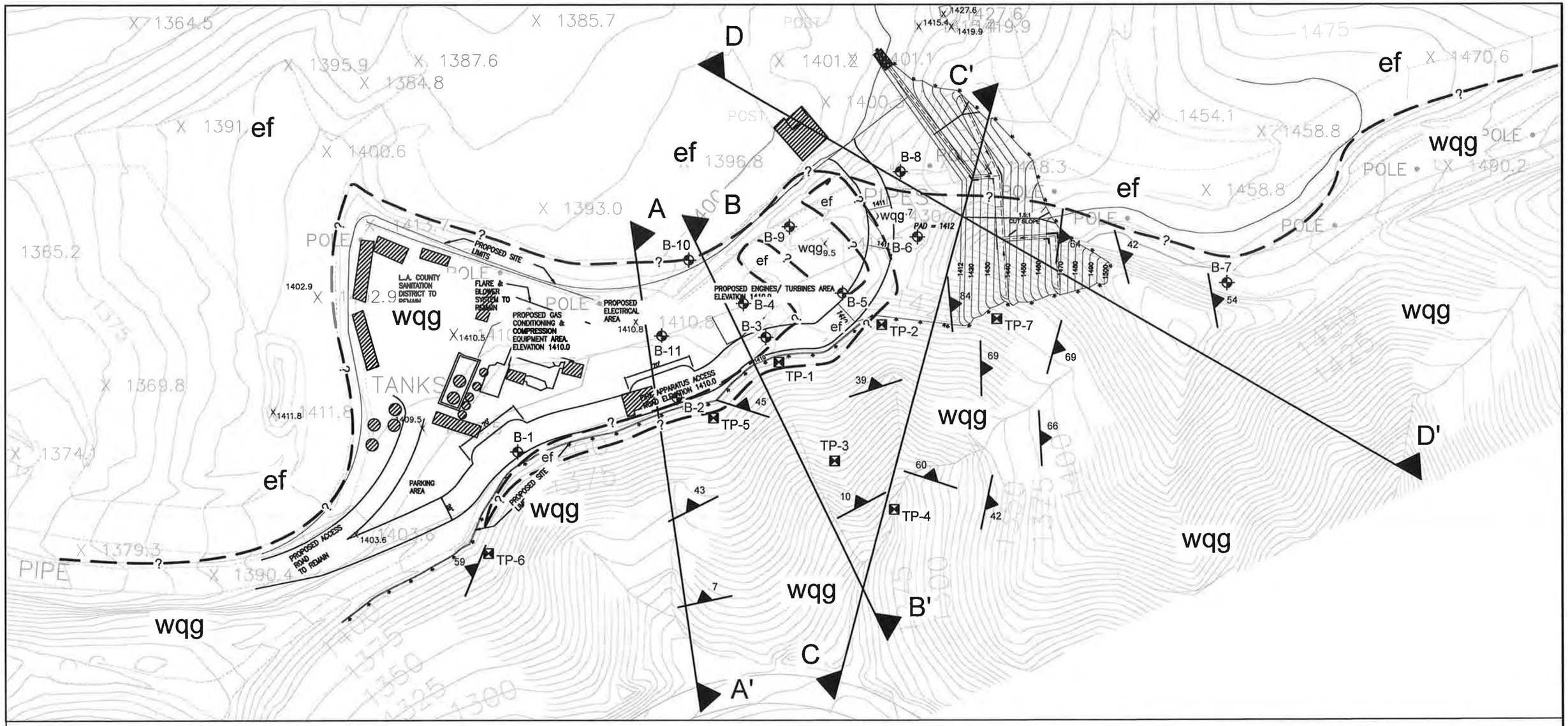

B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	TP-1	TP-2	TP-3	TP-4	TP-5	TP-6	TP-7
0	0	0	0	0	0	0	27	0	0	0	2	2	0	2	1	0	1
												49	28				64

EXPLANATION

- = Approximate Location of Proposed Features
- ef = Earth fill and landfill debris
- wqg = Wilson Quartz Diorite (Cretaceous geologic age)
- = Approximate geologic contact
- 22 = Strike and dip of foliation
- = Hollow-stem auger boring
- = Hand-dug test pit
- = Geologic cross-section
- 6 = Approximate depth to bedrock in feet

N

0 100 200

APPROXIMATE SCALE (FEET)

Stantec
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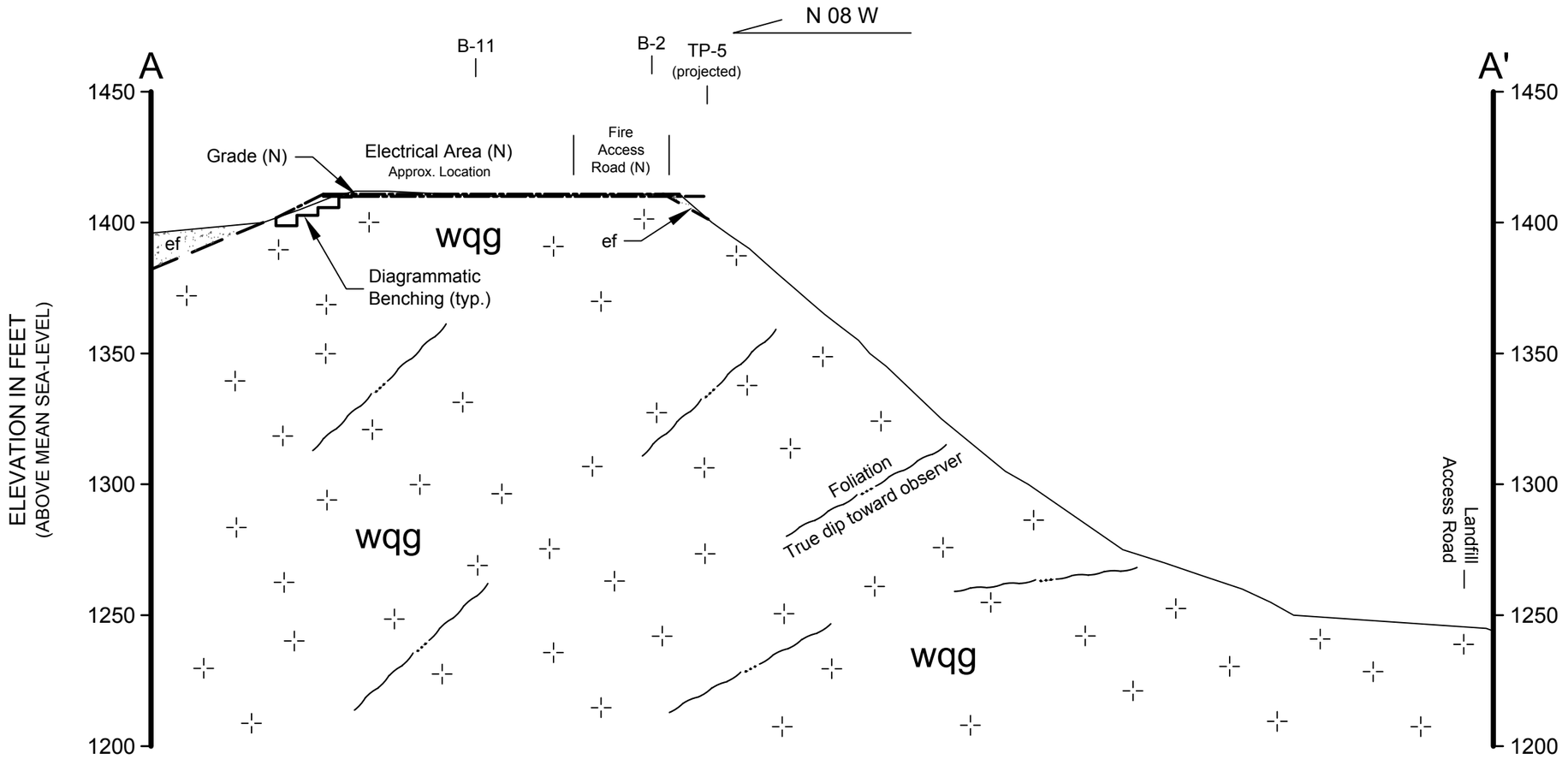
FOR: The City of Glendale
GLENDALE, CALIFORNIA

GEOLOGIC MAP

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
2057123300	EJB	JF	JF	12/26/15

FILEPATH:V:\1858\active\2057123300\05_report_deliv\dwgs_design\cad_figures\scholl_canyon\Scholl Canyon Landfill_011516.dwg modified by jfischer on Jan 19, 2016 at 6:30

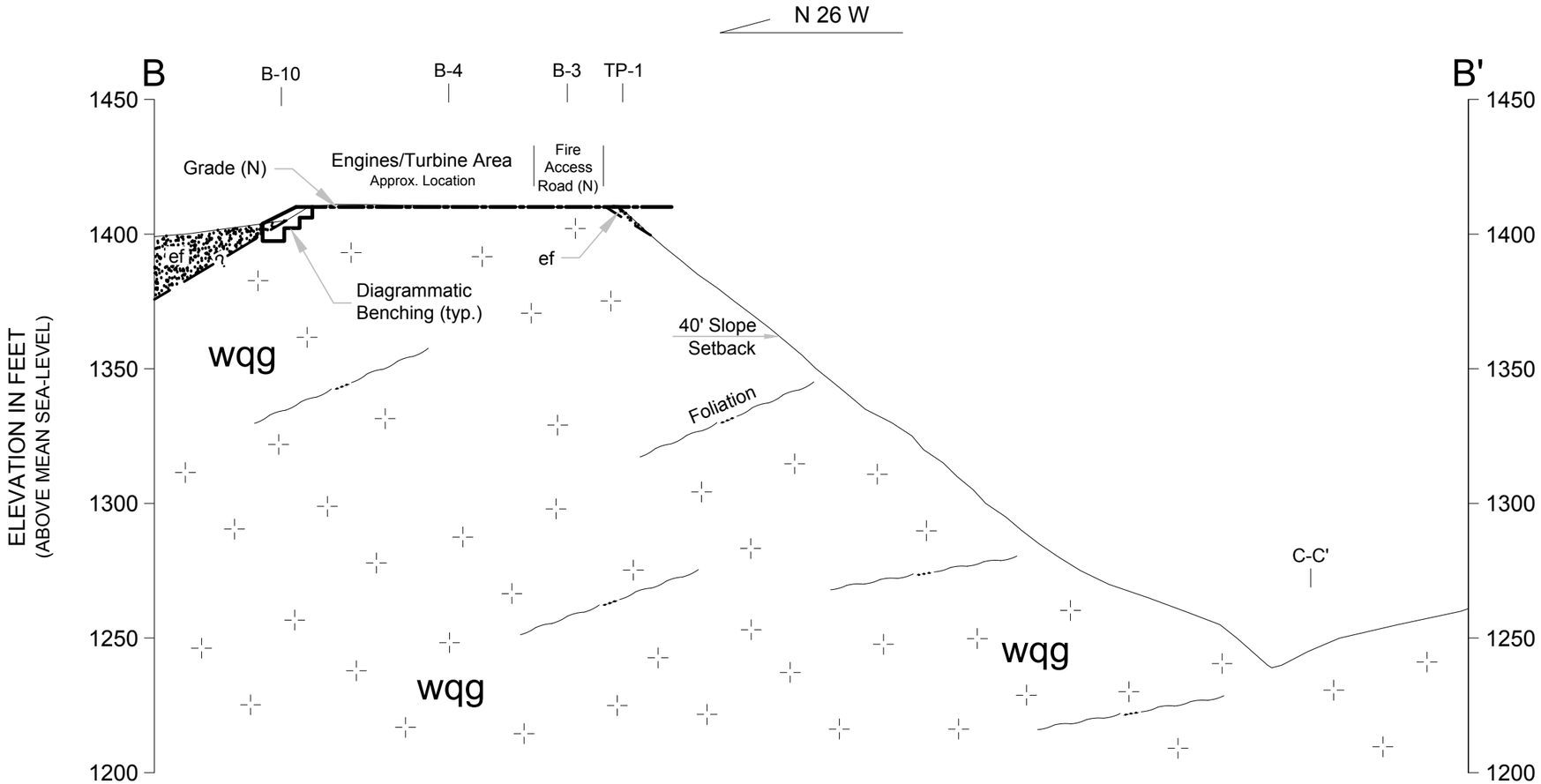


SCALE (H & V): 1" = 50'

Stantec
25864-F BUSINESS CENTER DRIVE
REDLANDS, CA 92374
PHONE: (909) 335-6116 FAX: (909) 335-6120

FOR:				FIGURE:
The City of Glendale GLENDALE, CALIFORNIA		GEOLOGIC CROSS SECTION A-A'		3
JOB NUMBER: 2057123300	DRAWN BY: EJB	CHECKED BY: JF	APPROVED BY: JF	DATE: 12/26/15

FILEPATH:V:\1858\active\2057123300\05_report_deliv\dwgs_design\cad_figures\scholl_canyon\Scholl Canyon Landfill_012816.dwg modified by jfischer on Jan 28, 2016 at 13:19

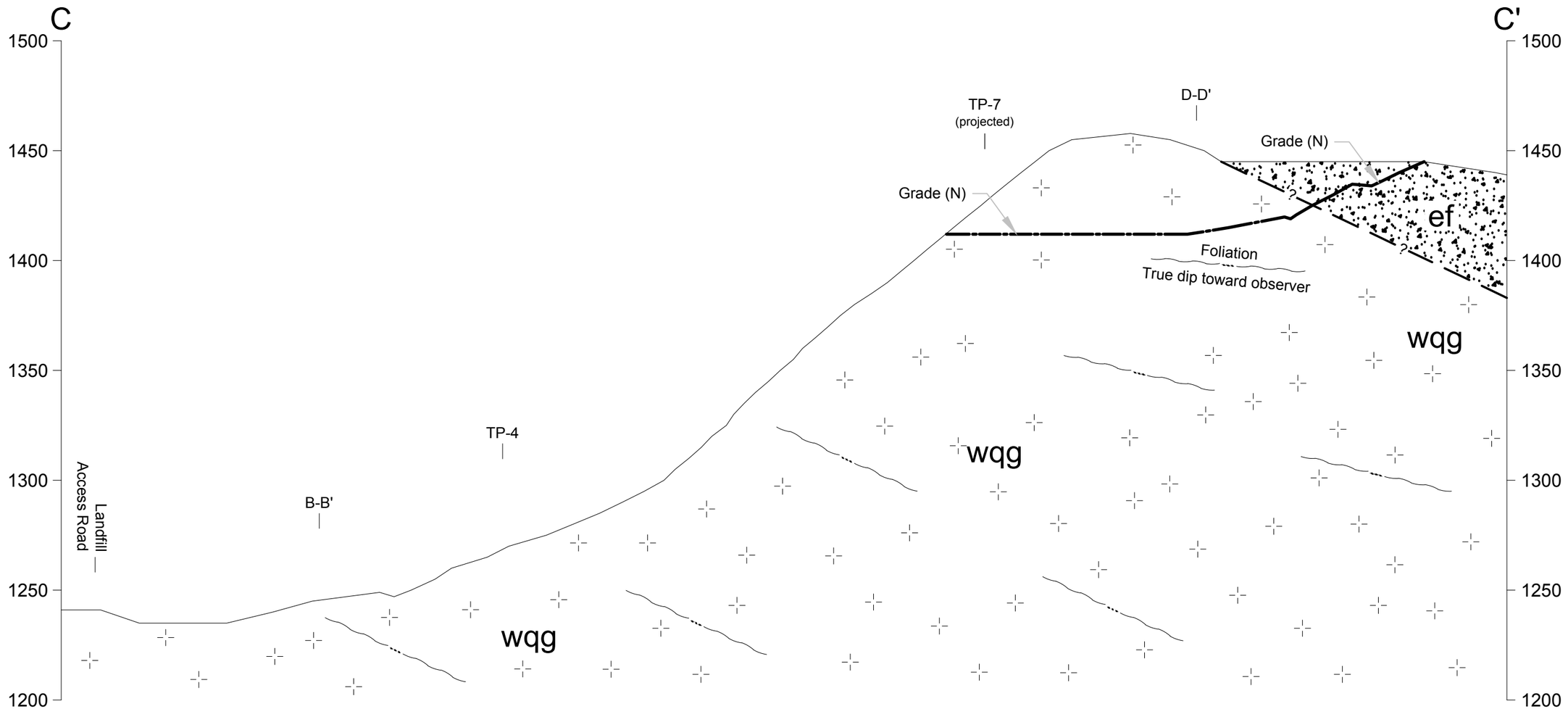


SCALE (H & V): 1" = 50'

Stantec
25864-F BUSINESS CENTER DRIVE
REDLANDS, CA 92374
PHONE: (909) 335-6116 FAX: (909) 335-6120

FOR:			
The City of Glendale GLENDALE, CALIFORNIA		GEOLOGIC CROSS SECTION B-B'	FIGURE: 4
JOB NUMBER: 2057123300	DRAWN BY: EJB	CHECKED BY: JF	APPROVED BY: JF	DATE: 12/26/15

FILEPATH:V:\1858\active\2057123300\05_report_deliv\dwgs_design\cad_figures\scholl_canyon\Scholl Canyon Landfill_012816.dwg modified by jfischer on Jan 28, 2016 at 13:17

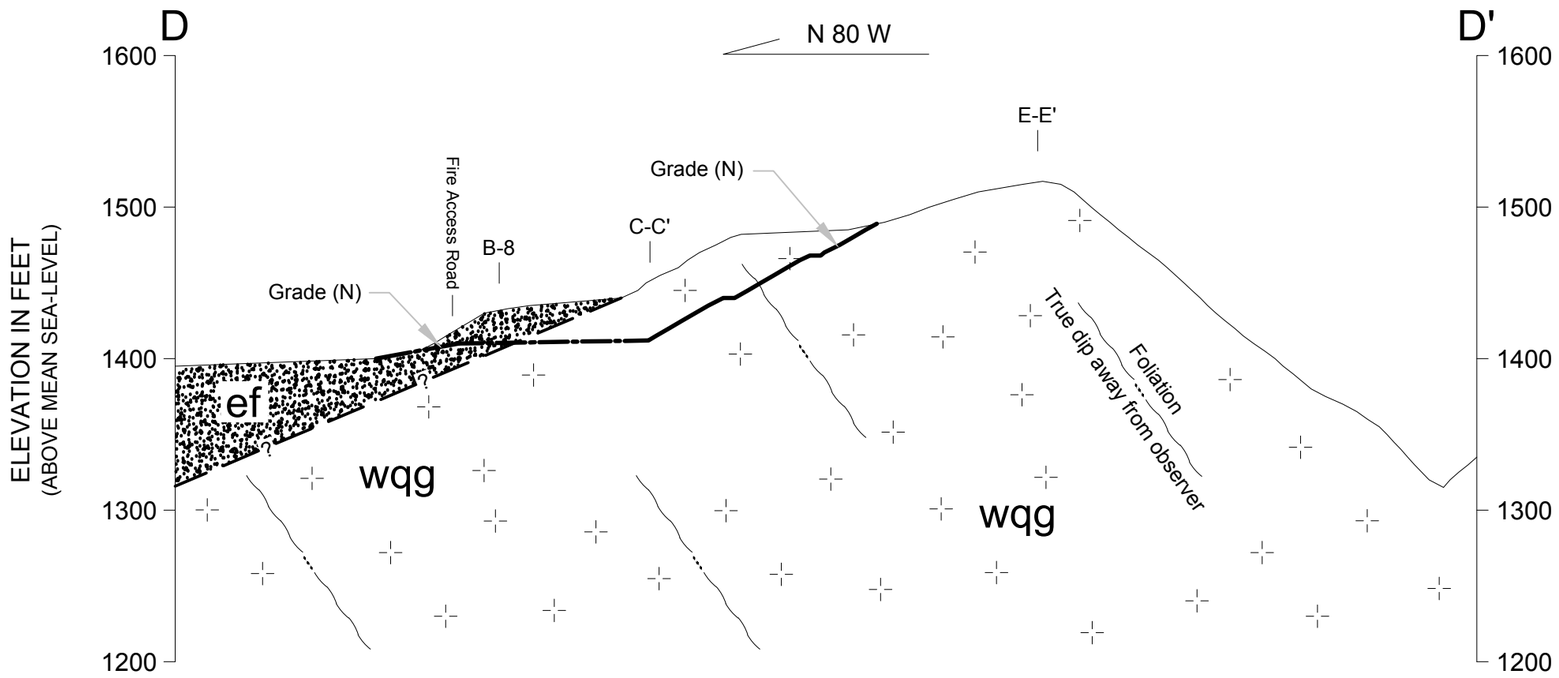


SCALE (H & V): 1" = 50'

Stantec
25864-F BUSINESS CENTER DRIVE
REDLANDS, CA 92374
PHONE: (909) 335-6116 FAX: (909) 335-6120

FOR:				FIGURE:
The City of Glendale GLENDALE, CALIFORNIA		GEOLOGIC CROSS SECTION C-C'		5
JOB NUMBER: 2057123300	DRAWN BY: EJB	CHECKED BY: JF	APPROVED BY: JF	DATE: 12/26/15

FILEPATH:V:\1858\active\2057123300\05_report_deliv\dwgs_design\cad_figures\scholl_canyon\Scholl Canyon Landfill_012816.dwg modified by jfischer on Jan 28, 2016 at 13:13



SCALE (H & V): 1" = 100'

Stantec
25864-F BUSINESS CENTER DRIVE
REDLANDS, CA 92374
PHONE: (909) 335-6116 FAX: (909) 335-6120

FOR:				FIGURE:
The City of Glendale GLENDALE, CALIFORNIA		GEOLOGIC CROSS SECTION D-D'		6
JOB NUMBER: 2057123300	DRAWN BY: EJB	CHECKED BY: JF	APPROVED BY: JF	DATE: 12/26/15

APPENDIX A
BORING LOGS

PROJECT: **Geotechnical Legend**
LOCATION: **123 Main St. Anywhere USA**
PROJECT NUMBER: **00AB.12345.00**

WELL / PROBEHOLE / BOREHOLE NO: **Legend** PAGE 1 OF 1

DRILLING: STARTED **1/1/06** COMPLETED: **1/1/06**
INSTALLATION: STARTED **1/1/06** COMPLETED: **1/1/06**
DRILLING COMPANY: **Drilling Sub-contractor**
DRILLING EQUIPMENT: **Drilling Equipment**
DRILLING METHOD: **Drilling Method**
SAMPLING EQUIPMENT: **Sampling Equipment**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **25.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **25.0**
WELL CASING DIAMETER (in): **NA** BOREHOLE DIAMETER (in):
LOGGED BY: **Onsite Technician** CHECKED BY: **Project Eng.**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Geotechnical Lab Testing	Environmental Lab Testing	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
5			Geotechnical Lab Testing CNSL - Consolidation CRSN - Corrosion EI - Expansion Index HA - Hydrometer Analysis MD - Moisture Density M - Moisture R-Val - R-Value SA - Sieve Analysis DS - Direct Shear UC - Unconfined Compression AL - Atterberg Limits #200 - #200 Sieve Wash MP - Modified Proctor		CNSL CRSN EI HA MD M R-Val SA DS UC AL #200 MP			As Shown	5	Surface Completion
10									10	
15			Environmental Lab Testing 8015M - Volatile and/or Extractable Petroleum Hydrocarbons 8260 - Halogenated Volatile Organic Compounds with Oxygenates 8270 - Semi-Volatile Organic Compounds 8081 - Organochlorine Pesticides			8015M 8260 8270 8081			15	Backfill Description
20			Hand Auger Sample Driven Sample, Blows Per 6 Inches, 2.5 Inch ID California Modified Sample Interval Driven Sample, Blows Per 6 Inches, 1.5 Inch ID SPT Sample Interval				10 11 15 20 22 23		20	
25			Hole terminated at 25 feet.						25	
30									30	
35									35	

GEO FORM 304 GEOTECHNICAL LEGEND.GPJ SECOR INTL.GDT 12/5/06

SYMBOLS AND TERMS USED ON BOREHOLE AND TEST PIT RECORDS

SOIL DESCRIPTION

Terminology describing common soil genesis:

Topsoil	-	mixture of soil and humus capable of supporting vegetative growth
Peat	-	mixture of visible and invisible fragments of decayed organic matter
Till	-	unstratified glacial deposit which may range from clay to boulders
Fill	-	material below the surface identified as placed by humans (excluding buried services)

Terminology describing soil structure:

Desiccated	-	having visible signs of weathering by oxidization of clay minerals, shrinkage cracks, etc.
Fissured	-	having cracks, and hence a blocky structure
Varved	-	composed of regular alternating layers of silt and clay
Stratified	-	composed of alternating successions of different soil types, e.g. silt and sand
Layer	-	> 75 mm in thickness
Seam	-	2 mm to 75 mm in thickness
Parting	-	< 2 mm in thickness

Terminology describing soil types:
The classification of soil types are made on the basis of grain size and plasticity in accordance with the Unified Soil Classification System (USCS) (ASTM D 2487 or D 2488). The classification excludes particles larger than 76 mm (3 inches). The USCS provides a group symbol (e.g. SM) and group name (e.g. silty sand) for identification.

Terminology describing cobbles, boulders, and non-matrix materials (organic matter or debris):
Terminology describing materials outside the USCS, (e.g. particles larger than 76 mm, visible organic matter, construction debris) is based upon the proportion of these materials present:

Trace, or occasional	Less than 10%
Some	10-20%
Frequent	> 20%

Terminology describing compactness of cohesionless soils:
The standard terminology to describe cohesionless soils includes compactness (formerly "relative density"), as determined by the Standard Penetration Test N-Value (also known as N-Index). A relationship between compactness condition and N-Value is shown in the following table.

Compactness Condition	SPT N-Value
Very Loose	<4
Loose	4-10
Compact	10-30
Dense	30-50
Very Dense	>50

Terminology describing consistency of cohesive soils:
The standard terminology to describe cohesive soils includes the consistency, which is based on undrained shear strength as measured by *in situ* vane tests, penetrometer tests, or unconfined compression tests.

Consistency	Undrained Shear Strength	
	kips/sq.ft.	kPa
Very Soft	<0.25	<12.5
Soft	0.25 - 0.5	12.5 - 25
Firm	0.5 - 1.0	25 - 50
Stiff	1.0 - 2.0	50 – 100
Very Stiff	2.0 - 4.0	100 - 200
Hard	>4.0	>200

ROCK DESCRIPTION

Terminology describing rock quality:

RQD	Rock Mass Quality
0-25	*Very Poor*
25-50	*Poor*
50-75	*Fair*
75-90	*Good*
90-100	*Excellent*

Rock quality classification is based on a modified core recovery percentage (RQD) in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be due to close shearing, jointing, faulting, or weathering in the rock mass and are not counted. RQD was originally intended to be done on NW core; however, it can be used on different core sizes if the bulk of the fractures caused by drilling stresses are easily distinguishable from *in situ* fractures. The terminology describing rock mass quality based on RQD is subjective and is underlain by the presumption that sound strong rock is of higher engineering value than fractured weak rock.

Terminology describing rock mass:

Spacing (mm)	Joint Classification	Bedding, Laminations, Bands
> 6000	*Extremely Wide*	-
2000-6000	*Very Wide*	*Very Thick*
600-2000	*Wide*	*Thick*
200-600	*Moderate*	*Medium*
60-200	*Close*	*Thin*
20-60	*Very Close*	*Very Thin*
<20	*Extremely Close*	*Laminated*
<6	-	*Thinly Laminated*

Terminology describing rock strength:

Strength Classification	Unconfined Compressive Strength (MPa)
Extremely Weak	< 1
Very Weak	1 – 5
Weak	5 – 25
Medium Strong	25 – 50
Strong	50 – 100
Very Strong	100 – 250
Extremely Strong	> 250

Terminology describing rock weathering:

Term	Description
Fresh	No visible signs of rock weathering. Slight discolouration along major discontinuities
Slightly Weathered	Discolouration indicates weathering of rock on discontinuity surfaces. All the rock material may be discoloured.
Moderately Weathered	Less than half the rock is decomposed and/or disintegrated into soil.
Highly Weathered	More than half the rock is decomposed and/or disintegrated into soil.
Completely Weathered	All the rock material is decomposed and/or disintegrated into soil. The original mass structure is still largely intact.

STRATA PLOT

Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols. The dimensions within the strata symbols are not indicative of the particle size, layer thickness, etc.

Boulders Cobbles Gravel | Sand | Silt | Clay | Organics | Asphalt | Concrete | Fill | Igneous Bedrock | Meta-morphic Bedrock | Sedi-mentary Bedrock

SAMPLE TYPE

SS	Split spoon sample (obtained by performing the Standard Penetration Test)
ST	Shelby tube or thin wall tube
DP	Direct-Push sample (small diameter tube sampler hydraulically advanced)
PS	Piston sample
BS	Bulk sample
WS	Wash sample
HQ, NQ, BQ, etc.	Rock core samples obtained with the use of standard size diamond coring bits.

WATER LEVEL MEASUREMENT

measured in standpipe, piezometer, or well

inferred

RECOVERY

For soil samples, the recovery is recorded as the length of the soil sample recovered. For rock core, recovery is defined as the total cumulative length of all core recovered in the core barrel divided by the length drilled and is recorded as a percentage on a per run basis.

N-VALUE

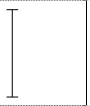
Numbers in this column are the field results of the Standard Penetration Test: the number of blows of a 140 pound (64 kg) hammer falling 30 inches (760 mm), required to drive a 2 inch (50.8 mm) O.D. split spoon sampler one foot (305 mm) into the soil. For split spoon samples where insufficient penetration was achieved and N-values cannot be presented, the number of blows are reported over sampler penetration in millimetres (e.g. 50/75). Some design methods make use of N value corrected for various factors such as overburden pressure, energy ratio, borehole diameter, etc. No corrections have been applied to the N-values presented on the log.

DYNAMIC CONE PENETRATION TEST (DCPT)

Dynamic cone penetration tests are performed using a standard 60 degree apex cone connected to A size drill rods with the same standard fall height and weight as the Standard Penetration Test. The DCPT value is the number of blows of the hammer required to drive the cone one foot (305 mm) into the soil. The DCPT is used as a probe to assess soil variability.

OTHER TESTS

S	Sieve analysis
H	Hydrometer analysis
k	Laboratory permeability
γ	Unit weight
G_s	Specific gravity of soil particles
CD	Consolidated drained triaxial
CU	Consolidated undrained triaxial with pore pressure measurements
UU	Unconsolidated undrained triaxial
DS	Direct Shear
C	Consolidation
Q_u	Unconfined compression
I_p	Point Load Index (I_p on Borehole Record equals $I_p(50)$ in which the index is corrected to a reference diameter of 50 mm)

	Single packer permeability test; test interval from depth shown to bottom of borehole
	Double packer permeability test; test interval as indicated
	Falling head permeability test using casing
	Falling head permeability test using well point or piezometer

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/23/15** COMPLETED: **11/23/15**
INSTALLATION: STARTED **11/23/15** COMPLETED: **11/23/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B1** PAGE 1 OF 1
NORTHING (ft): **1,878,130** EASTING (ft): **6,503,248**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1408.237** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **6.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			5" Asphalt concrete						
			WILSON QUARTZ DIORITE (wqd)						
			10YR 3/4 dark yellowish brown; weathered dioritic-granitic bedrock; dry; very dense; moderately fractured.		1220 B1-2	SA, MD	27 50-5"		
5					1225 B1-5		21 35 50		5
			Hole terminated at 6.5 feet.						
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/23/15** COMPLETED: **11/23/15**
INSTALLATION: STARTED **11/23/15** COMPLETED: **11/23/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B2** PAGE 1 OF 1
NORTHING (ft): **1,878,194** EASTING (ft): **6,503,406**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1408.920** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **6.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			5.5" Asphalt Concrete						
		SM	**SILTY SAND WITH GRAVEL** ; SM; 2.5Y 5/4 light olive brown; 30% fine angular gravel; 50% fine to coarse grained sand; 20% fines; dry; very dense; no staining; no odors (deeply weathered bedrock).		1252 B2-2	SA	35 50-6"		
5					1255 B2-5		50-3"		5
			Hole terminated at 6.5 feet.						
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/24/15** COMPLETED: **11/24/15**
INSTALLATION: STARTED **11/24/15** COMPLETED: **11/24/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B3** PAGE 1 OF 1
NORTHING (ft): **1,878,223** EASTING (ft): **6,503,470**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1408.354** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **17.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			4" Asphalt Concrete						
		SM	**SILTY SAND WITH GRAVEL** ; SM; 2.5Y 5/4 light olive brown; 30% fine angular gravel; 50% fine to coarse grained sand; 20% fines; dry; very dense; no staining; no odors (deeply weathered bedrock); evidence of hydrothermal alteration present.		0855 B3-2	SA, MD	34 50-5"		
5					0900 B3-5		37 50-6"		5
					0902 B3-7		50-4"		
10					0905 B3-10		31 45 50-5"		10
15					0915 B3-15		50-5"		15
			Hole terminated at 17.5 feet.						
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/24/15** COMPLETED: **11/24/15**
INSTALLATION: STARTED **11/24/15** COMPLETED: **11/24/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B4** PAGE 1 OF 1
NORTHING (ft): **1,878,273** EASTING (ft): **6,503,478**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1411.254** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **8.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
		SM	**SILTY SAND WITH GRAVEL** ; SM; 10 YR 3/4 dark yellowish brown; 40% fine angular gravel; 40% fine to coarse grained sand; 20% fines; dry; dense; no staining; no odors; (deeply weathered bedrock) evidence of hydrothermal alteration present.		0820 B4-2	SA	10 11 21		
5					0830 B4-5		50-2"		5
					0835 B4-7		50-2"		
			Hole terminated at 8.5 feet.						
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/24/15** COMPLETED: **11/24/15**
INSTALLATION: STARTED **11/24/15** COMPLETED: **11/24/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B5** PAGE 1 OF 1
NORTHING (ft): **1,878,314** EASTING (ft): **6,503,565**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1418.679** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **6.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			WILSON QUARTZ DIORITE (wqd)						
			Dark yellowish brown; weathered dioritic-granitic bedrock; dry; very dense; moderately fractured.		0800 B5-2		8 50-4"		
5					0805 B5-5		50-5"		5
			Hole terminated at 6.5 feet.						
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/23/15** COMPLETED: **11/23/15**
INSTALLATION: STARTED **11/23/15** COMPLETED: **11/23/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B6** PAGE 1 OF 1
NORTHING (ft): **1,878,356** EASTING (ft): **6,503,665**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1433.052** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **6.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			WILSON QUARTZ DIORITE (wqd)						
			Dark yellowish brown; weathered dioritic-granitic bedrock; dry; very dense; moderately fractured.		1120 B6-2	SA	50-5"		
5					1122 B6-5		50-3"		5
			Hole terminated at 6.5 feet.						
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/23/15** COMPLETED: **11/23/15**
INSTALLATION: STARTED **11/23/15** COMPLETED: **11/23/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B7** PAGE 1 OF 1
NORTHING (ft): **1,878,310** EASTING (ft): **6,503,952**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1472.598** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **6.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			WILSON QUARTZ DIORITE (wqd)						
			Dark yellowish brown; weathered dioritic-granitic bedrock; dry; very dense; moderately fractured.		1048 B7-2	SA	50-4"		
5					1052 B7-5		26 37 50		5
			Hole terminated at 6.5 feet.						
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/23/15** COMPLETED: **11/23/15**
INSTALLATION: STARTED **11/23/15** COMPLETED: **11/23/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B8** PAGE 1 OF 2
NORTHING (ft): **1,878,448** EASTING (ft): **6,503,697**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1445.945** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **36.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
		SM	**SILTY SAND WITH GRAVEL** ; SM; 7.5 YR 3/3 dark brown; 15% fine gravel; 65% fine to coarse grained sand; 20% fines; moist; medium dense; no staining; no odor (FILL).		918 B8-2	SA	5 8 8		
5					922 B8-5	DS	8 10 12		5
					926 B8-7		3 4 4		
10			With some landfill debris below 15 feet		930 B8-10		3 4 4		10
15					940 B8-10	SA	7 9 7		15
20					945 B8-20		6 5 10		20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/23/15** COMPLETED: **11/23/15**
INSTALLATION: STARTED **11/23/15** COMPLETED: **11/23/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B8** PAGE 2 OF 2
NORTHING (ft): **1,878,448** EASTING (ft): **6,503,697**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1445.945** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **36.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			WILSON QUARTZ DIORITE (wqd); dark yellowish brown; weathered dioritic-granitic bedrock; dry; very dense; moderately fractured.		955 B8-25		7 10 13		
30					1010 B8-30	SA	13 35 46		30
35					1015 B8-35		21 50-5"		35
			Hole terminated at 36.5 feet.						
40									40
45									45

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**

DRILLING: STARTED **11/24/15** COMPLETED: **11/24/15**
INSTALLATION: STARTED **11/24/15** COMPLETED: **11/24/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B9** PAGE 1 OF 1

NORTHING (ft): **1,878,376** EASTING (ft): **6,503,531**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1422.006** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **6.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			WILSON QUARTZ DIORITE (wqd); dark yellowish brown; weathered dioritic-granitic bedrock; dry; very dense; moderately fractured.		740 B9-2	SA	50-6"		
5					745 B9-5		21 32 46		5
			Hole terminated at 6.5 feet.						
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **12/4/15** COMPLETED: **12/4/15**
INSTALLATION: STARTED **12/4/15** COMPLETED: **12/4/15**
DRILLING COMPANY: **Mike's Excavating Service**
DRILLING EQUIPMENT: **Hand Dug**
DRILLING METHOD:
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **TP-1** PAGE 1 OF 1
NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **3.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in):
LOGGED BY: **E. Bovenizer** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			Earth Fill (ef); silty sand with gravel, mottled brown and dark brown, dry, loose, sand is very fine to coarse grained (FILL)		TP1-0.5	DS			
			Natural Soil (Qns); silty sand with gravell brown; dry; loose; sand is very fine to coarse grained; rootlets (NATIVE)						
			Wilson Quartz Diorite (wqd); quartz diorite; brown and white specked; dry; very hard; medium to large grained; moderately to poorly foliated.						
			Hole terminated at 3 feet.						
5									5
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **12/4/15** COMPLETED: **12/4/15**
INSTALLATION: STARTED **12/4/15** COMPLETED: **12/4/15**
DRILLING COMPANY: **Mike's Excavating Service**
DRILLING EQUIPMENT: **Hand Dug**
DRILLING METHOD:
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **TP-2** PAGE 1 OF 1
NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **3.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in):
LOGGED BY: **E. Bovenizer** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			Natural Soil (Qns); silty sand with gravell brown; dry; loose; sand is very fine to coarse grained; rootlets (NATIVE)		TP2-0.5	DS			
			Wilson Quartz Diorite (wqd); quartz diorite; brown and white specked; dry; very hard; medium to large grained; moderately to poorly foliated; foliation at 2.5 feet; N68E; 49NW Hole terminated at 3 feet.						
5									5
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **12/4/15** COMPLETED: **12/4/15**
INSTALLATION: STARTED **12/4/15** COMPLETED: **12/4/15**
DRILLING COMPANY: **Mike's Excavating Service**
DRILLING EQUIPMENT: **Hand Dug**
DRILLING METHOD:
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **TP-3** PAGE 1 OF 1
NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **3.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in):
LOGGED BY: **E. Bovenizer** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			Wilson Quartz Diorite (wqd); quartz diorite; brown and white specked; dry; very hard; medium to large grained; moderately to poorly foliated; upper foot is weathered; foliation at 1.5 feet; N42E; 28NW		TP3-0.5	DS			
			Hole terminated at 3 feet.						
5									5
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **12/4/15** COMPLETED: **12/4/15**
INSTALLATION: STARTED **12/4/15** COMPLETED: **12/4/15**
DRILLING COMPANY: **Mike's Excavating Service**
DRILLING EQUIPMENT: **Hand Dug**
DRILLING METHOD:
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **TP-4** PAGE 1 OF 1
NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **3.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in):
LOGGED BY: **E. Bovenizer** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			Natural Soil (Qns); silty sand with gravell brown; dry; loose; sand is very fine to coarse grained; rootlets (NATIVE)		TP4-1.0	DS			
			Wilson Quartz Diorite (wqd); quartz diorite; brown and white specked; dry; very hard; medium to large grained; moderately to poorly foliated		TP4-3.0	DS			
			Hole terminated at 3.5 feet.						
5									5
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **12/4/15** COMPLETED: **12/4/15**
INSTALLATION: STARTED **12/4/15** COMPLETED: **12/4/15**
DRILLING COMPANY: **Mike's Excavating Service**
DRILLING EQUIPMENT: **Hand Dug**
DRILLING METHOD:
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **TP-5** PAGE 1 OF 1
NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **3.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in):
LOGGED BY: **E. Bovenizer** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			Natural Soil (Qns); silty sand with gravell brown; dry; loose; sand is very fine to coarse grained; rootlets (NATIVE)						
			Wilson Quartz Diorite (wqd); quartz diorite; brown and white specked; dry; very hard; medium to large grained; moderately to poorly foliated; upper 1.5 feet is weathered		TP5-3	DS			
			Hole terminated at 3.5 feet.						
5									5
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **12/4/15** COMPLETED: **12/4/15**
INSTALLATION: STARTED **12/4/15** COMPLETED: **12/4/15**
DRILLING COMPANY: **Mike's Excavating Service**
DRILLING EQUIPMENT: **Hand Dug**
DRILLING METHOD:
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **TP-6** PAGE 1 OF 1
NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **3.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in):
LOGGED BY: **E. Bovenizer** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			Wilson Quartz Diorite (wqd); quartz diorite; brown and white specked; dry; very hard; medium to large grained; moderately to poorly foliated						
			Hole terminated at 3 feet.						
5									5
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **12/4/15** COMPLETED: **12/4/15**
INSTALLATION: STARTED **12/4/15** COMPLETED: **12/4/15**
DRILLING COMPANY: **Mike's Excavating Service**
DRILLING EQUIPMENT: **Hand Dug**
DRILLING METHOD:
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **TP-7** PAGE 1 OF 1

Stantec

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **3.0**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in):
LOGGED BY: **E. Bovenizer** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			Natural Soil (Qns); silty sand with gravell brown; dry; loose; sand is very fine to coarse grained; rootlets (NATIVE)		TP7-1.0	DS			
			Wilson Quartz Diorite (wqd); quartz diorite; brown and white specked; dry; very hard; medium to large grained; moderately to poorly foliated; foliation at 1.5 feet; N15E; 64SE		TP7-2.0	DS			
			Hole terminated at 3 feet.						
5									5
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/23/15** COMPLETED: **11/23/15**
INSTALLATION: STARTED **11/23/15** COMPLETED: **11/23/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B10** PAGE 1 OF 1
NORTHING (ft): **1,878,339** EASTING (ft): **6,503,445**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1403.152** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **6.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			WILSON QUARTZ DIORITE (wqd); dark yellowish brown; weathered dioritic-granitic bedrock; dry; very dense; moderately fractured.		1410 B10-2	SA	22 20 30		
5					1415 B10-5		50-5"		5
			Hole terminated at 6.5 feet.						
10									10
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

PROJECT: **Biogas Renewable Generation Project**
LOCATION: **7721 N. Figueroa St., Los Angeles, CA**
PROJECT NUMBER: **2057123300**
DRILLING: STARTED **11/23/15** COMPLETED: **11/23/15**
INSTALLATION: STARTED **11/23/15** COMPLETED: **11/23/15**
DRILLING COMPANY: **2R Drilling**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon Sampler**

WELL / PROBEHOLE / BOREHOLE NO: **B11** PAGE 1 OF 1
NORTHING (ft): **1,878,249** EASTING (ft): **6,503,378**
LATITUDE: LONGITUDE:
GROUND ELEV (ft): **1409.831** TOC ELEV (ft):
INITIAL DTW (ft): **NE** BOREHOLE DEPTH (ft): **11.5**
STATIC DTW (ft): **NE** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **6**
LOGGED BY: **J. Sargent** CHECKED BY: **J. Fischer**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Geotechnical Lab Testing	Blow Count	PID Reading (ppmv)	Depth (feet)
			SILTY SAND WITH GRAVEL ; 2.5Y 4/4 olive brown ; 30% fine to coarse gravel; 50% fine to coarse grained sand; 20% fines; moist; medium dense; no staining; no odor (deeply weathered bedrock).		1320 B11-2	SA, MD	9 8 7		
5					1325 B11-5		2 6 22		5
			WILSON QUARTZ DIORITE (wqd); dark yellowish brown; weathered dioritic-granitic bedrock; dry; very dense; moderately fractured.		1330 B11-7	SA, DS	40 50-4"		
10					1335 B11-10		27 50-4"		10
			Hole terminated at 11.5 feet.						
15									15
20									20

GEO FORM 304 SCHOLL_CANYON_BORING_LOGS.GPJ SECOR INTL.GDT 2/12/16

APPENDIX B
LABORATORY TEST RESULTS

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SUMMARY OF MOISTURE DENSITY TEST RESULTS
ASTM D 2216

Boring Location	Sample Depth (ft)	Wet Density (lb/ft^3)	Dry Density (lb/ft^3)	Moisture Content (percent)
B1-2	2	147.3	143.4	2.7
B3-2	2	146.5	140.7	4.1
B11-2	2	120.9	116.2	4.0

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B1-2

Project Number: 2057123300
Lab ID: B1-2
Date Received: 12-04-2015
Preparation Date: 12-26-2015
Test Date: 05-14-2014

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 673.40
Moisture Content (%): 2.8

Analysis based on total sample.

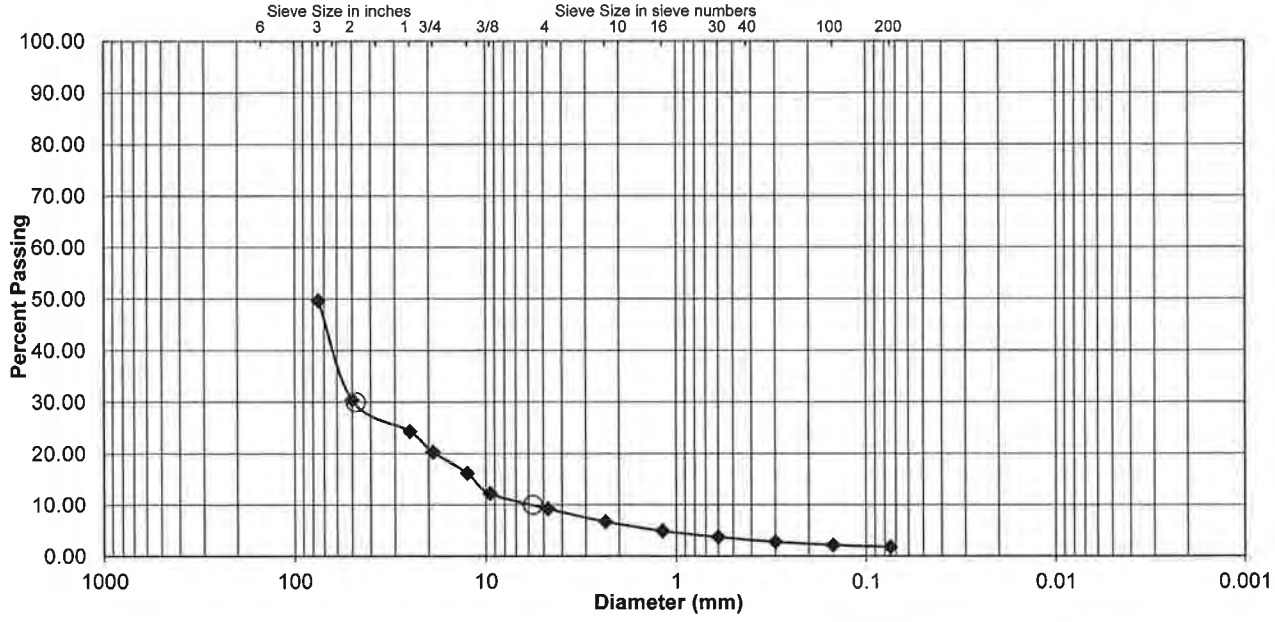
Sieve Size	Grams Retained	% Retained	% Passing
3"	339.00	50.3	49.7
2"	129.90	19.3	30.4
1"	40.60	6.0	24.3
3/4"	27.00	4.0	20.3
1/2"	27.70	4.1	16.2
3/8"	26.90	4.0	12.2
No. 4	20.20	3.0	9.2
No. 8	17.00	2.5	6.7
No. 16	12.20	1.8	4.9
No. 30	8.00	1.2	3.7
No. 50	6.30	0.9	2.8
No. 100	4.20	0.6	2.1
No. 200	2.50	0.4	1.8
Pan	11.90	1.8	---

% Gravel	90.8
% Sand	7.5
% Fines	1.8
Fines Classification	ML
D_{10} (mm)	5.6857
D_{30} (mm)	47.9272
D_{60} (mm)	N/A
Cu	N/A
Cc	N/A

Classification
Poorly Graded Gravel (GP)

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B2-2

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 377.30
Moisture Content (%): 2.7

Project Number: 2057123300
Lab ID: B2-2
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-28-2015

Analysis based on total sample.

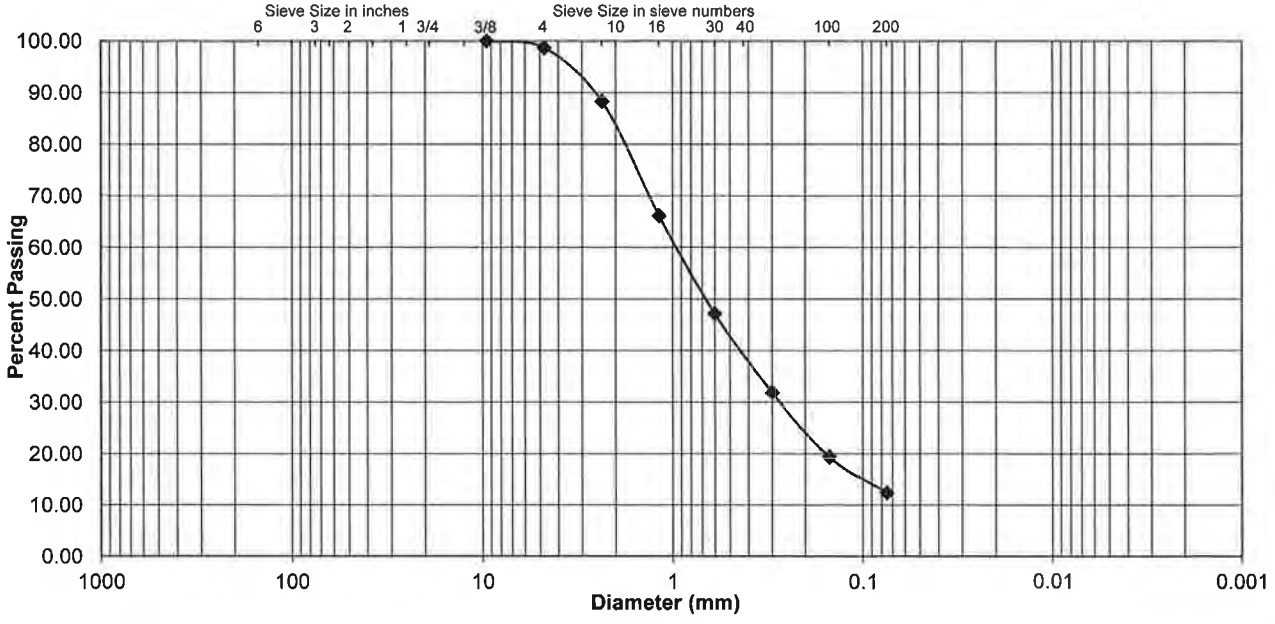
Sieve Size	Grams Retained	% Retained	% Passing
3/8"	0.00	0.0	100.0
No. 4	5.00	1.3	98.7
No. 8	39.00	10.3	88.3
No. 16	83.50	22.1	66.2
No. 30	71.90	19.1	47.2
No. 50	57.40	15.2	31.9
No. 100	47.10	12.5	19.5
No. 200	26.70	7.1	12.4
Pan	46.70	12.4	---

% Gravel	1.3
% Sand	86.3
% Fines	12.4
Fines Classification	ML
D_{10} (mm)	N/A
D_{30} (mm)	N/A
D_{60} (mm)	N/A
Cu	N/A
Cc	N/A

Classification
Silty Sand (SM)

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B3-2

Project Number: 2057123300
Lab ID: B3-2
Date Received: 12-04-2015
Preparation Date: 12-26-2015
Test Date: 12-26-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 480.60
Moisture Content (%): 5.8

Analysis based on total sample.

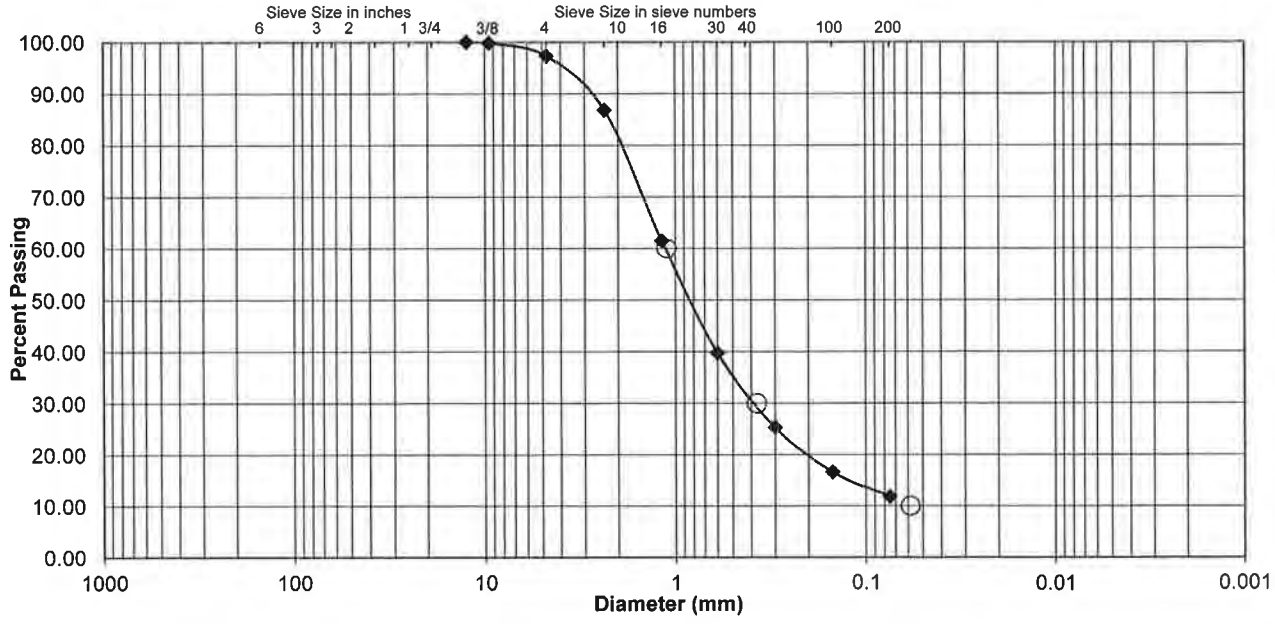
Sieve Size	Grams Retained	% Retained	% Passing
1/2"	0.00	0.0	100.0
3/8"	1.00	0.2	99.8
No. 4	11.70	2.4	97.4
No. 8	50.20	10.4	86.9
No. 16	121.60	25.3	61.6
No. 30	105.10	21.9	39.7
No. 50	69.00	14.4	25.4
No. 100	41.60	8.7	16.7
No. 200	23.70	4.9	11.8
Pan	56.70	11.8	---

% Gravel	2.6
% Sand	85.6
% Fines	11.8
Fines Classification	ML
D_{10} (mm)	0.0583
D_{30} (mm)	0.3749
D_{60} (mm)	1.1127
Cu	19.10
Cc	2.17

Classification
Well Graded Sand (SW-SM) with Silt

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

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Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B4-2

Project Number: 2057123300
Lab ID: B4-2
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-28-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 541.40
Moisture Content (%): 5.1

Analysis based on total sample.

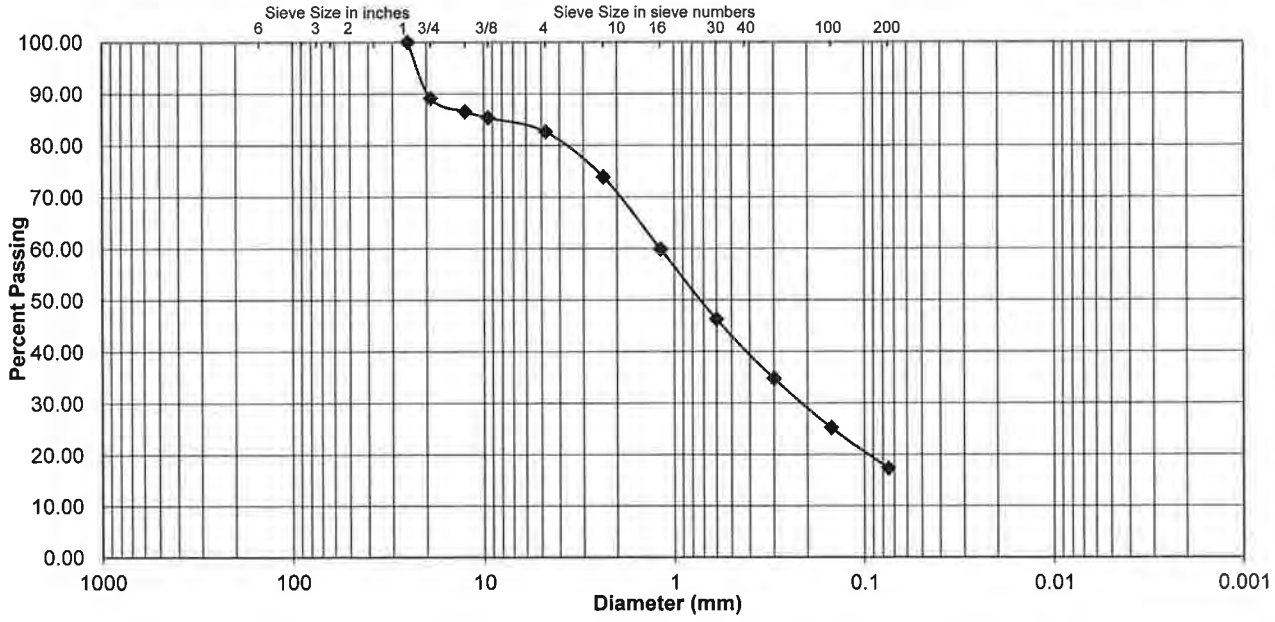
Sieve Size	Grams Retained	% Retained	% Passing
1"	0.00	0.0	100.0
3/4"	58.90	10.9	89.1
1/2"	14.00	2.6	86.5
3/8"	6.40	1.2	85.4
No. 4	14.70	2.7	82.6
No. 8	47.50	8.8	73.9
No. 16	75.80	14.0	59.9
No. 30	73.50	13.6	46.3
No. 50	62.30	11.5	34.8
No. 100	51.70	9.5	25.2
No. 200	42.90	7.9	17.3
Pan	93.70	17.3	---

% Gravel	17.4
% Sand	65.3
% Fines	17.3
Fines Classification	ML
D_{10} (mm)	N/A
D_{30} (mm)	N/A
D_{60} (mm)	N/A
Cu	N/A
Cc	N/A

Classification
Silty Sand (SM) with Gravel

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B6-2

Project Number: 2057123300
Lab ID: B6-2
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-28-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 170.90
Moisture Content (%): 2.0

Analysis based on total sample.

Sieve Size	Grams Retained	% Retained	% Passing
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	10.80	6.3	93.7
3/8"	14.00	8.2	85.5
No. 4	15.20	8.9	76.6
No. 8	20.20	11.8	64.8
No. 16	23.60	13.8	51.0
No. 30	21.80	12.8	38.2
No. 50	19.10	11.2	27.0
No. 100	15.30	9.0	18.1
No. 200	10.70	6.3	11.8
Pan	20.20	11.8	---

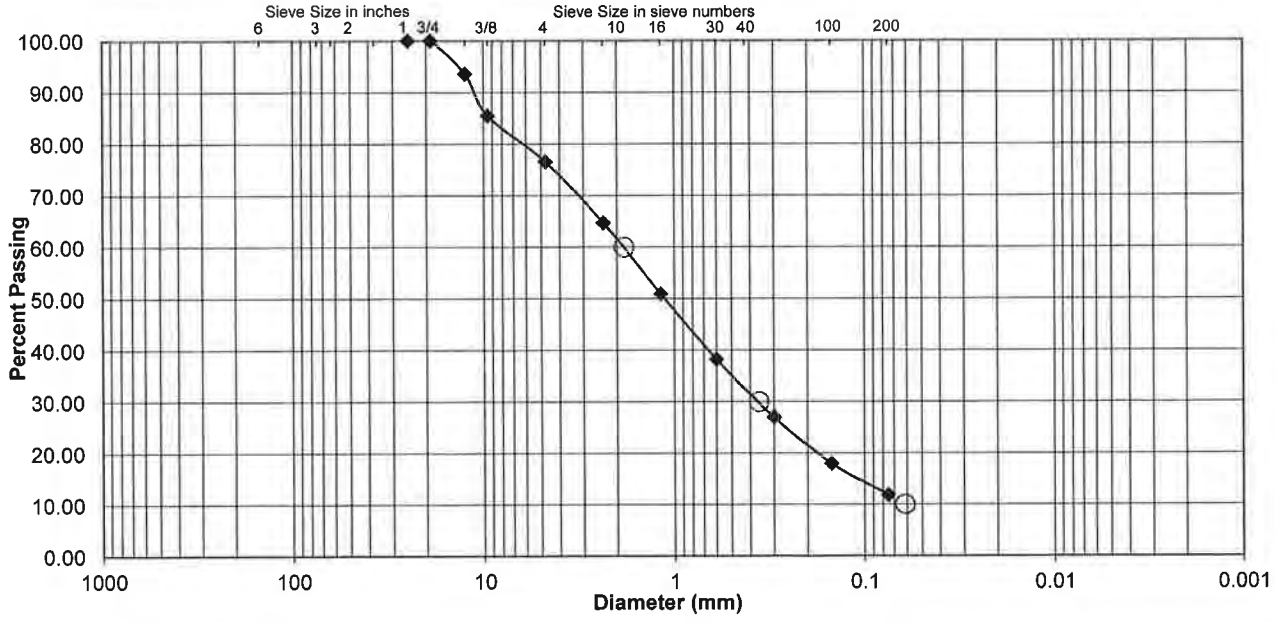
% Gravel	23.4
% Sand	64.8
% Fines	11.8
Fines Classification	ML
D_{10} (mm)	0.0613
D_{30} (mm)	0.3606
D_{60} (mm)	1.8471
Cu	30.12
Cc	1.15

Classification

Well Graded Sand (SW-SM) with Silt and Gravel

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B6-2

Project Number: 2057123300
Lab ID: B6-2
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-28-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 170.90
Moisture Content (%): 2.0

Analysis based on total sample.

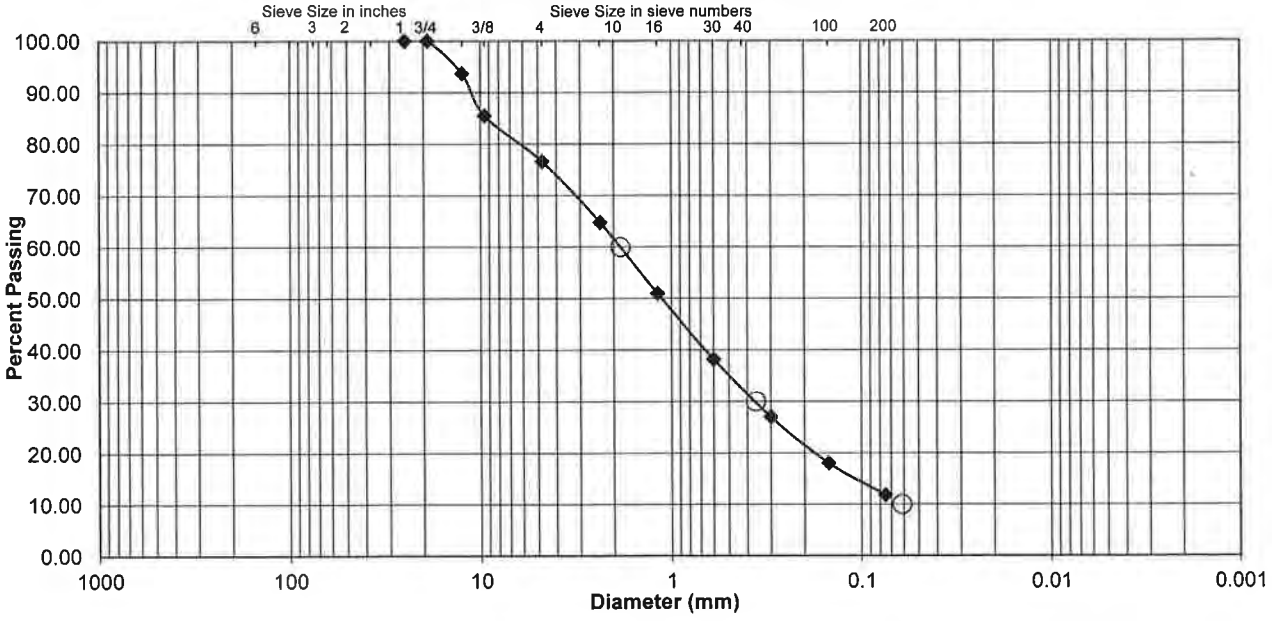
Sieve Size	Grams Retained	% Retained	% Passing
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	10.80	6.3	93.7
3/8"	14.00	8.2	85.5
No. 4	15.20	8.9	76.6
No. 8	20.20	11.8	64.8
No. 16	23.60	13.8	51.0
No. 30	21.80	12.8	38.2
No. 50	19.10	11.2	27.0
No. 100	15.30	9.0	18.1
No. 200	10.70	6.3	11.8
Pan	20.20	11.8	---

% Gravel	23.4
% Sand	64.8
% Fines	11.8
Fines Classification	ML
D_{10} (mm)	0.0613
D_{30} (mm)	0.3606
D_{60} (mm)	1.8471
Cu	30.12
Cc	1.15

Classification
Well Graded Sand (SW-SM) with Silt and Gravel

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B7-2

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 104.50
Moisture Content (%): 2.4

Project Number: 2057123300
Lab ID: B7-2
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-28-2015

Analysis based on total sample.

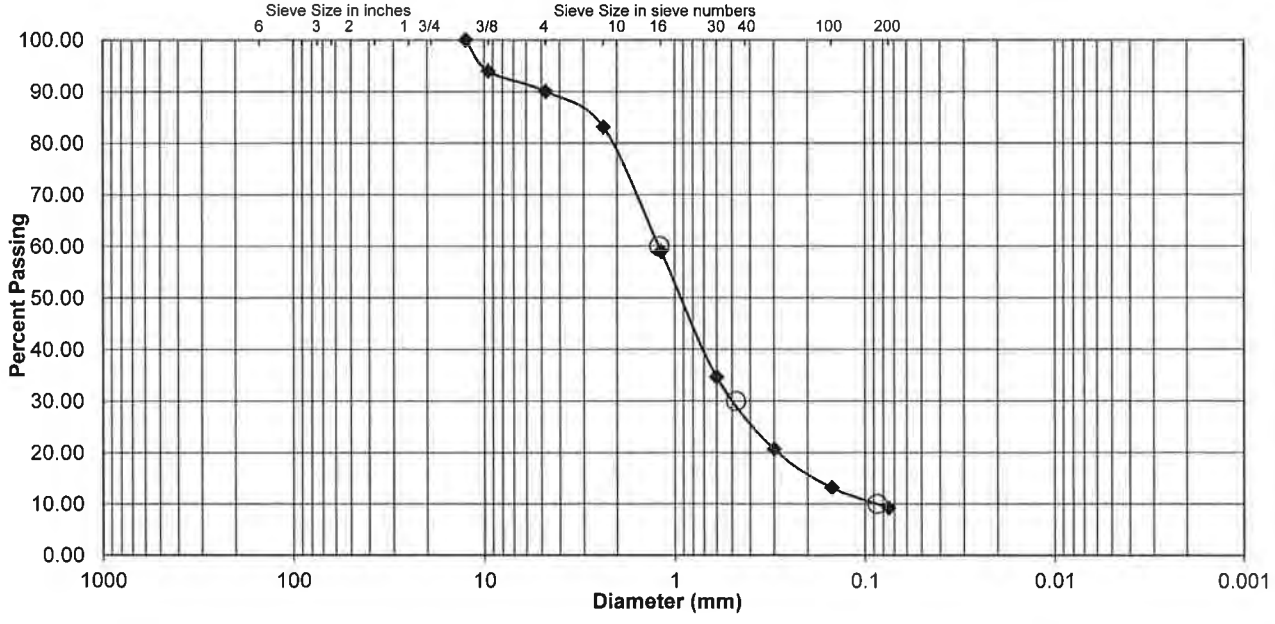
Sieve Size	Grams Retained	% Retained	% Passing
1/2"	0.00	0.0	100.0
3/8"	6.30	6.0	94.0
No. 4	4.10	3.9	90.0
No. 8	7.20	6.9	83.2
No. 16	25.20	24.1	59.0
No. 30	25.50	24.4	34.6
No. 50	14.60	14.0	20.7
No. 100	7.80	7.5	13.2
No. 200	4.20	4.0	9.2
Pan	9.60	9.2	---

% Gravel	10.0
% Sand	80.9
% Fines	9.2
Fines Classification	ML
D_{10} (mm)	0.0863
D_{30} (mm)	0.4766
D_{60} (mm)	1.2029
Cu	13.94
Cc	2.19

Classification
Well Graded Sand (SW-SM) with Silt

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

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Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B8-2

Project Number: 2057123300
Lab ID: B8-2
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-28-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 354.20
Moisture Content (%): 4.8

Analysis based on total sample.

Sieve Size	Grams Retained	% Retained	% Passing
3/4"	0.00	0.0	100.0
1/2"	21.50	6.1	93.9
3/8"	7.00	2.0	92.0
No. 4	18.10	5.1	86.8
No. 8	41.80	11.8	75.0
No. 16	50.20	14.2	60.9
No. 30	44.60	12.6	48.3
No. 50	39.30	11.1	37.2
No. 100	35.60	10.1	27.1
No. 200	29.10	8.2	18.9
Pan	67.00	18.9	---

% Gravel: 13.2
% Sand: 67.9
% Fines: 18.9
Fines Classification: ML

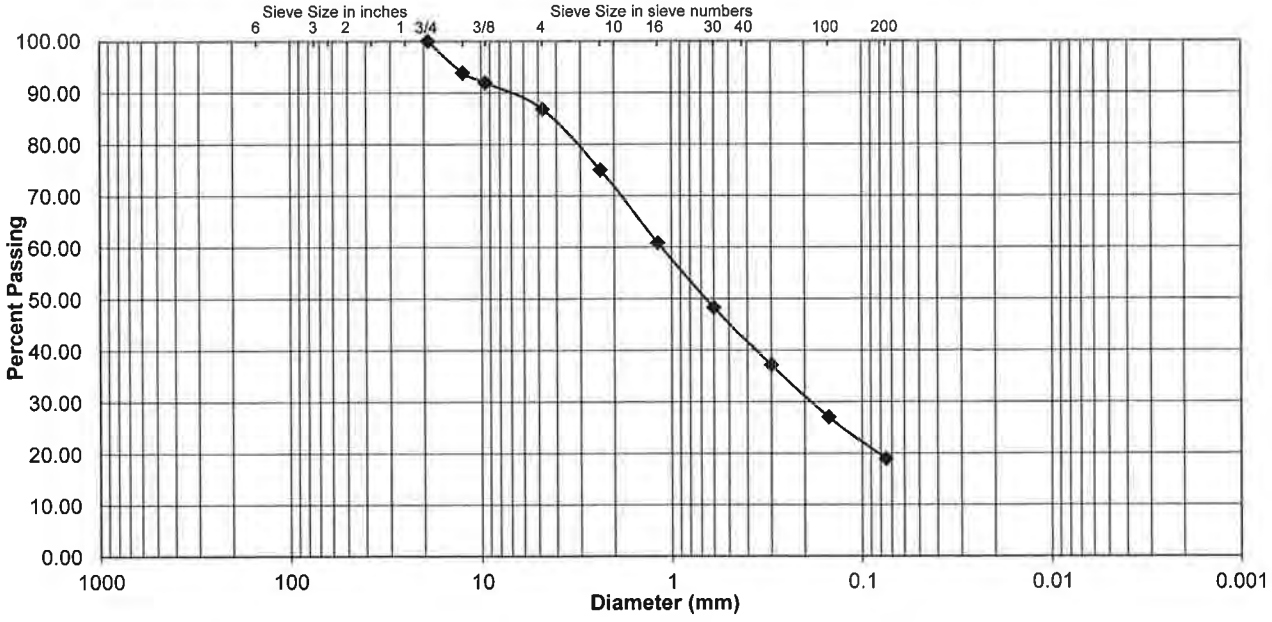
D_{10} (mm): N/A
D_{30} (mm): N/A
D_{60} (mm): N/A

Cu: N/A
Cc: N/A

Classification
Silty Sand (SM)

Classification determined by ASTM D 2487, -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B8-15

Project Number: 2057123300
Lab ID: B5-15
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-28-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 500.00
Moisture Content (%): 7.7

Analysis based on total sample.

Sieve Size	Grams Retained	% Retained	% Passing
3/4"	0.00	0.0	100.0
1/2"	50.20	10.0	90.0
3/8"	23.80	4.8	85.2
No. 4	36.70	7.3	77.9
No. 8	61.10	12.2	65.6
No. 16	54.80	11.0	54.7
No. 30	49.40	9.9	44.8
No. 50	45.40	9.1	35.7
No. 100	43.40	8.7	27.0
No. 200	35.20	7.0	20.0
Pan	100.00	20.0	---

% Gravel: 22.1
% Sand: 57.9
% Fines: 20.0
Fines Classification: ML

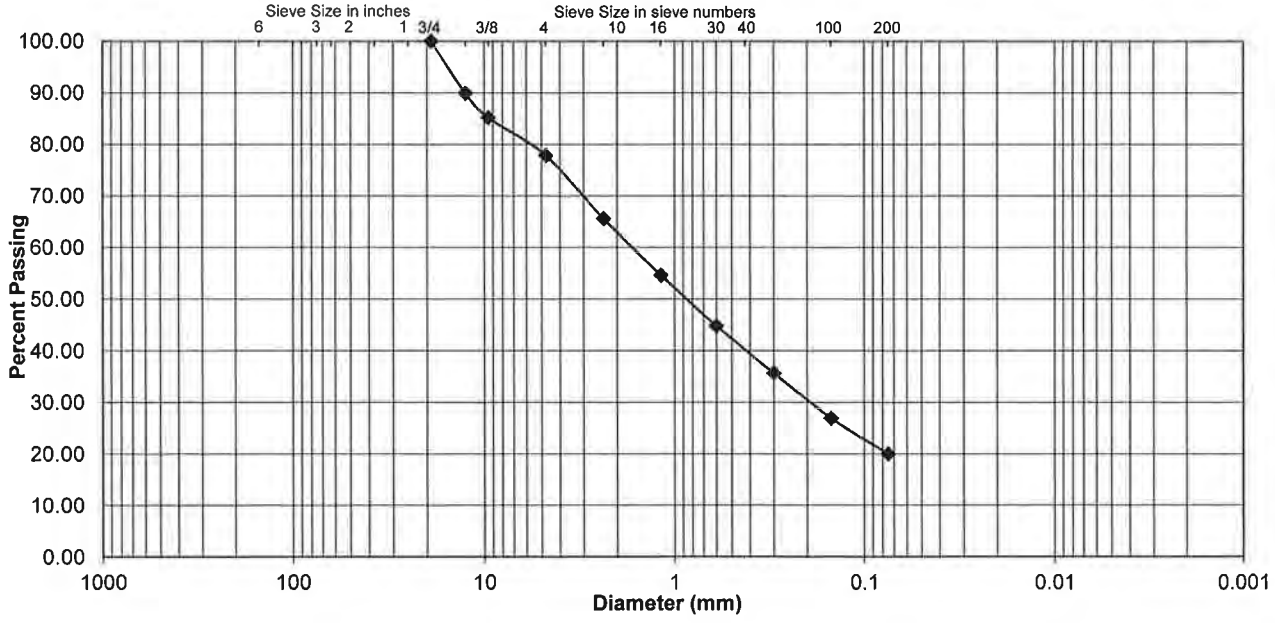
D_{10} (mm): N/A
D_{30} (mm): N/A
D_{60} (mm): N/A

Cu: N/A
Cc: N/A

Classification
Silty Sand (SM) with Gravel

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

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Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B8-30

Project Number: 2057123300
Lab ID: B8-30
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-28-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 410.30
Moisture Content (%): 4.6

Analysis based on total sample.

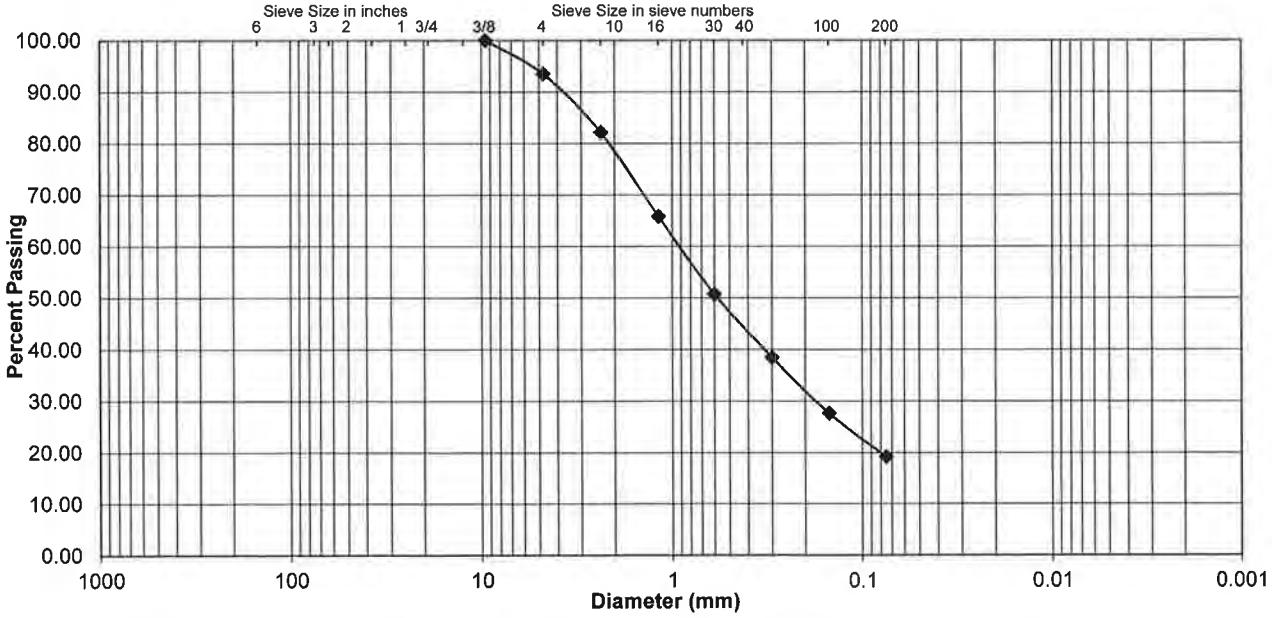
Sieve Size	Grams Retained	% Retained	% Passing
3/8"	0.00	0.0	100.0
No. 4	26.70	6.5	93.5
No. 8	46.80	11.4	82.1
No. 16	67.00	16.3	65.8
No. 30	61.60	15.0	50.7
No. 50	50.40	12.3	38.5
No. 100	44.40	10.8	27.6
No. 200	34.60	8.4	19.2
Pan	78.80	19.2	---

% Gravel	6.5
% Sand	74.3
% Fines	19.2
Fines Classification	ML
D_{10} (mm)	N/A
D_{30} (mm)	N/A
D_{60} (mm)	N/A
Cu	N/A
Cc	N/A

Classification
Silty Sand (SM)

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B9-5

Project Number: 2057123300
Lab ID: B9-5
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-28-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 496.00
Moisture Content (%): 4.2

Analysis based on total sample.

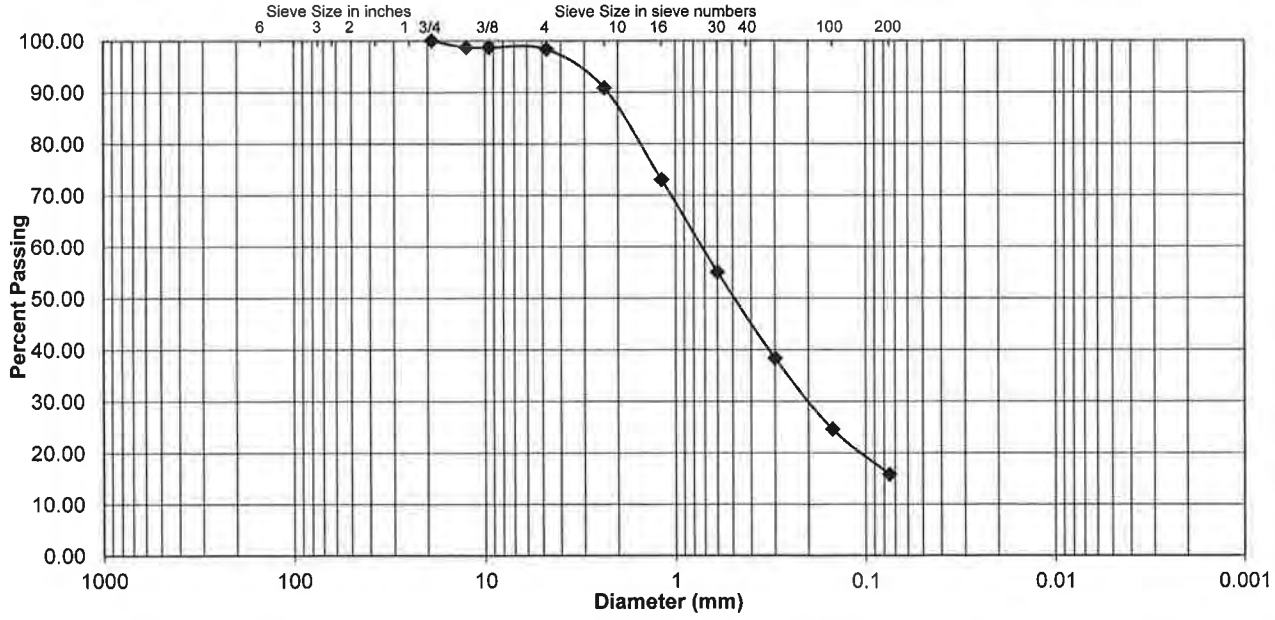
Sieve Size	Grams Retained	% Retained	% Passing
3/4"	0.00	0.0	100.0
1/2"	6.50	1.3	98.7
3/8"	0.00	0.0	98.7
No. 4	1.70	0.3	98.3
No. 8	37.20	7.5	90.8
No. 16	88.30	17.8	73.0
No. 30	89.10	18.0	55.1
No. 50	82.80	16.7	38.4
No. 100	68.10	13.7	24.7
No. 200	43.80	8.8	15.8
Pan	78.50	15.8	---

% Gravel	1.7
% Sand	82.5
% Fines	15.8
Fines Classification	ML
D_{10} (mm)	N/A
D_{30} (mm)	N/A
D_{60} (mm)	N/A
Cu	N/A
Cc	N/A

Classification
Silty Sand (SM)

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B10-2

Project Number: 2057123300
Lab ID: B10-2
Date Received: 12-04-2015
Preparation Date: 12-27-2015
Test Date: 12-26-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 410.30
Moisture Content (%): 20.7

Analysis based on total sample.

Sieve Size	Grams Retained	% Retained	% Passing
3/4"	0.00	0.0	100.0
1/2"	18.50	4.5	95.5
3/8"	23.80	5.8	89.7
No. 4	35.90	8.7	80.9
No. 8	52.30	12.7	68.2
No. 16	74.40	18.1	50.1
No. 30	59.30	14.5	35.6
No. 50	44.60	10.9	24.7
No. 100	34.00	8.3	16.5
No. 200	22.30	5.4	11.0
Pan	45.20	11.0	---

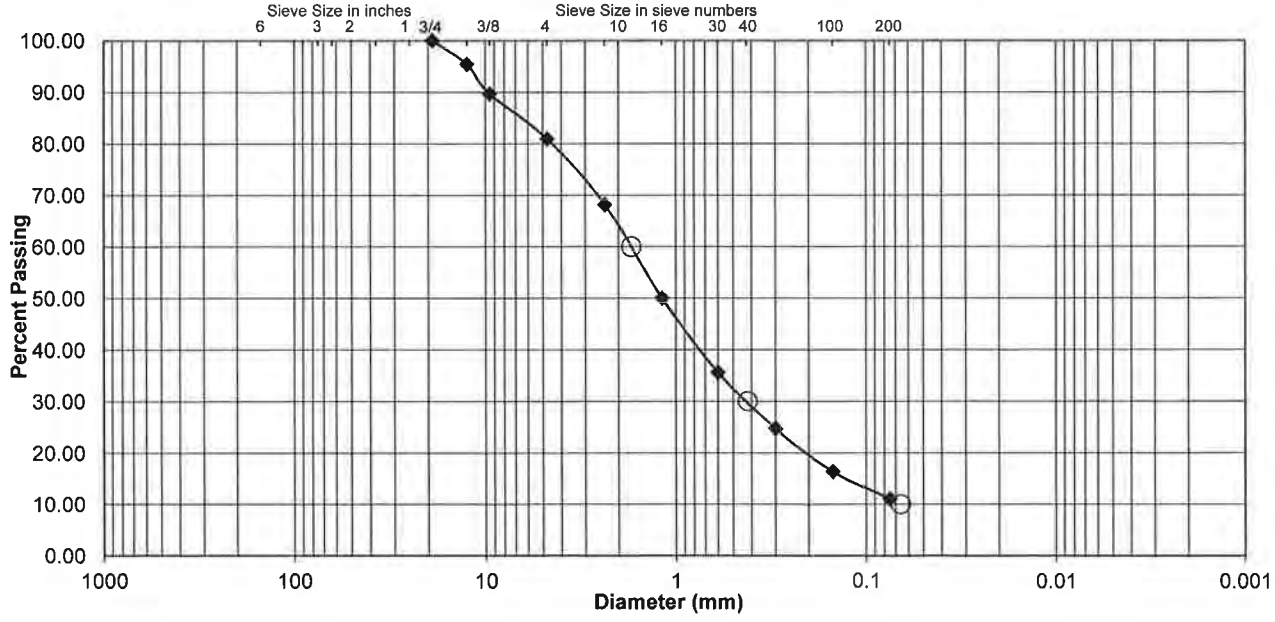
% Gravel	19.1
% Sand	69.9
% Fines	11.0
Fines Classification	ML
D_{10} (mm)	0.0659
D_{30} (mm)	0.4196
D_{60} (mm)	1.7154
Cu	26.04
Cc	1.56

Classification

Well Graded Sand (SW-SM) with Silt and Gravel

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

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Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B11-2

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 427.60
Moisture Content (%): 7.8

Project Number: 2057123300
Lab ID: B11-2
Date Received: 12-04-2015
Preparation Date: 12-26-2015
Test Date: 12-26-2015

Analysis based on total sample.

Sieve Size	Grams Retained	% Retained	% Passing
1"	0.00	0.0	100.0
3/4"	26.10	6.1	93.9
1/2"	3.30	0.8	93.1
3/8"	2.10	0.5	92.6
No. 4	13.20	3.1	89.5
No. 8	51.70	12.1	77.5
No. 16	77.00	18.0	59.4
No. 30	65.90	15.4	44.0
No. 50	57.00	13.3	30.7
No. 100	44.20	10.3	20.4
No. 200	29.50	6.9	13.5
Pan	57.60	13.5	---

% Gravel: 10.5
% Sand: 76.1
% Fines: 13.5
Fines Classification: ML

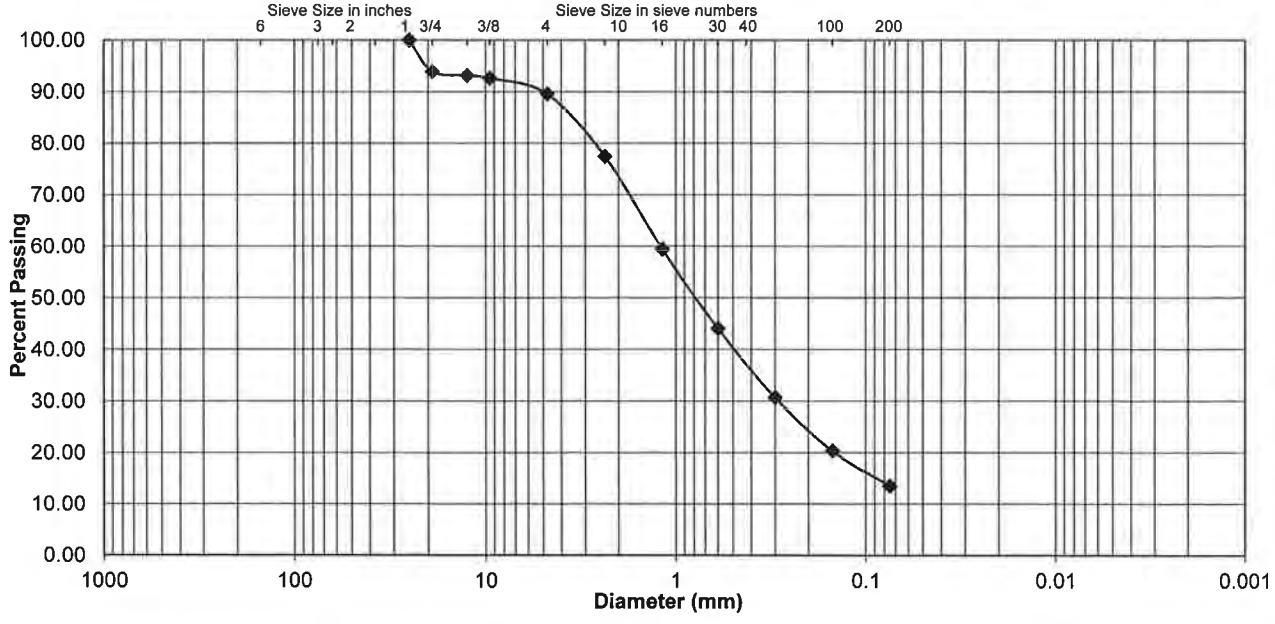
D_{10} (mm): N/A
D_{30} (mm): N/A
D_{60} (mm): N/A

Cu: N/A
Cc: N/A

Classification
Silty Sand (SM)

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Gradation Analysis
ASTM D 422

Project Name: Scholl Canyon Landfill
Source: B11-7

Project Number: 2057123300
Lab ID: B11-7
Date Received: 12-04-2015
Preparation Date: 12-26-2015
Test Date: 12-26-2015

Preparation Method: ASTM D 1140 Method A
Particle Shape: Angular
Particle Hardness: Hard and Durable
Sample Dry Mass (g): 344.00
Moisture Content (%): 5.9

Analysis based on total sample.

Sieve Size	Grams Retained	% Retained	% Passing
3/8"	0.00	0.0	100.0
No. 4	2.30	0.7	99.3
No. 8	36.00	10.5	88.9
No. 16	78.80	22.9	66.0
No. 30	67.90	19.7	46.2
No. 50	51.90	15.1	31.1
No. 100	43.10	12.5	18.6
No. 200	24.70	7.2	11.4
Pan	39.30	11.4	---

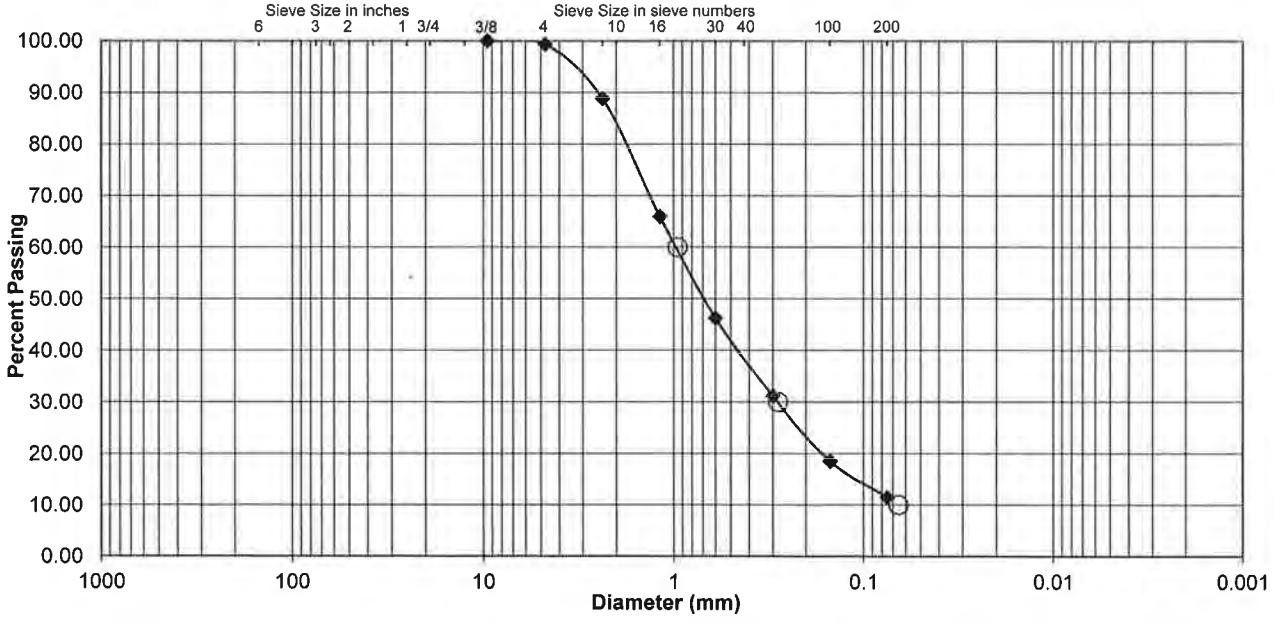
% Gravel	0.7
% Sand	87.9
% Fines	11.4
Fines Classification	ML
D_{10} (mm)	0.0654
D_{30} (mm)	0.2818
D_{60} (mm)	0.9521
Cu	14.57
Cc	1.28

Classification

Well Graded Sand (SW-SM) with Silt

Classification determined by ASTM D 2487. -200 material classification determined by visual assessment, ASTM D 2488.

Particle Size Distribution



Comments

Reviewed By

Stantec

Compaction Characteristics of Soil Using Modified Effort

ASTM D 1557 - Method A

Project: Scholl Canyon Landfill
Source:
Description: Gravely Sand w/ Silt F-C (SP-SM) Brownish Yellow
Visual Notes:

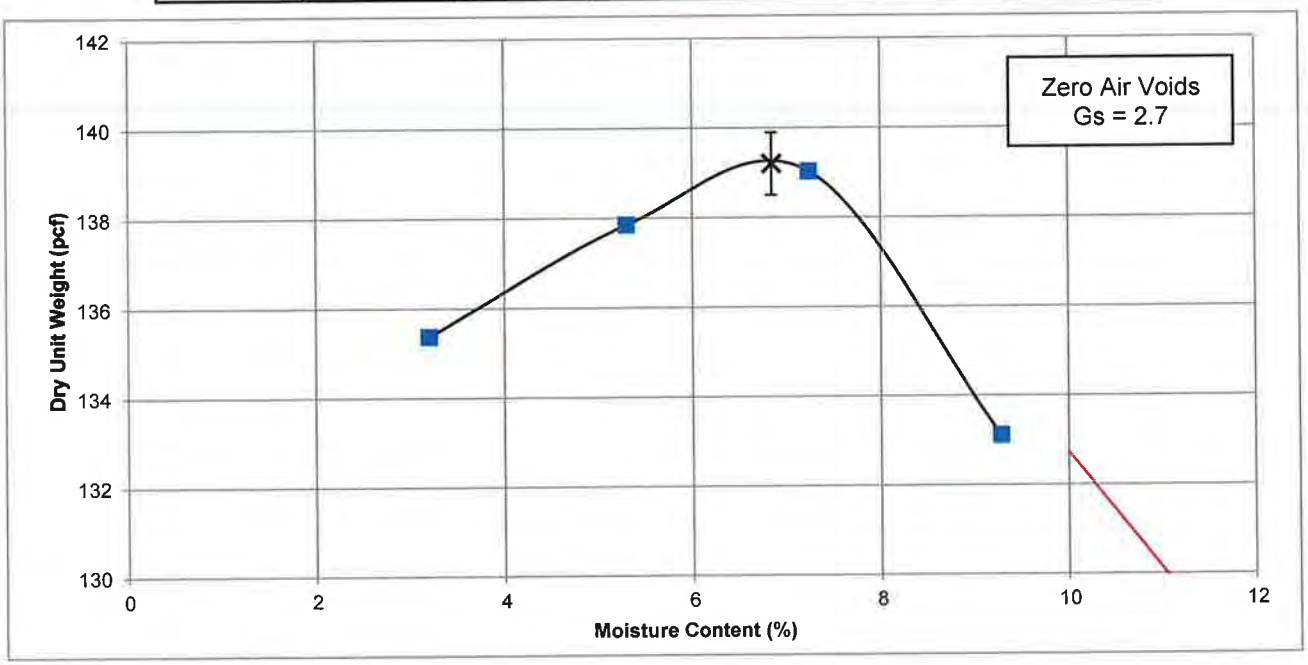
Project No.: 2057123300
Sample ID: B1-Bulk
Date Received: 12/04/2015
Date Tested: 12/10/2015

Test Fraction (%): 85.0
Gs of Test Fraction: 2.7 Estimated
Oversized Fraction Sieve: 3/4"

Oversized Fraction (%): 15.0
Gs of Oversized Fraction: 2.7 ASTM C 127
MC of Oversized Fraction (%): 5.3

Mold Weight (g): 4218.48
Preparation Method: Moist
Rammer Type: Manual

Wet Soil & Mold Weight (g)	Wet Soil Weight (g)	Moisture Content Determination: Wet Soil & Tare (g)	Dry Soil & Tare (g)	Tare (g)	Water Content (%)	Dry Unit Weight (pcf)
6310	2091	490.20	475.00	0.00	3.2	135.4
6391	2173	516.20	490.20	0.00	5.3	137.8
6450	2232	503.40	469.40	0.00	7.2	139.0
6396	2177	500.50	458.00	0.00	9.3	133.1



Maximun Dry Unit Weight (pcf): 139.2
Optimum Moisture Content (%): 6.8

Corrected Maximun Dry Unit Weight (pcf): 142.6
Corrected Optimum Moisture Content (%): 6.6

Comments:

Stantec

Compaction Characteristics of Soil Using Modified Effort

ASTM D 1557 - Method A

Project: Scholl Canyon Landfill
Source:
Description: Gravely Sand w/ Silt F-C (SP-SM) Brownish Yellow
Visual Notes:

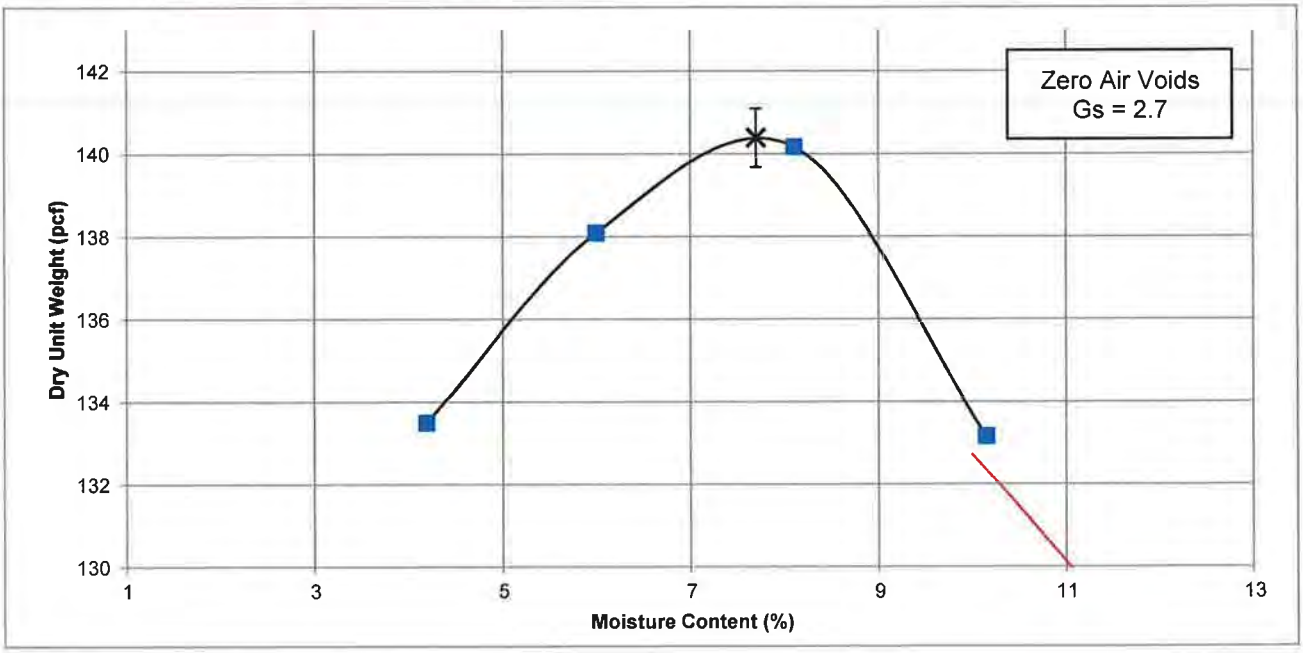
Project No.: 2057123300
Sample ID: B5-Bulk
Date Received: 12/04/2015
Date Tested: 12/10/2015

Test Fraction (%): 85.3
Gs of Test Fraction: 2.7 Estimated
Oversized Fraction Sieve: 3/4"

Oversized Fraction (%): 14.7
Gs of Oversized Fraction: 2.7 ASTM C 127
MC of Oversized Fraction (%): 8.1

Mold Weight (g): 4218.48
Preparation Method: Moist
Rammer Type: Manual

Wet Soil & Mold Weight (g)	Wet Soil Weight (g)	Moisture Content Determination: Wet Soil & Tare (g)	Dry Soil & Tare (g)	Tare (g)	Water Content (%)	Dry Unit Weight (pcf)
6301	2082	504.30	484.00	0.00	4.2	133.5
6409	2191	498.60	470.40	0.00	6.0	138.1
6486	2268	523.00	483.80	0.00	8.1	140.2
6414	2195	501.60	455.40	0.00	10.1	133.2



Maximun Dry Unit Weight (pcf): 140.4
Optimum Moisture Content (%): 7.7

Corrected Maximun Dry Unit Weight (pcf): 143.6
Corrected Optimum Moisture Content (%): 7.8

Comments:

Stantec

Compaction Characteristics of Soil Using Modified Effort

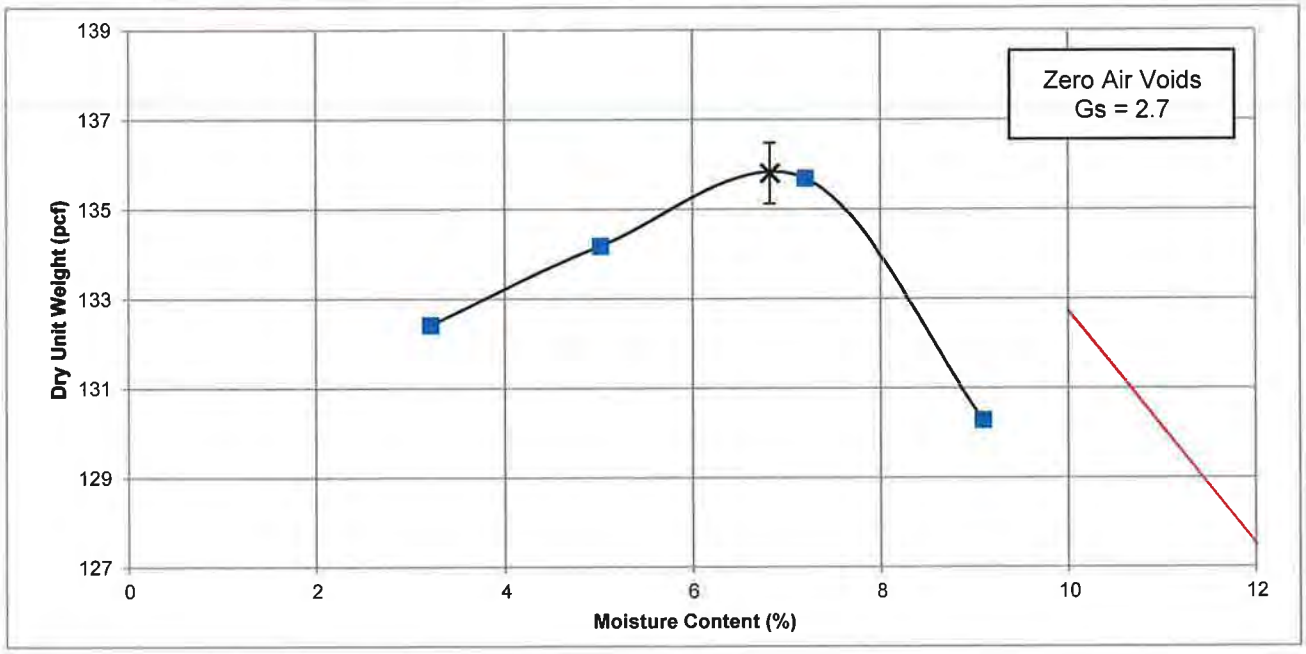
ASTM D 1557 - Method A

Project	Scholl Canyon Landfill	Project No.	2057123300
Source		Sample ID	B11-Bulk
Description	Gravely Sand w/ Silt F-C (SP-SM) Brownish Yellow	Date Received	12/04/2015
Visual Notes		Date Tested	12/10/2015

Test Fraction (%)	85.3		Oversized Fraction (%)	14.7	
Gs of Test Fraction	2.7	Estimated	Gs of Oversized Fraction	2.7	ASTM C 127
Oversized Fraction Sieve	3/4"		MC of Oversized Fraction (%)	8.1	

Mold Weight (g) 4218.48 Preparation Method Moist Rammer Type Manual

Wet Soil & Mold Weight (g)	Wet Soil Weight (g)	Moisture Content Determination: Wet Soil & Tare (g)	Dry Soil & Tare (g)	Tare (g)	Water Content (%)	Dry Unit Weight (pcf)
6264	2046	523.30	507.00	0.00	3.2	132.4
6328	2109	500.10	476.20	0.00	5.0	134.2
6396	2177	498.50	465.00	0.00	7.2	135.7
6346	2127	510.00	467.50	0.00	9.1	130.3



Maximun Dry Unit Weight (pcf) 135.8
Optimum Moisture Content (%) 6.8

Corrected Maximun Dry Unit Weight (pcf) 139.5
Corrected Optimum Moisture Content (%) 7.0

Comments

Converse Consultants
Geotechnical Engineering, Environmental and Groundwater Science, Inspection and Testing Services

December 31, 2015

Mr. Jaret Fischer
Stantec Consulting Inc.
25864-F Business Center Drive
Redlands, CA 92374

Subject: **LABORATORY TEST RESULTS**
2057123300 – Scholl Canyon
Converse Project No. 15-81-104-20

Dear Mr. Fischer:

Presented below are the results of the laboratory tests that you requested for the above-referenced project. We received the samples from your office on December 7, 2015. The following tests were performed in accordance with the relevant standard:

- Ten (10) Direct Shear Tests (ASTM D3080)

We appreciate the opportunity to be of continued service to Stantec Consulting Inc. If you should have any questions or need additional information, please feel free to contact us at (909) 796-0544.

CONVERSE CONSULTANTS

Jordan Roper, P.E.
Project Engineer

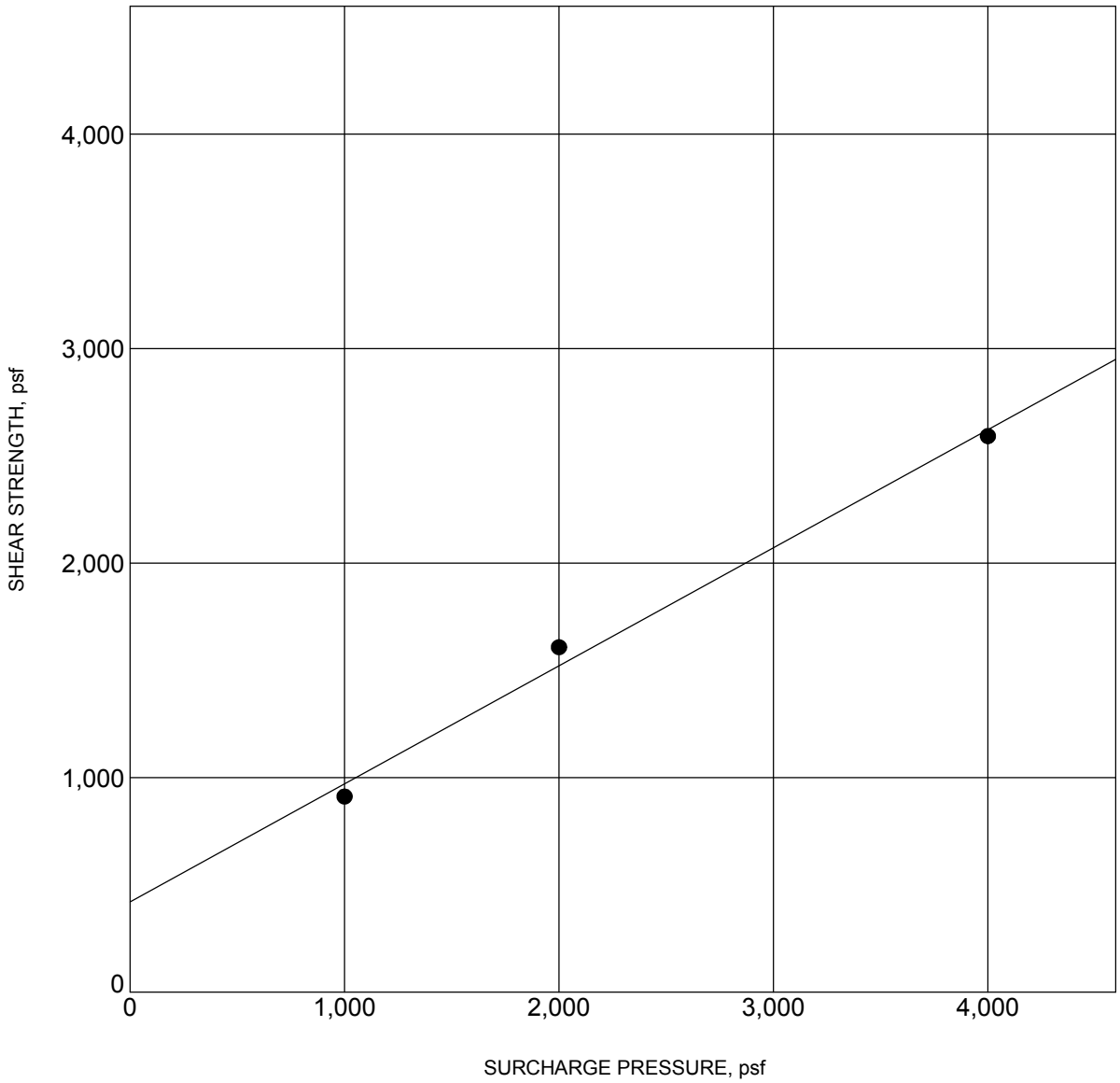
KVG/JR

Encl: Table No. 1, *Direct Shear Test Results*
Drawing No. 1 - 10, *Direct Shear Test Results*

Table No. 1, Direct Shear Test Results

Sample ID	Depth (feet)	Soil Description	Cohesion (psf)	Friction Angle (degrees)
TP-1	0.5	Silty Sand with Gravel (SM), Fine to Coarse-Grained, Yellow-Brown	420	29
TP-2*	0.5	Silty Sand with Gravel (SM), Fine to Coarse Grained, Olive-Brown	0	39
TP-3	0.5	Silty Sand with Gravel (SM), Fine to Coarse Grained, Olive-Brown	310	36
TP-4	1.0	Silty Sand (SM), Fine to Coarse Grained, Yellow-Brown	290	30
TP-4	3.0	Silty Sand (SM), Fine to Coarse Grained, Yellow-Brown	520	26
TP-5	3.0	Silty Sand (SM), Fine to Coarse Grained, Yellow-Brown	140	40
TP-6*	1.0	Silty Sand with Gravel (SM), Fine to Coarse Grained, Yellow-Brown	680	44
TP-7	1.0	Silty Sand with Clay (SM), Fine to Coarse Grained, Yellow-Brown	210	36
B-8	10.0	Sand with Gravel and Silt (SP-SM), Fine to Coarse Grained, Olive-Brown	110	36
B-11	7.0	Silty Sand (SM), Fine to Coarse Grained, Olive-Yellow	150	33

* Test results may not be representative of the soil type due to the presence of gravel in the shear plane



BORING NO.	:	**TP-1**	DEPTH (ft)	:	**0.5**
DESCRIPTION	:	**Silty Sand with Gravel (SM), Fine to Coarse-Grained, Yellow Brown**			
COHESION (psf)	:	**420**	FRICTION ANGLE (degrees):		**29**
MOISTURE CONTENT (%)	:	**4.7**	DRY DENSITY (pcf)	:	**106.6**

NOTE: Ultimate Strength.

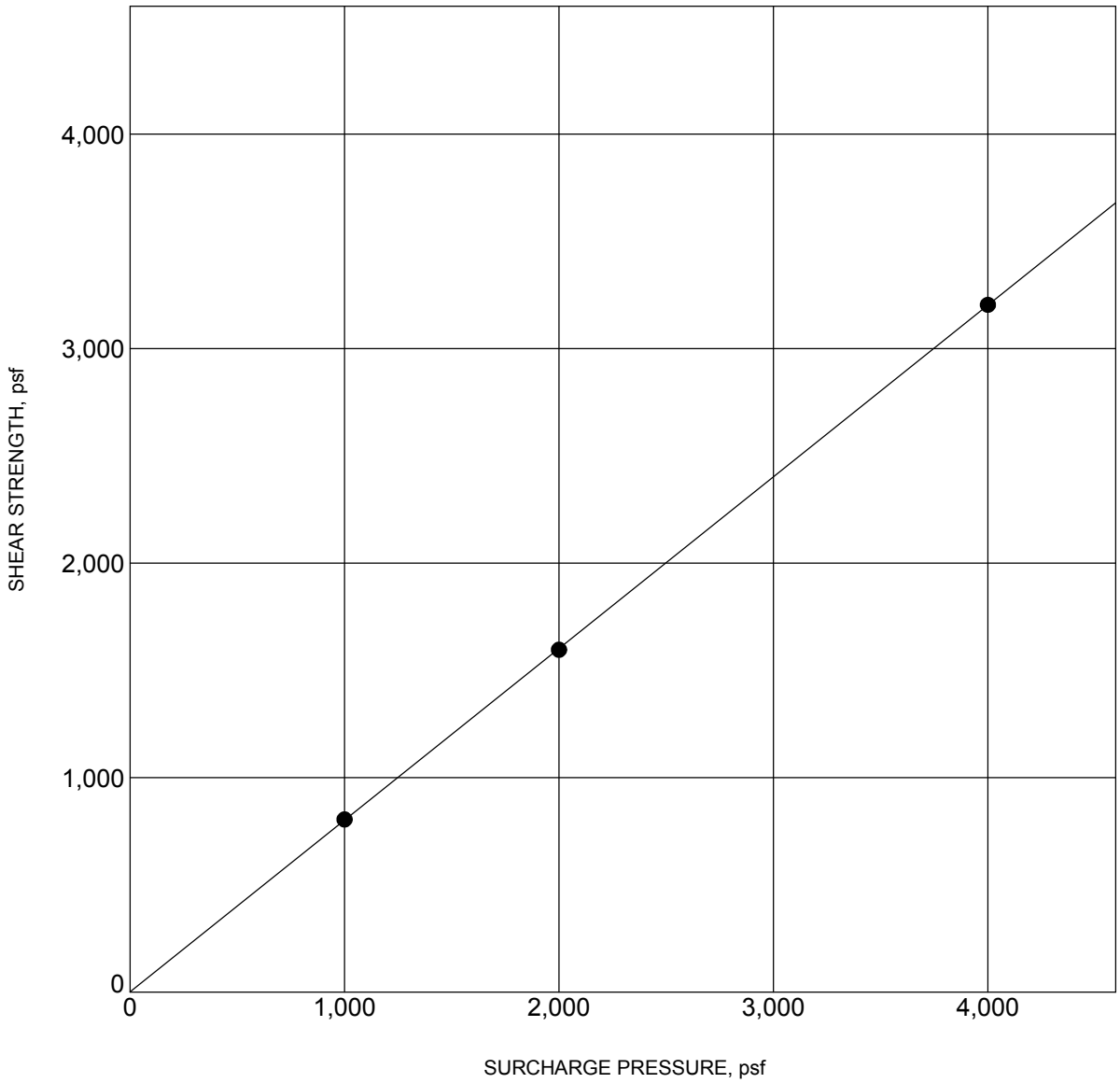
DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **1**



BORING NO.	:	**TP-2**	DEPTH (ft)	:	**0.5**
DESCRIPTION	:	**Silty Sand with Gravel (SM), Fine to Coarse-Grained, Yellow Brown**			
COHESION (psf)	:	**0**	FRICTION ANGLE (degrees):		**39**
MOISTURE CONTENT (%)	:	**5.5**	DRY DENSITY (pcf)	:	**100.8**

NOTE: Ultimate Strength.

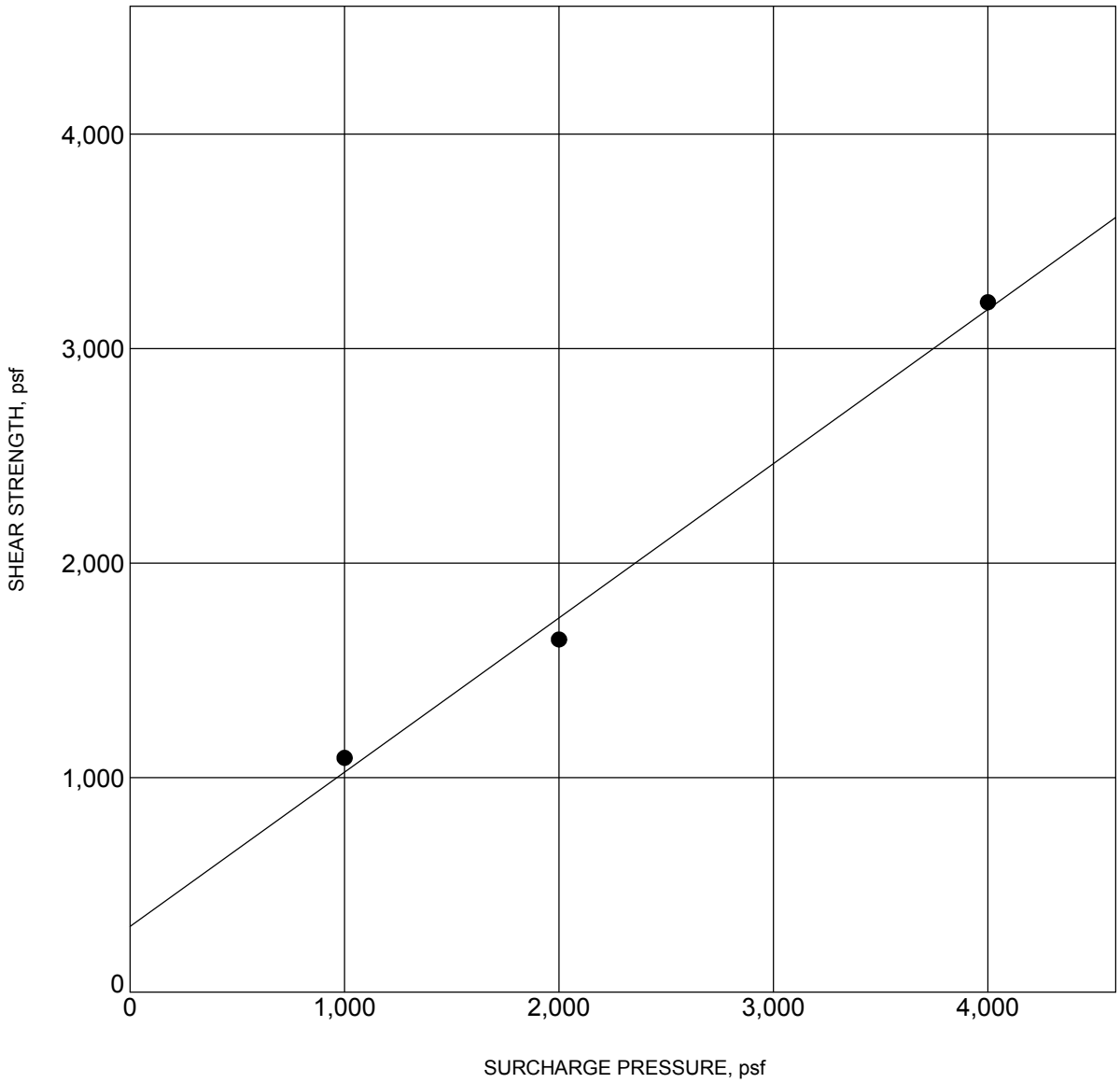
DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **2**



BORING NO.	:	**TP-3**	DEPTH (ft)	:	**0.5**
DESCRIPTION	:	**Silty Sand with Gravel (SM), Fine to Coarse-Grained, Olive Brown**			
COHESION (psf)	:	**310**	FRICTION ANGLE (degrees):		**36**
MOISTURE CONTENT (%)	:	**5.3**	DRY DENSITY (pcf)	:	**104.5**

NOTE: Ultimate Strength.

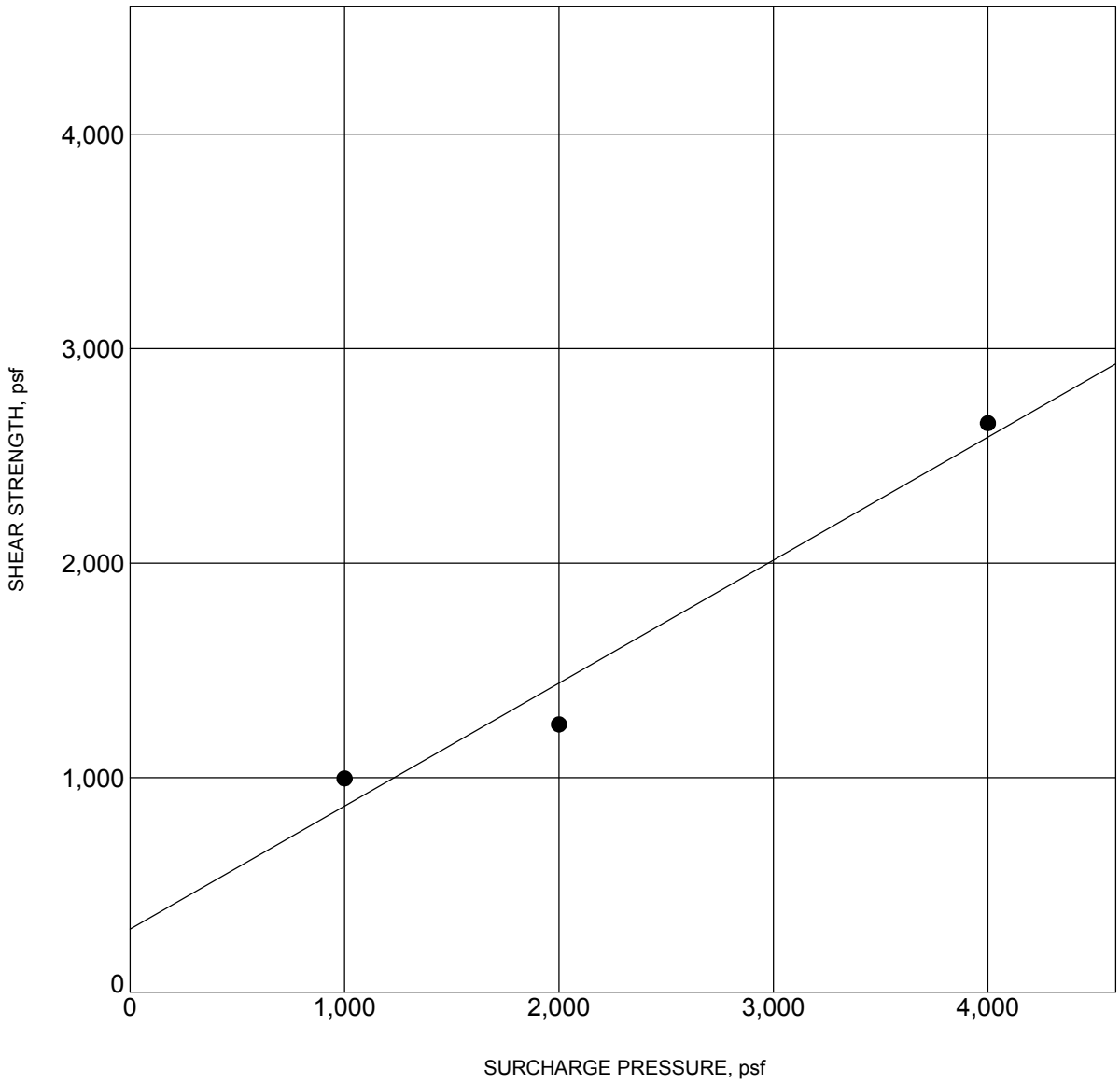
DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **3**



BORING NO.	:	**TP-4**	DEPTH (ft)	:	**1.0**
DESCRIPTION	:	**Silty Sand (SM), Fine to Coarse-Grained, Yellow Brown**			
COHESION (psf)	:	**290**	FRICTION ANGLE (degrees):		**30**
MOISTURE CONTENT (%)	:	**4.0**	DRY DENSITY (pcf)	:	**104.8**

NOTE: Ultimate Strength.

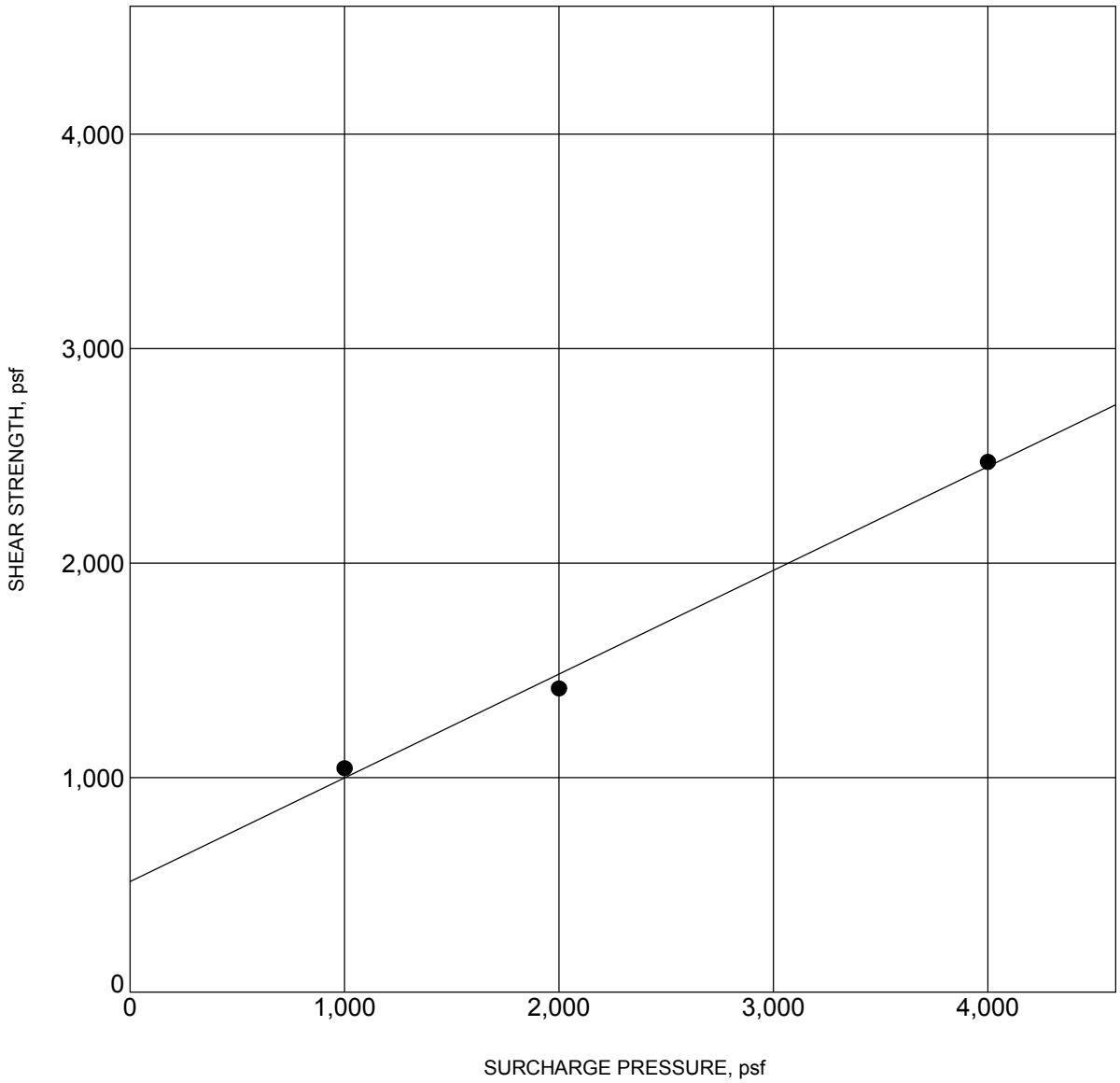
DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **4**



BORING NO.	:	**TP-4**	DEPTH (ft)	:	**3.0**
DESCRIPTION	:	**Silty Sand (SM), Fine to Coarse-Grained, Yellow Brown**			
COHESION (psf)	:	**520**	FRICTION ANGLE (degrees):		**26**
MOISTURE CONTENT (%)	:	**7.7**	DRY DENSITY (pcf)	:	**112.4**

NOTE: Ultimate Strength.

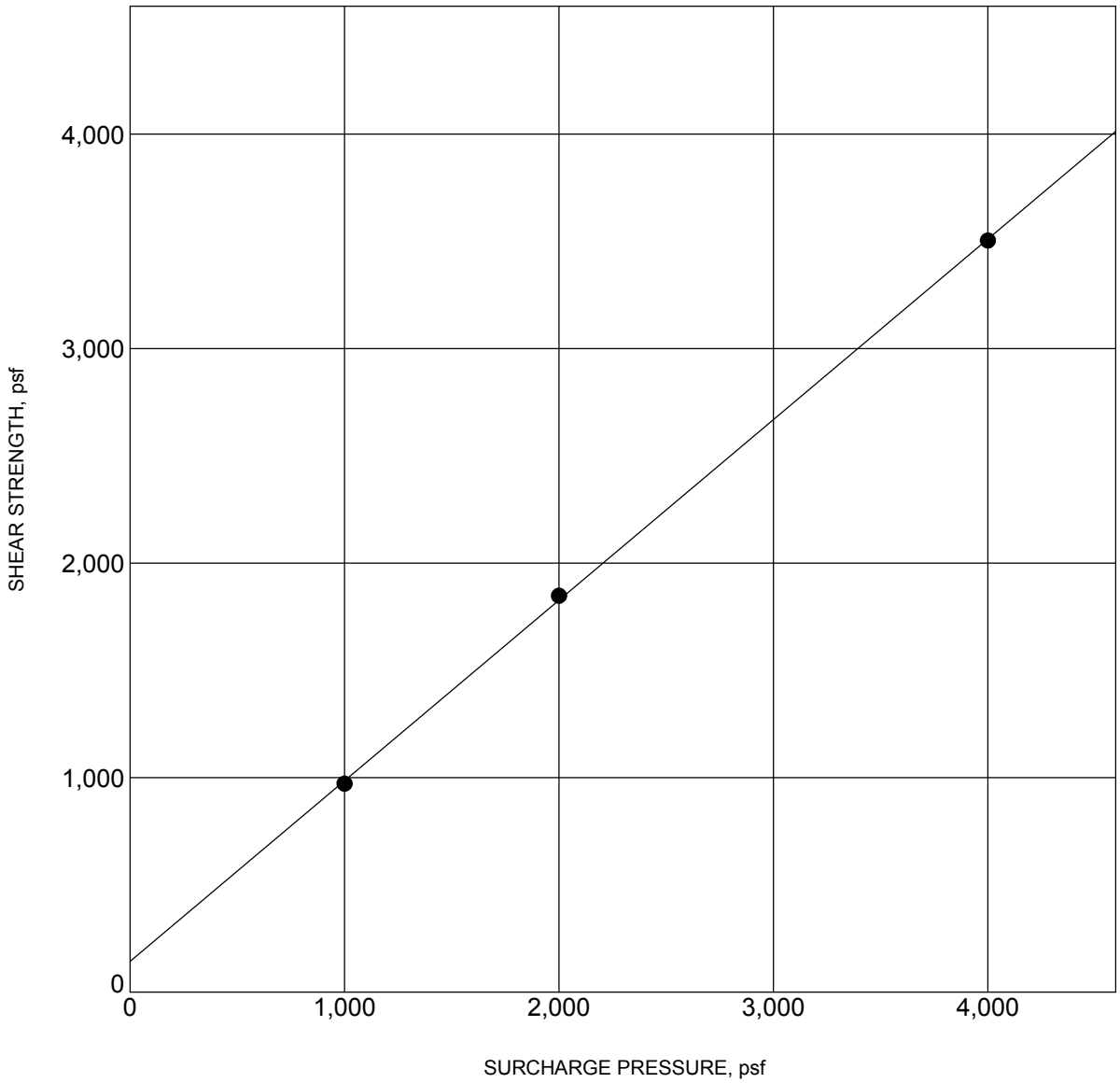
DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **5**



BORING NO.	:	**TP-5**	DEPTH (ft)	:	**3.0**
DESCRIPTION	:	**Silty Sand (SM), Fine to Coarse-Grained, Yellow Brown**			
COHESION (psf)	:	**140**	FRICTION ANGLE (degrees):		**40**
MOISTURE CONTENT (%)	:	**6.0**	DRY DENSITY (pcf)	:	**117.1**

NOTE: Ultimate Strength.

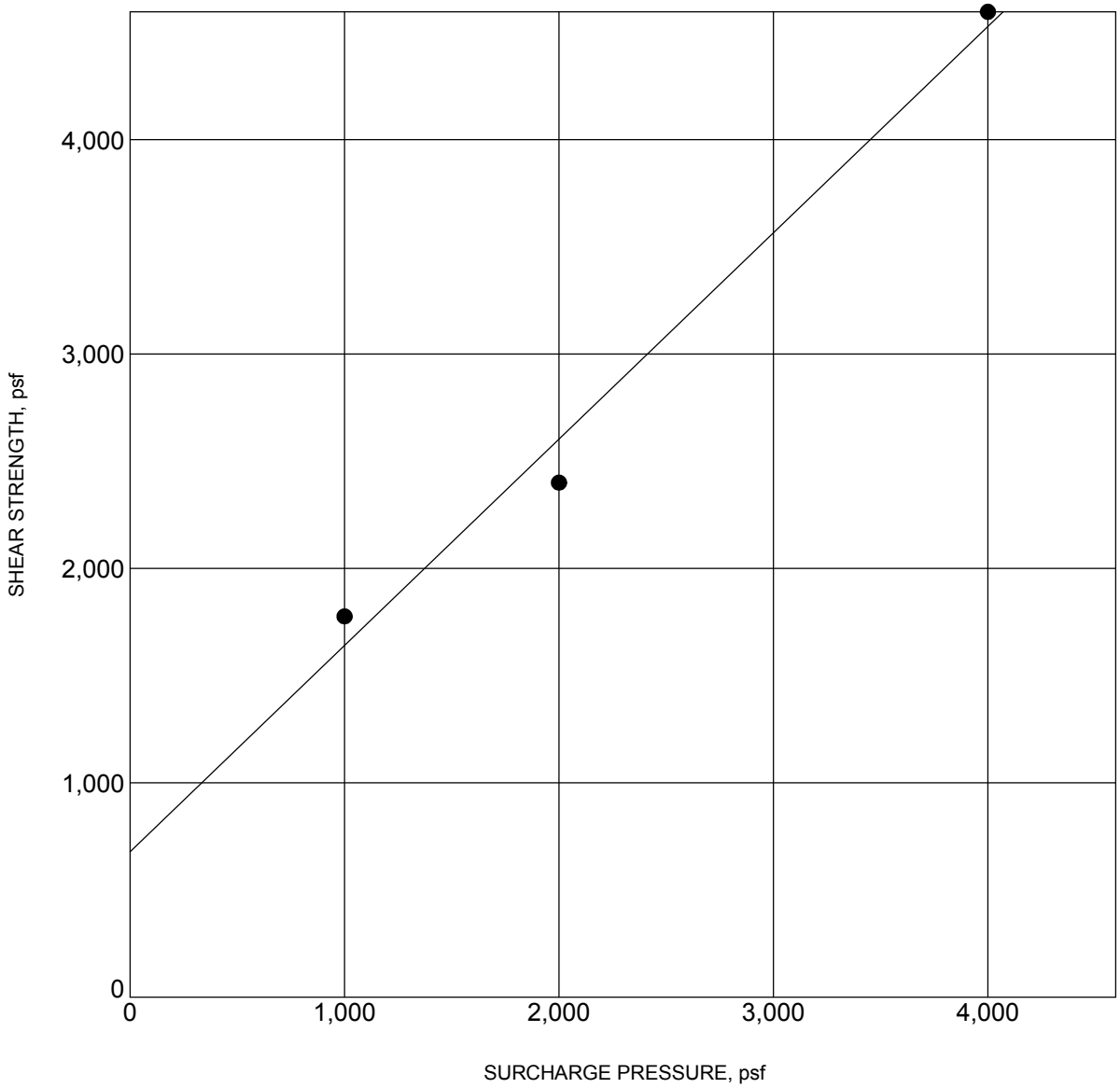
DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **6**



BORING NO.	:	**TP-6**	DEPTH (ft)	:	**1.0**
DESCRIPTION	:	**Silty Sand (SM), Fine to Coarse-Grained, Yellow Brown**			
COHESION (psf)	:	**680**	FRICTION ANGLE (degrees):		**44**
MOISTURE CONTENT (%)	:	**4.2**	DRY DENSITY (pcf)	:	**121.3**

NOTE: Ultimate Strength.

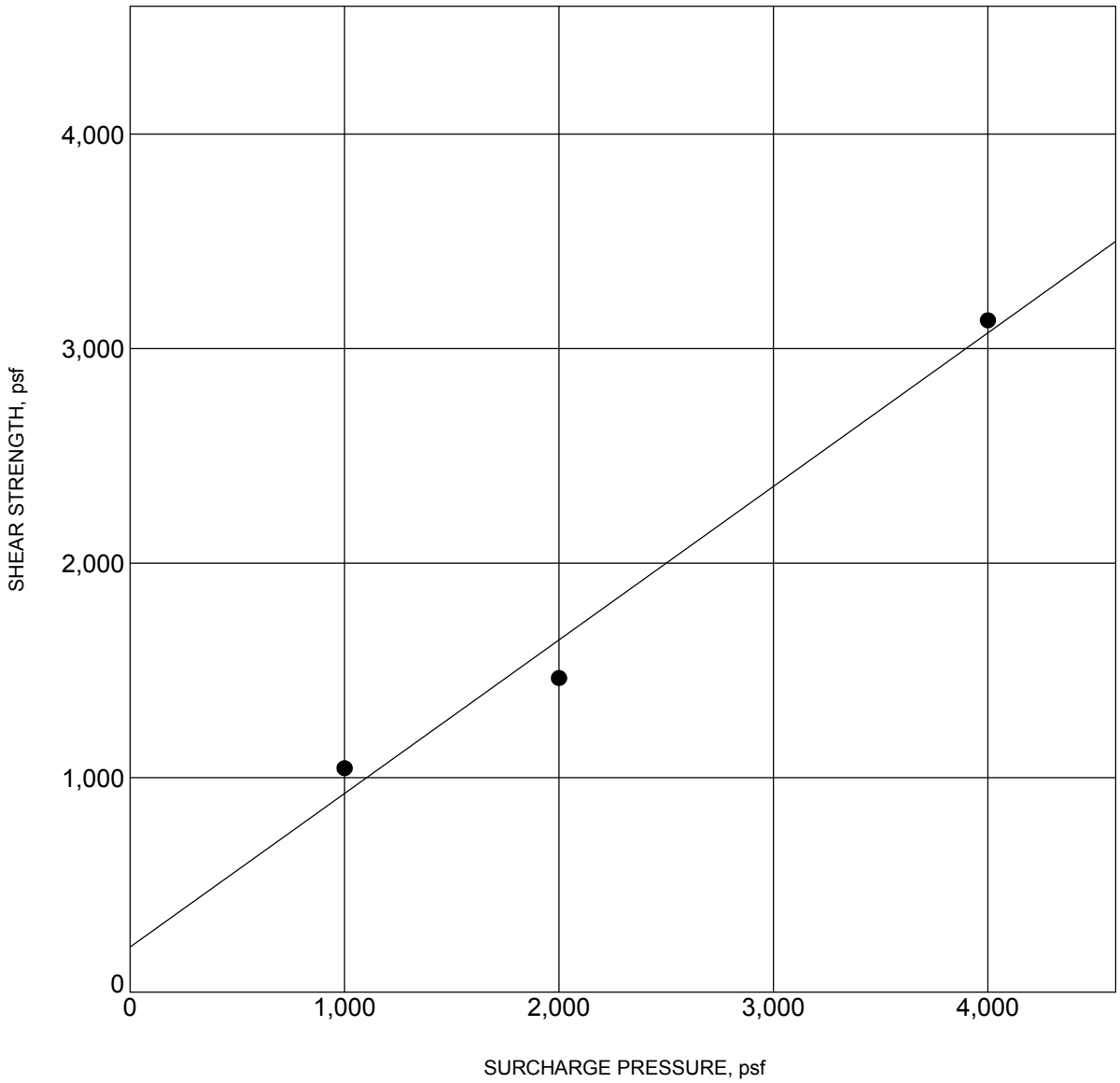
DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **7**



BORING NO.	:	**TP-7**	DEPTH (ft)	:	**1.0**
DESCRIPTION	:	**Silty Sand with Clay (SM), Fine to Coarse-Grained, Yellow**			
COHESION (psf)	:	**210**	FRICTION ANGLE (degrees):		**36**
MOISTURE CONTENT (%)	:	**7.3**	DRY DENSITY (pcf)	:	**109.3**

NOTE: Ultimate Strength.

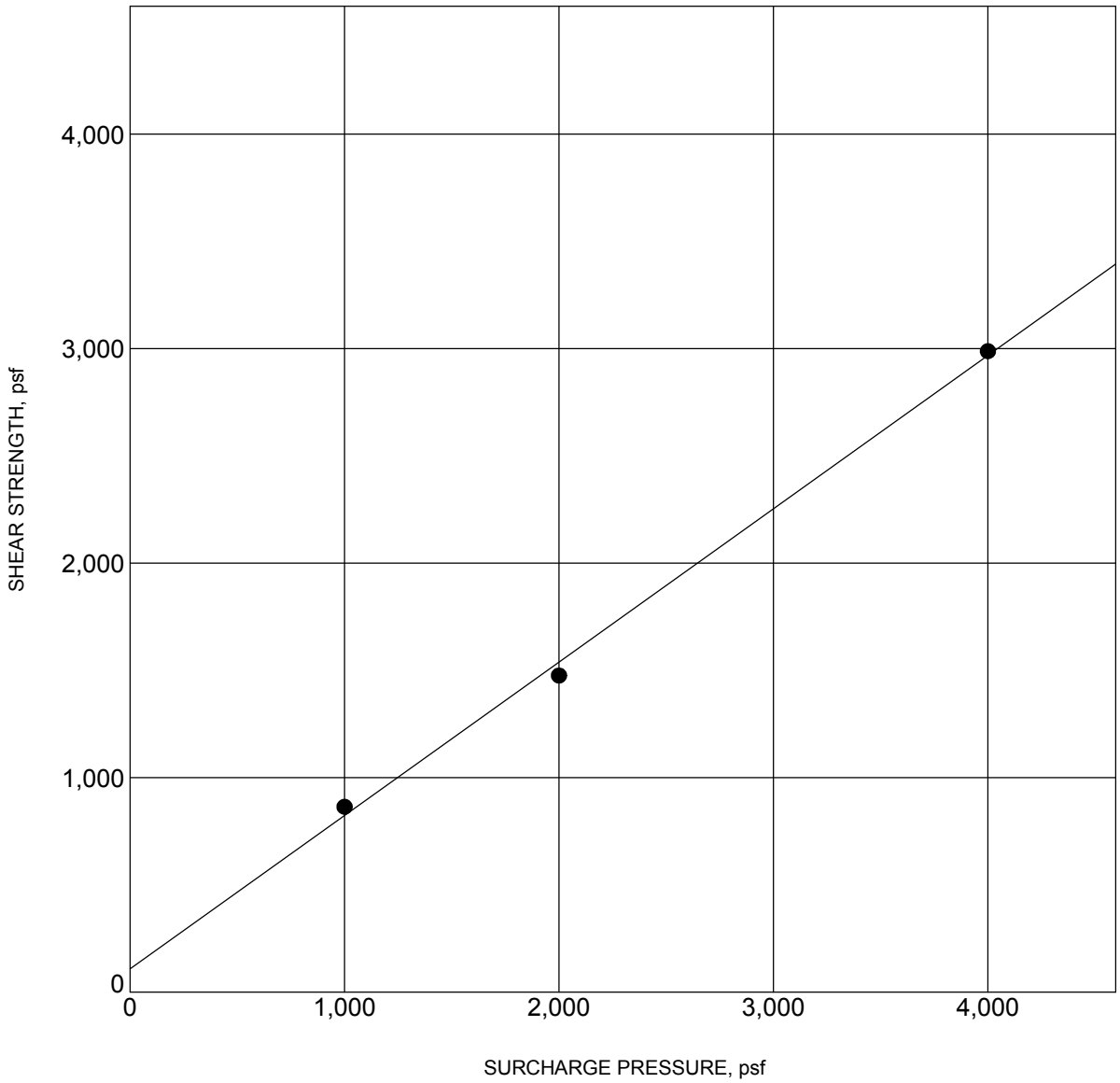
DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **8**



BORING NO.	:	**B-8**	DEPTH (ft)	:	**10.0**
DESCRIPTION	:	**Sand with Gravel and Silt (SP-SM), Fine to Coarse-Grained, Olive Yellow**			
COHESION (psf)	:	**110**	FRICTION ANGLE (degrees):		**36**
MOISTURE CONTENT (%)	:	**6.3**	DRY DENSITY (pcf)	:	**108.1**

NOTE: Ultimate Strength.

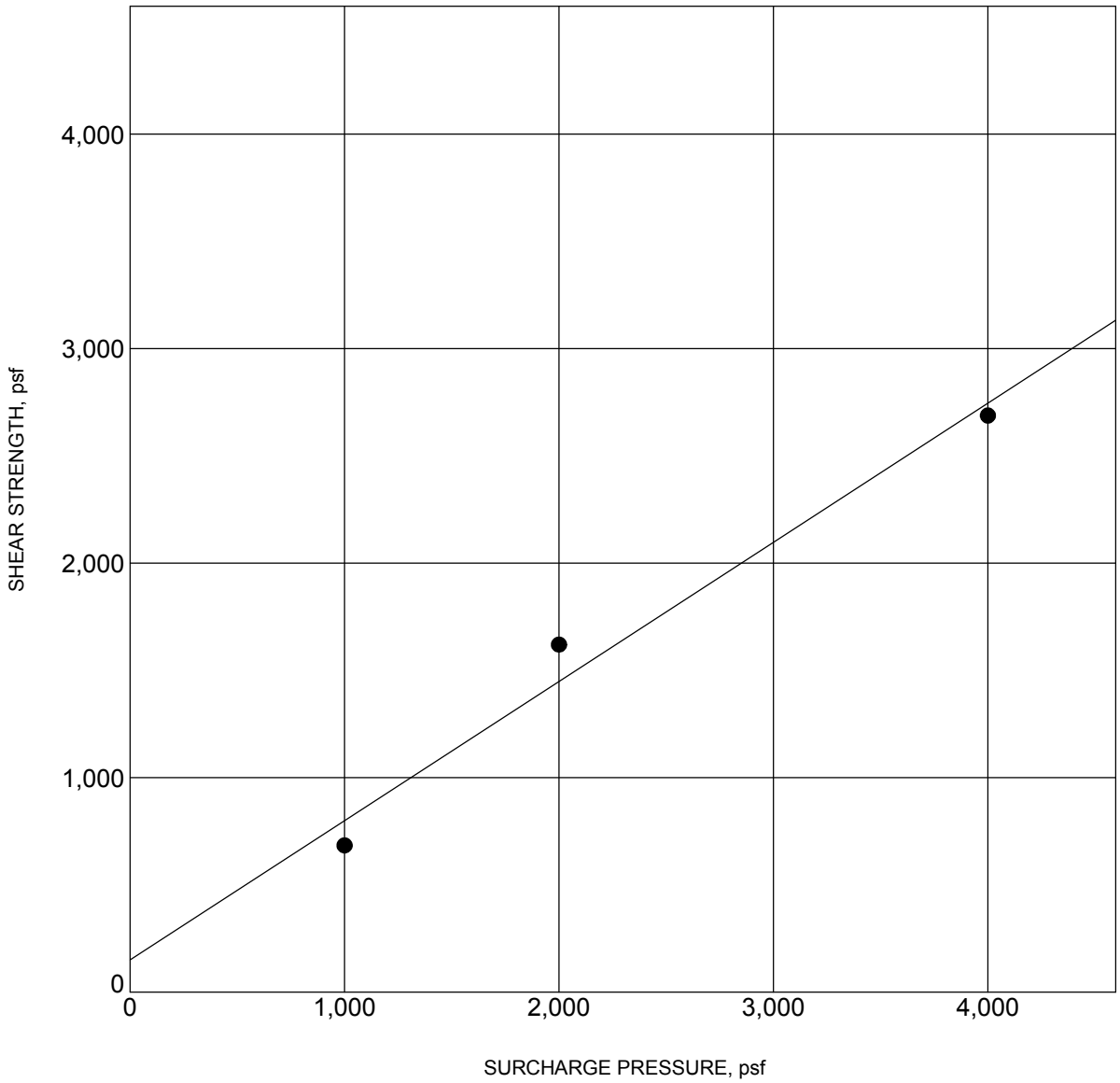
DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **9**



BORING NO.	:	**B-11**	DEPTH (ft)	:	**7.0**
DESCRIPTION	:	**Silty Sand (SM), Fine to Coarse-Grained, Olive Yellow**			
COHESION (psf)	:	**150**	FRICTION ANGLE (degrees):		**33**
MOISTURE CONTENT (%)	:	**10.7**	DRY DENSITY (pcf)	:	**116.4**

NOTE: Ultimate Strength.

DIRECT SHEAR TEST RESULTS

Converse Consultants

Scholl Canyon
Job #: 2057123300
For: Stantec

Project No. **15-81-104-20**

Drawing No. **10**

SUMMARY OF CORROSION TEST RESULTS

PROJECT NAME: Scholl Canyon

PROJECT NO.: 15-81-104-20

DATE: 1/5/2016

EGLAB JOB NO.: 15-118-060

CLIENT: Converse Consultants

Summarized By: JT

BORING NO.	SAMPLE NO.	DEPTH (ft)	pH CalTrans 643	Chloride Content CalTrans 422 (ppm)	Sulfate Content CalTrans 417 (% by weight)	Minimum Resistivity CalTrans 643 (ohm-cm)
N/A	Bulk-1	N/A	7.81	140	0.023	2,900
N/A	Bulk-5	N/A	7.93	125	0.001	14,000
N/A	Bulk-11	N/A	7.82	145	0.006	1,900

APPENDIX C
GEOPHYSICAL SURVEY

GEOPHYSICAL SURVEY
SCHOLL CANYON LANDFILL
LOS ANGELES, CALIFORNIA

PREPARED FOR:

Stantec
25864-F Business Center Drive
Redlands, CA 92374-4515

PREPARED BY:

Southwest Geophysics, Inc.
8057 Raytheon Road, Suite 9
San Diego, CA 92111

December 17, 2015
Project No. 115574

SOUTHWEST GEOPHYSICS, INC.
YOUR SUBSURFACE SOLUTION

December 17, 2015
Project No. 115574

Mr. Jaret Fischer
Stantec
25864-F Business Center Drive
Redlands CA 92374-4515

Subject: Geophysical Survey
Scholl Canyon Landfill / Biogas Renewable Generation Project
Los Angeles, California

Dear Mr. Fischer:

In accordance with your authorization, we have performed a geophysical evaluation pertaining to the Scholl Canyon Landfill project located in Los Angeles, California. Specifically, our survey consisted of performing four P-wave refraction profiles, two refraction microtremor (ReMi) profiles, and collection of electrical resistivity data at one test location at the subject site. The purpose of our study was to characterize the subsurface conditions in the study area. This data report presents our survey methodology, equipment used, analysis, and results.

We appreciate the opportunity to be of service on this project. Should you have any questions related to this report, please contact the undersigned at your convenience.

Sincerely,
SOUTHWEST GEOPHYSICS, INC.

Aaron T. Puente.
Project Geologist/Geophysicist

Hans van de Vrugt, C.E.G., P.Gp.
Principal Geologist/Geophysicist

ATP/HV/hv

Distribution: Addressee (electronic)

REGISTERED GEOPHYSICIST
Hans van de Vrugt
No 1012
Exp. 2/29/16
STATE OF CALIFORNIA

8057 Raytheon Road, Suite 9 • San Diego • California 92111 • Telephone 858-527-0849 • Fax 858-225-0114

TABLE OF CONTENTS

1. INTRODUCTION

In accordance with your authorization, we have performed a geophysical evaluation pertaining to the Scholl Canyon Landfill project located in Los Angeles, California (Figure 1). Specifically, our survey consisted of performing four P-wave refraction profiles, two refraction microtremor (ReMi) profiles, and collection of electrical resistivity data at one test location at the subject site. The purpose of our study was to characterize the subsurface conditions in the study area. This data report presents our survey methodology, equipment used, analysis, and results.

2. SCOPE OF SERVICES

Our scope of services included:

- Performance of four P-wave refraction profiles: SL-1 through SL-4.
- Performance of two ReMi profiles: RL-1 and RL-2
- Collection of in-situ electrical resistivity measurements at one test location: R-1.
- Compilation and analysis of the data collected.
- Preparation of this illustrated data report presenting our findings.

3. SITE DESCRIPTION AND PROJECT DESCRIPTION

The project site is located along Scholl Canyon Road just north of the Ventura Freeway (134) in Los Angeles, California (Figure 1). The site is occupied by an active landfill facility. Specifically, our survey was conducted near the existing generator and power plant. Figures 2, 3a and 3b depict the general conditions in the study area.

It is our understanding that upgrades to the power plant are proposed and that your office is conducting a geotechnical evaluation of the site. The results of our survey will be used in the design and construction of the project.

4. SURVEY METHODOLOGY

As previously indicated, the primary purpose of our services was to characterize the subsurface conditions at pre-selected locations through the collection of P-wave refraction, ReMi and electrical resistivity data. The following sections provide an overview of the methodologies used during our study.

4.1 P-wave Refraction Survey

The seismic P-wave refraction method uses first-arrival times of refracted seismic waves to estimate the thicknesses and seismic velocities of subsurface layers. Seismic P-waves (compression waves) generated at the surface are refracted at boundaries separating materials of contrasting velocities. These refracted seismic waves are then detected by a series of surface vertical component 14-Hz geophones, and recorded with a 24-channel Geometrics Geode seismograph. The travel times of the seismic P-waves are used in conjunction with the shot-to-geophone distances to obtain thickness and velocity information on the subsurface materials. In general, the effective depth of evaluation for a seismic refraction traverse is approximately one-third to one-fifth the length of the traverse.

Seismic lines SL-1 through SL-4 were conducted roughly east to west with geophones spaced 5 feet apart for line lengths of 125 feet. Multiple shot points (signal generator locations) were conducted at the ends of the lines and at equally spaced intervals along the lines. The P-wave signal (shot) was generated using a 20-pound hammer and an aluminum plate.

The refraction method requires that subsurface velocities increase with depth. A layer having a velocity lower than that of the layer above will not generally be detectable by the seismic refraction method and, therefore, could lead to errors in the depth calculations of subsequent layers. In addition, lateral variations in velocity, such as those caused by buried boulders, fractures, dikes, etc. can result in the misinterpretation of the subsurface conditions.

4.2 ReMi Survey

The refraction microtremor technique uses recorded surface waves (specifically Rayleigh waves) which are contained in the background noise to develop a shear wave velocity profile of the site down to a depth, in this case, up to approximately 100 feet. Fifteen records, 32 seconds long were collected with a 24-channel Geometrics Geode seismograph and twenty-four 4.5-Hz vertical component geophones. The ReMi method does not require an increase of material velocity with depth. Therefore, low velocity zones (velocity inversions) are detectable with ReMi. The depth of exploration is dependent on the length of the line and the frequency content of the background noise. The results of the ReMi method are displayed as a one dimensional profile which represents the average condition across the length of the line.

4.3 Electrical Resistivity Survey

Electrical resistivity data were collected at one test location selected by your office. The data were collected in general accordance with ASTM G57 using an Advanced Geosciences, Inc. (AGI) MiniSting earth resistivity meter and four stainless steel electrodes in a Wenner configuration. The MiniSting can generate up to 800 volts (V) and 500 milliamps (mA) and allows for the direct measurement of resistance. Soil resistance measurements were collected at electrode spacings of approximately 2, 4, 6, 8, 10, 15, 20, and 30 feet. Stainless steel electrodes were hammered into place and the soils surrounding the electrodes were moistened with water where necessary. The soundings were performed along two orientations (generally north-south and east-west) in order to assess possible lateral variations in the study area. The roughly north-south oriented line is designated as R-1a and the roughly east-

west oriented line is designated as R-1b. Figure 2 illustrates the approximate locations of the lines.

5. DATA ANALYSIS AND RESULTS

The following sections provide a summary of our analysis and results.

5.1 P-wave Refraction Survey

Collected P-wave data were processed using SIPwin (Rimrock Geophysics, 2003) and SeisOpt® Pro™ (Optim, 2008). SIPwin was used to evaluate first arrival times and SeisOpt® Pro™ was used for analysis and interpretation. SeisOpt® Pro™ uses a nonlinear optimization technique called adaptive simulated annealing. The resulting velocity model provides a tomography image of the estimated geologic conditions. Both vertical and lateral velocity information is contained in the tomography model. Changes in layer velocity are revealed as gradients rather than discrete contacts, which typically are more representative of actual conditions.

Figures 4a through 4d display the results of the seismic P-wave profiles (SL-1 through SL-4). The models reveal that the depth to higher velocity material (bedrock) is highly variable across the study area. In addition, significant lateral variations in the velocity models are also evident in the profiles.

5.2 ReMi Survey

Collected ReMi data were processed using SeisOpt® ReMi™ software (Optim, 2005), which uses the refraction microtremor method (Louie, 2001). The program generates phase-velocity dispersion curves for each record and provides an interactive dispersion modeling tool where the user determines the best fitting model. The result is a one-dimensional shear-wave velocity model of the site with roughly 5 to 15 percent accuracy.

Table 1 and Figures 5a and 5b display the results for RL-1 and RL-2. The ReMi models represent an average shear wave velocity across the profile length. The results reveal that the subsurface conditions vary slightly across the site. In particular, the RL-2 model reveals a velocity inversion in the near surface. Based on our analysis of the collected data, the average Shear-wave velocity down to a depth of 100 feet (Vs100) is 2,543 feet per second (ft/sec) for RL-1 and 2,405 ft/sec for RL-2 (CBC, 2010). These values correspond to site classifications of **B** for RL-1 and **C** for RL-2.

5.3 Electrical Resistivity Survey

The resistivity results are presented on Figure 6. In general, the quality of the collected data is very good. The standard deviation between multiple readings is 0.1 percent or less. In general, the results of the resistivity survey are fairly consistent for the orthogonal pair indicating laterally homogeneous electrical conditions in the subsurface at the test area. The results also indicate an increase in resistivity with depth (larger spacing measurements).

Table 1 – ReMi Results		
Line No.	**Depth (feet)**	**Shear Wave Velocity (feet/second)**
RL-1	0 – 8	771
	8– 14	1,404
	14– 23	1,449
	23 – 43	2,511
	43 – 86	5,177
	86 – 100	6,012
RL-2	0 – 8	1,269
	8– 14	1,065
	14 – 24	1,291
	24 –50	2,172
	50 – 100	5,041

6. LIMITATIONS

The field evaluation and geophysical analyses presented in this report have been conducted in general accordance with current practice and the standard of care exercised by consultants performing similar tasks in the project area. No warranty, express or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be present. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface surveying will be performed upon request.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Southwest Geophysics, Inc. should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document. This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

7. SELECTED REFERENCES

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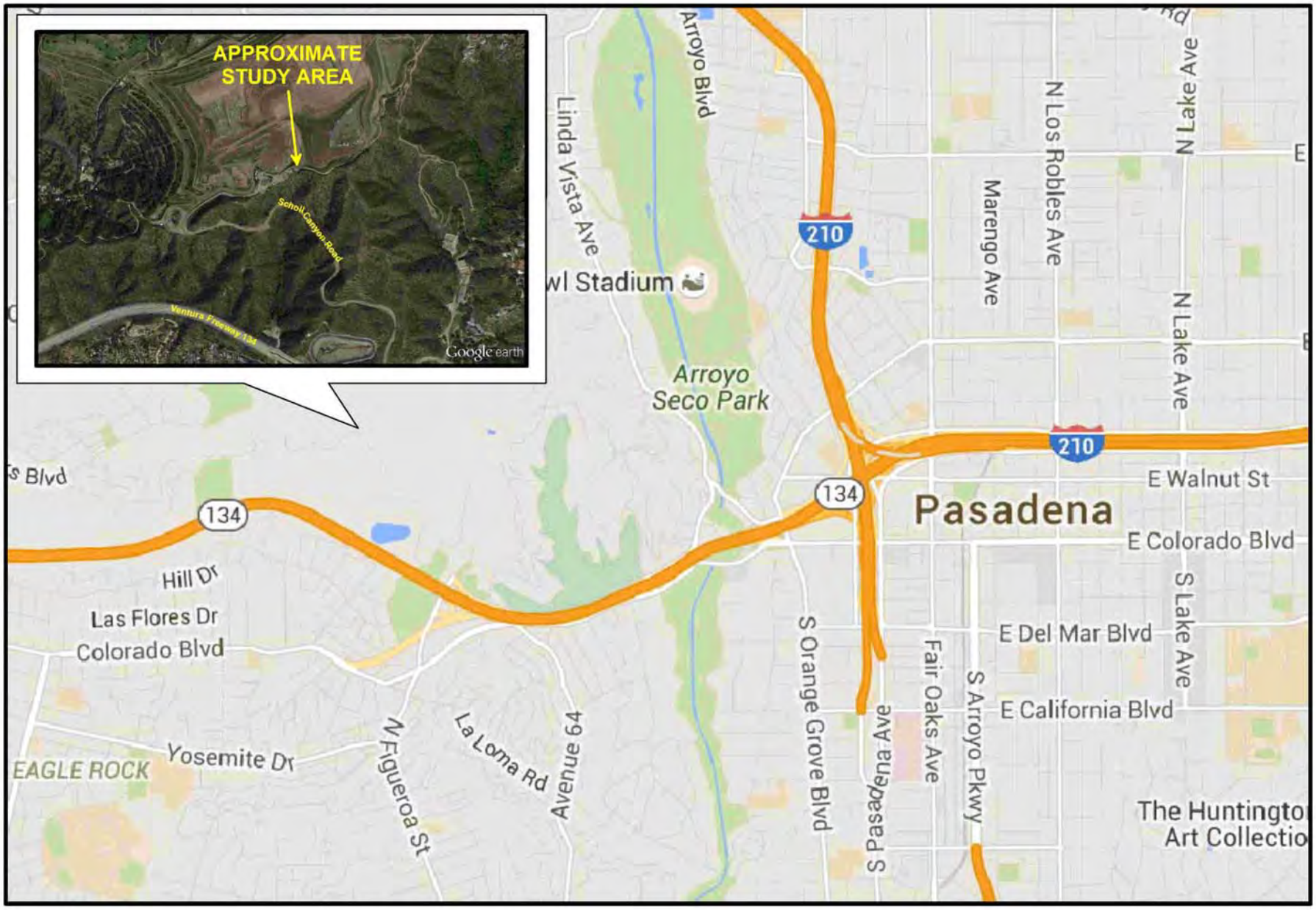
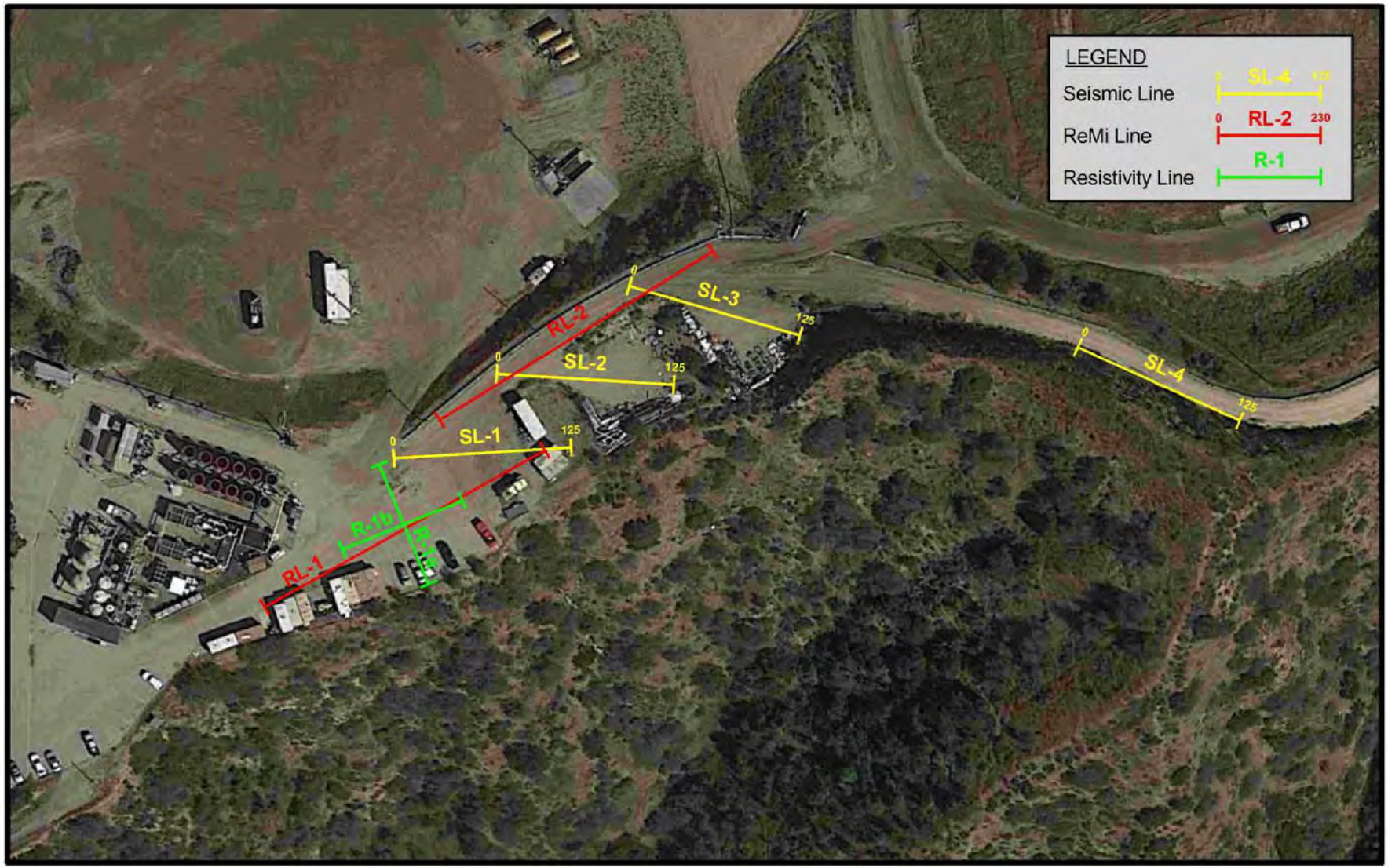


SITE LOCATION MAP	N	Scholl Canyon Landfill Los Angeles, California	SOUTHWEST GEOPHYSICS INC.
		Project No.: 115574 / Date: 12/15	Figure 1



LINE LOCATION MAP

N

Scholl Canyon Landfill
Los Angeles, California

Project No.: 115574 | Date: 12/15

SOUTHWEST GEOPHYSICS INC.

Figure 2

0 100 200

approximate scale in feet

SITE PHOTOGRAPHS
(SL-1 through SL-4)

Scholl Canyon Landfill
Los Angeles, California

Project No.: 115574 | Date: 12/15

SOUTHWEST GEOPHYSICS INC.

Figure 3a

SITE PHOTOGRAPHS
(RL-1, RL-2, R-1a and R-1b)

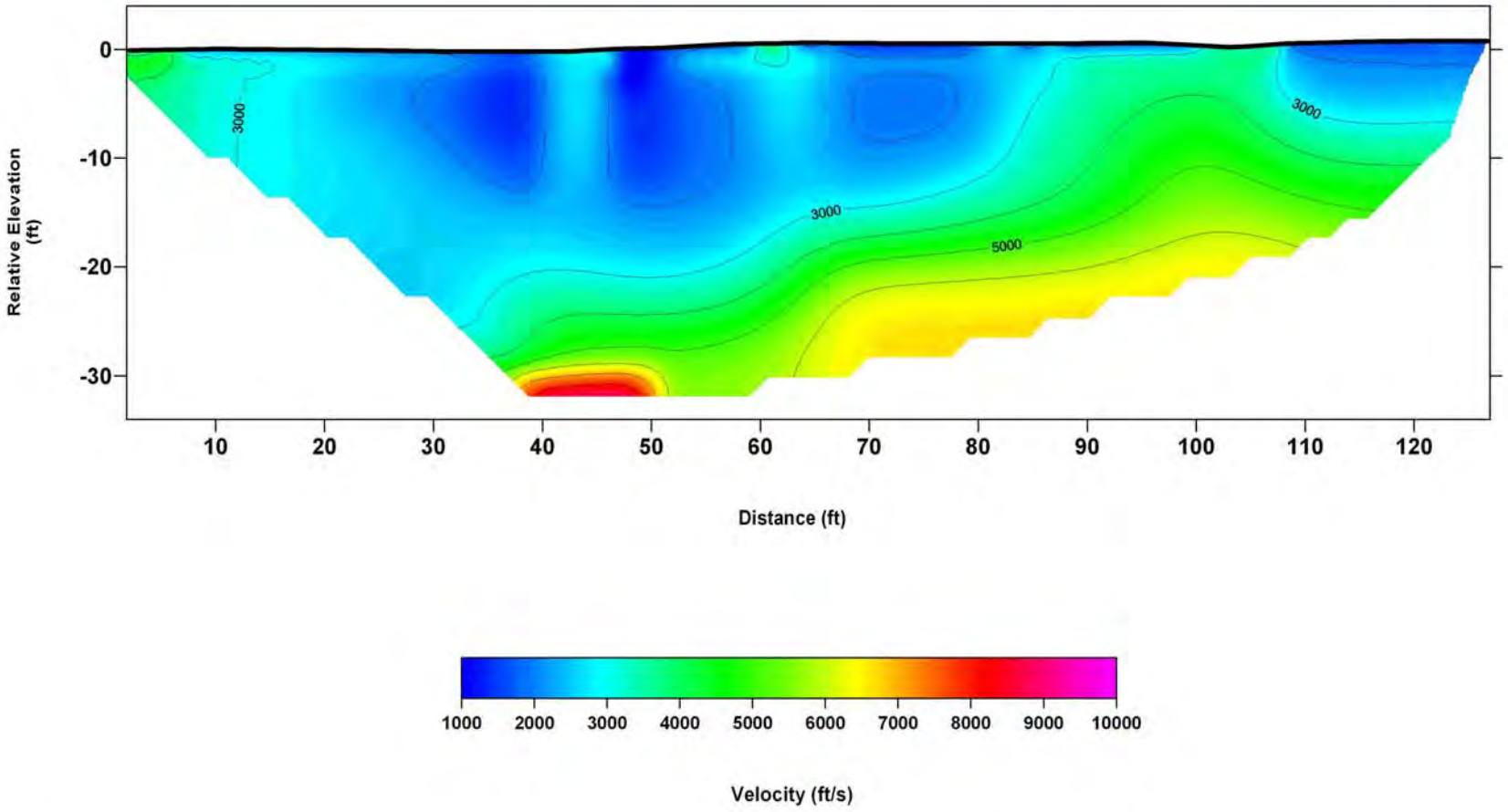
Scholl Canyon Landfill
Los Angeles, California

Project No.: 115574 | Date: 12/15

SOUTHWEST GEOPHYSICS INC.

Figure 3b

TOMOGRAPHY MODEL



SEISMIC PROFILE SL-1

Scholl Canyon Landfill
Los Angeles, California

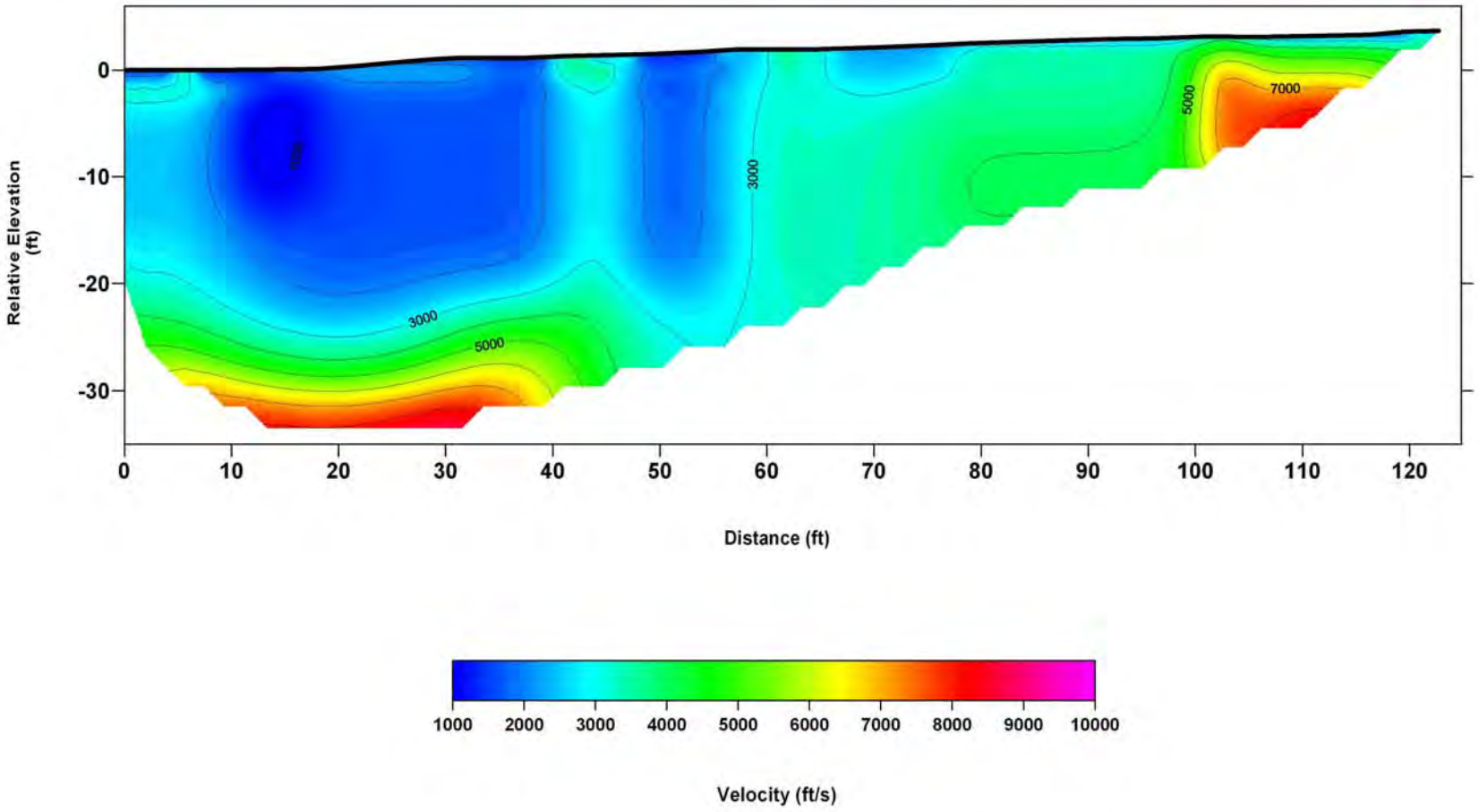
Project No.: 115574 | Date: 12/15

SOUTHWEST GEOPHYSICS INC.

Figure 4a

Note: Contour Interval = 1,000 feet per second

TOMOGRAPHY MODEL



SEISMIC PROFILE SL-2

Scholl Canyon Landfill
Los Angeles, California

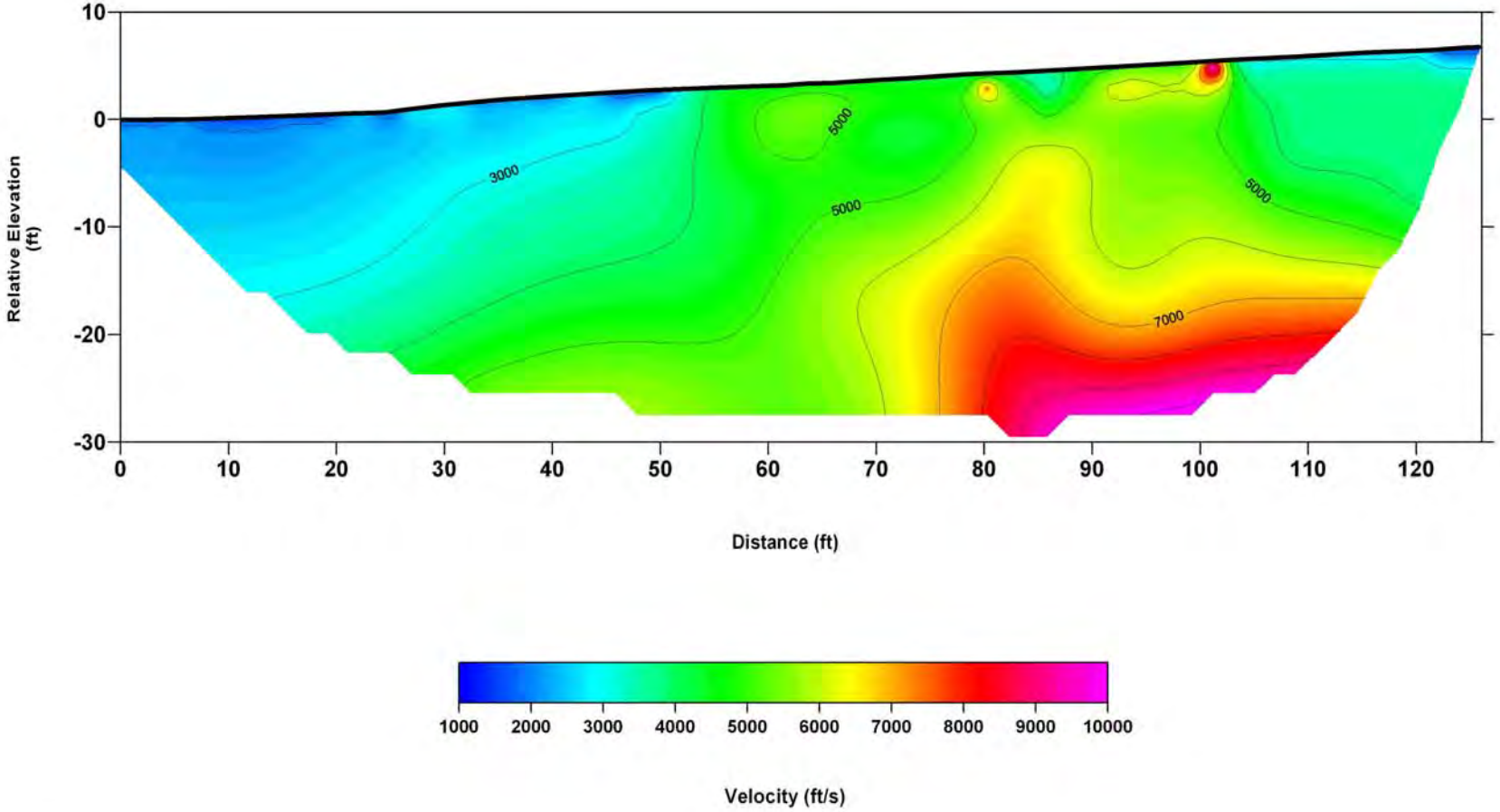
Project No.: 115574 | Date: 12/15

SOUTHWEST GEOPHYSICS INC.

Figure 4b

Note: Contour Interval = 1,000 feet per second

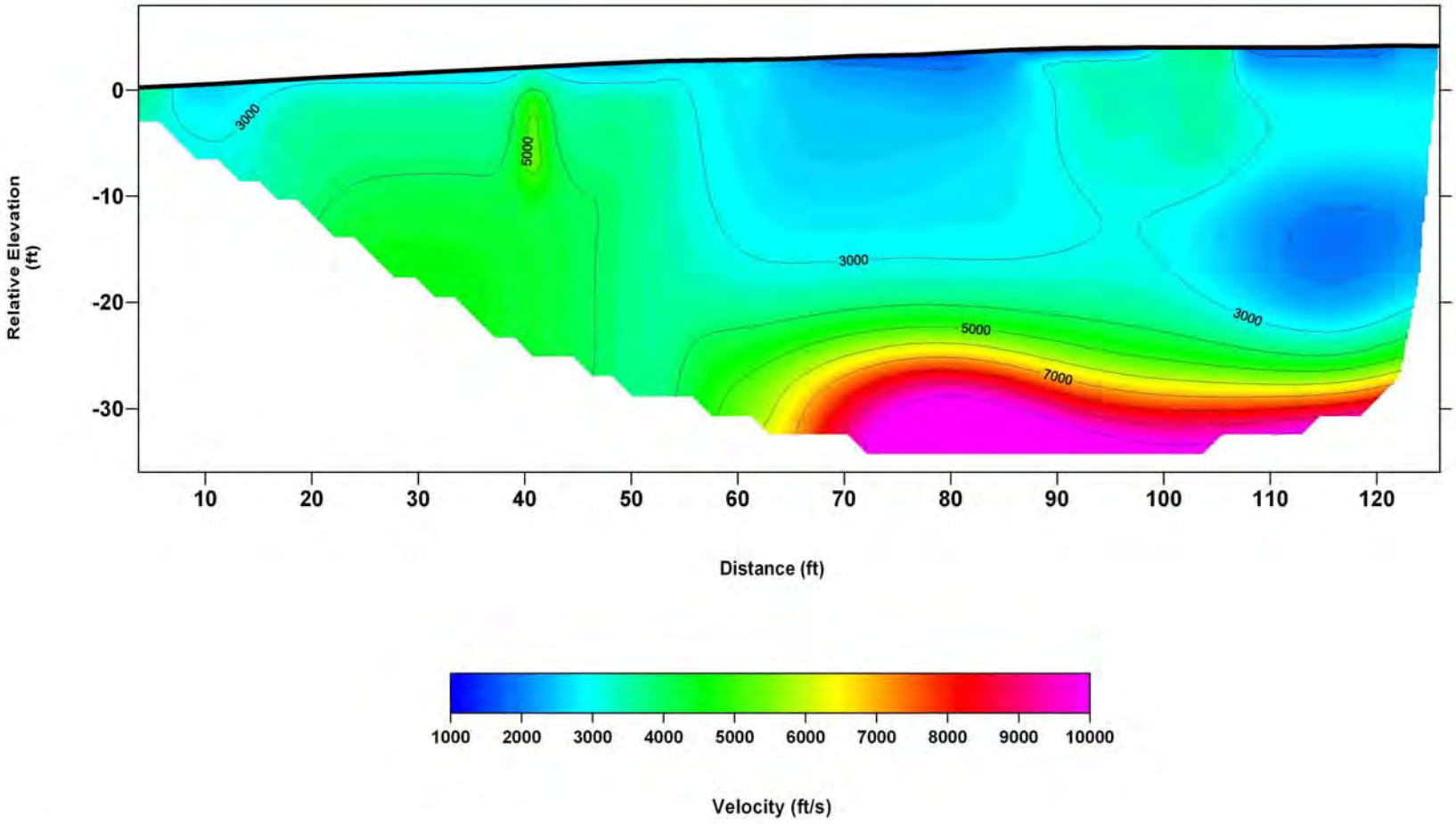
TOMOGRAPHY MODEL



SEISMIC PROFILE SL-3	Scholl Canyon Landfill Los Angeles, California Project No.: 115574 Date: 12/15	SOUTHWEST GEOPHYSICS INC. Figure 4c

Note: Contour Interval = 1,000 feet per second

TOMOGRAPHY MODEL



SEISMIC PROFILE SL-4

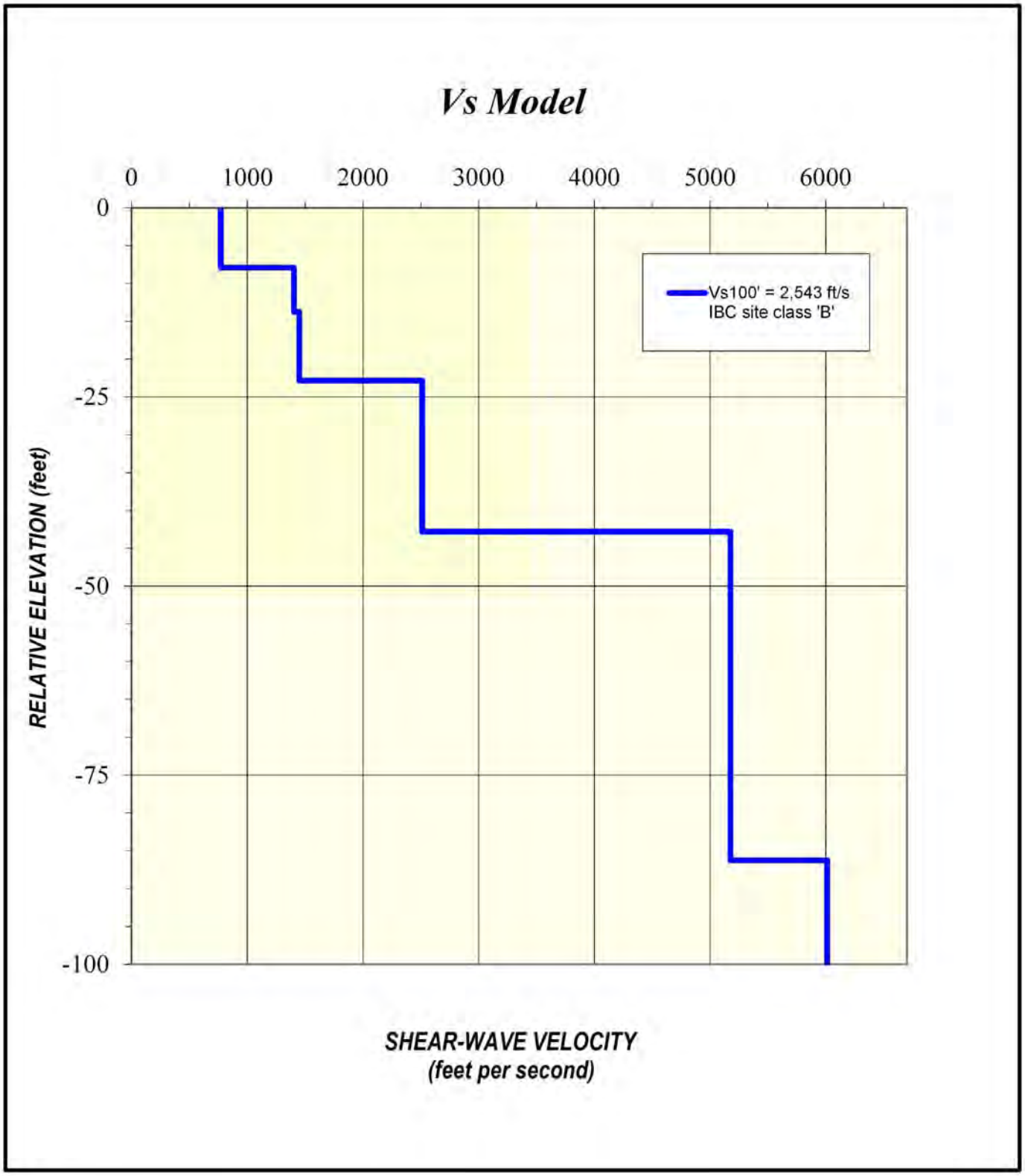
Scholl Canyon Landfill
Los Angeles, California

Project No.: 115574 | Date: 12/15

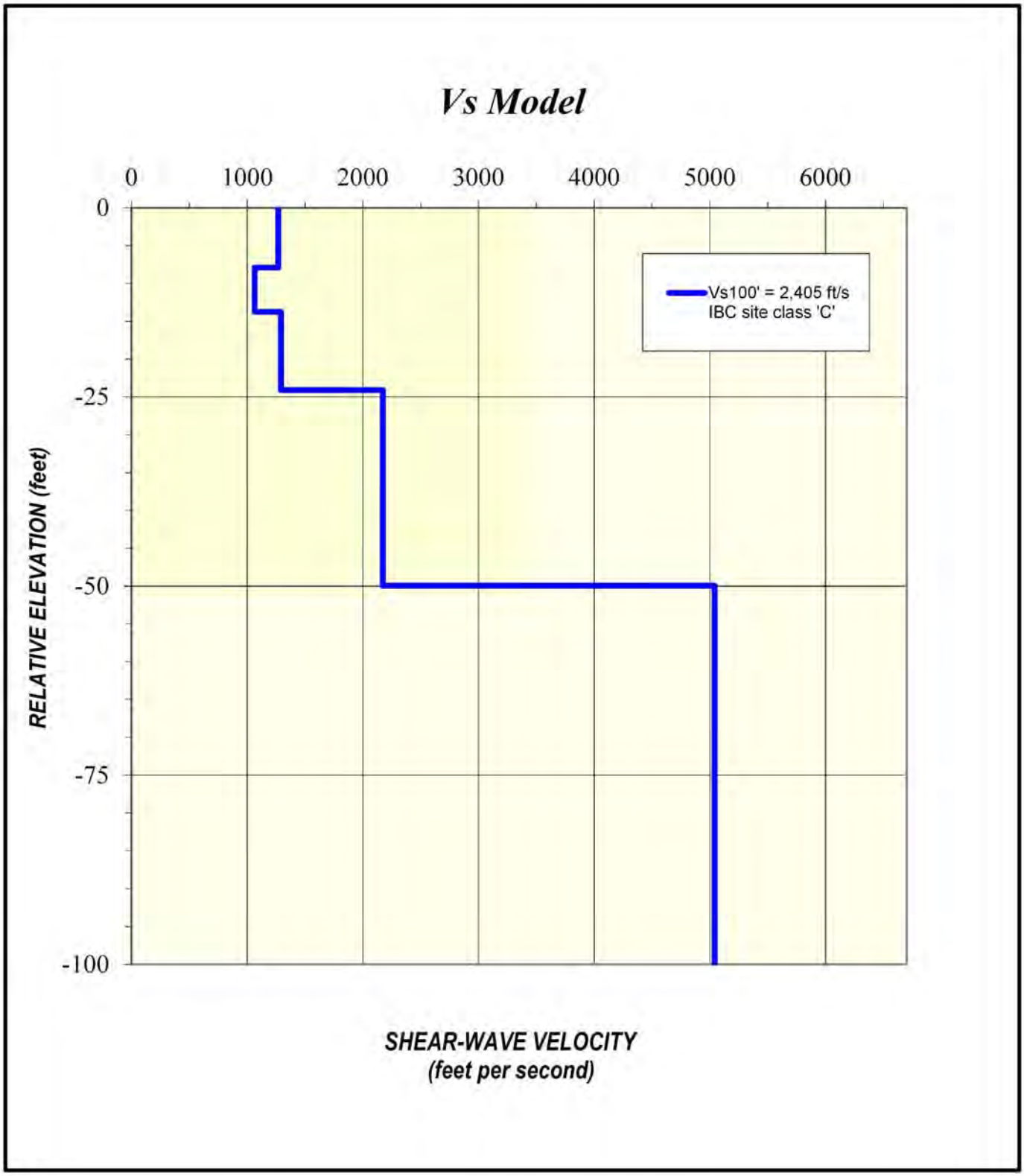
SOUTHWEST GEOPHYSICS INC.

Figure 4d

Note: Contour Interval = 1,000 feet per second



ReMi RESULTS RL-1	Scholl Canyon Landfill Los Angeles, California	SOUTHWEST GEOPHYSICS INC.
	Project No.: 115574 | Date: 12/15	Figure 5a



ReMi RESULTS **RL-2**	Scholl Canyon Landfill Los Angeles, California Project No.: 115574 Date: 12/15	SOUTHWEST GEOPHYSICS INC Figure 5b

(Boring/Orientation)	(ft)	(mA)	(Ohms)	(%)	(ohm-cm)	(ohm-ft)
R-1a	2	200	17.080	0.1	6542.03	214.63
(N-S)	4	100	12.870	0.0	9859.00	323.46
	6	100	9.095	0.1	10450.77	342.87
	8	100	7.016	0.1	10749.15	352.66
	10	100	6.014	0.1	11517.49	377.87
	15	100	4.457	0.0	12803.49	420.06
	20	100	3.803	0.1	14566.35	477.90
	30	50	2.839	0.0	16311.02	535.14
R-1b	2	200	14.800	0.0	5668.74	185.98
(E-W)	4	200	11.510	0.1	8817.18	289.28
	6	100	8.813	0.0	10126.74	332.24
	8	100	7.465	0.0	11437.06	375.23
	10	100	6.482	0.1	12413.76	407.28
	15	100	5.521	0.1	15860.01	520.34
	20	20	4.324	0.0	16561.90	543.37
	30	100	3.039	0.1	17460.09	572.84

ELECTRICAL RESISTIVITY RESULTS

Scholl Canyon Landfill
Los Angeles, California

Project No.: 115574 | Date: 12/15

SOUTHWEST GEOPHYSICS INC

Figure 6

Appendix E GREENHOUSE (GHG) EMISSION INVENTORY

APPENDIX E

GREENHOUSE GASES (GHG) EMISSION INVENTORY

APPENDIX E
GREENHOUSE GASES EMISSION INVENTORY
SCHOLL CANYON LANDFILL GAS FACILITY

Greenhouse Gases	GWP[1]	Landfill gas emission factor[2], kg/mmBtu	Diesel gas emission factor[2], kg/gal
CO_2	1	52.07	10.21
CH_4	25	0.0032	0.41
N_2O	298	0.00063	0.08

NOTES:

[1]GWP = Global Warming Potential. [Source: IPCC, 4th Assessment Report, 2007]

[2]Source: USEPA website: http://www.epa.gov/climateleadership/documents/emission-factors.pdf for CH4 and N2O

GHG Emissions Project

Device/Activity	LFG Available, MMBtu/hr	Annual Op. hours	CO_2, MT/year	CH_4, MT/year	N_2O, MT/year	Total CO_2e, MT/year
Operating the Proposed Equipment	124.806	8760	56928.16	3.498562	0.68877935	57,221
Operating the Emergency Fire Pump [1]	4.9	50	2.50	0.10	0.02	11
Construction[2]			204.0199	0.0432	0	205
Facility Occupants[2]			232.3566	0.566	5.93E-03	246
					Total Project GHG Emissions:	57,683

NOTES:

[1]GHG emissions are estimated based on 50 hours per year (T&M) and fuel rate of 4.9 gal/hr

[2]GHG emissions are estimated by using CalEEmod.

Baseline GHG Emissions

Existing Equipment Type	LFG Flow, mmscf/yr	LFG Flow, mmbtu/yr	CO_2, MT/year	CH_4, MT/year	N_2O, MT/year	CO_2e, MT/year
Boiler 3,4,5	3200.33	1073710.715	55,908	3	1	56,196
Flare	145.272	48738.756	2,538	0.156	0.031	2,551
					Total Baseline GHG Emissions:	58,746

Emission Factors for Greenhouse Gas Inventories

Last Modified: 4 April 2014

Red text indicates an update from the 2011 version of this document.

Typically, greenhouse gas emissions are reported in units of carbon dioxide equivalent (CO_2e). Gases are converted to CO_2e by multiplying by their global warming potential (GWP). The emission factors listed in this document have not been converted to CO_2e. To do so, multiply the emissions by the corresponding GWP listed in the table below.

Gas	100-year GWP
CH_4	25
N_2O	298

Source: Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report (AR4), 2007. See the source note to Table 9 for further explanation.

Table 1 Stationary Combustion Emission Factors

Fuel Type	Heating Value	CO_2 Factor	CH_4 Factor	N_2O Factor	CO_2 Factor	CH_4 Factor	N_2O Factor	Unit
	mmBtu per short ton	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per short ton	g CH_4 per short ton	g N_2O per short ton	
Coal and Coke								
Anthracite Coal	25.09	103.69	11	1.6	2,602	276	40	short tons
Bituminous Coal	24.93	93.28	11	1.6	2,325	274	40	short tons
Sub-bituminous Coal	17.25	97.17	11	1.6	1,676	190	28	short tons
Lignite Coal	14.21	97.72	11	1.6	1,389	156	23	short tons
Mixed (Commercial Sector)	21.39	94.27	11	1.6	2,016	235	34	short tons
Mixed (Electric Power Sector)	19.73	95.52	11	1.6	1,885	217	32	short tons
Mixed (Industrial Coking)	26.28	93.90	11	1.6	2,468	289	42	short tons
Mixed (Industrial Sector)	22.35	94.67	11	1.6	2,116	246	36	short tons
Coal Coke	24.80	113.67	11	1.6	2,819	273	40	short tons
Fossil Fuel-derived Fuels (Solid)								
Municipal Solid Waste	9.95	90.70	32	4.2	902	318	42	short tons
Petroleum Coke (Solid)	30.00	102.41	32	4.2	3,072	960	126	short tons
Plastics	38.00	75.00	32	4.2	2,850	1,216	160	short tons
Tires	28.00	85.97	32	4.2	2,407	896	118	short tons
Biomass Fuels (Solid)								
Agricultural Byproducts	8.25	118.17	32	4.2	975	264	35	short tons
Peat	8.00	111.84	32	4.2	895	256	34	short tons
Solid Byproducts	10.39	105.51	32	4.2	1,096	332	44	short tons
Wood and Wood Residuals	17.48	93.80	7.2	3.6	1,640	126	63	short tons
	mmBtu per scf	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per scf	g CH_4 per scf	g N_2O per scf	
Natural Gas								
Natural Gas (per scf)	0.001026	53.06	1.0	0.10	0.05444	0.00103	0.00010	scf
Fossil-derived Fuels (Gaseous)								
Blast Furnace Gas	0.000092	274.32	0.022	0.10	0.02524	0.000002	0.000009	scf
Coke Oven Gas	0.000599	46.85	0.48	0.10	0.02806	0.000288	0.000060	scf
Fuel Gas	0.001388	59.00	3.0	0.60	0.08189	0.004164	0.000833	scf
Propane Gas	0.002516	61.46	0.022	0.10	0.15463	0.000055	0.000252	scf
Biomass Fuels (Gaseous)								
Landfill Gas	0.000485	52.07	3.2	0.63	0.025254	0.001552	0.000306	scf
Other Biomass Gases	0.000655	52.07	3.2	0.63	0.034106	0.002096	0.000413	scf
	mmBtu per gallon	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per gallon	g CH_4 per gallon	g N_2O per gallon	
Petroleum Products								
Asphalt and Road Oil	0.158	75.36	3.0	0.60	11.91	0.47	0.09	gallon
Aviation Gasoline	0.120	69.25	3.0	0.60	8.31	0.36	0.07	gallon
Butane	0.103	64.77	3.0	0.60	6.67	0.31	0.06	gallon
Butylene	0.105	68.72	3.0	0.60	7.22	0.32	0.06	gallon
Crude Oil	0.138	74.54	3.0	0.60	10.29	0.41	0.08	gallon
Distillate Fuel Oil No. 1	0.139	73.25	3.0	0.60	10.18	0.42	0.08	gallon
Distillate Fuel Oil No. 2	0.138	73.96	3.0	0.60	10.21	0.41	0.08	gallon
Distillate Fuel Oil No. 4	0.146	75.04	3.0	0.60	10.96	0.44	0.09	gallon
Ethane	0.068	59.60	3.0	0.60	4.05	0.20	0.04	gallon
Ethylene	0.058	65.96	3.0	0.60	3.83	0.17	0.03	gallon
Heavy Gas Oils	0.148	74.92	3.0	0.60	11.09	0.44	0.09	gallon
Isobutane	0.099	64.94	3.0	0.60	6.43	0.30	0.06	gallon
Isobutylene	0.103	68.86	3.0	0.60	7.09	0.31	0.06	gallon
Kerosene	0.135	75.20	3.0	0.60	10.15	0.41	0.08	gallon
Kerosene-type Jet Fuel	0.135	72.22	3.0	0.60	9.75	0.41	0.08	gallon
Liquefied Petroleum Gases (LPG)	0.092	61.71	3.0	0.60	5.68	0.28	0.06	gallon
Lubricants	0.144	74.27	3.0	0.60	10.69	0.43	0.09	gallon
Motor Gasoline	0.125	70.22	3.0	0.60	8.78	0.38	0.08	gallon
Naphtha (<401 deg F)	0.125	68.02	3.0	0.60	8.50	0.38	0.08	gallon
Natural Gasoline	0.110	66.88	3.0	0.60	7.36	0.33	0.07	gallon
Other Oil (>401 deg F)	0.139	76.22	3.0	0.60	10.59	0.42	0.08	gallon
Pentanes Plus	0.110	70.02	3.0	0.60	7.70	0.33	0.07	gallon
Petrochemical Feedstocks	0.125	71.02	3.0	0.60	8.88	0.38	0.08	gallon
Petroleum Coke	0.143	102.41	3.0	0.60	14.64	0.43	0.09	gallon
Propane	0.091	62.87	3.0	0.60	5.72	0.27	0.05	gallon
Propylene	0.091	65.95	3.0	0.60	6.00	0.27	0.05	gallon
Residual Fuel Oil No. 5	0.140	72.93	3.0	0.60	10.21	0.42	0.08	gallon
Residual Fuel Oil No. 6	0.150	75.10	3.0	0.60	11.27	0.45	0.09	gallon
Special Naphtha	0.125	72.34	3.0	0.60	9.04	0.38	0.08	gallon
Still Gas	0.143	66.72	3.0	0.60	9.54	0.43	0.09	gallon
Unfinished Oils	0.139	74.54	3.0	0.60	10.36	0.42	0.08	gallon
Used Oil	0.138	74.00	3.0	0.60	10.21	0.41	0.08	gallon
Biomass Fuels (Liquid)								
Biodiesel (100%)	0.128	73.84	1.1	0.11	9.45	0.14	0.01	gallon
Ethanol (100%)	0.084	68.44	1.1	0.11	5.75	0.09	0.01	gallon
Rendered Animal Fat	0.125	71.06	1.1	0.11	8.88	0.14	0.01	gallon
Vegetable Oil	0.120	81.55	1.1	0.11	9.79	0.13	0.01	gallon
	mmBtu per gallon	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu				
Steam and Hot Water								
Steam and Hot Water		66.33	1.250	0.125				mmBtu

Source:

Solid, gaseous, liquid and biomass fuels: Federal Register (2009) EPA; *40 CFR Parts 86, 87, 89 et al; Mandatory Reporting of Greenhouse Gases; Final Rule*, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 56409-56410. Revised emission factors for selected fuels: Federal Register (2010) EPA; 40 CFR Part 98; Mandatory Reporting of Greenhouse Gases; Final Rule, 17Dec10, 81 pp. With Amendments from Memo: Table of Final 2013 Revisions to the Greenhouse Gas Reporting Rule (PDF) to 40 CFR part 98, subpart C: Table C–1 to Subpart C—Default CO2 Emission Factors and High Heat Values for Various Types of Fuel and Table C–2 to Subpart C—Default CH4 and N2O Emission Factors for Various Types of Fuel.

Steam and Hot Water: EPA (2008) *Climate Leaders Greenhouse Gas Inventory Protocol Core Module Guidance - Indirect Emissions from Purchases/Sales of Electricity and Steam*. Assumption: 80% boiler efficiency and fuel type assumed natural gas. Factors are per mmBtu of steam or hot water purchased.

http://www.epa.gov/ghgreporting/documents/pdf/2013/documents/memo-2013-technical-revisions.pdf
http://www.epa.gov/ghgreporting/reporters/subpart/c.html

Appendix F PHASE I ENVIRONMENTAL SITE ASSESSMENT

Phase I Environmental Site Assessment
Biogas Renewable Generation Project
3001 Scholl Canyon Road Glendale, California 91206

Prepared for:
City of Glendale
141 North Glendale Avenue
Glendale, California 91206

Prepared by:
Stantec Consulting Services Inc.
290 Conejo Ridge Avenue
Thousand Oaks, California 91361

Project No.: 2057123300

February 8, 2016

Sign-off Sheet and Signatures of Environmental Professionals

This document entitled Phase I Environmental Site Assessment for Biogas Renewable Generation Project; 3001 Scholl Canyon Road, Glendale, California 91206 was prepared by Stantec Consulting Services Inc. (Stantec) for the account of City of Glendale . The material in this report reflects Stantec's Environmental Professional review based on information available at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

All information, conclusions, and recommendations provided by Stantec in this document regarding the Phase I ESA have been prepared under the supervision of and reviewed by the professionals whose signatures appear below.

Author _____
(signature)

Anuya Sawant, EIT, RMS
Project Engineering Specialist

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Property. I have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Quality Reviewer _____
(signature)

StephAnnie Roberts
Senior Project Manager

Approved by _____
(signature)

Steven Brady, C.E.G., C.HG.
Senior Principal

Table of Contents

LIST OF FIGURES

LIST OF APPENDICES

Abbreviations

AAI	All Appropriate Inquiry
ACM	Asbestos containing material
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BER	Business Environmental Risk
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CREC	Controlled Recognized Environmental Conditions
CWA	Clean Water Act
ELUC	Environmental Land Use Control
EP	Environmental Professional
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
ft msl	Feet above mean sea level
HREC	Historical Recognized Environmental Conditions
HWMU	Hazardous Waste Management Unit
LBP	Lead-based Paint
LUST	Leaking Underground Storage Tank
NESHAP	National Emissions Standard for Hazardous Air Pollutants
PCBs	Polychlorinated Biphenyls
PAHs	Polycyclic Aromatic Hydrocarbons
VEC	Vapor Encroachment Condition
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
SWMU	Solid Waste Management Unit
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
LFG	Landfill gas
HDPE	High Density Polyethylene

1.0 SUMMARY

Stantec completed this Phase I Environmental Site Assessment (ESA) of the proposed project site for power generation located at 3001 Scholl Canyon Road, Glendale, California 91206 (the "Property"), on behalf of City of Glendale (the "Client"). The work was performed in accordance with Stantec's proposal and terms and conditions dated August 25, 2015. The City of Glendale (the "User") has been designated as the User of this report.

The Phase I ESA was conducted in conformance with USEPA Standards and Practices for AAI, 40 CFR Part 213 and the requirements of ASTM Designation E 1527-13, except as may have been modified by the scope of work, and terms and conditions, requested by the Client. Any exceptions to, or deletions from, the ASTM practice are described in Section 2.3 and 8.2. The purpose of this Phase I ESA was to evaluate the current and historical conditions of the Property in an effort to identify recognized environmental conditions (RECs) and historical recognized environmental conditions (HRECs) in connection with the Property.

The Property, which is proposed for construction, is comprised of a three-acre landfill gas processing facility within the Scholl Canyon Landfill and a pipeline corridor extending approximately 2/3 mile to the west of the landfill. The Property is located approximately one half mile north of the 134 Freeway on Scholl Canyon Road in the City of Glendale, Los Angeles County, California. The purpose of the proposed project development is to beneficially utilize methane-rich renewable landfill gas (LFG) as fuel to generate electricity (13 megawatts). In addition, 2/3 mile of natural gas pipeline will be constructed to connect the facility to the existing Southern California Gas Company pipeline system located at the eastern end of Scholl Canyon Drive. The Scholl Canyon Landfill is also reportedly identified as 7721 North Figueroa Street, Los Angeles, California 90047. Surrounding properties include vacant land, landfill (active and inactive) and residential properties.

The following items of note were identified during this ESA:

- Three above ground storage tanks (ASTs; 6,000-gal, 4,885-gal and 4,561-gal) storing diesel were observed approximately 500 feet northeast of the Property. No secondary containment was observed. Since these ASTs are not located on the Property and no violations/leaks/spills were reported, the ASTs are considered as an item of note for the Property but not a REC.

- The Environmental Data Resources (EDR) database reported presence of a 500-gal underground storage tank (UST) with regular unleaded gasoline used for motor vehicle fuel at the landfill. Since no spills, leaks or violations were reported and the reported UST is not on the Property, it is considered as an item of note for the Property but not a REC.

Stantec performed this Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 of the Property. Any exceptions to, or deletions from, this practice are described in the Data Gaps section of this report. This assessment has revealed the following RECs in connection with the Property:

SUMMARY
February 8, 2016

- During the site reconnaissance, Stantec observed numerous drums and poly tanks which stored various hazardous chemicals and/or waste oil on the Property. Storage of petroleum hydrocarbons and hazardous chemicals at a facility is considered a REC. However, during the site reconnaissance, Stantec did not notice evidence of leaks or spills at the Property. Stantec also observed that some drums containing hazardous chemicals were stored on secondary containment; and

- The Property is a natural gas processing facility and is a part of an active landfill, and as such, there is a possibility of release of gas emissions including methane. The landfill was historically reported to accept some contaminated soils, and groundwater is being monitored for impacts from volatile organic compounds (VOCs). Therefore presence of a landfill is considered as a REC. However, no buildings were observed on the Property during the site reconnaissance which eliminated the current possibility of indoor air quality issues and it was reported that the landfill currently accepted only nonhazardous waste, potentially limiting the types of hazardous gas emissions from the landfill.

The preceding summary is intended for informational purposes only. Reading of the full body of this report is recommended.

2.0 INTRODUCTION

The objective of this Phase I ESA was to perform appropriate inquiry into the past ownership and uses of the Property in accordance with the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries [(AAI), 40 CFR Part 312] and consistent with good commercial or customary practice as outlined by the ASTM in "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", Designation E1527-13. The purpose of this Phase I ESA was to identify, to the extent feasible, adverse environmental conditions including recognized environmental conditions (RECs) of the Property.

The ASTM E1527-13 standard indicates that the purpose of the Phase I ESA is to identify RECs, including historical recognized environmental conditions (HRECs), and controlled recognized environmental conditions (CRECs) that may exist at a property. The term "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property:

(1) Due to any release to the environment;

(2) Under conditions indicative of a release to the environment; or

(3) Under conditions that pose a material threat of a future release to the environment.

ASTM defines a "HREC" as a REC that has occurred in connection with the property, but has been addressed to the satisfaction of the applicable regulatory authority and meets unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a HREC, the environmental professional must determine whether the past release is a REC when the current Phase I ESA is conducted (for example, if there has been a change in the regulations). If the EP considers the past release to be a REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a REC.

ASTM defines a "CREC" as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), but with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

De minimis conditions are not RECs. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. As indicated, the term REC does not include de minimis conditions, which generally do not present a material risk to human health and would not likely be subject to enforcement action if brought to the attention of governmental agencies.

This ESA was conducted in accordance with our proposal to The City of Glendale dated August 25, 2015. The scope of work conducted during this Phase I ESA consisted of a visual reconnaissance of the Property,

interviews with key individuals, and review of reasonably ascertainable documents. The scope of work did not include an assessment for environmental regulatory compliance of any facility ever operated at the Property (past or present), or sampling and analyzing of environmental media. Stantec was not contracted to perform any independent evaluation of the purchase or lease price of the Property and its relationship to current fair market value. The conclusions presented in this ESA report are professional opinions based on data described herein. The opinions are subject to the limitations described in Section 2.3.

ASTM E1527-13 notes that the availability of record information varies from source to source. The User or Environmental Professional is not obligated to identify, obtain, or review every possible source that might exist with respect to a property. Instead, ASTM identifies record information that is reasonably ascertainable from standard sources. "Reasonably ascertainable" means:

(1) Information that is publicly available;

(2) Information that is obtainable from its source within reasonable time and cost constraints; and

(3) Information that is practicably reviewable.

2.1 PROPERTY DESCRIPTION

The Property which is proposed for construction is comprised of the three-acre landfill gas processing facility within the Scholl Canyon Landfill and a pipeline corridor extending 2/3 mile to the west of the landfill. The Property is located approximately one half mile north of the 134 Freeway on Scholl Canyon Road in the City of Glendale, Los Angeles County, California. The purpose of the proposed project is to beneficially utilize methane-rich renewable landfill gas (LFG) as fuel to generate electricity (13 megawatts). In addition, 2/3 mile of natural gas pipeline will be constructed to connect the facility to the existing Southern California Gas Company pipeline system located at the eastern end of Scholl Canyon Drive. The Scholl Canyon Landfill is also reportedly identified as 7721 North Figueroa Street, Los Angeles, California 90047. Surrounding properties include vacant land, landfill (active and inactive) and residential properties.

2.2 SPECIAL TERMS, CONDITIONS, AND SIGNIFICANT ASSUMPTIONS

The possible contaminants of concern considered in this assessment include those hazardous compounds listed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Other than adherence to Client specific scope of work requirements, there were no other special terms, conditions, or significant assumptions associated with the Phase I ESA.

2.3 EXCEPTIONS AND LIMITING CONDITIONS

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions

contained within this report, including no assurance that this work has uncovered all potential and actual liabilities and conditions associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Stantec in regards to it.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition.

The client did not provide or contract Stantec to provide recorded title records or search results for environmental liens or activity and use limitations encumbering the property or in connection with the Property. These represent data gaps; however, these data gaps are not considered significant. Based on the information obtained during the course of this ESA and general knowledge of development at and near the Property, the absence of this information did not affect the ability of the Environmental Professionals to identify RECs, HRECs, CRECs, or de minimis conditions.

This report relates solely to the specific project for which Stantec was retained and the stated purpose for which this report was prepared and shall not be used or relied upon by the client identified herein for any variation or extension of this project, any other project or any other purpose.

This report has been prepared for the exclusive use of the client identified herein and any use of or reliance on this report by any third party is prohibited, except as may be consented to in writing by Stantec or as required by law. The provision of any such consent is at Stantec's sole and unfettered discretion and will only be authorized pursuant to the conditions of Stantec's standard form reliance letter. Stantec assumes no responsibility for losses, damages, liabilities, or claims, howsoever arising, from third party use of this report.

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures must be confirmed by the client and Stantec assumes no liability resulting from damage to such utilities and structures.

The conclusions are based on the site conditions encountered by Stantec at the time the work was performed. Accordingly, additional studies and actions may be required. As the purpose of this report is to identify selected site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the site is beyond the scope of this assessment. The findings, observations, and conclusions expressed by Stantec in this report are not an opinion concerning

the compliance of any past or present owner or operator of the site which is the subject of this report with any Federal, state or local law or regulation.

This report presents professional opinions and findings of a scientific and technical nature. It does not and shall not be construed to offer a legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of Federal, state or local governmental agencies. RECs raised by the report should be reviewed by client legal counsel.

Stantec specifically disclaims any responsibility to update the conclusions in this report if new or different information later becomes available or if the conditions or activities on the property subsequently change.

2.4 PERSONNEL QUALIFICATIONS

This Phase I ESA was conducted by, or under the supervision of, an individual that meets the ASTM definition of an Environmental Professional (EP). The credentials of the EP and other key Stantec personnel involved in conducting this Phase I ESA are provided in Appendix B.

3.0 USER-PROVIDED INFORMATION

ASTM E1527-13 describes responsibilities of the User to complete certain tasks in connection with the performance of "All Appropriate Inquiries" into the Property. The ASTM standard requires that the Environmental Professional request information from the User on the results of those tasks because that information can assist in the identification of RECs, CRECs, HRECs, or de minimis conditions in connection with the Property. Towards that end, Stantec requested that the User provide the following documents and information:

Description of Information	Provided (Yes / No)	Description and/or Key Findings
User Questionnaire/Interview	Yes	The User provided site contact information and provided access to the Property.
Environmental Liens or Activity Use Limitations	No	The user reportedly does not possess any of these documents
Previous Environmental Permits or Reports Provided by User	No	The user reportedly does not possess any of these documents.
Purpose of the Phase I ESA	Yes	In support of proposed construction on the Property.

4.0 RECORDS REVIEW

The objective of consulting historical sources of information is to develop the history of the Property and surrounding area, in order to evaluate if past uses may have resulted in RECs. Physical setting records are evaluated to determine if the physical setting may have contributed to adverse environmental conditions in connection with the Property. During the review of historical records, Stantec attempted to identify uses of the Property from the present to the first developed use of the Property. Stantec's research included the reasonably ascertainable and useful records described in this section.

4.1 PHYSICAL SETTING

A summary of the physical setting of the Property is provided in the table below with additional details in the following subsections:

Topography:	Township 1S, and Range 13W. Pasadena 7.5 Minute topographic quadrangle. General topographic gradient is south southwest.
Soil/Bedrock Data:	Boring logs obtained from a nearby site stated that soils consist predominantly of silty sand and sandy silt (Rincon, 2013).
Estimated Depth to Groundwater/ Estimated Direction of Gradient:	First encountered groundwater in the vicinity of the Property has been reported to be at approximately 50 feet below ground surface (ft bgs; see Section 4.1.3). Groundwater flow direction for the adjacent site (Inactive Scholl Canyon Landfill) was reported to be south southwest.
Note: Site-specific groundwater direction and depth can only be determined by conducting site-specific testing, which Stantec has not conducted.	

4.1.1 Property Topography and Surface Water Flow

The Property is located at an elevation of approximately 1,176 feet above mean sea level (ft msl). Based on the topography and existing surface conditions, general surface water flow is to the south southwest.

4.1.2 Regional and Property Geology

The Scholl Canyon area has narrow valleys lined with varying amounts of alluvium and colluvium. Bedrock in this area is quartz diorite and diorite, and is highly jointed and fractured. The Canyon which lies in the San Fernando Valley Groundwater Basin is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills (DWR Bulletin 118, 2004).

The Property is underlain by granitic and metamorphic rocks including gneiss. Scholl Canyon area consists of narrow valleys covered by varying thicknesses of alluvium and colluvium and intervening ridges. Bedrock in this area, which is highly jointed and fractured, consists of quartz diorite and diorite.

Based on soil samples collected during site assessments activities at a nearby site (4927 Eaglerock Boulevard), soil types consisted predominantly of silty sand and sandy silt (Rincon, 2013).

4.1.3 Regional and Property Hydrogeology

Scholl Canyon is tributary to the San Fernando Valley, which is underlain by the San Fernando Groundwater Basin. The surface and ground waters of this basin are used extensively for domestic, agricultural, and industrial purposes. The water-bearing sediments consist of the lower Pleistocene Saugus Formation, Pleistocene and Holocene age alluvium. The ground-water in this basin is mainly unconfined with some confinement within the Saugus Formation in the western part of the basin and in the Sylmar and Eagle Rock areas. Regional groundwater flow direction is generally reported toward the south southwest (DWR Bulletin 118, 2004).

Third Quarter 2015 quarterly groundwater monitoring results at the adjacent site (Inactive Scholl Canyon Landfill) reported the depth to water to be approximately 50 feet bgs (SCS Engineers, 2015).

4.2 FEDERAL, STATE AND TRIBAL ENVIRONMENTAL RECORDS

A regulatory agency database search report was obtained from Environmental Data Resources Inc. (EDR), a third-party environmental database search firm. A complete copy of the database search report, including the date the report was prepared, the date the information was last updated, and the definition of databases searched, is provided in Appendix D.

Stantec evaluated the information listed within the database relative to potential impact to the Property, assessing the potential for impacts based in part on the physical setting. As part of this process, inferences have been made regarding the likely groundwater flow direction at or near the Property. As described in 4.1.3, the regional groundwater flow direction is generally to the south southwest. Observations about the Property and surrounding properties made during the Property reconnaissance are provided in more detail in section 5.

4.2.1 Listings for Property

The Property was identified in the RCRA-SQG, FINDS, HAZNET, SWF/LF, EMI, Financial Assurance, Los Angeles Co. HMS and US AIRS.

Database Listing	Description
FINDS	The Property is registered in the FINDS database with Registry ID: 110055841754.
HAZNET	The Property was listed in the database as a storage, bulking, transfer off-site facility of liquids with halogenated organic compounds and oxygenated solvents.
NPDES	The Property is listed as a facility requiring National Pollutant Discharge Elimination System (NPDES) permit as of 2010. NPDES no. CAS000001.
EMI	The Property reportedly emitted total organic hydrocarbon gases, reactive organic gases, carbon monoxide, nitrogen oxides, sulfur oxides, and particulate matters from 1995 to 2001 and from 2009 to 2012.
RCRA-SQG	The Property is listed as a generator of ignitable and corrosive waste. No violations were reported.
US AIRS	The Property was listed in the State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards consisting of compliance monitoring from 1998 to 2014. The Property reportedly retained a Title V permit from 2006 to 2014.

4.2.2 Listings for Nearby Sites with Potential to Impact Property

Stantec assessed data presented in the environmental agency database search report to evaluate the potential for conditions to pose a REC, CREC, or HREC for the Property.

The Scholl Canyon Inactive Landfill is listed on RWQCB's GeoTracker website as a Land Disposal Site with cleanup status 'Open – Verification Monitoring as of 1/1/1965'. The Second Quarter 2015 Monitoring Reports stated that the landfill was opened in 1961 and it accepted slightly contaminated soils, uncontaminated soils, green waste and asphalt for onsite beneficial reuse for disposal in the past. Currently the landfill only accepts non-hazardous waste. The reports also state that currently there are 11 groundwater monitoring wells at the active landfill and 2 groundwater monitoring wells in the vicinity of the landfill, in which sampling is conducted on a quarterly basis. The volatile organic compounds (VOCs)

detected in some of the groundwater samples collected during the third quarter 2015 event were chloroform, acetone, ethylbenzene and toluene. The VOCs detected in the groundwater historically include benzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, chlorobenzene, isopropylbenzene, n-propylbenzene and sec-propylbenzene. The reports also stated that storm water monitoring is conducted at the Landfill. Per the most recent storm event, the monitoring results that exceeded USEPA benchmarks were total suspended solids, iron and zinc.

Presence of a landfill as part of the Property is considered as a REC for the Property. The EDR database reported presence of a 500-gal UST with regular unleaded gasoline used for motor vehicle fuel at the landfill. Since no spills or leaks were reported, presence of a UST is considered as an item of note for the Property but not a REC.

EDR database also identified additional nearby sites in the vicinity of the Property to be reportedly maintaining USTs. The database search did not report any information at these sites which would constitute a potential REC for the Property. These sites were also outside the potential vapor encroachment radius of the Property (within 1/10th of a mile for petroleum hydrocarbons and within 1/3rd of a mile for VOCs). The listings in the database search report provided in Appendix D.

4.3 LOCAL/REGIONAL ENVIRONMENTAL RECORDS

Stantec checked the following sources to obtain information pertaining to Property use and/or indications of RECs in connection with the Property:

4.3.1 California Department of Toxic Substances Control (DTSC) - Chatsworth

Agency Name Contact Information	Finding
Vivien Tutaan DTSC Chatsworth 818-717-6521 Response Date: September 11, 2015	Hand written notes dated October 21, 1980, mention illegal dumping of ¾ empty barrels of oils and solvents at the site. Monitoring reports from 1994 prepared by the Solid Waste Management Department for the Regional Water Quality Control Board (RWQCB) also listed multiple occurrences of illegal dumping of paints, waste oils, and fertilizers at the facility. The recovered waste was sent to another facility for treatment.

4.3.2 County of Los Angeles – Department of Public Works (LADPW)

Agency Name, Contact Information	Findings
LADPW 626-458-3517	LADPW referred Stantec to their webpage www.ladpw.org/epd/cleanla/OpenFileReview.aspx to access public records. The online research suggested that LADPW does not have any records related to industrial waste/underground storage tanks/stormwater for the Property.

4.3.3 Local Building and/or Planning Department Records

Agency Name, Contact Information	Findings
Los Angeles Building and Planning Department Response Date: September 3, 2015	The Building and Planning Department reported that they did not find any records for the Property.

4.3.4 Los Angeles Fire Department (LAFD) Hazardous Materials Programs Unit

Agency Name, Contact Information	Findings
LAFD Hazardous Materials Programs Unit 213-978-3691 Response Date: September 21, 2015	LAFD Hazardous Materials Programs Unit reported that they did not find any records for the Property.

4.3.5 Glendale Fire Department

Agency Name, Contact Information	Findings
Glendale Fire Department	Records obtained from this department reported violations of the industrial wastewater permit in 1997, 1998, 2002. According to the industrial waste discharge permit application from 1997, approximately 3,300 gallons of waste liquids was reportedly discharged per day. Condensate waste was generated during landfill gas processing operations. The types of chemicals, solvents contained in the waste were chlorinated, aromatic, oxygenated and other hydrocarbons from landfill gas; oil from gas compressors; and sulfur-containing compounds. Records from the Hazardous Materials Inventory information dated January 1999: 1. Diesel fuel 2. Motor Oil 3. Waste Oil Mixture 4. Gear Lubricant 5. Petroleum Naptha 6. Transmission fluid 7. Aerosol Paint 8. Antifreeze 9. Mineral Spirits 10. Paint 11. Dichlorofluromethane 12. Used filters 13. Landfill gas – methane 14. PVC solvent cement and primer 15. Propane 16. Nitrogen (compressed gas) 17. Hydrogen (compressed gas) 18. Methane (compressed gas) 19. 50% Caustic 20. Hydrochloric Acid 21. Betz-GCP-187 (a blend of phosphate and polymer) 22. Chlorine tablets

4.3.6 Regional Water Quality Control Board – Los Angeles (RWQCB-LA)

Agency Name, Contact Information	Findings
Laura Gallardo RWQCB - LA Rb4- publicrecords@waterboards.ca.gov	RWQCB-LA did not have records for the Property but maintained records for the active landfill. Groundwater monitoring is being conducted at the active and inactive landfill. According to the Third Quarter 2015 Groundwater Monitoring Report, chloroform, acetone, ethylbenzene and toluene were detected in some groundwater monitoring wells; and concentrations in some wells were above their applicable secondary maximum contaminant level (MCLs; established for taste, odor, and appearance reasons) for chloride, total dissolved solids, and specific conductance. Records also indicate historical improper disposal of hazardous waste at the landfill.

4.3.7 Public Health Investigation (PHI)

Agency Name, Contact Information	Findings
PHI phicor@ph.lacounty.gov Response Date: September 22, 2015	Various Hazardous Materials Emergency Incident Reports reported illegal dumping of solvents, paints, acids, and soil containing gasoline, oil and acids at the landfill.

4.3.8 DTSC - Cypress

Agency Name, Contact Information	Findings
Jone Barrio DTSC Cypress 714-484-5336 Response date: September 4, 2015	DTSC Cypress reported that they did not find any records for the Property.

4.4 HISTORICAL RECORDS REVIEW

4.4.1 Land Title Records/Deeds

Land title records and deeds were not provided by the User, and public records were not searched by Stantec.

4.4.2 Aerial Photographs

Stantec reviewed historical aerial photographs provided by EDR. The general type of activity on a property and land use changes can often be discerned from the type and layout of structures visible in the photographs. However, specific elements of a facility's operation usually cannot be discerned from aerial

photographs alone. The following table summarizes Stantec's observations of the reviewed historical aerial photographs. The aerial photographs are presented in Appendix E as Historical Records.

Year	Scale	Observations, Property and Adjoining Properties
1928	1"=500'	The Property and surrounding areas appear to be forestland.
1938	1"=500'	The Property and surrounding areas appear to be forestland.
1952	1"=500'	The Property and surrounding areas appear to be forestland.
1964	1"=500'	The Property appears undeveloped. The currently inactive landfill appears to be developed. Scholl Canyon Road appears to be developed.
1972	1"=500'	The Property appears undeveloped.
1977	1"=500'	No significant changes in the Property or the vicinity of the Property since the 1972 aerial photograph.
1983	1"=500'	The Property appears to be under construction as a landfill gas processing facility. The two ASTs currently present on the active landfill appear approximately 500 feet northeast of the Property.
1989	1"=500'	The Property appears to be developed as a landfill gas processing facility for the landfill.
1994	1"=500'	No significant changes in the Property or the vicinity of the Property since the 1989 aerial photograph.
2002	1"=500'	The landfill portion of the Property appears to be in the current configuration consisting of a condensate processing facility, flaring station, gas compressors, tool shed, refrigeration exchange skid, condensate treatment area and office area.
2005	1"=500'	No significant changes in the Property or the vicinity of the Property since the 2002 aerial photograph.
2009	1"=500'	No significant changes in the Property or the vicinity of the Property since the 2005 aerial photograph.
2010	1"=500'	No significant changes in the Property or the vicinity of the Property since the 2009 aerial photograph.
2012	1"=500'	No significant changes in the Property or the vicinity of the Property since the 2010 aerial photograph.

Name of aerial photograph source: The EDR Aerial Photo Decade Package

4.4.3 City Directories

Stantec retained a third party to research available reverse city directories for the Property, in approximately five year intervals. The City Directory is presented in Appendix E as Historical Records. The following is a general summary of Stantec's review of the city directory listings:

Subject/Adjoining Property	Year	Listed Occupants
Property	2008	Sanitation Districts F Ls A School Canyon Ltd Par

Subject/Adjoining Property	Year	Listed Occupants
	1990	Sanitation Districts of LA County
Adjoining Properties	1951 - 2013	Landfill, various commercial, government building listings

Name of city directories and source: The EDR City Directory Abstract

4.4.4 Historical Fire Insurance Maps

Fire insurance maps were developed for use by insurance companies to depict facilities, properties, and their uses for many locations throughout the United States. These maps, which have been periodically updated since the late 19th century, provide information on the history of prior land use and are useful in assessing whether there may be potential environmental contamination on or near the Property.

Stantec contracted with a third party to search for copies of historical fire insurance maps covering the subject and immediately adjacent properties. No maps were available for the Property or adjacent properties. The Sanborn® Map Search Report is presented in Appendix E as Historical Records.

4.4.5 Historical Topographic Maps

Stantec reviewed historical topographic maps to help identify past Property usage and areas of potential environmental concern.

The United States Geological Survey (USGS) 7.5-Minute Topographic Map of Pasadena Quadrangle (scale 1:24,000) was reviewed to identify local and regional physiographic features in the vicinity of the Property (see Figure 1). Based on our review of this data, the Property is located at an elevation of approximately 1,176 ft msl and the general topographic gradient is to the south southwest.

No RECs were noted during our review of the topographic maps. Copies of the historical maps are provided in Appendix E as Historical Records. The following table summarizes the maps reviewed and our observations.

Year	Scale	Observations, Property and Adjoining Properties
1896	1:62,500	No details regarding specific development of the Property were observed. No structures or indicators of potential RECs for the Property were depicted on the maps.
1900	1:62,500	
1901	1:250,000	
1941	1:24,000	
1953	1:24,000	
1953	1:24,000	No details regarding specific development of the Property were observed. The currently active landfill is depicted on 1988 through 1995 maps. Presence of a landfill on the Property is considered a REC.
1966	1:24,000	
1972	1:24,000	
1988	1:24,000	
1994	1:24,000	

Year	Scale	Observations, Property and Adjoining Properties
1995	1:24,000	

Name of maps and source: The EDR Historical Topographic Map Report

4.4.6 Other Historical Sources

No other historical sources were researched.

5.0 SITE RECONNAISSANCE

A visit to the Property and its vicinity was conducted by Mr. Scott Edblad and Jason Stagno on September 14, 2015. Access to the Property was provided by the on-site personnel, Mr. Tom Streight. Stantec was accompanied by Mr. Streight during the Property visit. Figure 2 provides information about the Property and adjoining properties and the location of potential areas of environmental concern. Photographs collected during the Property visit are included in Appendix A.

5.1 SITE RECONNAISSANCE METHODOLOGY

The Site reconnaissance focused on observation of current conditions and observable indications of past uses and conditions that may indicate the presence of a REC. The Property reconnaissance was conducted on foot and Stantec utilized the following methodology to observe the Property:

- Traverse the outer Property boundary.
- Traverse transects across the Property.
- Traverse the periphery of all structures on the Property.
- Visually observe accessible interior areas expected to be used by occupants or the public, maintenance and repair areas, utility areas, and a representative sample of occupied spaces.

Weather conditions during the visit to the Property were clear and sunny. There were no weather-related Property access restrictions encountered during the reconnaissance visit.

5.2 GENERAL DESCRIPTION

Property and Area Description:	The Property is located in an urban development. Surrounding properties include combination of vacant land and residential properties.
Property Operations:	The Property is a natural gas processing facility and is a part of an active landfill which currently accepts non-hazardous solid waste.
Structures, Roads, Other Improvements:	The structures present on the Property include multiple trailers, two high voltage buildings, flaring station, condensate processing facility, and refrigeration exchange skid area. The surface is covered partly by asphalt and partly unpaved.
Property Size (acres):	3.0
Estimated % of Property Covered by Buildings and/or Pavement:	10
Observed Current Property Use/Operations:	Landfill gas processing facility.

Observed Evidence of Past Property Use(s):	None observed.
Potable Water Source:	Glendale Water and Power.
Electric Utility:	Glendale Water and Power.

5.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS

The following table summarizes Stantec's observations during the Property reconnaissance.

Observations	Description/Location
Hazardous Substances and Petroleum Products as Defined by CERCLA 42 U.S.C. § 9601(14):	Hazardous substances observed on the Property included waste oil, antifreeze, hydrochloric acid, compressor oil, and diesel. All substances appeared to be stored appropriately.
Drums (≥ 5 gallons):	Miscellaneous drums storage, southeast of the Property (with or without secondary containment): • 8x55-gal magnasol • 2x55-gal magnafloc • 5x55-gal pacemaker oil • 55-gal aluminum chloride • 2x55-gal antifreeze, cleaning solvent • 55-gal sorbent waste storage drum • 55-gal oil storage drums • 16-gal hydrochloric acid storage drum
Strong, Pungent, or Noxious Odors:	None detected.
Pools of Liquid:	None observed.
Unidentified Substance Containers:	None observed.
PCB-Containing Equipment:	None observed.
Other Observed Evidence of Hazardous Substances or Petroleum Products:	None observed.

5.4 EXTERIOR OBSERVATIONS

Stantec made the following observations during the site reconnaissance of exterior areas of the Property and/or identified the following information during the interview or records review portions of the assessment:

Observations	Description
On-site Pits, Ponds, or Lagoons:	None observed.
Stained Soil or Pavement:	No major staining observed. Cracks were observed throughout the Property.
Stressed Vegetation:	None observed.
Waste Streams and Waste Collection Areas:	A dedicated waste storage area was observed.
Solid Waste Disposal:	No areas indicative of solid waste disposal were observed.
Potential Areas of Fill Placement:	No mounds, piles or depressions suggesting the placement of fill material were observed on the Property.
Wastewater:	The Property has a wastewater discharge permit to discharge into the municipal wastewater system.
Stormwater:	Stormwater drains were observed on the Property, however no evidence of contamination was observed.
Wells:	No wells were observed.
Septic Systems:	No visible evidence of the existence of a septic system was observed.
Other Exterior Observations:	None observed.

5.5 UNDERGROUND STORAGE TANKS/STRUCTURES

Existing USTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface patches), which would indicate the presence of USTs, was discovered during the site reconnaissance.
Former USTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface patches), reports, or other evidence of the former presence of USTs was discovered during this Phase I ESA.
Other Underground Structures:	None observed.

5.6 ABOVEGROUND STORAGE TANKS

Existing ASTs:	Condensate processing facility: • 300-gal mixing (poly tank) • 2x300-gal caustic soda (poly tank) • 1,000-gal mixing (poly tank) • 3x10,000-gal condensate (poly tank) • 2,500-gal magnasol (poly tank) • 2,500-gal magnafloc (poly tank) • 3x500-gal condensate (poly tank) • 55-gal condensate (poly tank) • 55-gal drum (unknown) • 2x11,000-gal carbon tanks

	Refrigeration Exchange fluid area: • 55-gal hydrogen sulfide (poly tank) • 800-gal hydrogen sulfide (poly tank) • 1,100-gal sulfatrol (poly tank) • 55-gal pure carbon (vapor phase) • 40-gal oil/ condensate (poly tank) Gas Compressor Area: • 4x80-gal used oil (poly tank) • 4x16 feet^3 metal cube storing oil • • 100 gal, 1,000-gal oil storage drums and poly tanks Three diesel ASTs with no secondary containment (6,000-gal, 4,885-gal and 4,561-gal) were observed approximately 500 feet northeast from the Property. According to historical aerial photographs, the ASTs were present at this location since at least 1983.
Former ASTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface stains), reports, or other evidence of the former presence of ASTs was discovered during this Phase I ESA.

5.7 ADJOINING PROPERTIES

5.7.1 Current Uses of Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Stantec made the following observations about use and activities on adjoining properties:

NORTH	Scholl Canyon Active landfill
SOUTH	Highway 134
EAST	Vacant land and residential properties further east
WEST	Lower Scholl Canyon Park

5.7.2 Observed Evidence of Past Uses of Adjoining Properties

Observations of adjoining properties providing indications of past use and activities, if any, are described below.

NORTH	Landfill.
SOUTH	None observed.
EAST	None observed.
WEST	None observed.

5.7.3 Pits, Ponds or Lagoons on Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Stantec made the following observations about the presence of pits, ponds and lagoons on adjoining properties:

NORTH	None observed.
SOUTH	None observed.
EAST	None observed.
WEST	None observed.

5.8 OBSERVED PHYSICAL SETTING

Topography of the Property and Surrounding Area:	The Property and surrounding areas have a general topographic gradient of south southwest.

6.0 INTERVIEWS

Stantec conducted interviews with the following individuals:

Name and contact information	Relationship to Property	Key findings:
Tom Streight	On-site personnel	The personnel provided information on the existing chemical storage on the Property.

7.0 EVALUATION

This section provides a summary overview of or Findings, Opinions, and Conclusions.

7.1 FINDINGS AND OPINIONS

Information gathered from interviews, reviews of existing data review, and a property inspection was evaluated to determine if RECs are present in connection with the Property. Based on this information, Stantec made the following findings and developed the following opinions.

Finding 1: Numerous drums and poly tanks containing various hazardous chemicals and/or waste oil were observed on the Property.

Opinion 1: Storage of petroleum hydrocarbons and hazardous chemicals at a facility is considered a REC. However, during the site reconnaissance, Stantec did not observe evidence of leaks or spills at the Property. Stantec also observed some drums containing hazardous chemicals which were stored on secondary containment.

Finding 2: The Property is a natural gas processing facility and is a part of an active landfill.

Opinion 2: The landfill receives petroleum hydrocarbons and other non-hazardous waste, and is under regulatory agency oversight for groundwater monitoring. Therefore, the presence of a landfill as part of the Property is considered as a REC.

Finding 3: Three ASTs (6,000-gal, 4,885-gal and 4,561-gal) storing diesel were observed approximately 500 feet northeast from the Property. No secondary containment was observed.

Opinion 3: Since these ASTs are not on the Property and no violations were reported, the ASTs are considered as an item of note for the Property but not a REC.

Finding 4: The EDR database reported presence of a 500-gal UST with regular unleaded gasoline used for motor vehicle fuel at the landfill.

Opinion 4: Since no spills, leaks or violations were reported and the reported UST is not on the Property, it is considered as an item of note for the Property but not a REC.

7.2 DATA GAPS

The federal AAI rule [40 CFR 312.10(a)] and ASTM E1527-13 identify a “data gap” as the lack or inability to obtain information required by the standards and practices of the rule despite good faith efforts by the Environmental Professional or the User.

Any data gaps resulting from the Phase I ESA described in this report are listed and discussed below.

Gap	Discussion
Deletions or Exceptions From Scope of Work Referenced in Section 1.4:	None.
Weather-Related Restrictions To Site Reconnaissance:	None.
Facility Access Restrictions to Site Reconnaissance:	None.
Other Site Reconnaissance Restrictions:	None.
Data Gaps From Environmental Records Review:	None.
Data Gaps From Historical Records Review:	None.
Data Gaps From Interviews:	None.
Other Data Gaps:	None.

7.3 CONCLUSIONS

Stantec completed this Phase I ESA of the proposed project site for power generation located at 3001 Scholl Canyon Road, Glendale, California 91206 (the "Property"), on behalf of City of Glendale (the "Client"). The work was performed in accordance with Stantec's proposal and terms and conditions dated August 25, 2015. City of Glendale (the "User") has been designated as the User of this report.

The Phase I ESA was conducted in conformance with USEPA Standards and Practices for AAI, 40 CFR Part 213 and the requirements of ASTM Designation E 1527-13, except as may have been modified by the scope of work, and terms and conditions, requested by the Client. Any exceptions to, or deletions from, the ASTM practice are described in Section 2.3 and 8.2. The purpose of this Phase I ESA was to evaluate the current and historical conditions of the Property in an effort to identify RECs and HRECs in connection with the Property.

The Property which is proposed for construction is comprised of an approximately 2.2-acre landfill gas processing facility within the Scholl Canyon Landfill and a pipeline corridor extending approximately 2/3 mile to the west of the landfill. The Property is located approximately one half mile north of the 134 Freeway on Scholl Canyon Road in the City of Glendale, Los Angeles County, California. The purpose of the proposed project development is to beneficially utilize methane-rich renewable LFG as fuel to generate electricity (13 megawatts). In addition, 2/3 mile of natural gas pipeline will be constructed to connect the facility to the existing Southern California Gas Company pipeline system located at the eastern end of Scholl Canyon Drive. The Scholl Canyon Landfill is also reportedly identified as 7721 North Figueroa Street, Los Angeles, California 90047. Surrounding properties include vacant land, landfill (active and inactive) and residential properties.

The following items of note were identified during this ESA:

- Three ASTs (6,000-gal, 4,885-gal and 4,561-gal) storing diesel were observed approximately 500 feet northeast of the Property. No secondary containment was observed. Since these ASTs are not located on the Property and no violations/leaks/spills were reported, the ASTs are considered as an item of note for the Property but not a REC.

- The EDR database reported presence of a 500-gal UST with regular unleaded gasoline used for motor vehicle fuel at the landfill. Since no spills, leaks or violations were reported and the reported UST is not on the Property, it is considered as an item of note for the Property but not a REC.

Stantec performed this Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 of the Property. Any exceptions to, or deletions from, this practice are described in the Data Gaps section of this report. This assessment has revealed the following RECs in connection with the Property:

- During the site reconnaissance, Stantec observed numerous drums and poly tanks which stored various hazardous chemicals and/or waste oil on the Property. Storage of petroleum hydrocarbons and hazardous chemicals at a facility is considered a REC. However, during the site reconnaissance, Stantec did not notice evidence of leaks or spills at the Property. Stantec also observed that some drums containing hazardous chemicals were stored on secondary containment; and

- The Property is a natural gas processing facility and is a part of an active landfill, and as such, there is a possibility of release of gas emissions including methane. The landfill was historically reported to accept some contaminated soils, and groundwater is being monitored for impacts from VOCs. Therefore, presence of a landfill is considered as a REC. However, no buildings were observed on the Property during the site reconnaissance which eliminated the current possibility of indoor air quality issues and it was reported that the landfill currently accepted only nonhazardous waste, potentially limiting the types of hazardous gas emissions from the landfill.

8.0 NON-SCOPE CONSIDERATIONS

No ASTM E1527-13 non-scope services were performed as part of this Phase I ESA with the following exceptions:

8.1 LEAD-BASED PAINT

Concern for lead-based paint (LBP) is primarily related to residential structures. The EPA's Final Rule on Disclosure of Lead-Based Paint in Housing (40 CFR Part 745) defines LBP as paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight.

The risk of lead toxicity in LBP varies based upon the condition of the paint and the year of its application. The U.S. Department of Housing and Urban Development (HUD) has identified the following risk factors:

The age of the dwelling as follows: maximum risk is from paint applied before 1950.

There is severe risk from paint applied before 1960.

There is moderate risk from deteriorated paint applied before 1970.

There is slight risk from the paint that is intact but applied before 1977.

The condition of the painted surfaces.

The presence of children and certain types of households in the building.

Previously reported cases of lead poisoning in the building or area.

Samples of suspect LBP were collected for laboratory analysis of lead and will be submitted to the Client in a separate report.

8.2 ASBESTOS

Asbestos can be found in many applications, including sprayed-on or blanket-type insulation, pipe wraps, mastics, floor and ceiling tiles, wallboard, mortar, roofing materials, and a variety of other materials commonly used in construction. The greatest asbestos-related human health risks are associated with friable asbestos, which is ACM that can be reduced to powder by hand pressure. Friable asbestos can become airborne and be inhaled, and has been associated with specific types of respiratory disease. The manufacturing and use of asbestos in most building products was curtailed during the late 1970s. Stantec makes no warranty as to the possible existence or absence of inaccessible materials or to their evaluation with respect to asbestos content.

Samples of suspect ACM were collected for laboratory analysis of asbestos and will be submitted to the Client in a separate report.

8.3 INDOOR AIR QUALITY

No issues regarding air quality were noted.

8.4 RADON

Radon is a colorless, tasteless radioactive gas with an EPA-specified action level of 4.0 PicoCuries per liter of air (pCi/L) for residential properties. Radon gas has a very short half-life of 3.8 days. The health risk potential of radon is primarily associated with its rate of accumulation within confined areas near or in the ground, such as basements, where vapors can readily transfer to indoor air from the ground through foundation cracks or other pathways. Large, adequately ventilated rooms generally present limited risk for radon exposure. The radon concentrations in buildings and homes depend on many factors, including soil types, temperature, barometric pressure, and building construction (EPA, 1993).

Stantec reviewed regional data published by the EPA (http://www.epa.gov/radon/zonemap.html) on average indoor radon concentrations in the vicinity of the Property.

EPA Radon Zones (w/Average Measured Indoor Radon concentrations)		
Zone 1 – High (>4.0 pCi/L)	Zone 2 – Moderate (2 to 4 pCi/L)	Zone 3 – Low (<2 pCi/L)
	Yes	
Normally-occupied sub grade areas (i.e. basement apartments, offices, stores, etc.)?		
No buildings present on the Property.		

The Property is located in Zone 2 and is considered to have moderate potential for radon. To determine Property-specific radon levels a radon survey would have to be conducted. However, because the Property does not have any buildings, further investigation of indoor radon issues does not appear to be warranted.

8.5 FLOOD ZONES

According to the Physical Setting summary portion of the EDR report, the Property is not located within a 500-year or 100-year flood plain. The nearest Surface Water is the Eagle Rock Reservoir, located south of the Property.

8.6 WETLANDS

Wetlands cannot be definitively identified through visual observation alone. Defensible wetland delineations require taxonomic classification of property vegetation, an investigation into the surface and subsurface hydrology of the property, and identification of hydric soils. This level of delineation is outside of the scope or work for this assessment. However, Stantec reviewed US Fish and Wildlife Service

National Wetland Inventory maps and readily available USDA Soil Survey reports. Information from these sources is summarized below.

Potential Wetlands Observed on Property:	None Observed
New Development Planned for Property:	Yes

Wetland Inventory Maps

Map Quadrangle Name	Pasadena
Wetlands Depicted on Property:	None depicted
Wetlands Depicted on Adjoining Properties	None depicted

Soil Survey Data

Soil Survey Report Name and Date:	STATSGO: State Soil Geographic Database
Hydric Soils Depicted in Property Vicinity:	None Depicted

Based on the above documents and the field observations, a wetland does not appear to be present at the Property.

8.7 PESTICIDES

No documentation of commercial on-site use of agricultural chemicals (e.g., pesticides, insecticides, fertilizers or herbicides) was discovered during this ESA. Stantec did not identify any apparent agricultural chemical processing areas, such as crop dusting airfields, bulk mixing areas; or repacking, transfer, or agricultural chemical storage areas in the aerial photographs that were reviewed during this ESA.

8.8 DRY-CLEANING OPERATIONS

No existing dry-cleaning operations were observed at the Property. The historical records review did not list former dry-cleaning operations on the Property.

9.0 REFERENCES

American Society for Testing and Materials, Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process, Designation: E 1527-13, November 2013.

American Society for Testing and Materials (ASTM), 2010, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions, Designation E 2600-10, June 1.

California Department of Conservation Division of Mines and Geology (CDCDMG), 1986, Geomorphic Provinces and Some Principal Faults of California, May.

California Department of Health Services (DHS), 1990, California Statewide Radon Survey, May.

California Department of Water Resources (DWR), 2004, California's Groundwater Bulletin 118, South Coast Hydrologic Region, Coastal Plain of Los Angeles Groundwater Basin, Central Subbasin, updated February 24.

Environmental Data Resources (EDR), 2015. Aerial Photographs, City Directories, Sanborn® Map Report, Topographic Maps, EDR Radius Map™ Report with GeoCheck®, Property, 7721 North Figueroa Street, Los Angeles, CA 90041, September 15.

U.S. Environmental Protection Agency (EPA), 2005, All Appropriate Inquiry Final Rule.

U. S. Environmental Protection Agency (EPA), 1993, USEPA Map of Radon Zones Throughout United States, Document No. EPA-402-R-93-071Prior reports.

SCS Engineers, 1998, Notice of Violation, Scholl Canyon LFG Limited Partnership, January 19.

City of Glendale Fire Department, 2002, Notice of Violation, Scholl Canyon LFG Limited Partnership, August 5.

City of Glendale Fire Department, 1997, Notice of Violation, Scholl Canyon LFG Limited Partnership, August 5.

SCS Engineers, 2015, Third Quarter 2015 Groundwater Monitoring Report, Scholl Canyon Inactive Landfill, October.

Rincon Consultants, Inc., 2013, Post Remediation Assessment, Eagle Rock Shopping Center, 4927-4945 Eagle Rock Boulevard, Eagle Rock, California, November 4.

City of Glendale Fire Department, 1999, Hazardous Materials Inventory, January 13.

Websites:

http://www.water.ca.gov/groundwater/bulletin118/gwbasin_maps_description.cfm

http://GeoTracker.swrcb.ca.gov/

http://hwts.dtsc.ca.gov/report_list.cfm

http://www.dfg.ca.gov/bdb/html/cnddb.html

http://www.maps.assessor.laccounty.gov/mapping/vieer.asp

http://www.dtsc.ca.gov/HazardousWaste/Deeds/Shipley.cfm

REFERENCES
February 8, 2016

http://www.epa.gov/enviro/

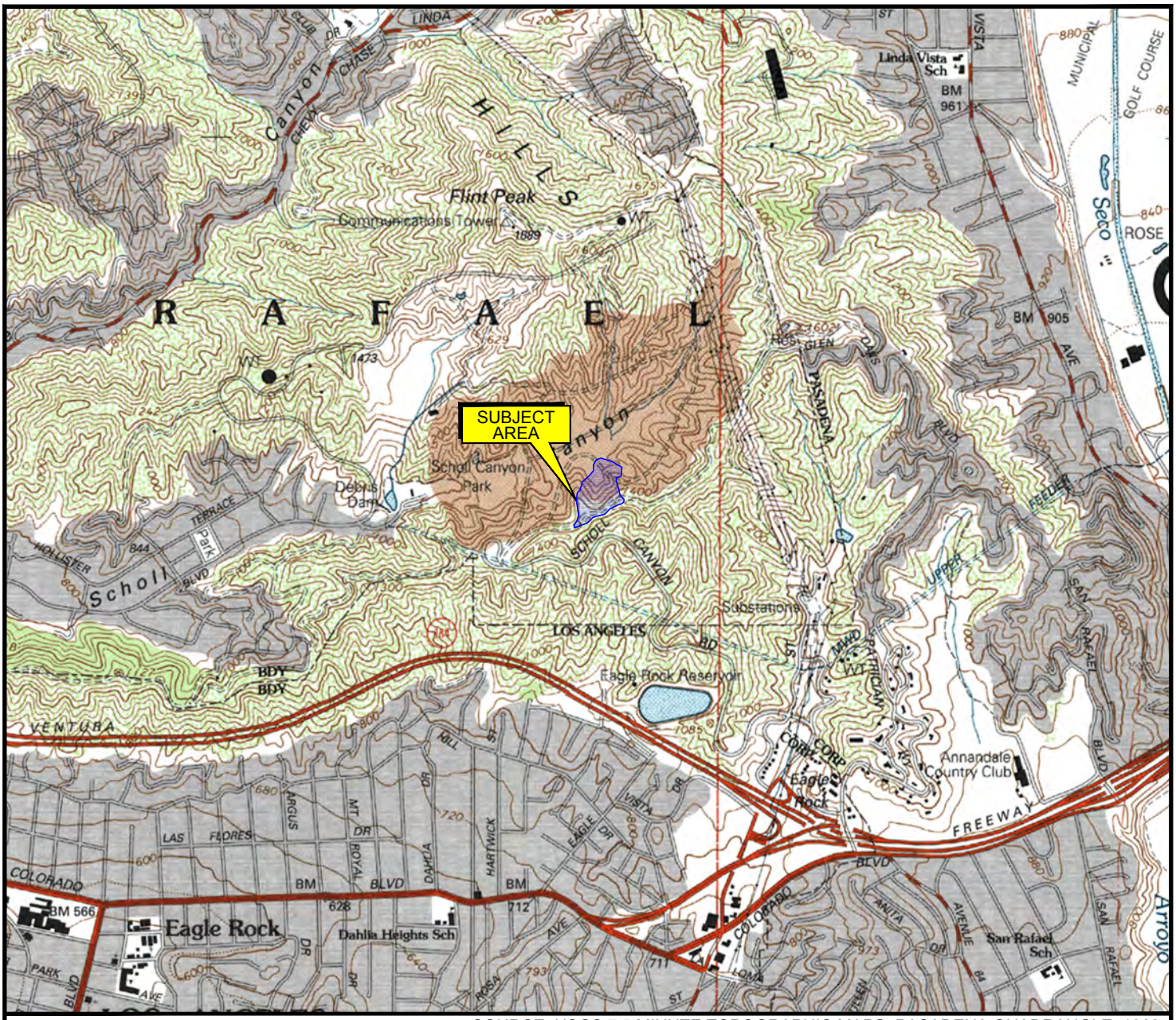
http://www.nrc.uscg.mil/pls/htmldb/f?p=109:1:587700253356660

http://www.cdph.ca.gov/healthinfo/environhealth/Documents/Radon/CaliforniaRadonDatabase.pdf

http://maps.conservation.ca.gov/doms/doms-app.html

http://www.conservation.ca.gov/dog/Pages/Wellfinder.aspx

FIGURES



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAPS, PASADENA QUADRANGLE, 1968
PHOTOREVISED, 1994

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0 2000 4000

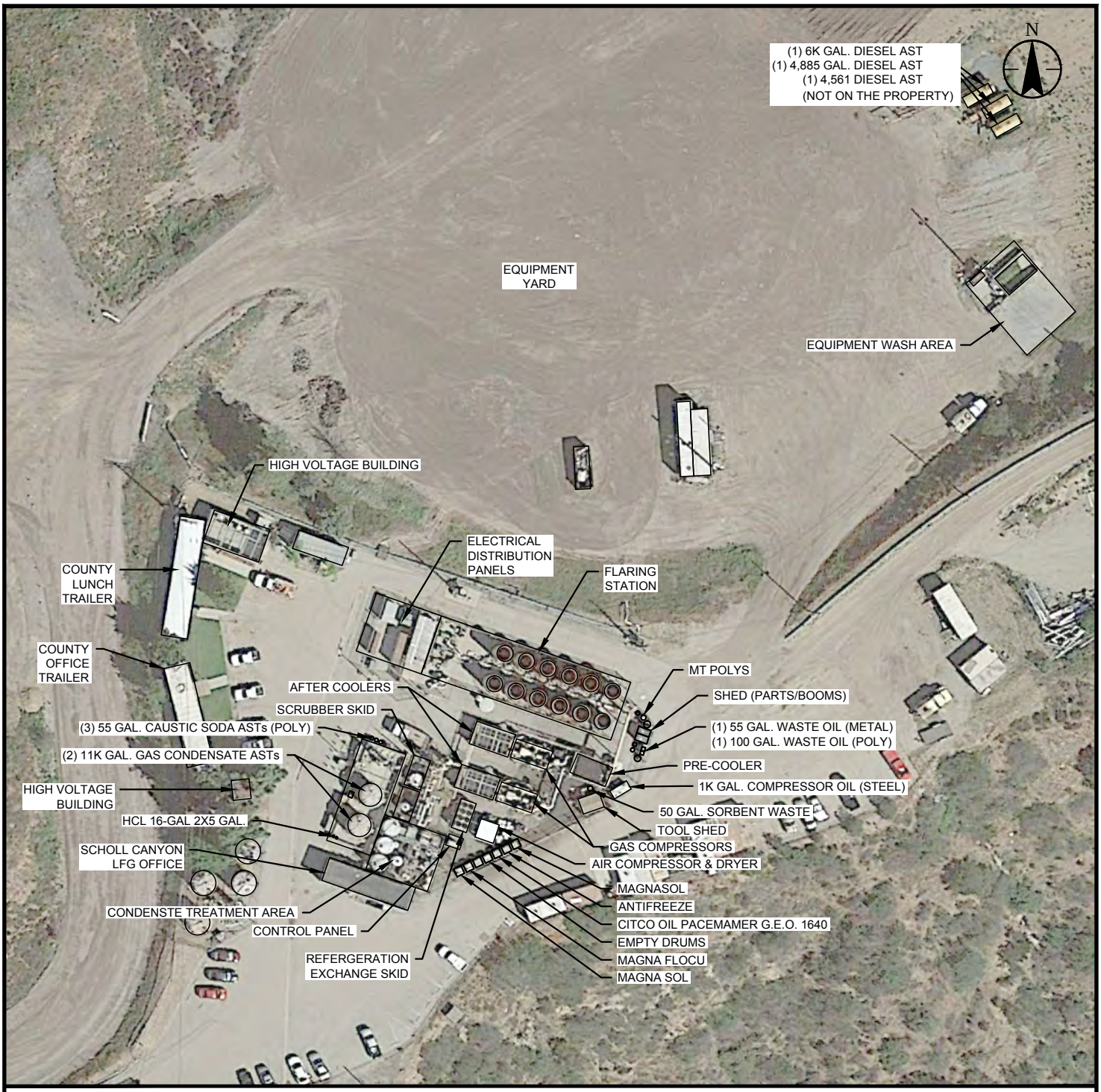
APPROXIMATE SCALE (FEET)

Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
PHONE: (805) 230-1266 FAX: (805) 230-1277

FOR:		FIGURE:
Scholl Canyon Landfill Phase 1 ESA 3001 Scholl Canyon Road Glendale, CA 91206	SITE LOCATION MAP	1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
2057123300.M800-5S	R. Roman	A. Sawant	C. Haase	01/29/16

FILEPATH:E:\2057\active\2057123300.M800.5S\03_data\20160129_pho_schollcanyon_esa.dwg|TRoman|Jan 31, 2016 at 9:07|Layout: F1



NOTES:

1. MAP REFERENCES; GOOGLE EARTH PRO AERIAL IMAGE, DATED MARCH 23, 2015. SCHOLL CANYON LANDFILL EVACUATION PLAN.
2. COORDINATE SYSTEM; NAD 83 CALIFORNIA STATE PLANES, ZONE 5 (FT.). NOT A SURVEYED MAP, SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

0 75 150

APPROXIMATE SCALE (FEET)

Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
PHONE: (805) 230-1266 FAX: (805) 230-1277

FOR:
Scholl Canyon Landfill
Phase 1 ESA
3001 Scholl Canyon Road
Glendale, CA 91206

PROPERTY DETAIL MAP

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
2057123300.M800-5S	R. Roman	A. Sawant	C. Haase	01/29/16

FILEPATH:E:\2057\active\2057123300.M800.5S\03_data\20160129_pho_schollcanyon_esa.dwg|TRoman|Jan 31, 2016 at 9:11|Layout: F2

Appendix A
PHOTOGRAPHS OF THE PROPERTY AND VICINITY

STANTEC CONSULTING
PHOTOGRAPHIC RECORD

Client:	City of Glendale Water and Power	**Job Number:**	2057123300
Subject Name:	Scholl Canyon	**Location:**	3001 Scholl Canyon Road, Glendale, CA
Photographer:	S. Edblad	**Date:**	14-Sep-2015

Photograph No. 1

View of the Property, looking west..

Photograph No. 2

View of the three tanks storing magnasol, caustic soda and magnafloc in the southern portion of the Property.

STANTEC CONSULTING
PHOTOGRAPHIC RECORD

Client:	City of Glendale Water and Power	**Job Number:**	2057123300
Subject Name:	Scholl Canyon	**Location:**	3001 Scholl Canyon Road, Glendale, CA
Photographer:	S. Edblad	**Date:**	14-Sep-2015

Photograph No. 3

View of the Flaring Station located north of the Property.

Photograph No. 4

View of used oil poly tanks bolted on the ground (with no secondary containment) stored on the Property.

STANTEC CONSULTING
PHOTOGRAPHIC RECORD

Client:	City of Glendale Water and Power	**Job Number:**	2057123300
Subject Name:	Scholl Canyon	**Location:**	3001 Scholl Canyon Road, Glendale, CA
Photographer:	S. Edblad	**Date:**	14-Sep-2015

Photograph No. 5

View of oil storage in poly tanks.

Photograph No. 6

View of three 55-gal drums on secondary containment storing waste oil filters, and non-RCRA hazardous waste.

STANTEC CONSULTING
PHOTOGRAPHIC RECORD

Client:	City of Glendale Water and Power	**Job Number:**	2057123300
Subject Name:	Scholl Canyon	**Location:**	3001 Scholl Canyon Road, Glendale, CA
Photographer:	S. Edblad	**Date:**	14-Sep-2015

Photograph No. 7

View of one of the trailers located along the western boundary of the Property.

Photograph No. 8

View of the three ASTs located approximately 500 feet northeast from the Property.

STANTEC CONSULTING
PHOTOGRAPHIC RECORD

Client:	City of Glendale Water and Power	**Job Number:**	2057123300
Subject Name:	Scholl Canyon	**Location:**	3001 Scholl Canyon Road, Glendale, CA
Photographer:	S. Edblad	**Date:**	14-Sep-2015

Photograph No. 9

View of the 1,000-gal compressor oil tank stored in the southeast portion of the Property.

Photograph No. 10

View of the tool shed located alond the southern boundary of the Property.

STANTEC CONSULTING
PHOTOGRAPHIC RECORD

Client:	City of Glendale Water and Power	**Job Number:**	2057123300
Subject Name:	Scholl Canyon	**Location:**	3001 Scholl Canyon Road, Glendale, CA
Photographer:	S. Edblad	**Date:**	14-Sep-2015

Photograph No. 11

General view of the Landfill Gas Processing facility (Property).

Photograph No. 12

View of the Condensate Tanks (11,000-gal) located in the southwest portion of the Property.

Appendix B
STANTEC RESUMES

Anuya Sawant

Engineering Project Specialist

Anuya has four years of experience in the environmental industry, including project and task management; environmental site assessments; hazardous material assessments; remedial investigations; remedial evaluations and installations; soil, soil vapor, and air sampling; water sampling (wastewater, groundwater, and surface water); National Environmental Policy Act (NEPA)/California Environmental Quality Act (CEQA); Phase I and Phase II environmental assessment and remediations; and workplans, proposals, and reports. Her remediation background includes operating soil vapor extraction (SVE) with granular activated carbon; thermal catalytic oxidizer; and ozone sparge systems designed to target petroleum hydrocarbon and volatile organic compound impacts to groundwater, subsurface soil, and soil vapor. Anuya's site assessment background includes drilling, well abandonment and redevelopment, soil and water sampling, soil vapor sampling and indoor air/intrusion (Summa canisters and tedlars), excavations, underground storage tank (UST) removals, and installing groundwater and soil vapor wells. Her regulatory compliance and NEPA/CEQA document preparation includes evaluating air quality, greenhouse gas emissions, traffic/transportation, energy, utilities, and recreational project impacts. Anuya has technical knowledge of quantifying emissions for linear (i.e. pipelines and roadways) projects using CalEEMod emission model, as well as the USEPA statistical analysis software, ProUCL that is used to compute rigorous statistics to help make accurate decisions at a polluted site.

EDUCATION

BS, Civil Engineering, University of Mumbai, Mumbai, India, 2008

BS, Environmental Engineering, Old Dominion University, Norfolk, Virginia, 2010

OSHA 40-Hour Health & Safety Certification HAZWOPER Standard 29 CFR 1910.120(e), Philadelphia, Pennsylvania, 2010

OSHA 8-Hour Supervisor Health & Safety Certification HAZWOPER Standard, 29 CFR 1910.120, Thousand Oaks, California, 2011

CPR/AED/First Aid, Thousand Oaks, California, 2012

OSHA 8-Hour Refresher Course Health & Safety Certification HAZWOPER Standard, 29 CFR 1910.120, Thousand Oaks, California, 2014

CPR/AED/First Aid Refresher Course, Thousand Oaks, California, 2013

MEMBERSHIPS

Member, American Society of Civil Engineers

PROJECT EXPERIENCE

Environmental Site Assessments Phase I, II, III

Limited Visual Site Investigation, Phase I and II Environmental Site Assessments, Los Angeles, Riverside, Orange, and Ventura Counties, California (Project Engineer)

Anuya performed a limited visual site investigation, Phase I and II Environmental Site Assessments and site characterization assessments for several clients, including medical groups, major retail tire facilities, residential developers, commercial developers, and banks. Properties included multi-story occupied and vacant buildings, vacant lots, industrial and residential properties, and automotive maintenance facilities.

Environmental Site Remediation

Soil, Soil Vapor, and Groundwater Remediation, Los Angeles and Orange Counties, CA (Project Engineer)

Anuya helped with permitting and operation and maintenance of soil vapor extraction, air sparge, and ozone injection systems to remediate impacted soil, soil vapor, and groundwater for property development companies (commercial) and an Orange County city. Sites included volatile organic compounds, chlorinated solvents, and hydrocarbon impacts.

** denotes projects completed with other firms*

Anuya Sawant

Engineering Project Specialist

Soil, Soil Vapor, and Groundwater Remediation Systems Operations and Maintenance, Los Angeles and Orange Counties, CA (Staff Engineer)
Anuya conducted operation and maintenance activities on soil vapor extraction and ozone injection systems. She conducted daily/weekly field monitoring, air sampling, and monthly data collection to maintain air quality permits compliance.

California Department of Transportation (Caltrans), Los Angeles and Ventura Counties, California (Project Engineer)
Anuya performed soil sampling at various locations, including Lebec and Ojai maintenance yards and I-101 freeway in Ventura and Los Angeles Counties. She evaluated the soil for total petroleum hydrocarbons, volatile organic compounds, and metals.

Former Retail Petroleum Station Assessment and Remediation, Yorba Linda, California (Staff Engineer)
Anuya is currently helping manage permitting, installation, and operation and maintenance of a soil vapor extraction and ozone sparge remediation system to redevelop a former retail petroleum station. The site is impacted with petroleum hydrocarbons and volatile organic compounds in subsurface soils, soil vapor, and groundwater. She is documenting weekly operation and maintaining thermal catalytic oxidizer granular activated carbon SVE and ozone sparge remediation system; permitting (City of Yorba Linda, WDR, and Air Quality Management District); collecting monthly soil vapor samples; collecting quarterly groundwater samples; and preparing quarterly groundwater and operation and maintenance reports and yearly progress reports submitted to the Orange County Health Care Agency and the City of Yorba Linda.

Soil and Soil Vapor Remediation, Harbor City, California (Staff Engineer)
Anuya conducted weekly operation and maintenance of the soil vapor extraction system and collected soil vapor samples at a dry cleaner facility. The site consisted of volatile organic compounds, chlorinated solvents, and hydrocarbon-impacted properties. Anuya prepared quarterly operation and maintenance reports.

Target Store Assessment and Remediation, Anaheim, California (Staff Engineer)
Anuya helped technically execute the remediation of a multi-million dollar project at a former Target Store facility. Source areas included an automotive service station and dry cleaner business that formerly operated at the property. Remediation activities included underground storage tank removal, soil excavation, and soil vapor extraction. Anuya composed quarterly groundwater and operation and maintenance reports; conducted weekly/daily operation and maintenance of the soil vapor extraction system with carbon vessels; and collected soil vapor samples monthly. This site received a no further action letter and was closed by the lead regulatory agency.

Oil & Gas

Vinvale Terminal Groundwater Monitoring and Remediation, Southgate, California (Project Engineer)
The project site is one of the largest fueling distribution terminals on the west coast with daily simultaneous operations. Anuya participates in the groundwater monitoring and sampling activities on a quarterly basis.

Positional Letter Report, Tesoro (Former BP ARCO) Line 216, Inglewood, California (Project Engineer)
Anuya helped prepare a Positional Letter Report that recommended an approach, strategy, and response to a letter issued by the Los Angeles Regional Water Quality Control Board. The letter addressed environmental conditions reportedly identified along the Natural Gas Pipeline 216, located on Hollywood Park Racecourse in Inglewood, California.

Air Quality Study, Vintage Development Project, Kern County, California (Project Engineer)
Anuya helped prepare a Positional Letter Report that recommended an approach, strategy, and response to a letter issued by the Los Angeles Regional Water Quality Control Board. The letter addressed environmental conditions reportedly identified along the Natural Gas Pipeline 216, located on Hollywood Park Racecourse in Inglewood, California.

** denotes projects completed with other firms*

Anuya Sawant

Engineering Project Specialist

Tesoro (Former BP ARCO) Gas Station Workplan Reports (Project Engineer)
Anuya prepared workplans and well abandonment reports for various gas station sites to expedite the remediation process and proceed towards closure.

Underground Storage Tank Removal, Tesoro Refining and Marketing, Marina Del Ray, Newbury Park, Long Beach, and Santa Barbara, California (Staff Engineer)
Anuya provided technical support and field support to remove and excavate an underground storage tanks at various Tesoro service stations in Marina Del Rey, Newbury Park, Long Beach, and Santa Barbara. The project removed the tank, monitored air quality in accordance with Rule 1166 Air Monitoring, collected a soil sample during UST removal/upgrades, segregated impacted soil, and backfilled the excavation pit.

Baseline Studies
Chevron-Branded Facility, Bakersfield, California (Project Engineer)
Anuya prepared a Baseline Site Summary Report for a Chevron-Branded Facility. She prepared the summary in accordance with established Chevron Environmental Management Company (CEMC) guidelines for Property Transfer: Health, Environmental, and Safety Due Diligence Guidelines for Property Transfer for Service Stations.

Occidental of Elk Hills Carbon Dioxide Enhanced Oil Recovery and Sequestration Project, Kern Counties, California (Engineering Associate)
Anuya helped repair an equivalent document to an Environmental Impact Report with several technical studies to construct and operate a carbon dioxide (CO_2) enhanced oil recovery (EOR) system at a 48,000-acre active oil field. The environmental document met the content and format requirements of the California Energy Commission, Department of Oil Gas and Geothermal Resources; and Kern County Planning and Community Development Department. Anuya evaluated potential environmental impacts created by the construction and operation of the CO_2 EOR system (specifically for population), and if warranted, provided mitigation measures to address identified impacts.

Multi-Unit / Family Residential
ProUCL software for statistical calculations and analysis to support Expert Report, Los Angeles, California (Project Engineer)
As part of statistical calculations, Anuya evaluated the analytical data to establish the type of distributional assumptions that best fit the data. To make this determination, Anuya utilized the ProUCL 5.0 software program provided by the USEPA and provided the upper confidence limit of the mean to help determine contribution of the site and the neighboring site to toxic metals contamination. The program allowed normality or lognormality data testing using the Shapiro-Wilk W test.

** denotes projects completed with other firms*

Steven Brady PG, CEG, CHG

Managing Principal Hydrogeologist Technical Intro

With more than 30 years experience in environmental consulting, engineering, and construction fields, Steve has been involved with all aspects of regional and site-specific environmental investigations throughout the southwestern US, including CERCLA/SARA, RCRA, NEPA, and CEQA regulated projects. His experience includes remedial investigations/feasibility studies; risk assessments; soil, soil vapor, and groundwater assessments; contaminant fate and transport determinations; and contaminant delineation and treatment or removal. Other activities include watershed and wetlands investigations; siting investigations; forensic chemical investigations; and investigations using various investigative techniques.

Steve has worked with a range of commercial and industrial client sectors, with focus on construction related projects. His experience includes military/aerospace; semiconductor manufacturers; transportation (rail & vehicle); healthcare; petroleum (upstream, midstream, and downstream); property management, investment, development; and legal clients.

Steve conducts independent and peer review of documents for Quality Assurance/Quality Review requirements. QA/QC review is performed for a variety of client projects, including due diligence; soil, soil vapor, and groundwater assessments; compliance; O&M and remedial projects; and CEQA/NEPA projects. His experience with contaminants includes petroleum hydrocarbons; volatile organic compounds; semi-volatiles organics (including pesticides and PCBs); metals; radionuclides; and others.

Steve has participated as an expert for the California Board of Geology for determination of pass point criteria for multiple certifications.

EDUCATION

BA, Architecture, University of North Carolina, Charlotte, North Carolina, 1979

MS, Geology, Arizona State University, Tempe, Arizona, 1988

8-Hour Health & Safety Annual Certification Update, OSHA, Los Angeles, California, 2014

8-Hour Supervisor's Certification, OSHA, Los Angeles, California, 1990

40-Hour Health & Safety Certification (29 CFR 1910.120), OSHA, Los Angeles, California, 1989

REGISTRATIONS

Registered Geologist #50057, State of Arizona

Certified Hydrogeologist #542, State of California

Certified Engineering Geologist #2000, State of California

Professional Geologist #6031, State of California

MEMBERSHIPS

Member, Association of Water Agencies of Ventura County

Member, Geological Society of America

PROJECT EXPERIENCE

Aboveground and Underground Storage Tank Management

Underground Storage Tank Program Management for Major Oil Company Portfolios, Various Locations, California, Arizona, Nevada (Portfolio Manager)

Steve managed regional portfolios of site assessment and remediation projects at gasoline-dispensing facilities across the southwestern US. He was responsible for planning and implementing projects involving UST system closure, site assessment, remediation system design, construction management, operation-and-maintenance, and risk-based corrective action analysis. Tasks included collection of soil, soil vapor, and groundwater samples during assessments, UST removal activities, and after releases have been discovered, corrective action plan preparation, agency liaison, negotiations, and reporting, and remediation oversight.

The sites were located in a variety of geologic terrains ranging from fractured bedrock to alluvium, and the depth to groundwater ranged from a few feet to several hundred feet. Contaminants typically included separate-phase hydrocarbons (SPH) and dissolved-phase motor fuel constituents. Remediation technologies used to clean up the various leaking UST sites included excavation, ozone sparging, air sparging, biosparging, soil vapor extraction, bioventing, groundwater pump-and-treat, dual phase extraction, high vacuum dual phase extraction, and aboveground bioreactors (to treat higher concentration liquid effluent).

Agriculture

Agriculture Site Assessment, Monitoring, and Remedial Activities*, Santa Barbara, California (Project Manager)

Steve served as the project manager for the soil and groundwater site assessment, quarterly groundwater monitoring, and oversight of remedial activities at an agricultural site. The site encompasses more than 60 acres, with approximately 20 acres within the coastal zone of Santa Barbara. In addition to releases from pesticide and chemical storage areas, diesel boilers, and fuel tanks, large portions of the site consisted of undocumented landfills. An assessment of soil and groundwater was performed for the site, and the extent of both soil and groundwater contamination due to releases of fuels and chemicals was determined. Calculations of groundwater gradient and rates of contaminant flow in the subsurface were performed. Remedial action plans were developed and implemented to remove landfills from the site.

Agricultural Packing Plant SWPPP Development and Compliance Project* (Project Manager)

As project manager, Steve was responsible for site facility audits to evaluate potential discharge locations, development of best management practices recommendations, and development of a Storm Water Pollution Prevention Plan for submission to the lead regulatory agency.

Airports & Aviation

John Wayne Airport Soils and Groundwater Investigation* (Project Geologist)

Steve conducted characterization, delineation, and remediation of hydrocarbon and volatile organic contaminated soils and groundwater at Orange County's John Wayne Airport. Duties included development of site-specific work plans and health and safety plans; permitting, drilling and sampling soil borings; installation of groundwater monitoring wells; installation, maintenance, and monitoring of a groundwater treatment system; compilation and analysis of analytical results; and preparation of monthly and quarterly reports.

Norton Air Force Base Remedial Investigation*

Steve served as project manager for a fast-track remedial investigation supporting RCRA closure of Norton Air Force Base NPL site in San Bernardino, California. Initial tasks consisted of assessment and demolition of two hazardous material storage facility areas at the Base. Part of the DRMO, these two storage facilities received all hazardous materials generated at the Base. A site-specific Work Plan, Chemical Data Quality Management Plan, and Health and Safety Plan were developed and approved by the U.S. Army Corps of Engineers, U.S. Air Force, and the California EPA. Field activities consisted of wipe sampling of facility surfaces prior to demolition, demolition and salvage of building materials, drilling 33 subsurface borings, and collecting concrete core, asphalt, and subsurface materials to assess conditions at the site. Demolition of the buildings was completed in one day and salvage operations were performed concurrent with the site assessment. A report was developed detailing activities and recommendations, and Certification of Closure was performed as a final task.

March Air Force Base Site 17 Engineering Evaluation/Cost Analysis* (Deputy Project Manager)

Steve served as deputy project manager for an Engineering Evaluation/Cost Analysis (EE/CA) for remedial actions at March Air Force Base Site 17, an abandoned pool which was backfilled with hazardous waste. Duties consisted of research, analysis, and generation of a report which includes development of scope and schedule for removal action objectives adhering to statutory limits for removal actions; identification and analysis of removal action alternatives, including effectiveness, implementability, and cost; comparative analysis of remedial alternatives; and recommendations for removal actions.

** denotes projects completed with other firms*

Steven Brady PG, CEG, CHG

Managing Principal Hydrogeologist Technical Intro

Edwards Air Force Base and Phillips Laboratory Closure* (Project Manager)

Steve managed an expedited remedial investigation under the Installation Restoration Program for closure of Edwards Air Force Base, Phillips Laboratory OU4, Sites 7 and 167, the 48 acre beryllium storage and test firing range for the Phillips Laboratory. Site 7 was used to stockpile beryllium-contaminated soils after explosions destroyed buildings on the Site. Site 167 received beryllium fallout from test firings of rocket engines. Duties included development of the work, sampling and analysis, and Health and Safety Plans, which were reviewed and approved by the U.S. Army, the U.S. Air Force, and the U.S. EPA.

March Air Force Base, Hawes Site Closure*, San Bernardino County, California (Project Manager)

Steve managed a remedial investigation under the Installation Restoration Program for closure and property transfer of March Air Force Base, Hawes Site in San Bernardino County, California. The Hawes Site consists of a former auxiliary airport and radio tower, and encompasses approximately 305 acres of federally endangered species habitat. Initial duties included an endangered species survey of the Site, development of an endangered species Conservation Plan, and a geophysical survey of the Site. The Conservation Plan was reviewed and approved by the U.S. Fish and Wildlife Service. Site specific Work Plans, Sampling and Analysis Plans, and Health and Safety Plans were then developed for the Site and approved by the U.S. Army Corps of Engineers, the U.S. Air Force, the U.S. EPA, the California EPA, and the Regional Water Quality Control Board. The planning documents detailed protection of endangered species and assessment of potential contamination and closure of fuel and waste oil USTs, removal of septic tanks and leach fields, removal of underground tanks, geophysical logging and closure of the onsite water supply well, removal of numerous utility vaults, demolition and removal of a storage building, removal of scrap and debris from the Site, and asbestos abatement of the bunker and bunker area.

Brownfield Investment Property Fast-Track Investigation*, Santa Monica, California (Project Manager)

Steve served as project manager for a fast-track investigation on a Brownfield investment property that was formerly a portion of the original McDonnell Douglas Aircraft manufacturing facility in Santa Monica. Work plans were developed and approved by the client, property owner, and lender. Soil gas surveys and soil sampling assessments were performed to characterize the nature, levels, and potential sources of contamination at the site. The entire project was completed within three weeks and recommendations were provided to the client aimed at limiting future liability. Negotiation support was provided to assist in obtaining funding.

Former Military/Aerospace Manufacturer Remedial Oversight* (Project Manager)

Steve performed remedial oversight at a former military/aerospace manufacturer in Santa Ana, California. Extensive quantities of chlorinated solvents, metals, and fuels were released into subsurface soils and groundwater by a past military/aerospace tenant. Numerous remedial actions have been performed at the site. A summary report was developed detailing the nature and levels of contamination in the soil and groundwater aquifers, a summary of the prior assessments and remedial activities performed at the site, an opinion regarding the extent of contamination in the subsurface and different water-bearing zones, and an opinion regarding the adequacy of the former tenants proposed assessment and remedial activities. Assistance with negotiations with the tenant and the RWQCB regarding site remediation was provided.

Municipal Airports Fast-Track Compliance Audits and Evaluations, Various Locations (Project Manager)

Steve served as project manager for the fast-track compliance audits and historical evaluations of seven municipal airports in Southern California, Washington, and Pennsylvania. The project involved agency file and database research, historical document research, and site facility audits to determine compliance status with appropriate regulations, as well as generation of summary reports aimed at limiting future liability for the new operators at the airports.

** denotes projects completed with other firms*

Steven Brady PG, CEG, CHG

Managing Principal Hydrogeologist Technical Intro

Condition Assessments

Cave Creek Groundwater Mapping and Siting* (Project Manager)

Steve conducted mapping and siting of multiple groundwater production wells in Arizona for an assured water supply for the City of Cave Creek and in support of a proposed golf course and country club development. Well locations were selected and logging and evaluation of test boring conducted to more than 1,000-foot bgs. Screen depths were selected for the wells and oversight of well construction was completed.

Seismograph Station Siting* (Project Manager)

Steve conducted siting of multiple Seismograph Station arrays to locate significant, active fault segments in Central and Southern California meeting specific lithological criteria. The seismograph arrays were designed to obtain near-field seismic effects. The project involved review of numerous geologic and geotechnical reports, evaluation of data from existing seismograph arrays, field mapping and site reconnaissance, contact with property owners to obtain lease permits, and generation of a report detailing conclusions and recommendations.

Pacific Palisades Landslide and Contamination Investigation*, Los Angeles, California (Project Manager)

Steve served as the project manager for the geohydrologic and environmental portions of an investigation to evaluate landslide potential and potential soil and groundwater contamination for a proposed force main line in the Pacific Palisades for the City of Los Angeles, Geotechnical Services Division. Numerous ancient and historic landslides occur in the Pacific Palisades, many of which have activated due to the presence of high groundwater. The study required review and compilation of prior geotechnical and environmental data; geologic field mapping and surveying; geotechnical and environmental drilling, sampling, and chemical and physical analysis of soil and groundwater; review of historical and site-specific oblique, vertical, and infrared aerial photographs; data compilation and analysis; determination of groundwater sources; and map and report preparation with evaluation of alternatives and recommendations.

Methane and Leachate Collection Systems Investigation* (Project Manager)

An investigation of the methane and leachate collection systems operational at a golf and country club, on the site of a former landfill in the Santa Monica Mountains, was performed. An extensive review of available landfill and facility construction and monitoring data was conducted, as well as research on documentation available from the RWQCB, the Department of Fish & Game, and the US Army Corps of Engineers. Site and facility audits were performed to evaluate the present condition of the methane, gas condensate, and leachate collection systems. Conclusions and opinions were provided to the client concerning the operation, maintenance, and adequacy of the collection systems. Mitigative measures were recommended to the client aimed at limiting offsite migration of methane and improving water quality downgradient from the landfill.

UK and US Golf Course UST Compliance* (Project Manager)

Steve served as project manager for a compliance status summary of the underground storage tanks at 250 client-owned golf courses throughout the UK and US. The project involved review of tank data from the various courses and management/oversight of the development of a database that contained pertinent details including quantity of USTs and aboveground storage tanks, installation dates, and other tank/tank appurtenance information. The database allowed for searches and sorting to determine compliance with the US-EPA UST compliance deadline.

** denotes projects completed with other firms*

Steven Brady PG, CEG, CHG

Managing Principal Hydrogeologist Technical Intro

Environmental Site Assessments Phase I, II, III

Phase I ESAs and Liability Evaluation, Confidential Client, Multiple Foundries, Southern California

Steve was part of the Stantec team that completed concurrent Phase I ESAs and an overall evaluation of potential pollution liability for multiple foundries. The projects were completed during a business purchase transaction whereby the properties and their associated environmental liability would become the responsibility of the new land owner. At the time of evaluation, the foundry sites were each in various stages of environmental assessment and remediation, and under regulatory oversight by the Los Angeles Regional Water Quality Control Board (LARWQCB). The liability evaluations consisted of assessing the potential remaining environmental assessment and remediation that may be required by the LARWQCB, and development of potential costs associated with obtaining regulatory closure. Potential future environmental liabilities associated with purchasing the impacting properties and the foundry business operations were also included as they might pertain to the purchase of the business and its assets/liabilities. Because the projects were completed during the pre-transaction due diligence period, the projects were coordinated and completed within an expedited timeframe by a team of Stantec professionals across multiple offices.

Healthcare and/or Environmental Site Assessment Phase I, II, III, Various Locations, California, Oregon, and Washington (Project Manager)

Steve managed numerous Phase 1, Phase II, and remedial projects associated with property transfer and development for a major health care provider throughout California and the Pacific Northwest. Numerous specialized assessments have been conducted for various existing or planned hospitals, medical office buildings, and support facilities. These investigations have involved drilling and sampling of soil, soil vapor, and groundwater utilizing various techniques; installation and sampling of monitoring wells and calculated rates and direction of groundwater flow; location of contaminant sources; evaluation of facility usage, and Risk Assessments to document protection of human health for facility users and construction workers. Remediation of soil, soil vapor and groundwater have been performed, including underground storage tank removal, contaminated soil removal and treatment, and evaluation of best available technologies for remedial actions. Project support has involved negotiations with regulatory agencies, legal counsel, and property owners.

Retail Tire Facility and/or Environmental Site Assessment Phase I, II, III (Project Manager)

Steve served as Project Manager for numerous combined Phase I and Phase II environmental site assessments, groundwater monitoring, remedial actions, and reporting projects for a major retail tire facility. Projects generally included assessing the extent of contamination associated with hydraulic lifts, USTs, and other activities associated with operating a tire replacement facility, as well as remediating the extent of assessed contamination and negotiating cleanup levels with the local enforcement agencies.

Multiple Combined Phase I and II ESAs (Project Manager)

Steve served as Project Manager for numerous combined Phase I and Phase II environmental site assessments, groundwater monitoring, remedial actions, and reporting projects for a major retail tire facility. Projects generally included assessing the extent of contamination associated with hydraulic lifts, USTs, and other activities associated with operating a tire replacement facility, as well as remediating the extent of assessed contamination and negotiating cleanup levels with the local enforcement agencies.

Seven Oaks Dam Mitigation Property Environmental Assessment*, Redlands, California (Project Manager)

Steve served as the project manager for an environmental assessment of the 64-acre Seven Oaks Dam Mitigation property in the Santa Ana River Flood Channel, Redlands. The project consisted of a Phase I level site assessment and soil gas survey. The project involved research, historic air photo analysis, site reconnaissance and mapping, installation of soil gas monitoring wells, soil-gas sampling for volatile organics, data compilation and analysis, and preparation of a report detailing activities and conclusions.

** denotes projects completed with other firms*

Steven Brady PG, CEG, CHG

Managing Principal Hydrogeologist Technical Intro

Nike Site Environmental Assessment and Closure*, Puente Hills, California (Project Manager)

Steve served as the project manager for an environmental assessment aimed at gaining site closure for a 55-acre Nike missile battery located in the Puente Hills of Los Angeles County. The site consisted of three areas on two separated ridge tops; the administration area and launch area (also known as the Lower Site) were on one of the ridge tops, and the control area (also known as the Upper Site) was located on an adjacent ridge top. The Nike Site contained aboveground and underground storage tanks, a vehicle maintenance shop, underground missile storage and launch facilities, aboveground missile assembly, fueling, and testing facilities, surveillance facilities, barracks, and an underground network of tunnels. Duties consisted of research, negotiations with the Cal-EPA, development of Work Plans and Health and Safety Plans, geophysical and radiation surveys, drilling and sampling soil and bedrock, and sampling for asbestos containing building materials. Reports were developed detailing options and recommendations for property transfer of a complex military site.

Los Angeles and Ventura Counties Property Investigations and Transfers (Project Manager)

Steve served as project manager for commercial and industrial property transfers and litigation support in Los Angeles and Ventura Counties. Numerous specialized assessments have been conducted for various financial institutions. These investigations have involved drilling and sampling of soil and groundwater utilizing geoprobe, hydropunch, hollowstem auger, and other techniques; installation and sampling of monitoring wells and calculated rates and direction of groundwater flow; location of contaminant sources; and evaluation of facility usage, and Risk Assessments. Remediation of soils and groundwater have been performed, including underground storage tank removal, contaminated soil removal and treatment, and evaluation of best available technologies for remedial actions. Project support has involved negotiations with regulatory agencies, legal counsel, and property owners.

Telecommunication Property Site Assessment*, Santa Barbara, California (Project Manager)

Steve performed a subsurface soil and groundwater site assessment of a telecommunication property in Santa Barbara. Adjacent properties had released PCE and TCE into the subsurface soils and groundwater, but contamination at the site appeared disconnected from the larger plume originating offsite. A work plan and health and safety plan were developed and approved by the client and their corporate counsel. Multiple continuous-cored geoprobe borings were drilled and soil, soil vapor, and groundwater samples collected. Through analysis of the lithology, it was shown that the subsurface consisted of an ancient nearshore, lagoonal environment transected by stream channels. Two separated plumes were shown to occur at the site, with the larger plume derived from an offsite source and the smaller plume originating from onsite operations. A health-based risk assessment was performed for the property to determining appropriate cleanup levels.

Metal Stamping and Forming Facilities Property Transfer (Project Manager)

Steve served as project manager in support of property transfer of three metal stamping and forming facilities. Two of the sites were listed as potential contributors to the contamination in the San Gabriel Valley groundwater, with the third listed by the U.S. EPA as within the top 16 contributors to the groundwater contamination in the Baldwin Park Operable Unit (OU). Research was performed on the individual sites and their contribution to the San Gabriel Groundwater Basin contamination; on the nature and extent of contamination in the San Gabriel Valley Groundwater Basin; on the locations and calculated contributions to the contamination in the Baldwin Park OU from other known PRPs; and on the water delivery and remediation plans for the different San Gabriel Valley OUs, and in particular, in the Baldwin Park OU. Opinions were generated regarding potential future liability for ownership of each facility, and an evaluation of the sources of contamination found in the Baldwin Park OU was developed. Determinations of legal implications and calculations of environmental liability were performed, and a range of anticipated costs associated with ownership of the properties were presented. Results were used in negotiations for the properties. Facility audits were performed at each site, with recommendations provided for equipment and process upgrades, which were aimed at limiting future releases and overall liability.

** denotes projects completed with other firms*

Ventura County Phase I and II Site Assessments (Project Manager)

Steve managed multiple Phase 1 and 2 site assessments for coastal properties in Ventura County consisting of a power generating facility tank farm, hazardous materials storage area, agricultural, and degraded wetland areas to be acquired and restored to wetland conditions. The projects included research; soil, surface water, and groundwater sampling; assistance in property acquisition negotiations; and providing engineering geologic, hydrogeologic, and environmental and risk-based opinions ,and recommendations aimed at facilitating the property acquisition while limiting liability to the State of California. Participation on the project included oversight during tank farm and hazardous material storage area decommissioning and property restoration.

Environmental Site Remediation

South Gate Tank farm Closure Reports (Project Manager)

Steve developed remedial closure reports for a multiple-owner tank farm in the City of South Gate. To facilitate development of the property, the tank farm was split into four separate parcels. Remediation of the soils was performed, with impacted soils exceeding cleanup levels excavated and transported offsite, impacted soils within cleanup levels inhumed into a constructed soil repository, and clean soils reused during regrading activities. The project was estimated by prior consultants to cost more than $9 million to complete; however, the project was finished on an expedited basis and received RWQCB closure for approximately $1 million, a considerable savings to the client. Additionally, development of the property was performed on a parcel-by-parcel basis, allowing the City's contractor to begin development in a timely manner.

Healthcare

Confidential - Former NASA Industrial Facility, Hospital and MOB Redevelopment, Downey, California (Project Manager)

Steve was the project manager for a combined environmental and geotechnical evaluation of a former NASA industrial plant demolition and redevelopment as a hospital and medical office building complex. The NASA facility was utilized for Gemini, Apollo, and Space Shuttle testing, and included an airfield, hazardous material storage, and cryogenic and physical testing areas. The project involved historical research to locate former hazardous material usage and storage areas; drilling and sampling of soil, soil vapor, and groundwater to evaluate impacts; combining the geotechnical and environmental sampling for efficiency and cost savings; development of assessment and health risk (PEA) reports for submission to the DTSC; asbestos and hazardous material abatement reports for use for demolition purposes; geotechnical reports for site grading, foundation, pile, liner design, and backfill requirements; construction oversight; and participation with client legal counsel in negotiations with state regulatory agencies.

Justice

INS Border Patrol Stations Remedial Investigations* (Project Manager)

Steve served as the project manager for remedial investigations at the INS Border Patrol Stations in Campo and Calexico, California. Leaking underground fuel tanks had released significant quantities of gasoline into the subsurface and groundwater at each site. Unique, complex geohydrologic conditions occur in the subsurface, with groundwater contamination at the Campo site largely following an ancient buried river channel, but overflowing the subsurface "paleo-banks" during winter high water conditions. Groundwater contamination at the Calexico site occurred within interspersed sand lenses of a thick clayey (nearshore lacustrine) formation 10 feet below ground surface, and extends under a residential area. A geoprobe sampling device and onsite mobile laboratory was used to define the aerial extent of the groundwater plumes, and groundwater monitoring wells were installed for confirmation sampling and to determine groundwater gradient. Site specific Work Plans, Sampling and Analysis Plans, Health and Safety Plans, and reports detailing conclusions and recommendations were developed and approved by the U.S. Army Corps of Engineers for each major phase of the project. Negotiations with the lead regulatory agencies were performed on behalf of the INS.

** denotes projects completed with other firms*

Steven Brady PG, CEG, CHG

Managing Principal Hydrogeologist Technical Intro

Marine & Port Facilities

Port of Los Angeles As-Needed Environmental Services* (Project Manager)

Steve served as project manager for as-needed environmental services for the Port of Los Angeles. Duties included review and compilation of data from numerous prior reports into summary reports; and environmental drilling, sampling, and monitoring well installations at the proposed Terminal Island Container Transfer Facility (TICTF) to determine if contaminated soil occurred at hazardous levels, and the levels of volatile organic and metals contamination in the groundwater. A report detailing conclusions and recommendations was generated for the TICTF site. An additional study was performed at the Proposed Dry Bulk Handling facility to assess hydrocarbon and volatile organic contamination.

Los Angeles Harbor Department's Henry Ford Bridge Replacement Project* (Project Manager)

Steve served as project manager for a geologic, hydrologic, and contamination report for input to an EIR/EIS for the proposed Los Angeles Harbor Department's Henry Ford Bridge replacement project at the Port of Los Angeles. Duties included review of existing geologic, hydrologic, environmental data, and historical aerial photos; data compilation; seismic analysis; identification of impacts to the environment, workers, and the project; evaluation of mitigative measures; and report preparation.

Todd Pacific Shipyard Groundwater Investigation, Los Angeles, California (Field Manager and Technical Reviewer)

Steve served as field manager and technical reviewer for a soil and groundwater investigation at the Todd Pacific Shipyard at the Port of Los Angeles. The Shipyard was a 109-acre ship-building and repair facility at the Port. Responsibilities included management of the field sampling program at potential contamination sources such as machine pit, sumps, clarifiers, and dry wells in the maintenance/manufacturing buildings; drilling of shallow borings with limited access rigs at the targeted source areas; and collection of numerous groundwater samples at locations where suspected groundwater contamination might exist. In addition, quality control review of the reports developed for fire department and RWQCB compliance was also conducted.

Mixed-Use

Port of San Diego Rohr Facility, Chula Vista, California

Steve was responsible for a detailed subsurface assessment of the Rohr facility. The intent of the assessment was to evaluate the 40-acre former aircraft part manufacturing facility for acquisition by the Port of San Diego for redevelopment into a business park and entertainment complex. The assessment identified the presence of soil, soil vapor, and groundwater impacts by petroleum hydrocarbons, VOCs, heavy metals, PCBs, and semi-volatile organic compounds. He utilized many sampling techniques to assess the limits and concentrations of contaminants in the subsurface. Ultimately, the team was able to develop a cost estimate for potential remedial action cost associated to corrective action to allow redevelopment.

Oil & Gas

Retail Petroleum Stations Assessment and Remediation (Project Manager)

Steve managed numerous projects that involved assessment and remediation of petroleum releases at retail petroleum stations. Tasks included collection of soil, soil vapor, and groundwater samples during assessments, UST removal activities, and after releases have been discovered, corrective action plan preparation, periodic agency reporting, and remediation oversight. Remedial actions have included SVE with enhancement variations such as AS and biogac, total fluids extraction, oxygen releasing compounds, and excavation.

Ventura County Oil Fields* (Project Manager)

Steve prepared permit applications, FESOP reporting forms, Storm Water Pollution Prevention Plans, Storm Water Monitoring Plans, and Notices of Intent for two oil fields in Ventura County. The plans involved documenting past releases, mitigative measures to control future releases, details of sampling methodology and timing of sampling events, and development of summary tables and forms for field personnel to use as documentation for sampling during storm events.

** denotes projects completed with other firms*

Steven Brady PG, CEG, CHG

Managing Principal Hydrogeologist Technical Intro

Power Transmission & Distribution

PG&E Former G Street Substation, Fresno, California, Fresno, California

Steve was part of a team in conjunction with the DTSC to oversee investigation and cleanup, with the ultimate goal of certifying the site for unrestricted use. He completed a Preliminary Endangerment Assessment (PEA) that included a human health risk assessment (HHRA) and development of site-specific cleanup goals for constituents of concern. Following review of the PEA and feedback from DTSC, cleanup goals for lead, arsenic, PCBs, benzo(a)pyrene, and petroleum hydrocarbons in soil were approved by DTSC. We prepared a Removal Action Work (RAW) plan that recommended site-wide excavation of soils to approximately 1.5 feet to meet the cleanup goals. The DTSC approved the RAW and the excavation was completed in June 2009. During the remediation phase, he worked closely with DTSC staff to respond to changing field conditions. The remedial action was approved by DTSC in January 2010, and the site was certified for unrestricted use.

Retail / Commercial

Dry Cleaning Facility Assessment and Audit* (Project Manager)

Steve served as project manager for the soil and groundwater assessment, facility audit, and oversight of remedial activities at an active dry cleaning facility. Releases of PCE from older dry cleaning equipment and drum storage locations were investigated and the extent of both soil and groundwater contamination due to the releases was determined. Groundwater samples were also collected from perched zones and from below the groundwater table using a hydropunch sampling tool. Calculations of attenuation factors and PCE cleanup levels were performed using the LA RWQCB's Interim Guidance for VOC Impacted Sites.

Roadways

Cajalco Transportation Corridor EIR Investigation* (Project Geologist)

Steve developed the geologic portion of an EIR investigation for the proposed Cajalco Transportation Corridor. Duties included review of existing geologic and geotechnical information; review of historical and project specific vertical stereographic photographs; geologic field reconnaissance; slope stability and seismic considerations; identification of impacts and evaluation of mitigative measures; and preparation and submittal of a report and maps presenting geologic units, existing landslides, and potential constraints. In addition, preliminary environmental data was compiled and provided to the design team for evaluation of the different corridor segments.

California SR125 Corridor Site Investigation and Assessment* (Project Manager)

Steve served as project manager for a geologic/geotechnical investigation and hazardous materials assessment for the California SR 125 Corridor. The purpose of the study was to provide geologic, geotechnical, and environmental input for an EIR/EIS document consistent with Caltrans requirements to the engineering team evaluating the various alignment alternatives. The project included an environmental assessment, geologic reconnaissance, and seismic analysis of the alignment and alternatives. A contingency plan was developed for managing hazardous materials during road construction.

Foothill Transportation Corridor Geotechnical Investigation*, Orange County, California (Project Geologist)

Steve performed geologic portions of a geotechnical investigation for the proposed Foothill Transportation Corridor through in Orange County. The investigation provided geotechnical design criteria for proposed bridges, highway embankments, and appurtenant structures. Duties included coordination of services, supervision of geologic field and trench mapping, down-hole logging of borings to 175 feet below ground surface, determination of groundwater depth and gradient, compilation of data and maps, and report preparation.

** denotes projects completed with other firms*

Steven Brady PG, CEG, CHG

Managing Principal Hydrogeologist Technical Intro

Transit

San Diego Mission Valley Commuter Rail Alignments and Alternatives Site Assessments* (Project Manager)

Steve served as project manager for Site Assessments on the San Diego Mission Valley East and Mission Valley West commuter rail alignments and alternatives. Duties included development of Phase I alignment reports for the projects, including detailed environmental evaluation of alternatives with recommendations, and liaison with MTDB real estate and geotechnical design staff and local regulatory agencies. Each report involved research and government/regulatory database searches, historic air photo analysis, site reconnaissance, property owner interviews, generation of alignment maps indicating problematic areas, and detailed conclusions and recommendations. Additional assignments for the MTDB included peer review of other consultant's work and management of construction monitoring services for the MTDB's Cuyamaca Street Improvements project.

Los Angeles County Metropolitan Transportation Authority (MTA) Environmental Services* (In-House Project Manager)

Steve served as the in-house project manager for MTA environmental services. He provided coordination and management of due diligence activities for the Phase I, II, and III site assessments on SPTCo, AT&SF, UPRR, and adjacent properties, as well as individual and multiple parcel acquisitions. Duties consisted of generation of RFP scope-of-work and engineer's estimates for environmental and hydrogeologic investigations; evaluation of consultants reports and raw data; recommendations concerning liability and effects of soil and groundwater contamination on the proposed and ongoing rail line, station, and tunneling projects; recommendations for remedial actions/mitigative measures for each project; liaison with MTA Staff and legal council; and negotiations with property owners and regulatory agencies to set project cleanup criteria for contaminated sites. A commendation was received from the MTA for the work performed on this contract. Steve also managed site assessments on more than 300 miles of MTA corridor right-of-way, as well as performed specialized assessments for individual parcels. Conclusions and recommendations provided were used for property negotiations. In addition, Steve was the response team manager for MTA Real Estate and METROLINK division of the MTA.

Monitoring Well Abandonment and Closure Activities – Moorpark Maintenance Facility, Ventura County, California (Project Manager and Director)

Steve managed and directed monitoring well abandonment and closure activities for the Caltrans Moorpark Maintenance Facility located in Ventura County. Seven onsite groundwater monitoring wells were abandoned in accordance with State of California Water Well Standards (Bulletins 74-81 and 74-90), by over-drilling with a hollow-stem auger to approximately 50 feet below ground surface and backfilling the boreholes with a cement/bentonite grout mixture. Following the completion of abandonment activities, he coordinated waste removal activities. All waste was properly disposed/recycled in accordance with all applicable Federal, State, and local regulations. Upon completion of all field activities, Steve prepared and submitted a Well Destruction Report to the Ventura County Department of Public Works Water Resources Division and the Los Angeles Regional Water Quality Control Board. Agency closure from the Ventura County Environmental Health Division was received for the Moorpark Maintenance Facility.

Groundwater Monitoring, Abandonment, and Closure Activities - Big Sycamore Maintenance Facility, Ventura County, California (Project Manager and Director)

Steve managed and directed semiannual groundwater sampling and reporting for the Caltrans Big Sycamore Maintenance Facility located in Ventura County. Groundwater sampling and reporting were required to maintain compliance with Ventura County Environmental Health Division (VCEHD) mandates. Prior to the commencement of field activities, he reviewed the County-approved Work Plan, prepared a Site-Specific Health and Safety Plan for groundwater monitoring activities, retained a Caltrans-approved and CDOHS-accredited analytical laboratory, and provided notification to the VCEHD inspector at least 48 hours in advance of each sampling event. Upon completion of each groundwater monitoring event, Steve prepared and submitted a Groundwater Monitoring Report to the VCEHD. Based on favorable results from groundwater monitoring activities, VCEHD recommended site closure to the Los Angeles Regional Water Quality Control Board.

** denotes projects completed with other firms*

Additionally, Steve conducted monitoring well abandonment and closure activities for the Caltrans Big Sycamore Maintenance Facility. Eight onsite groundwater monitoring wells were abandoned in accordance with State of California Water Well Standards by over-drilling with a hollow-stem auger to approximately 35 feet below ground surface and backfilling the boreholes with a cement/bentonite grout mixture. Following the completion of abandonment activities, he coordinated waste removal activities. All waste was properly disposed/recycled in accordance with all applicable Federal, State, and local regulations.

Groundwater Monitoring – Ojai Maintenance Facility, Ventura County, California (Project Manager and Director)

Steve managed and directed semiannual groundwater sampling and reporting for the Caltrans Ojai Maintenance Facility located in Ventura County. Groundwater sampling and reporting were required to maintain compliance with Ventura County Environmental Health Division (VCEHD) mandates. The groundwater monitoring activities were completed in accordance with the requirements of the Ventura County Leaking Underground Fuel Tank (LUFT) Guidance Manual (Fourth Edition, April 2001). Following the completion of sampling activities Steve coordinated waste removal activities. All waste was properly disposed/recycled in accordance with all applicable Federal, State, and local regulations. Upon completion of each groundwater monitoring event, he prepared and submitted a Groundwater Monitoring Report to the VCEHD.

Groundwater Monitoring and Assessment Activities – Ventura Maintenance Facility, Ventura, California (Project Manager and Director)

Steve managed and directed semiannual groundwater sampling and reporting for the Caltrans Ventura Maintenance Facility located in Ventura County. Groundwater sampling and reporting were required to maintain compliance with Ventura County Environmental Health Division (VCEHD) mandates. Prior to the commencement of field activities, he reviewed the County-approved work plan, prepared a Site-Specific Health and Safety Plan for groundwater monitoring activities, retained a Caltrans-approved and CDOHS-accredited analytical laboratory, and provided notification to the inspector 48 hours in advance of each sampling event. Upon completion of each groundwater monitoring event, Steve prepared and submitted a Groundwater Monitoring Report to the VCEHD.

Additional assessment required by the VCEHD included evaluation of soil and groundwater to evaluate whether released had also occurred from the waste oil tank. The scope of work was developed for the advancement of eight soil borings around the waste oil tank. Upon completion of all field activities, prepared and submitted a Waste Oil Tank Area Assessment Report to the VCEHD

Limited Site Investigation and Reporting – Altadena and Newhall Maintenance Facilities, Los Angeles County, California (Project Manager)

Steve managed implementation of a limited site investigation and reporting project for the Caltrans Altadena and Newhall Maintenance Facilities for the evaluation of potential impacts near the former USTs. These investigations were conducted in order to maintain compliance with County of Los Angeles Department of Public Works mandates. Steve was liaison with the lead regulatory agency, oversaw field activities and prepared Subsurface Investigation reports documenting field procedures, evaluating analytical results, and recommending no further action (NFA) status from the Los Angeles County Department of Public Works.

Transit-Oriented Development

Limited Site Investigation and Reporting - Altadena and Newhall Maintenance Facilities, Los Angeles County, California (Project Manager)

Steve managed implementation of a limited site investigation and reporting project for the Caltrans Altadena and Newhall Maintenance Facilities for the evaluation of potential impacts near the former USTs. These investigations were conducted in order to maintain compliance with County of Los Angeles Department of Public Works mandates. Steve was liaison with the lead regulatory agency, oversaw field activities and prepared Subsurface Investigation reports documenting field procedures, evaluating analytical results, and recommending no further action (NFA) status from the Los Angeles County Department of Public Works.

Steven Brady PG, CEG, CHG

Managing Principal Hydrogeologist Technical Intro

Water

Santa Clara River Watershed Hydrogeologic and Hydrologic Evaluation*

Steve served as a member of the project team evaluating the hydrogeologic and hydrologic conditions within portions of the Santa Clara River watershed. An extensive water budget analysis was performed on individual watersheds and contributory streams to the eastern groundwater basin, as well as for the entire groundwater basin, of the Santa Clara River, to estimate volumes of available water at any portion of the Basin.

Calleguas Creek Watershed Management Planning Habitat and Recreation and Water Quality Subcommittees (Geologic and Hydrogeologic Engineer)

Steve participated as a member of the Calleguas Creek Watershed Management Planning Habitat and Recreation and Water Quality Subcommittees.He provided engineering geologic and hydrogeologic opinions and recommendations to the committees aimed at consensus for management and obtainment of numerous conflicting goals of the various stakeholders. Additionally, he served on the Calleguas Creek wetlands restoration team for the California Coastal Conservancy identifying wetlands restoration candidates in the watershed.

Calleguas Creek/Ormond Beach Wetlands, Oxnard, California (Project Manager)

Steve managed multiple site assessments and risk evaluations for the acquisition of coastal and proposed wetland restoration properties in Ventura County. Properties included tank farms, hazmat storage areas, degraded wetlands, and agricultural land. Projects included oversight of tank farm decommissioning, remedial cost estimates and recommendations.

** denotes projects completed with other firms*

Thomas R. Szocinski

Senior Environmental Scientist

Thomas has more than 14 years of professional environmental consulting experience focusing on vapor intrusion, remediation, underground storage tank management, Brownfield Site management, and various subsurface environmental investigations throughout the United States, including RCRA, NEPA, and CERCLA/SARA regulated sites. He is a certified environmental professional (CEP) and a certified vapor mitigation inspector and specialist, having designed and implemented numerous vapor mitigation systems throughout the United States. In 2014, Thomas was appointed by the Michigan Department of Environmental Quality (MDEQ) to the Vapor Intrusion Technical Advisory Group (TAG) to assist in the review of MDEQ's current vapor intrusion criteria.

Thomas has also worked on complex remediation projects, including NPL sites, and has implemented various insitu technologies including: soil vapor extraction (SVE), air sparging (AS), active ventilation/mitigation, injection, and enhanced fluid recovery/aggressive fluid vapor recovery (EFR/AFVR).

EDUCATION

AA, Natural Science, Lake Superior State University, Sault Ste. Marie, MI, 2000

BS, Environmental/Criminal Law, Lake Superior State University, Sault Ste. Marie, MI, 2001

MEMBERSHIPS

Member, ASTM International

Member, The Academy of Board Certified Environmental Professionals

AWARDS

2011 Phoenix Award – Brownfield Redevelopment, Piquette Square - Detroit, Michigan

2015 Grand Prize Phoenix Award – Brownfield Redevelopment, Medical Supply Warehouse – Detroit, Michigan

PROJECT EXPERIENCE

Landfill Gas Collection and Control

Municipal Landfill*, Mount Clemens, Michigan

(Project Manager)

Thomas was the project manager for this project. Extensive remedial investigations were conducted to evaluate the extent of the landfill. Thomas designed and implemented a pilot study to collect the necessary data to design an active mitigation system. In 2011 and 2012, he worked in collaboration with the US Environmental Protection Agency (USEPA) to design and implement the active methane ventilation system within the landfill located near existing residential complexes to collect subsurface gases. The system extracts subsurface gases, including methane, by actively drawing from these designated locations. The subsurface gases are then directed to a self-igniting flare to burn off the methane and exhaust innocuously to the atmosphere. Throughout this process, Thomas was the lead technical negotiator for the municipality with USEPA, MDEQ, the Agency for Toxic Substances and Disease Registry (ASTDR), the Michigan State Housing Development Authority (MSHDA), the County Health Department, and the US Department of Housing and Urban Development (HUD).

** denotes projects completed with other firms*

Thomas R. Szocinski

Senior Environmental Scientist

Environmental Mitigation and Monitoring

Northville Garage Restaurant*, Northville, Michigan (Project Manager/Vapor Mitigation Specialist)

A former auto service and dry cleaning facility was redeveloped into a restaurant in Northville, Michigan. Environmental investigations identified petroleum and chlorinated volatile organic compounds (VOCs) at concentrations which posed a threat to indoor air quality. Thomas worked with MDEQ and local municipalities on designing and implementing a vapor mitigation system for the development. The site has since gone on to obtain national recognition and references by both the MDEQ and USEPA as a successful Brownfield redevelopment and vapor mitigation site.

Piquette Square Brownfield*, Detroit, Michigan (Vapor Intrusion Specialist)

A former vehicle manufacturing facility (Studebaker factory 1910) site was redeveloped by a non-profit organization into a Veteran's Memorial Service center in Detroit, Michigan. Environmental investigations identified VOCs at concentrations which posed a threat to indoor air quality. Thomas worked with MDEQ and MSHDA on designing and implementing a vapor mitigation system for the development. In 2011 the Piquette Square project earned the Phoenix Award.

Medical Supply Warehouse Vapor Mitigation System*, Detroit, Michigan (Vapor Mitigation Specialist)

A newly constructed 275,000 square foot medical supply distribution facility opened in May 2015 where once a blighted Detroit neighborhood stood. The redevelopment incorporates many state-of-the-art design elements including one of the largest passive vapor mitigation systems in the country.
The site had several historical operations which included fuel storage operations, a rail yard, paint shops and commercial structures. Subsurface investigations within the area identified VOCs, including chlorinated solvents within the soil and soil gas, which posed a potential risk to the indoor air quality of the proposed medical supply warehouse facility. As part of the development a passive vapor mitigation system was designed by Thomas, which included a redundant ventilation and barrier system. Post-installation smoke and pressure testing were completed to ensure optimum sub-surface ventilation and barrier performance.

The Medical Supply Warehouse earned multiple National Awards, including: Phoenix Award, Redevelopment & Renewal Environmental Impact Award, People's Choice Award, and the overall Grand Prize Award at EPA's 2015 National Brownfield Conference. Thomas worked directly with the MDEQ for design approval and installation oversight.

Site Management & Remediation

Manufacturing Facility Insitu Remediation*, Hastings, Michigan (Project Manager)

Manufacturing facility had a release from their current underground storage tank (UST). A nearby down-gradient stream posed an immediate concern to the facility and immediate actions were taken to monitoring and remediate the release. The petroleum release was adjacent to the existing manufacturing building; however it extended beneath the building foundation as well. Through successful coordination and management with the client, MDEQ, and the environmental insurance agents, Thomas was able to prepare a plausible response action to address the release and meet the objectives for all parties involved.
Extensive environmental assessments were conducted on the project property and remediation activities which included the closure of the UST, hydro-excavation of the accessible soils, groundwater monitoring, and insitu remediation using Regenesis' PetroCleanze®.
In 2014, as a result of the significant reductions in both soil and groundwater contamination, MDEQ approved restricted UST closure for the petroleum release with no further action required.

** denotes projects completed with other firms*

Thomas R. Szocinski

Senior Environmental Scientist

PUBLICATIONS

Clear Cutting – Habitat Benefits and Purpose. *Michigan Outdoor News*, 2006.

Vapor Intrusion. *Michigan Association of Environmental Professionals*, 2013.

MDEQ Director's Meeting – Vapor intrusion. *Michigan Department of Environmental Quality*, 2013.

Updating Part 201 Vapor Intrusion Criteria. *Michigan Department of Environmental Quality*, 2014.

Vapor Intrusion Site Evaluation – Is Mitigation Always Necessary?. *Michigan Association of Environmental Professionals*, 2015.

Appendix C
USER PROVIDED RECORDS

Appendix D
ENVIRONMENTAL AGENCY DATABASE SEARCH REPORT

Scholl Canyon Landfill
7721 North Figueroa Street
Los Angeles, CA 90041

Inquiry Number: 4407421.2s
September 10, 2015

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

7721 NORTH FIGUEROA STREET
LOS ANGELES, CA 90041

COORDINATES

Latitude (North):	34.1505000 - 34° 9' 1.80''
Longitude (West):	118.1901000 - 118° 11' 24.36''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	390285.6
UTM Y (Meters):	3779288.0
Elevation:	1176 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5636829 PASADENA, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120505
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
7721 NORTH FIGUEROA STREET
LOS ANGELES, CA 91206

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	SCHOLL CYN LANDFILL	7721 FIGUEROA ST	WDS		TP
A2	SCHOLL CANYON LANDFI	7721 N. FIGUEROA STR	FINDS		TP
A3	SCHOLL CYN LANDFILL	7721 FIGUEROA ST	WMUDS/SWAT		TP
A4	SCHOLL CANYON LANDFI	7721 NORTH FIGUEROA	HAZNET		TP
A5	SCHOLL CANYON LANDFI	7721 N FIGUEROA ST	LOS ANGELES CO. HMS		TP
A6	SCHOLL CANYON PARTNE	7721 N FIGUEROA	HAZNET		TP
A7	SCOLL CANYON PARTNER	7721 N FIGUEROA ST	HAZNET		TP
A8		7721 N FIGUEROA	ERNS		TP
A9	SCHOLL CANYON LANDFI	7721 N FIGUEROA ST	SWF/LF, SWEEPS UST, HIST UST, CA FID UST		TP
A10	SCHOLL LDFL	7721 N FIGUEROA	CERC-NFRAP		TP
A11	SCHOLL CANYON LANDFI	7721 FIGUEROA	LDS		TP
A12		7721 NORTH FIGUEROA	CHMIRS		TP
13	METROPOLITAN WATER D	7800 N FIGUEROA ST	UST	Lower	191, 0.036, SE
B14	SCHOLL CANYON LANDFI	3001 SCHOLL CANYON R	RCRA-SQG, FINDS, HAZNET	Higher	223, 0.042, WNW
B15	LA CO, SANITATION DI	3001 SCHOLL CANYON R	SWF/LF, EMI, Financial Assurance, LOS ANGELES CO....	Higher	223, 0.042, WNW
B16	SCHOLL CANYON LDFL	3001 SCHOLL CANYON R	RCRA-SQG, US AIRS	Higher	223, 0.042, WNW
C17	SOUTHERN CAL EDISON	7888 N FIGUEROA ST	SWEEPS UST	Lower	1149, 0.218, ESE
C18	EAGLE ROCK SUBSTATIO	7888 N FIGUEROA ST	HIST UST	Lower	1160, 0.220, East
C19	SO CAL EDISON CO	7888 N FIGUEROA ST	SWEEPS UST, CA FID UST, EMI, LOS ANGELES CO. HMS	Lower	1160, 0.220, East
D20	DEPARTMENT OF WATER	5403 HILLMONT AVE	SWEEPS UST, CA FID UST	Lower	1165, 0.221, South
D21	EAGLE ROCK CHLORINE	5403 HILLMONT AVE	HIST UST	Lower	1165, 0.221, South
D22	HILLMONT PUMP STATIO	5403 HILLMONT AVE	UST, HIST UST	Lower	1165, 0.221, South
E23	EAGLE ROCK TRIANGLE	1000 COLORADO BLVD	LUST	Lower	2260, 0.428, South
E24	EAGLE ROCK TRIANGLE	1000 COLORADO BLVD	LUST, SWEEPS UST, CA FID UST, HIST CORTESE, LA Co....	Lower	2260, 0.428, South
25	MOBIL #11-H3K	1600 HILL	HIST CORTESE	Lower	2639, 0.500, WSW
26	SPENCE PROPERTY AKA	7047-7051 NORTH FIGU	RESPONSE, ENVIROSTOR, LIENS, Cortese	Lower	5101, 0.966, South

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
SCHOLL CYN LANDFILL 7721 FIGUEROA ST GLENDALE, CA 90041	WDS Facility Status: A Facility Id: 4B190322007	N/A
SCHOLL CANYON LANDFI 7721 N. FIGUEROA STR LOS ANGELES, CA 90041	FINDS Registry ID:: 110043804942	N/A
SCHOLL CYN LANDFILL 7721 FIGUEROA ST GLENDALE CA, CA 90041	WMUDS/SWAT	N/A
SCHOLL CANYON LANDFI 7721 NORTH FIGUEROA LOS ANGELES, CA 90041	HAZNET GEPAID: CAL000012959	N/A
SCHOLL CANYON LANDFI 7721 N FIGUEROA ST GLENDALE, CA	LOS ANGELES CO. HMS Facility ID: 033065-054815	N/A
SCHOLL CANYON PARTNE 7721 N FIGUEROA LOS ANGELES, CA 90041	HAZNET GEPAID: CAC001265832	N/A
SCOLL CANYON PARTNER 7721 N FIGUEROA ST LOS ANGELES, CA 90041	HAZNET GEPAID: CAC002596192	N/A
7721 N FIGUEROA 7721 N FIGUEROA LOS ANGELES, CA 90041	ERNS EDR ID:: 786641	N/A
SCHOLL CANYON LANDFI 7721 N FIGUEROA ST LOS ANGELES, CA 90041	SWF/LF Site ID: 19 Status: Active SWEEPS UST	N/A

EXECUTIVE SUMMARY

	Comp Number: 349 HIST UST Facility Id: 00000003975 CA FID UST Facility Id: 19038002 Status: A	
SCHOLL LDFL 7721 N FIGUEROA LOS ANGELES, CA 90041	CERC-NFRAP Site ID: 0901768 EPA Id: CAD980498927	CAD980498927
SCHOLL CANYON LANDFI 7721 FIGUEROA GLENDALE, CA 90041	LDS Global Id: L10009414153 Status: Open - Verification Monitoring	N/A
7721 NORTH FIGUEROA 7721 NORTH FIGUEROA LOS ANGELES, CA 90041	CHMIRS OES Incident Number: 6-0634	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

State and tribal leaking storage tank lists

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
SLIC ---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
ODI ---------- Open Dump Inventory
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- National Clandestine Laboratory Register
AOCONCERN ---------- San Gabriel Valley Areas of Concern

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- Clandestine Drug Labs

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
CA BOND EXP. PLAN ---- Bond Expenditure Plan
Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
CUPA Listings ---- CUPA Resources List
DRYCLEANERS ---- Cleaner Facilities

EMI Emissions Inventory Data
ENF Enforcement Action Listing
Financial Assurance Financial Assurance Information Listing
HWP EnviroStor Permitted Facilities Listing
HWT Registered Hazardous Waste Transporter Database
MINES Mines Site Location Listing
MWMP Medical Waste Management Program Listing
NPDES NPDES Permits Listing
PEST LIC Pesticide Regulation Licenses Listing
PROC Certified Processors Database
Notify 65 Proposition 65 Records
LA Co. Site Mitigation Site Mitigation List
UIC UIC Listing
WASTEWATER PITS Oil Wastewater Pits Listing
WIP Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF Recovered Government Archive Solid Waste Facilities List
RGA LUST Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA)

of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/10/2015 has revealed that there are 2 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SCHOLL CANYON LANDFI	***3001 SCHOLL CANYON R***	***WNW 0 - 1/8 (0.042 mi.)***	***B14***	***18***
SCHOLL CANYON LDFL	***3001 SCHOLL CANYON R***	***WNW 0 - 1/8 (0.042 mi.)***	***B16***	***34***

State- and tribal - equivalent NPL

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, and dated 08/03/2015 has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SPENCE PROPERTY AKA	***7047-7051 NORTH FIGU***	***S 1/2 - 1 (0.966 mi.)***	***26***	***64***
Status: Active				
Facility Id: 60000305				

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 08/03/2015 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SPENCE PROPERTY AKA	***7047-7051 NORTH FIGU***	***S 1/2 - 1 (0.966 mi.)***	***26***	***64***
Facility Id: 60000305				
Status: Active				

EXECUTIVE SUMMARY

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list, as provided by EDR, and dated 08/17/2015 has revealed that there is 1 SWF/LF site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LA CO, SANITATION DI Facility ID: 19-AA-0012 Operational Status: Active Regulation Status: Permitted	***3001 SCHOLL CANYON R***	***WNW 0 - 1/8 (0.042 mi.)***	***B15***	***22***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 06/15/2015 has revealed that there are 2 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
EAGLE ROCK TRIANGLE Facility Id: 900410061 Status: Case Closed Global ID: T0603700992	1000 COLORADO BLVD	S 1/4 - 1/2 (0.428 mi.)	E23	60
EAGLE ROCK TRIANGLE Status: Completed - Case Closed Global Id: T0603700992	***1000 COLORADO BLVD***	***S 1/4 - 1/2 (0.428 mi.)***	***E24***	***61***

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 06/15/2015 has revealed that there are 2 UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
METROPOLITAN WATER D Facility Id: 25344	7800 N FIGUEROA ST	SE 0 - 1/8 (0.036 mi.)	13	18
HILLMONT PUMP STATIO Facility Id: 25250	***5403 HILLMONT AVE***	***S 1/8 - 1/4 (0.221 mi.)***	***D22***	***60***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 3 SWEEPS UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SOUTHERN CAL EDISON Status: A Comp Number: 13244	7888 N FIGUEROA ST	ESE 1/8 - 1/4 (0.218 mi.)	C17	56
SO CAL EDISON CO Comp Number: 6915	***7888 N FIGUEROA ST***	***E 1/8 - 1/4 (0.220 mi.)***	***C19***	***57***
DEPARTMENT OF WATER Status: A Tank Status: A Comp Number: 3912	***5403 HILLMONT AVE***	***S 1/8 - 1/4 (0.221 mi.)***	***D20***	***58***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
EAGLE ROCK SUBSTATIO Facility Id: 00000022226	7888 N FIGUEROA ST	E 1/8 - 1/4 (0.220 mi.)	C18	56
EAGLE ROCK CHLORINE Facility Id: 00000064824	5403 HILLMONT AVE	S 1/8 - 1/4 (0.221 mi.)	D21	59
HILLMONT PUMP STATIO Facility Id: 00000064896	***5403 HILLMONT AVE***	***S 1/8 - 1/4 (0.221 mi.)***	***D22***	***60***

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SO CAL EDISON CO Facility Id: 19054559 Status: I	***7888 N FIGUEROA ST***	***E 1/8 - 1/4 (0.220 mi.)***	***C19***	***57***
DEPARTMENT OF WATER	***5403 HILLMONT AVE***	***S 1/8 - 1/4 (0.221 mi.)***	***D20***	***58***

Facility Id: 19013342
Status: A

Other Ascertainable Records

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

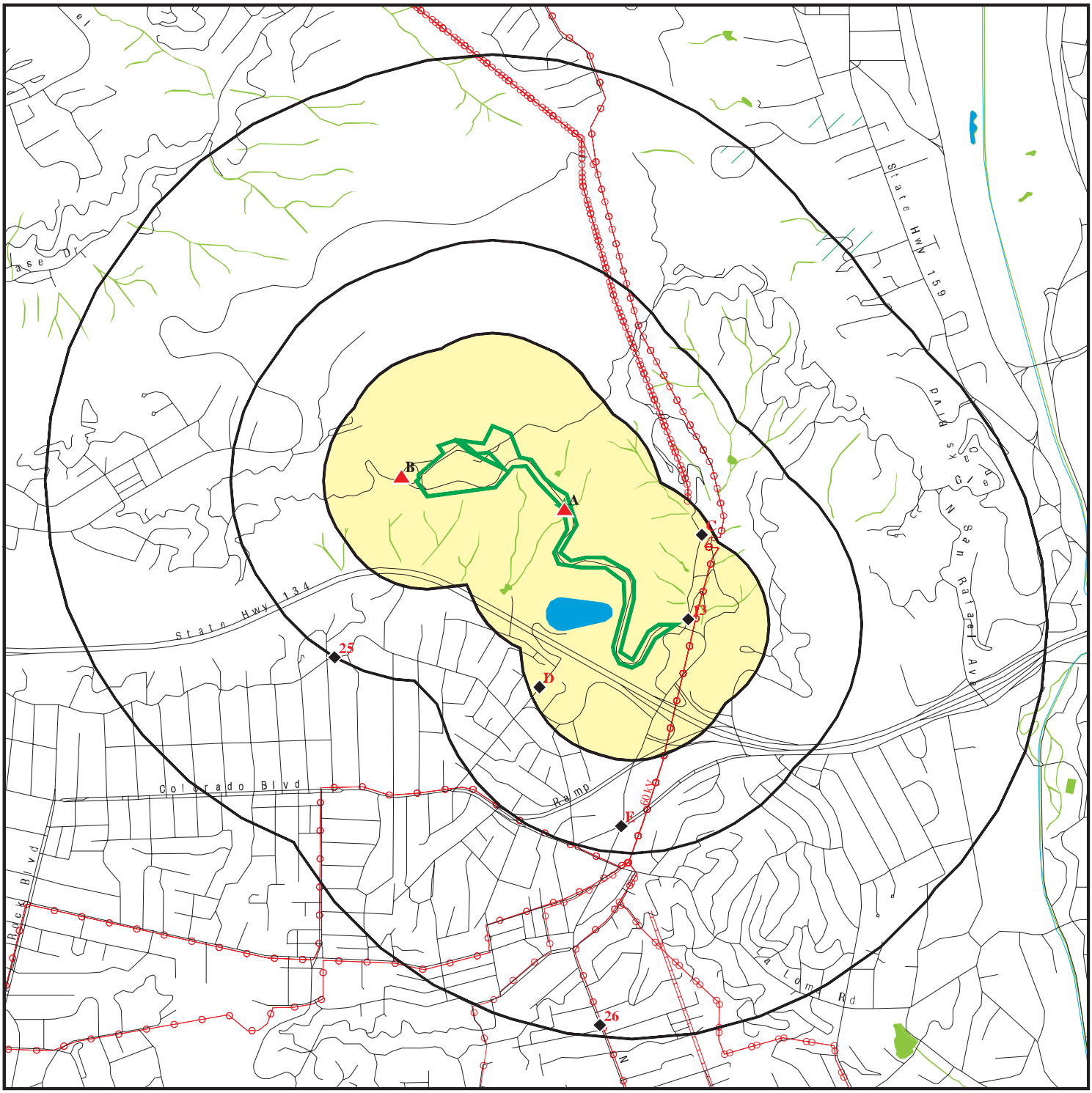
A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 2 HIST CORTESE sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
EAGLE ROCK TRIANGLE Reg Id: 900410061	***1000 COLORADO BLVD***	***S 1/4 - 1/2 (0.428 mi.)***	***E24***	***61***
MOBIL #11-H3K Reg Id: 900150098	1600 HILL	WSW 1/4 - 1/2 (0.500 mi.)	25	64

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 4407421.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

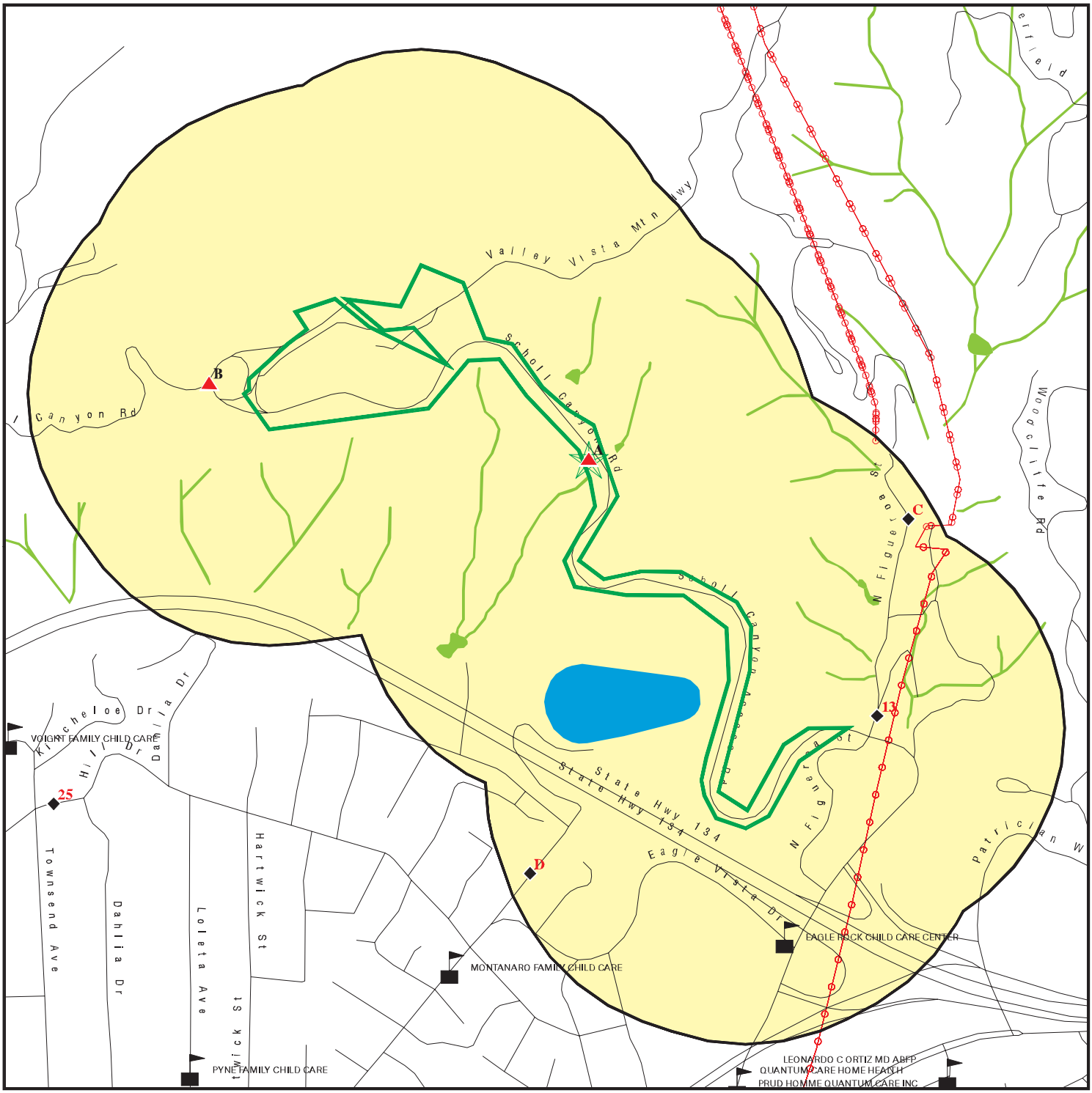
Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles CA 90041 LAT/LONG: 34.1505 / 118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY #: 4407421.2s DATE: September 10, 2015 2:37 pm

DETAIL MAP - 4407421.2S



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Scholl Canyon Landfill	CLIENT: Stantec
ADDRESS: 7721 North Figueroa Street Los Angeles CA 90041	CONTACT: Anuya Sawant
LAT/LONG: 34.1505 / 118.1901	INQUIRY #: 4407421.2s DATE: September 10, 2015 2:40 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
CERCLIS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500	1	0	0	0	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		2	0	NR	NR	NR	2
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP	1	NR	NR	NR	NR	NR	1
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	1	NR	1
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	1	NR	1
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500	1	1	0	0	NR	NR	2
State and tribal leaking storage tank lists								
LUST	0.500		0	0	2	NR	NR	2

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		1	1	NR	NR	NR	2
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500	1	0	0	0	NR	NR	1
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
AOCONCERN	1.000		0	0	0	0	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250	1	0	3	NR	NR	NR	4
HIST UST	0.250	1	0	3	NR	NR	NR	4
CA FID UST	0.250	1	0	2	NR	NR	NR	3
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	TP	1	NR	NR	NR	NR	NR	1
LDS	TP	1	NR	NR	NR	NR	NR	1
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP	3	NR	NR	NR	NR	NR	3
HIST CORTESE	0.500		0	0	2	NR	NR	2
LOS ANGELES CO. HMS	TP	1	NR	NR	NR	NR	NR	1
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	TP		NR	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
LA Co. Site Mitigation	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP	1	NR	NR	NR	NR	NR	1
WIP	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		15	4	9	4	2	0	34

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **SCHOLL CYN LANDFILL NO 4** **WDS** **S105254913**
Target **7721 FIGUEROA ST** **N/A**
Property **GLENDALE, CA 90041**

Site 1 of 12 in cluster A

Actual:
1176 ft.

WDS:

Facility ID:	Los Angeles River 190322007
Facility Type:	Solid Waste Site-Class III - Landfills for non hazardous solid wastes.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	Not reported
Subregion:	4
Facility Telephone:	8182470735
Facility Contact:	Bryan Langpap
Agency Name:	LA CO SANITATION DISTRICTS
Agency Address:	1955 Workman Mill Rd.
Agency City,St,Zip:	Whittier 90607
Agency Contact:	James Stahl
Agency Telephone:	5626997411
Agency Type:	County
SIC Code:	4953
SIC Code 2:	Not reported
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Primary Waste:	SLDWST
Waste Type2:	Not reported
Waste2:	Solid Wastes
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	No reclamation requirements associated with this facility.
POTW:	The facility is not a POTW.
Treat To Water:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.

A2
Target Property
SCHOLL CANYON LANDFILL
7721 N. FIGUEROA STREET
LOS ANGELES, CA 90041

FINDS **1014868669**
N/A

Site 2 of 12 in cluster A

Actual: 1176 ft.

FINDS:

Registry ID: 110043804942

Environmental Interest/Information System
GREENHOUSE GAS REPORTER

A3
Target Property
SCHOLL CYN LANDFILL NO 4
7721 FIGUEROA ST
GLENDALE CA, CA 90041

WMUDS/SWAT **S103866718**
N/A

Site 3 of 12 in cluster A

Actual: 1176 ft.

WMUDS/SWAT:

Edit Date:	19950126
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	SLDWST
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	SB
NPID:	Not reported
Tonnage:	1829
Regional Board ID:	60-117
Municipal Solid Waste:	True
Superorder:	True
Open To Public:	False
Waste List:	True
Agency Type:	County
Agency Name:	LOS ANGELES COUNTY SAN DIST
Agency Department:	CHIEF ENGINEER AND GENERAL MAN
Agency Address:	P.O.BOX 4998
Agency City,St,Zip:	WHITTIER CA 906074998
Agency Contact:	CHARLES CARRY
Agency Telephone:	5626997411
Land Owner Name:	CITY OF GLENDALE
Land Owner Address:	633 E. BROADWAY
Land Owner City,St,Zip:	GLENDALE, CA 91205
Land Owner Contact:	Not reported
Land Owner Phone:	2139562115
Region:	4
Facility Type:	Solid Waste Site-Class III - Landfills for non hazardous solid wastes.
Facility Description:	Not reported
Facility Telephone:	8182439779
SWAT Facility Name:	SCHOLL CANYON SANITARY LANDFILL

SCHOLL CYN LANDFILL NO 4 (Continued) **S103866718**

Primary SIC:	4953
Secondary SIC:	Not reported
Comments:	RB RECORDS SAY 2,200 TONS/DAY.
Last Facility Editors:	JHMJHMEDW
Waste Discharge System:	True
Solid Waste Assessment Test Program:	True
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	COUNTY SAN DISTRICTS OF LA COUNTY
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Sub Chapter 15:	True
Regional Board Project Officer:	Not reported
Number of WMUDS at Facility:	1
Section Range:	01N13W
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Monthly Submittal
Waste Discharge System ID:	4B190322007
Solid Waste Information ID:	19-AA-0012

A4 **SCHOLL CANYON LANDFILL** **HAZNET** **S113025996**
Target **7721 NORTH FIGUEROA** **N/A**
Property **LOS ANGELES, CA 90041**

Site 4 of 12 in cluster A

Actual:
1176 ft.

HAZNET:

envid:	S113025996
Year:	1996
GEPAID:	CAL000012959
Contact:	LA SANITATION DIST
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	POST OFFICE BOX 4998
Mailing City,St,Zip:	WHITTIER, CA 906070000
Gen County:	Not reported
TSD EPA ID:	CAD099452708
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Tons:	1.2510
Facility County:	Los Angeles

envid:	S113025996
Year:	1994
GEPAID:	CAL000012959
Contact:	LA SANITATION DIST
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	POST OFFICE BOX 4998
Mailing City,St,Zip:	WHITTIER, CA 906070000
Gen County:	Not reported

SCHOLL CANYON LANDFILL (Continued) **S113025996**

TSD EPA ID: CAD000088252
TSD County: Not reported
Waste Category: Not reported
Disposal Method: Not reported
Tons: .0000
Facility County: Los Angeles

envid: S113025996
Year: 1994
GEPAID: CAL000012959
Contact: LA SANITATION DIST
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: POST OFFICE BOX 4998
Mailing City,St,Zip: WHITTIER, CA 906070000
Gen County: Not reported
TSD EPA ID: CAD000088252
TSD County: Not reported
Waste Category: Other empty containers 30 gallons or more
Disposal Method: Transfer Station
Tons: .0125
Facility County: Los Angeles

envid: S113025996
Year: 1994
GEPAID: CAL000012959
Contact: LA SANITATION DIST
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: POST OFFICE BOX 4998
Mailing City,St,Zip: WHITTIER, CA 906070000
Gen County: Not reported
TSD EPA ID: CAT080010101
TSD County: Not reported
Waste Category: Off-specification, aged or surplus organics
Disposal Method: Not reported
Tons: .0200
Facility County: Los Angeles

envid: S113025996
Year: 1994
GEPAID: CAL000012959
Contact: LA SANITATION DIST
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: POST OFFICE BOX 4998
Mailing City,St,Zip: WHITTIER, CA 906070000
Gen County: Not reported
TSD EPA ID: CAT080010101
TSD County: Not reported
Waste Category: Off-specification, aged or surplus organics
Disposal Method: Transfer Station
Tons: .0125
Facility County: Los Angeles

SCHOLL CANYON LANDFILL (Continued) **S113025996**

Click this hyperlink while viewing on your computer to access
21 additional CA_HAZNET: record(s) in the EDR Site Report.

A5 **SCHOLL CANYON LANDFILL** **LOS ANGELES CO. HMS** **S110590643**
Target **7721 N FIGUEROA ST** **N/A**
Property **GLENDALE, CA**

Site 5 of 12 in cluster A

Actual: 1176 ft.

LOS ANGELES CO. HMS:
Region: LA
Facility Id: 033065-054815
Facility Type: Not reported
Facility Status: OPEN
Area: 3D
Permit Number: Not reported
Permit Status: Not reported

A6 **SCHOLL CANYON PARTNERSHIP** **HAZNET** **S112879170**
Target **7721 N FIGUEROA** **N/A**
Property **LOS ANGELES, CA 90041**

Site 6 of 12 in cluster A

Actual: 1176 ft.

HAZNET:
envid: S112879170
Year: 2000
GEPAID: CAC001265832
Contact: GARY ROGERS
Telephone: 8182449722
Mailing Name: Not reported
Mailing Address: 672 JERUSELAM
Mailing City,St,Zip: COHASSET, MA 021250000
Gen County: Not reported
TSD EPA ID: CAT080033681
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Not reported
Tons: 0.15
Facility County: Los Angeles

envid: S112879170
Year: 2000
GEPAID: CAC001265832
Contact: GARY ROGERS
Telephone: 8182449722
Mailing Name: Not reported
Mailing Address: 672 JERUSELAM
Mailing City,St,Zip: COHASSET, MA 021250000
Gen County: Not reported
TSD EPA ID: CAT080033681
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Disposal, Land Fill
Tons: 0.6
Facility County: Los Angeles

SCHOLL CANYON PARTNERSHIP (Continued) **S112879170**

envid: S112879170
Year: 1998
GEPAID: CAC001265832
Contact: SCHOLL CANYON PARTNERSHIP
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: 672 JERUSELAM
Mailing City,St,Zip: COHASSET, MA 021250000
Gen County: Not reported
TSD EPA ID: CAT080033681
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Disposal, Other
Tons: 3.8500
Facility County: Los Angeles

A7 **SCOLL CANYON PARTNERSHIP** **HAZNET** **S112948925**
Target **7721 N FIGUEROA ST** **N/A**
Property **LOS ANGELES, CA 90041**

Site 7 of 12 in cluster A

Actual:
1176 ft.

HAZNET:
envid: S112948925
Year: 2007
GEPAID: CAC002596192
Contact: BRAD EVERETTE
Telephone: 7142546541
Mailing Name: Not reported
Mailing Address: 7721 N FIGUEROA ST
Mailing City,St,Zip: LOS ANGELES, CA 900411719
Gen County: Not reported
TSD EPA ID: TXD077603371
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 2.59
Facility County: Los Angeles

A8 **ERNS** **2006786641**
Target **7721 N FIGUEROA** **N/A**
Property **LOS ANGELES, CA 90041**

Site 8 of 12 in cluster A

Actual:
1176 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A9 **SCHOLL CANYON LANDFILL** **SWF/LF** **1000333927**
Target **7721 N FIGUEROA ST** **SWEEPS UST** **N/A**
Property **LOS ANGELES, CA 90041** **HIST UST**
CA FID UST

Site 9 of 12 in cluster A

Actual: 1176 ft.

LOS ANGELES CO. LF:

Site ID:	19
Alt. Address:	N/A
Site Contact:	Not reported
Site Contact Phone:	(818) 243-9779
Site Email:	Not reported
Site Website:	www.lacsd.org/about/solid_waste_facilities/scholl/default.asp
Site Type:	Municipal Solid Waste Landfill
Site SWIS Number:	19-AA-0012
Beginning Operation Date:	N/A
Ending Operation Date:	Estimated
Local Enforcement Agency:	County Public Health
Maximun Depth Fill(Ft):	N/A
Permitted Capacity:	3400
Present Use:	Landfilling Operation
Remaining Capacity(Million):	Estimated 8.445 CY or 4.104 Tons as of December 2010
Status:	Active
Waste Accepted:	Construction & Demolition;Green Materials;Household Trash;Industrial Non-Hazardous;Inert;Tires;
Hours of Operation:	MON -FRI 8 AM TO 5 PM; SAT 8 AM- 3:30 PM
Disposal Area (Acre):	314

Detail As Of 01/2014:

Operator Name:	County of Los Angeles Sanitation Districts
Operator Address:	1955 Workman Mill Road
Operator City/State/Zip:	Whittier, CA 90601
Operator Contact:	Willy Mejia
Operator Telephone:	(562) 699-7411x6069
Operator Email:	wmejia@lacsd.org
Owner Name:	Co-owned BY City of Glendale And County of Los Angeles
Owner Address:	633 East Broadway
Owner City/State/Zip:	Glendale 91205
Owner Contact:	James E Starbird
Owner Telephone:	(818) 548-4844
Owner Email:	Not reported

SWEEPS UST:

Status:	Not reported
Comp Number:	349
Number:	Not reported
Board Of Equalization:	44-011122
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-050-000349-000001
Tank Status:	Not reported
Capacity:	500
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	PRODUCT
Content:	REG UNLEADED
Number Of Tanks:	1

SCHOLL CANYON LANDFILL (Continued) **1000333927**

HIST UST:

Region:	STATE
Facility ID:	00000003975
Facility Type:	Other
Other Type:	SANITARY LANDFILL
Contact Name:	LAUREL BAUMAN
Telephone:	2132459865
Owner Name:	COUNTY SANITATION DISTRICTS OF
Owner Address:	1955 WORKMAN MILL ROAD
Owner City,St,Zip:	WHITTIER, CA 90607
Total Tanks:	0001
Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00000500
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	None

CA FID UST:

Facility ID:	19038002
Regulated By:	UTNKA
Regulated ID:	00003975
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	2132459865
Mail To:	Not reported
Mailing Address:	1955 WORKMAN MILL RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	LOS ANGELES 900410000
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

A10 **SCHOLL LDFL** **CERC-NFRAP** **1004654694**
Target **7721 N FIGUEROA** **CAD980498927**
Property **LOS ANGELES, CA 90041**

Site 10 of 12 in cluster A

Actual:
1176 ft.

CERC-NFRAP:

Site ID:	0901768
Federal Facility:	Not a Federal Facility
NPL Status:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:

Contact Sequence ID:	13287954.00000
Person ID:	13003854.00000

SCHOLL LDFL (Continued) **1004654694**

Contact Sequence ID: 13293549.00000
Person ID: 13003858.00000

Contact Sequence ID: 13299407.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: SCHOLL LDFL
Alias Address: 3200 E GLENOAKS BLVD
LOS ANGELES, CA 94001

Alias Name: SCHOLL LDFL
Alias Address: 3200 E GLENOAKS BLVD
LOS ANGELES, CA 94001

CERCLIS-NFRAP Assessment History:
Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 05/01/84
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 05/01/84
Priority Level: Not reported

Action: DISCOVERY
Date Started: / /
Date Completed: 11/01/79
Priority Level: Not reported

A11 **SCHOLL CANYON LANDFILL** **LDS** **S109286928**
Target **7721 FIGUEROA** **N/A**
Property **GLENDALE, CA 90041**

Site 11 of 12 in cluster A

Actual: 1176 ft.

LDS:

Global Id: L10009414153
Latitude: 34.14623
Longitude: -118.1842
Case Type: Land Disposal Site
Status: Open - Verification Monitoring
Status Date: 01/01/1965
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Caseworker: DAC
Local Agency: Not reported
RB Case Number: 4B190322007
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Not reported
EDR Link ID: L10009414153
Potential Contaminants of Concern: Not reported
Site History: Not reported

SCHOLL CANYON LANDFILL (Continued) **S109286928**

Click here to access the California GeoTracker records for this facility:

A12 **CHMIRS** **S109040681**
Target Property **7721 NORTH FIGUEROA AVE** **N/A**
LOS ANGELES, CA 90041

Site 12 of 12 in cluster A

Actual: 1176 ft.

CHMIRS:

OES Incident Number:	6-0634
OES notification:	01/28/2006
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Not reported
Waterway:	Verdugo Wash
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2006
Agency:	Los Angeles Co Sanatation Dist
Incident Date:	1/28/2006 12:00:00 AM
Admin Agency:	Los Angeles City Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Other
E Date:	Not reported

(Continued) **S109040681**

Substance:	Treated Gas Condesate
Gallons:	0.000000
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Due to a broken sewer line there was a release. The line leads into the main sewer line. The line was bypassed and repaired. Spill was contained and is currently in cleanup process.

13
SE
< 1/8
0.036 mi.
191 ft.

METROPOLITAN WATER DISTRICT **UST** **U003781597**
7800 N FIGUEROA ST **N/A**
LOS ANGELES, CA 90041

Relative:
Lower

Actual:
900 ft.

UST:

Facility ID:	25344
Permitting Agency:	LOS ANGELES, CITY OF
Latitude:	34.147502
Longitude:	-118.182146

B14
WNW
< 1/8
0.042 mi.
223 ft.

SCHOLL CANYON LANDFILL **RCRA-SQG** **1008194708**
3001 SCHOLL CANYON RD **FINDS** **CAO000927426**
GLENDALE, CA 91206 **HAZNET**

Site 1 of 3 in cluster B

Relative:
Higher

Actual:
1331 ft.

RCRA-SQG:

Date form received by agency:	02/27/2004
Facility name:	SCHOLL CANYON LANDFILL
Facility address:	3001 SCHOLL CANYON RD GLENDALE, CA 91206
EPA ID:	CAO000927426
Mailing address:	PO BOX 4998 WHITTIER, CA 90607
Contact:	MISCHELLE D MISHCE
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	(562) 699-7411
Telephone ext.:	2488
Contact email:	MMISCHE@LACSD.ORG

SCHOLL CANYON LANDFILL (Continued) **1008194708**

EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: SAN DIST OF LA COUNTY DIST 2
Owner/operator address: PO BOX 4998
WHITTIER, CA 90607
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: District
Owner/Operator Type: Owner
Owner/Op start date: 03/22/1961
Owner/Op end date: Not reported

Owner/operator name: SAN DIST OF LA COUNTY DIST 2
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: District
Owner/Operator Type: Operator
Owner/Op start date: 03/22/1961
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 02/27/2004
Site name: SCHOLL CANYON LANDFILL
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

SCHOLL CANYON LANDFILL (Continued) **1008194708**

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D009
. Waste name: MERCURY

. Waste code: D013
. Waste name: LINDANE (1,2,3,4,5,6-HEXA-CHLOROCYCLOHEXANE, GAMMA ISOMER)

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID, AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE,

SCHOLL CANYON LANDFILL (Continued) **1008194708**

2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

FINDS:

Registry ID: 110055841754

Environmental Interest/Information System
STATE MASTER

HAZNET:

envid:	1008194708
Year:	2010
GEPAID:	CAO000927426
Contact:	JILEI SHAN / PROJECT ENGINEER
Telephone:	5626997411
Mailing Name:	Not reported
Mailing Address:	PO BOX 4998
Mailing City,St,Zip:	WHITTIER, CA 906070000
Gen County:	Not reported
TSD EPA ID:	CAD008302903
TSD County:	Not reported
Waste Category:	Liquids with halogenated organic compounds >= 1,000 Mg./L
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.2
Facility County:	Los Angeles

envid:	1008194708
Year:	2010
GEPAID:	CAO000927426
Contact:	JILEI SHAN / PROJECT ENGINEER
Telephone:	5626997411
Mailing Name:	Not reported
Mailing Address:	PO BOX 4998
Mailing City,St,Zip:	WHITTIER, CA 906070000
Gen County:	Not reported
TSD EPA ID:	CAD008302903
TSD County:	Not reported
Waste Category:	Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
Disposal Method:	Fuel Blending Prior To Energy Recovery At Another Site
Tons:	0.045
Facility County:	Los Angeles

envid:	1008194708
Year:	2010
GEPAID:	CAO000927426
Contact:	JILEI SHAN / PROJECT ENGINEER
Telephone:	5626997411
Mailing Name:	Not reported
Mailing Address:	PO BOX 4998

SCHOLL CANYON LANDFILL (Continued) **1008194708**

Mailing City,St,Zip: WHITTIER, CA 906070000
Gen County: Not reported
TSD EPA ID: CAD008302903
TSD County: Not reported
Waste Category: Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
Disposal Method: Fuel Blending Prior To Energy Recovery At Another Site
Tons: 0.045
Facility County: Los Angeles

envid: 1008194708
Year: 2010
GEPAID: CAO000927426
Contact: JILEI SHAN / PROJECT ENGINEER
Telephone: 5626997411
Mailing Name: Not reported
Mailing Address: PO BOX 4998
Mailing City,St,Zip: WHITTIER, CA 906070000
Gen County: Not reported
TSD EPA ID: CAD008302903
TSD County: Not reported
Waste Category: Liquids with halogenated organic compounds >= 1,000 Mg./L
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.2
Facility County: Los Angeles

envid: 1008194708
Year: 2009
GEPAID: CAO000927426
Contact: JILEI SHAN / PROJECT ENGINEER
Telephone: 5626997411
Mailing Name: Not reported
Mailing Address: PO BOX 4998
Mailing City,St,Zip: WHITTIER, CA 906070000
Gen County: Not reported
TSD EPA ID: CAD008302903
TSD County: Not reported
Waste Category: Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
Disposal Method: Fuel Blending Prior To Energy Recovery At Another Site
Tons: 0.08
Facility County: Los Angeles

Click this hyperlink while viewing on your computer to access
51 additional CA_HAZNET: record(s) in the EDR Site Report.

B15 **LA CO, SANITATION DISTRICT UNI** **SWF/LF** **S103650793**
WNW **3001 SCHOLL CANYON RD** **EMI** **N/A**
< 1/8 **GLENDALE, CA 91206** **Financial Assurance**
0.042 mi. **LOS ANGELES CO. HMS**
223 ft. **Site 2 of 3 in cluster B** **NPDES**
WDS

Relative:
Higher

Actual:
1331 ft.

SWF/LF (SWIS):
Region: STATE
Facility ID: 19-AA-0012
Lat/Long: 34.1574999 / -118.19556
Owner Name: City Of Glendale
Owner Telephone: 8185483900

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

Owner Address:	Not reported
Owner Address2:	613 East Broadway, Ste 200
Owner City,St,Zip:	Glendale, CA 91205
Operational Status:	Active
Operator:	County Of Los Angeles Sanitation Dist
Operator Phone:	5629084288
Operator Address:	Not reported
Operator Address2:	P.O. Box 4998
Operator City,St,Zip:	Whittier, CA 90607
Permit Date:	12/13/2016
Permit Status:	Permitted
Permitted Acreage:	440
Activity:	Solid Waste Landfill
Regulation Status:	Permitted
Landuse Name:	Residential,Open Space - Irrigated,Industrial
GIS Source:	Map
Category:	Disposal
Unit Number:	01
Inspection Frequency:	Monthly
Accepted Waste:	Construction/demolition,Industrial,Inert,Manure,Mixed municipal,Tires
Closure Date:	04/01/2030
Closure Type:	Estimated
Disposal Acreage:	314
SWIS Num:	19-AA-0012
Waste Discharge Requirement Num:	III
Program Type:	BOE Reporting Disposal Facility,Financial Assurance Responsibilities,Remaining Capacity Landfill
Permitted Throughput with Units:	3400
Actual Throughput with Units:	Tons/day
Permitted Capacity with Units:	58900000
Remaining Capacity:	9900000
Remaining Capacity with Units:	Cubic Yards
Lat/Long:	34.1574999 / -118.19556

EMI:

Year:	1995
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	8
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	28
SOX - Oxides of Sulphur Tons/Yr:	5
Particulate Matter Tons/Yr:	8
Part. Matter 10 Micrometers & Smllr Tons/Yr:	8

Year:	1996
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	4
NOX - Oxides of Nitrogen Tons/Yr:	15
SOX - Oxides of Sulphur Tons/Yr:	3
Particulate Matter Tons/Yr:	3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3

Year:	1997
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	7
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	1998
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	7
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	1999
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	2

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	7
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	2000
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	7
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	2001
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	2
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2009
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.23187333126625501
Reactive Organic Gases Tons/Yr:	0.11445518800899999
Carbon Monoxide Emissions Tons/Yr:	7.1300509999999998E-2
NOX - Oxides of Nitrogen Tons/Yr:	1.2952023500000001
SOX - Oxides of Sulphur Tons/Yr:	0.40185003549999998
Particulate Matter Tons/Yr:	0.40052016800000001
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.40050768396800002

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

Year:	2010
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.233954253661488
Reactive Organic Gases Tons/Yr:	0.11676039375
Carbon Monoxide Emissions Tons/Yr:	6.1311071000000002E-2
NOX - Oxides of Nitrogen Tons/Yr:	0.9556549245
SOX - Oxides of Sulphur Tons/Yr:	0.39579007454999998
Particulate Matter Tons/Yr:	0.23543035174999999
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.23541786330799999

Year:	2011
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.3361122009
Reactive Organic Gases Tons/Yr:	0.21421018939
Carbon Monoxide Emissions Tons/Yr:	0.043120515151
NOX - Oxides of Nitrogen Tons/Yr:	0.68268236868
SOX - Oxides of Sulphur Tons/Yr:	0.30978003586
Particulate Matter Tons/Yr:	0.22384016919
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.22381976513

Year:	2012
County Code:	19
Air Basin:	SC
Facility ID:	45262
Air District Name:	SC
SIC Code:	4953
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.29456313678
Reactive Organic Gases Tons/Yr:	0.15903000021
Carbon Monoxide Emissions Tons/Yr:	0.086150000561
NOX - Oxides of Nitrogen Tons/Yr:	0.83713000259
SOX - Oxides of Sulphur Tons/Yr:	0.27976168
Particulate Matter Tons/Yr:	0.29612000018
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.29574632018

CA Financial Assurance 2:

Region:	2
SWIS_NO:	19-AA-0012
Closure Approved:	Yes
Closure Inf Coverage Date:	05/01/2014
Closure Plan Coverage:	$13,766,368.00

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

Closure Plan Date:	10/01/2011
PostClose Approved:	Yes
PostClose Adequacy Date:	10/01/2011
PostClose Inf Coverage:	$58,187,367.00
PostClose Inf Coverage Date:	05/01/2014
CorActCoverage:	$99,858.00
CorActApproved:	Yes
CorAct Mec Adequacy Date:	Not reported
CorAct Inf Coverage:	$101,356.00
CorActPlanCoverage:	$98,092.00
CorAct Plan Date:	03/15/2012
Lia Coverage:	$1,000,000.00
Lia Approved:	Yes
Review:	03/27/2014
Closure Mechanism A:	TRUST FUND
Closure Mechanism B:	Not reported
Closure Coverage:	$12,517,514.00
Closure Adequacy:	Not reported
Closure Approved:	Yes
Closure Inflation Estimate:	$14,523,087.00
Closure Inflation Date:	05/01/2014
Closure Plan Coverage:	$13,766,368.00
Closure Plan Date:	10/01/2011
Post Closure Mechanism A:	TRUST FUND
Post Closure Established A:	09/11/1990
Post Closure Mechanism B:	Not reported
Post Closure Coverate:	$22,250,142.00
Post Closure Adequacy:	Not reported
Post Closure Approved:	Yes
Post Close Inflation Estimate:	$58,187,367.00
Post Closure Inflation Date:	05/01/2014
Post Closure Plan Date:	10/01/2011
Corrective Action Extablished A:	12/18/2012
Corrective Actiont Coverage:	$99,858.00
Corrective Action Adequacy:	Not reported
Corrective Action Approved:	Yes
Corrective Action Inflation Estimate:	$101,356.00
Corrective Action Inflationdate:	05/01/2014
Corrective Action Plan Estimate:	$98,092.00
Corrective Action Plan Date:	03/15/2012
Liability Mechanism A:	SELF-INS. & RISK MANAGEMENT
Liability Established A:	08/29/2012
Liability Mechanism B:	Not reported
Liability Coverage:	$1,000,000.00
CostAnniversary:	12/31/2013
ClosureEstablishedA:	12/31/2000
ClosureEstablishedB:	Not reported
ClosureDisbursement:	0
PostClosureEstablishedB:	Not reported
PostClosureDisbursement:	0
CorrectiveActionMechanismA:	TRUST FUND
CorrectiveActionMechanismB:	Not reported
CorrectiveActionExtablishedB:	Not reported
CorrectiveActiontDisbursement:	0
LiabilityEstablishedB:	Not reported
LiabilityAdequacy:	Not reported
Liability Approved:	Yes

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

Contact: County Sanitation Districts of Los Angel

LOS ANGELES CO. HMS:
Region: LA
Facility Id: 033066-054816
Facility Type: Not reported
Facility Status: OPEN
Area: 3D
Permit Number: Not reported
Permit Status: Not reported

NPDES:

Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	4
Regulatory Measure Id:	401550
Order No:	Not reported
Regulatory Measure Type:	Industrial
Place Id:	Not reported
WDID:	4 19I022469
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	12/31/2009
PROCESSED DATE:	01/07/2010
STATUS CODE NAME:	Active
STATUS DATE:	01/07/2010
PLACE SIZE:	10000
PLACE SIZE UNIT:	Acres
FACILITY CONTACT NAME:	John Escudero
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	818-548-2148
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	JEscudero@ci.glendale.ca.us
OPERATOR NAME:	City of Glendale Grayson Power Plant
OPERATOR ADDRESS:	800 Air Way
OPERATOR CITY:	Glendale
OPERATOR STATE:	California
OPERATOR ZIP:	91201
OPERATOR CONTACT NAME:	Steven G Lins
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	818-548-2136
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	City/Town Agency
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	999-999-9999
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Los Angeles River
CERTIFIER NAME:	John Escudero
CERTIFIER TITLE:	Assist Gen Mgr
CERTIFICATION DATE:	13-OCT-11
PRIMARY SIC:	4925-Mixed, Manufactured, or Liquefied Petroleum Gas Production and/or Distribution
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	4
Regulatory Measure Id:	189583
Order No:	Not reported
Regulatory Measure Type:	Industrial
Place Id:	Not reported
WDID:	4 19I006193
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	05/09/2008
PROCESSED DATE:	04/22/1992
STATUS CODE NAME:	Active
STATUS DATE:	04/22/1992
PLACE SIZE:	440
PLACE SIZE UNIT:	Acres

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

FACILITY CONTACT NAME:	Beth Bax
FACILITY CONTACT TITLE:	Supervising Engineer
FACILITY CONTACT PHONE:	562-908-4288
FACILITY CONTACT PHONE EXT:	2440
FACILITY CONTACT EMAIL:	bbax@lacsd.org
OPERATOR NAME:	Los Angeles County Sanitation Districts
OPERATOR ADDRESS:	PO Box 4998
OPERATOR CITY:	Whittier
OPERATOR STATE:	California
OPERATOR ZIP:	90607
OPERATOR CONTACT NAME:	Robert Asgian
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	562-908-4288
OPERATOR CONTACT PHONE EXT:	6002
OPERATOR CONTACT EMAIL:	rasgian@lacsd.org
OPERATOR TYPE:	Special District
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	562-699-7315
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Verdugo Wash Reach Two
CERTIFIER NAME:	Grace Hyde
CERTIFIER TITLE:	Chief Engineer and General Manager
CERTIFICATION DATE:	24-APR-15
PRIMARY SIC:	4953-Refuse Systems
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	4
Regulatory Measure Id:	401550
Order No:	97-03-DWQ

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 19I022469
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	01/07/2010
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	City of Glendale Grayson Power Plant
Discharge Address:	800 Air Way
Discharge City:	Glendale
Discharge State:	California
Discharge Zip:	91201
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	4
Regulatory Measure Id:	189583
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 19I006193
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	04/22/1992
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Los Angeles County Sanitation Districts
Discharge Address:	PO Box 4998
Discharge City:	Whittier
Discharge State:	California
Discharge Zip:	90607
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

WDS:

Facility ID:	4 19I006193
Facility Type:	Other - Does not fall into the category of Municipal/Domestic, Industrial, Agricultural or Solid Waste (Class I, II or III)
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	4
Facility Telephone:	5626997315
Facility Contact:	Patrick Freemon
Agency Name:	L.A COUNTY SANITATION DIST
Agency Address:	Not reported
Agency City,St,Zip:	0
Agency Contact:	Not reported
Agency Telephone:	Not reported
Agency Type:	Private
SIC Code:	4953
SIC Code 2:	Not reported
Primary Waste Type:	Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.
Primary Waste:	STORMS
Waste Type2:	Not reported

LA CO, SANITATION DISTRICT UNI (Continued) **S103650793**

Waste2:	Stormwater Runoff
Primary Waste Type:	Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	No reclamation requirements associated with this facility.
POTW:	The POTW Does not have an approved pretreatment program. Some POTWs may have local pretreatment programs that have not been approved by the regional board and/or EPA.
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

B16 **SCHOLL CANYON LDFL** **RCRA-SQG 1000978144**
WNW **3001 SCHOLL CANYON ROAD** **US AIRS CA0000927426**
< 1/8 **GLENDALE, CA 91206**
0.042 mi.
223 ft. **Site 3 of 3 in cluster B**

Relative:
Higher

Actual:
1331 ft.

RCRA-SQG:

Date form received by agency:	10/12/2000
Facility name:	SCHOLL CANYON LDFL
Site name:	SCHOLL CANYON LANDFILL
Facility address:	3001 SCHOLL CANYON ROAD GLENDALE, CA 91206
EPA ID:	CA0000927426
Mailing address:	P.O. BOX 4998 WHITTIER, CA 90607
Contact:	MISCHELLE D. MISCHE
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	(562) 699-7411
Telephone ext.:	2488
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Handler Activities Summary:

SCHOLL CANYON LDFL (Continued) **1000978144**

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 04/15/1999
Site name: SCHOLL CANYON LANDFILL
Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Site name: SCHOLL CANYON LDFL
Classification: Small Quantity Generator

Date form received by agency: 03/29/1996
Site name: SCHOLL CANYON LANDFILL
Classification: Large Quantity Generator

Date form received by agency: 03/29/1994
Site name: SCHOOL CANYON LANDFILL
Classification: Large Quantity Generator

Violation Status: No violations found

US AIRS (AFS):
Envid: 1000978144
Region Code: 09
County Code: CA037
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
D and B Number: Not reported
Facility Site Name: LA CO - SANITATION DIST SCHOLL CANYON
Primary SIC Code: 4953
NAICS Code: 562212
Default Air Classification Code: MAJ
Facility Type of Ownership Code: DIS
Air CMS Category Code: TVM
HPV Status: Not reported

US AIRS (AFS):
Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2014-09-04 00:00:00

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status Date: 2014-12-30 18:53:20
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2014-09-04 00:00:00
Activity Status Date: 2014-12-30 19:13:46
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1997-09-05 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1998-10-14 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1999-08-04 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR

SCHOLL CANYON LDFL (Continued) **1000978144**

Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2003-12-05 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2004-03-23 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2004-07-06 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2005-02-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2005-03-29 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09

SCHOLL CANYON LDFL (Continued) **1000978144**

Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2006-02-02 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2006-05-03 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2006-06-21 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2006-09-12 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2007-02-26 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2007-08-29 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2008-01-10 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2008-02-24 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2008-02-25 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2008-06-05 00:00:00

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2008-09-16 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2009-02-26 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2009-05-26 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2009-05-27 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR

SCHOLL CANYON LDFL (Continued) **1000978144**

Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2009-05-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2009-07-20 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2009-07-21 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2009-07-22 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2010-03-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09

SCHOLL CANYON LDFL (Continued) **1000978144**

Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2010-05-17 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2010-05-18 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2010-05-19 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2010-07-27 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2010-07-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2011-02-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2011-05-05 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2011-05-06 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2011-05-23 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2011-05-24 00:00:00

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-02-27 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-02-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-05-08 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-06-12 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR

SCHOLL CANYON LDFL (Continued) **1000978144**

Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-06-13 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2013-02-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2013-05-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2014-02-28 00:00:00
Activity Status Date: 2014-12-30 19:09:17
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2014-05-28 00:00:00
Activity Status Date: 2014-12-30 19:12:40
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 09

SCHOLL CANYON LDFL (Continued) **1000978144**

Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2014-09-04 00:00:00
Activity Status Date: 2014-12-30 18:53:20
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2014-09-04 00:00:00
Activity Status Date: 2014-12-30 19:13:46
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 1998-10-14 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 1999-08-04 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2000-05-02 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2003-12-05 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2004-03-23 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2004-07-06 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2005-02-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2005-03-29 00:00:00

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2006-02-02 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2006-03-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2006-05-03 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2006-06-21 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR

SCHOLL CANYON LDFL (Continued) **1000978144**

Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2006-09-12 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2007-02-26 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2007-03-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2007-08-29 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2008-01-10 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09

SCHOLL CANYON LDFL (Continued) **1000978144**

Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2008-02-24 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2008-02-25 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2008-06-05 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2008-09-16 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2009-02-26 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2009-05-26 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2009-05-27 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2009-05-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2009-07-20 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2009-07-21 00:00:00

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2009-07-22 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2010-03-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2010-05-17 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2010-05-18 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR

SCHOLL CANYON LDFL (Continued) **1000978144**

Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2010-05-19 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2010-07-27 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2010-07-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2011-02-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2011-05-05 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09

SCHOLL CANYON LDFL (Continued) **1000978144**

Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2011-05-06 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2011-05-23 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2011-05-24 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2012-02-27 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2012-02-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2012-05-08 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2012-06-12 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2012-06-13 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2013-02-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 09
Programmatic ID: AIR CASCA00006037CC417
Facility Registry ID: 110000781360
Air Operating Status Code: OPR
Default Air Classification Code: MAJ
Air Program: Title V Permits
Activity Date: 2013-05-28 00:00:00

SCHOLL CANYON LDFL (Continued) **1000978144**

Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

C17 **SOUTHERN CAL EDISON** **SWEEPS UST** **S106932400**
ESE **7888 N FIGUEROA ST** **N/A**
1/8-1/4 **GLENDALE, CA 91206**
0.218 mi.
1149 ft. **Site 1 of 3 in cluster C**

Relative:
Lower

Actual:
948 ft.

SWEEPS UST:
Status: Active
Comp Number: 13244
Number: 9
Board Of Equalization: Not reported
Referral Date: 12-11-90
Action Date: 12-11-90
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: Not reported
Tank Status: Not reported
Capacity: Not reported
Active Date: Not reported
Tank Use: Not reported
STG: Not reported
Content: Not reported
Number Of Tanks: Not reported

C18 **EAGLE ROCK SUBSTATION** **HIST UST** **U001570474**
East **7888 N FIGUEROA ST** **N/A**
1/8-1/4 **LOS ANGELES, CA 91770**
0.220 mi.
1160 ft. **Site 2 of 3 in cluster C**

Relative:
Lower

Actual:
946 ft.

HIST UST:
Region: STATE
Facility ID: 00000022226
Facility Type: Other
Other Type: ELECTRIC UTILITY
Contact Name: E V REEVES
Telephone: 8185721801
Owner Name: SOUTHERN CALIFORNIA EDISON CO.
Owner Address: 2244 WALNUT GROVE AVENUE
Owner City,St,Zip: ROSEMEAD, CA 91770
Total Tanks: 0002

Tank Num: 001
Container Num: 285
Year Installed: Not reported
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

EAGLE ROCK SUBSTATION (Continued) **U001570474**

Tank Num:	002
Container Num:	286
Year Installed:	Not reported
Tank Capacity:	00000300
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor

C19 **SO CAL EDISON CO** **SWEEPS UST** **S101586873**
East **7888 N FIGUEROA ST** **CA FID UST** **N/A**
1/8-1/4 **LOS ANGELES, CA 90042** **EMI**
0.220 mi. **LOS ANGELES CO. HMS**
1160 ft. **Site 3 of 3 in cluster C**

Relative:
Lower

Actual:
946 ft.

SWEEPS UST:

Status:	Not reported
Comp Number:	6915
Number:	Not reported
Board Of Equalization:	Not reported
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	Not reported
Tank Status:	Not reported
Capacity:	Not reported
Active Date:	Not reported
Tank Use:	Not reported
STG:	Not reported
Content:	Not reported
Number Of Tanks:	Not reported

CA FID UST:

Facility ID:	19054559
Regulated By:	UTNKI
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	2130000000
Mail To:	Not reported
Mailing Address:	7888 N FIGUEROA ST
Mailing Address 2:	Not reported
Mailing City,St,Zip:	LOS ANGELES 900420000
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Inactive

EMI:

Year:	1990
County Code:	19
Air Basin:	SC
Facility ID:	20624

SO CAL EDISON CO (Continued) **S101586873**

Air District Name:	SC
SIC Code:	4911
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1995
County Code:	19
Air Basin:	SC
Facility ID:	20624
Air District Name:	SC
SIC Code:	4911
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

LOS ANGELES CO. HMS:

Region:	LA
Facility Id:	012987-013244
Facility Type:	Not reported
Facility Status:	Removed
Area:	3F
Permit Number:	Not reported
Permit Status:	Not reported

D20 **DEPARTMENT OF WATER AND POWER** **SWEEPS UST** **S101584609**
South **5403 HILLMONT AVE** **CA FID UST** **N/A**
1/8-1/4 **LOS ANGELES, CA 90041**
0.221 mi.
1165 ft. **Site 1 of 3 in cluster D**

Relative:
Lower

Actual:
827 ft.

SWEEPS UST:

Status:	Active
Comp Number:	3912
Number:	4
Board Of Equalization:	Not reported
Referral Date:	08-26-92
Action Date:	08-26-92
Created Date:	02-29-88
Owner Tank Id:	3912-1
SWRCB Tank Id:	19-050-003912-000001
Tank Status:	A
Capacity:	500

DEPARTMENT OF WATER AND POWER (Continued) **S101584609**

Active Date: 02-20-93
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 1

CA FID UST:
Facility ID: 19013342
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2134817962
Mail To: Not reported
Mailing Address: 5403 HILLMONT AVE
Mailing Address 2: Not reported
Mailing City,St,Zip: LOS ANGELES 900410000
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

D21 **EAGLE ROCK CHLORINE PLANT** **HIST UST** **U001561677**
South **5403 HILLMONT AVE** **N/A**
1/8-1/4 **LOS ANGELES, CA 90041**
0.221 mi.
1165 ft. **Site 2 of 3 in cluster D**

Relative:
Lower

Actual:
827 ft.

HIST UST:
Region: STATE
Facility ID: 00000064824
Facility Type: Other
Other Type: WATER/ELECTRIC UTILI
Contact Name: DAN SAENZ
Telephone: 2134813146
Owner Name: DEPT. OF WATER AND POWER
Owner Address: 111 N. HOPE STREET
Owner City,St,Zip: LOS ANGELES, CA 90012
Total Tanks: 0001

Tank Num: 001
Container Num: 0076/GAS
Year Installed: 1950
Tank Capacity: 00000120
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: None

D22 **HILLMONT PUMP STATION** **UST** **U001561687**
South **5403 HILLMONT AVE** **HIST UST** **N/A**
1/8-1/4 **LOS ANGELES, CA 90041**
0.221 mi.
1165 ft. **Site 3 of 3 in cluster D**

Relative:
Lower

Actual:
827 ft.

UST:
Facility ID: 25250
Permitting Agency: LOS ANGELES, CITY OF
Latitude: 34.14354
Longitude: -118.19128

HIST UST:
Region: STATE
Facility ID: 00000064896
Facility Type: Other
Other Type: WATER/ELECTRIC UTILI
Contact Name: RON MCCOY
Telephone: 2134816240
Owner Name: DEPARTMENT OF WATER AND POWER
Owner Address: 111 N. HOPE STREET
Owner City,St,Zip: LOS ANGELES, CA 90012
Total Tanks: 0001

Tank Num: 001
Container Num: 0217/DIESE
Year Installed: 1951
Tank Capacity: 00000120
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: Not reported
Leak Detection: None

E23 **EAGLE ROCK TRIANGLE** **LUST** **S105051359**
South **1000 COLORADO BLVD** **N/A**
1/4-1/2 **EAGLE ROCK, CA 90041**
0.428 mi.
2260 ft. **Site 1 of 2 in cluster E**

Relative:
Lower

Actual:
742 ft.

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900410061
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Groundwater
Abatement Method Used at the Site: Excavate and Dispose
Global ID: T0603700992
W Global ID: Not reported
Staff: UNK
Local Agency: 19050
Cross Street: FIGUEROA STREET
Enforcement Type: Not reported
Date Leak Discovered: Not reported
Date Leak First Reported: 9/20/1989
Date Leak Record Entered: 9/25/1989

EAGLE ROCK TRIANGLE (Continued) **S105051359**

Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		4/15/1994
Date the Case was Closed:		9/13/1993
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		10517.212683842676268651368839
Source of Cleanup Funding:		Not reported
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		9/20/1989
Remediation Plan Submitted:		1/30/1991
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Yes
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	EAGLE ROCK TRIANGLE	
RP Address:	P O BOX 2130, TOLUCA LAKE, CA 91602	
Program:	LUST	
Lat/Long:	34.1380038 / -1	
Local Agency Staff:	PEJ	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	CASE CLOSED ON 09/13/93.	

E24 **EAGLE ROCK TRIANGLE A CALIF** **LUST** **S101582983**
South **1000 COLORADO BLVD** **SWEEPS UST** **N/A**
1/4-1/2 **LOS ANGELES, CA 90041** **CA FID UST**
0.428 mi. **HIST CORTESE**
2260 ft. **Site 2 of 2 in cluster E** **LA Co. Site Mitigation**

Relative:
Lower

Actual:
742 ft.

LUST:

Region:	STATE
Global Id:	T0603700992
Latitude:	34.1380038
Longitude:	-118.1873598
Case Type:	Not reported
Status:	Completed - Case Closed
Status Date:	09/13/1993
Lead Agency:	Not reported
Case Worker:	YR
Local Agency:	Not reported
RB Case Number:	900410061

EAGLE ROCK TRIANGLE A CALIF (Continued) **S101582983**

LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0603700992
Contact Type: Regional Board Caseworker
Contact Name: YUE RONG
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: 320 W. 4TH ST., SUITE 200
City: Los Angeles
Email: yrong@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0603700992
Contact Type: Local Agency Caseworker
Contact Name: ELOY LUNA
Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603700992
Status: Completed - Case Closed
Status Date: 09/13/1993

Global Id: T0603700992
Status: Open - Case Begin Date
Status Date: 09/20/1989

Global Id: T0603700992
Status: Open - Remediation
Status Date: 01/30/1991

Global Id: T0603700992
Status: Open - Site Assessment
Status Date: 09/20/1989

Regulatory Activities:
Global Id: T0603700992
Action Type: Other
Date: 09/20/1989
Action: Leak Reported

SWEEPS UST:
Status: Not reported
Comp Number: 7354
Number: Not reported
Board Of Equalization: Not reported

EAGLE ROCK TRIANGLE A CALIF (Continued) **S101582983**

Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: Not reported
Tank Status: Not reported
Capacity: Not reported
Active Date: Not reported
Tank Use: Not reported
STG: Not reported
Content: Not reported
Number Of Tanks: 0

CA FID UST:
Facility ID: 19002123
Regulated By: UTNKI
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2130000000
Mail To: Not reported
Mailing Address: 1000 COLORADO BLVD
Mailing Address 2: Not reported
Mailing City,St,Zip: LOS ANGELES 900410000
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Inactive

HIST CORTESE:
Region: CORTESE
Facility County Code: 19
Reg By: LTNKA
Reg Id: 900410061

LA Co. Site Mitigation:
Facility ID: Not reported
Site ID: SD0011793
Jurisdiction: County
Case ID: RO0000809
Abated: Not reported
Assigned To: Not reported
Entered Date: 05/11/2004

25
WSW
1/4-1/2
0.500 mi.
2639 ft.

MOBIL #11-H3K
1600 HILL
LOS ANGELES, CA 90015

HIST CORTESE **S101297032**
N/A

Relative:
Lower

Actual:
753 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19
Reg By:	LTNKA
Reg Id:	900150098

26
South
1/2-1
0.966 mi.
5101 ft.

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK
7047-7051 NORTH FIGUEROA STREET
LOS ANGELES, CA 90042

RESPONSE **S109149594**
ENVIROSTOR **N/A**
LIENS
Cortese

Relative:
Lower

Actual:
715 ft.

RESPONSE:

Facility ID:	60000305
Site Type:	State Response
Site Type Detail:	State Response or NPL
Acres:	0.5
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Lori Parnass
Supervisor:	Juli Propes
Division Branch:	Cleanup Chatsworth
Site Code:	301285
Site Mgmt. Req.:	NONE SPECIFIED
Assembly:	51
Senate:	24
Special Program Status:	Not reported
Status:	Active
Status Date:	05/05/2006
Restricted Use:	NO
Funding:	Orphan Funds
Latitude:	34.13054
Longitude:	-118.1885
APN:	224200089
Past Use:	DRY CLEANING
Potential COC :	Tetrachloroethylene (PCE Carbon tetrachloride
Confirmed COC:	Tetrachloroethylene (PCE 30116-NO
Potential Description:	OTH, SOIL, SV
Alias Name:	Spence Property
Alias Type:	Alternate Name
Alias Name:	224200089
Alias Type:	APN
Alias Name:	110033617780
Alias Type:	EPA (FRS #)
Alias Name:	301285
Alias Type:	Project Code (Site Code)
Alias Name:	60000305
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	State/Federal Funded Site Contract Fiscal Approval (CFA)

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Date: 11/20/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 06/22/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 05/20/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Field Order
Completed Date: 07/09/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Workplan
Completed Date: 03/13/2007
Comments: final approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 07/13/2007
Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 10/05/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 05/14/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Implementation Workplan
Completed Date: 07/08/2008
Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Workplan
Completed Date: 10/29/2008
Comments: approved

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 06/12/2009
Comments: attached

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 11/26/2009
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Design - Preliminary/Intermediate
Completed Date: 11/03/2009
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 10/30/2009
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 06/02/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 12/30/2009
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 06/15/2010
Comments: complete

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 11/27/2010
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 10/29/2010
Comments: complete

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan w/ESD

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Date: 01/03/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 12/02/2010
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 06/09/2011
Comments: soil removal completed - soil vapor issues remain

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Risk Assessment Workplan
Completed Date: 07/10/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 02/23/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Work Notice
Completed Date: 03/16/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 01/22/2013
Comments: increasing soil vapor concentrations require further action

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 10/31/2013
Comments: soil vapor and groudnwater monitoring conducted

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 10/03/2013
Comments: Soil vapor samplng indicated that an increasing vapor trend over 3 monitoring periods and then a decrease. Vapor concentrations of PCE detected from 0.03 ug/l to 109.92 ug/l and TCE from 0.05 ug/l to 0.76 ug/l.Groundwater concentrations of PCE detected from 0.55 ug/l to 47 ug/l; TCE detected from 0.63 ug/l to 3.0 ug/l and cis-1-2-dce was detected at 0.53 ug/l.

Completed Area Name: PROJECT WIDE

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 09/24/2014
Comments: An increase in vapor at the area of concern requires additional consideration

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 10/09/2014
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 06/27/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Risk Assessment Report
Completed Date: 07/09/2015
Comments: approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/30/2013
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 02/11/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract Fiscal Approval (CFA)
Completed Date: 09/30/2013
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 06/09/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 11/07/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract Fiscal Approval (CFA)

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Date: 10/25/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien
Completed Date: 08/22/2008
Comments: Lien placed on property for $350,000 expenditure

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 03/26/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 01/19/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 02/20/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 05/05/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 02/08/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 01/11/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 06/10/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/31/2010
Comments: Not reported

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/31/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Orphan Site Designation
Completed Date: 06/30/2015
Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract Fiscal Approval (CFA)
Completed Date: 11/21/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Imminent and/or Substantial Endangerment Order
Completed Date: 02/06/2007
Comments: IS&E completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien
Completed Date: 09/05/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract Fiscal Approval (CFA)
Completed Date: 03/29/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Imminent and/or Subst. Endangerment Determination
Completed Date: 07/17/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 01/11/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 02/08/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Field Order

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Date: 05/25/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/30/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/31/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/29/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Imminent and/or Substantial Endangerment Order
Completed Date: 05/06/2008
Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 03/11/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 03/24/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/28/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 03/05/2008
Comments: Not reported

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Certification
Future Due Date: 2021
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Facility ID: 60000305
Status: Active
Status Date: 05/05/2006
Site Code: 301285
Site Type: State Response
Site Type Detailed: State Response or NPL
Acres: 0.5
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Lori Parnass
Supervisor: Juli Propes
Division Branch: Cleanup Chatsworth
Assembly: 51
Senate: 24
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Orphan Funds
Latitude: 34.13054
Longitude: -118.1885
APN: 224200089
Past Use: DRY CLEANING
Potential COC: Tetrachloroethylene (PCE Carbon tetrachloride Tetrachloroethylene (PCE Carbon tetrachloride
Confirmed COC: Tetrachloroethylene (PCE 30116-NO Tetrachloroethylene (PCE 30116-NO
Potential Description: OTH, SOIL, SV
Alias Name: Spence Property
Alias Type: Alternate Name
Alias Name: 224200089
Alias Type: APN
Alias Name: 110033617780
Alias Type: EPA (FRS #)
Alias Name: 301285
Alias Type: Project Code (Site Code)
Alias Name: 60000305
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract Fiscal Approval (CFA)
Completed Date: 11/20/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 06/22/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 05/20/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Field Order
Completed Date: 07/09/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Workplan
Completed Date: 03/13/2007
Comments: final approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 07/13/2007
Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 10/05/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 05/14/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Implementation Workplan
Completed Date: 07/08/2008
Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Workplan
Completed Date: 10/29/2008
Comments: approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 06/12/2009
Comments: attached

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 11/26/2009

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Design - Preliminary/Intermediate
Completed Date: 11/03/2009
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 10/30/2009
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 06/02/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 12/30/2009
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 06/15/2010
Comments: complete

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 11/27/2010
Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 10/29/2010
Comments: complete

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan w/ESD
Completed Date: 01/03/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 12/02/2010
Comments: done

Completed Area Name: PROJECT WIDE

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 06/09/2011
Comments: soil removal completed - soil vapor issues remain

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Risk Assessment Workplan
Completed Date: 07/10/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 02/23/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Work Notice
Completed Date: 03/16/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 01/22/2013
Comments: increasing soil vapor concentrations require further action

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 10/31/2013
Comments: soil vapor and groudnwater monitoring conducted

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 10/03/2013
Comments: Soil vapor samplng indicated that an increasing vapor trend over 3 monitoring periods and then a decrease. Vapor concentrations of PCE detected from 0.03 ug/l to 109.92 ug/l and TCE from 0.05 ug/l to 0.76 ug/l.Groundwater concentrations of PCE detected from 0.55 ug/l to 47 ug/l; TCE detected from 0.63 ug/l to 3.0 ug/l and cis-1-2-dce was detected at 0.53 ug/l.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 09/24/2014
Comments: An increase in vapor at the area of concern requires additional consideration

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 10/09/2014

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Comments: done

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 06/27/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Risk Assessment Report
Completed Date: 07/09/2015
Comments: approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/30/2013
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 02/11/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract Fiscal Approval (CFA)
Completed Date: 09/30/2013
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 06/09/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 11/07/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract Fiscal Approval (CFA)
Completed Date: 10/25/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien
Completed Date: 08/22/2008
Comments: Lien placed on property for $350,000 expenditure

Completed Area Name: PROJECT WIDE

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 03/26/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 01/19/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 02/20/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 05/05/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 02/08/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 01/11/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 06/10/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/31/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/31/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Orphan Site Designation
Completed Date: 06/30/2015

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract Fiscal Approval (CFA)
Completed Date: 11/21/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Imminent and/or Substantial Endangerment Order
Completed Date: 02/06/2007
Comments: IS&E completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien
Completed Date: 09/05/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract Fiscal Approval (CFA)
Completed Date: 03/29/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Imminent and/or Subst. Endangerment Determination
Completed Date: 07/17/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 01/11/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 02/08/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Field Order
Completed Date: 05/25/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/30/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/31/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/29/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Imminent and/or Substantial Endangerment Order
Completed Date: 05/06/2008
Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 03/11/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 03/24/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 12/28/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 03/05/2008
Comments: Not reported

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Certification
Future Due Date: 2021
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

LIENS:
Envirostor Id: 60000305
Latitude: 35.13861
Longitude: -118.18861
Project Mgr: LORI PARNASS
Project Code: 301285

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

If Satisfied: NO
Date Satisfied: Not reported
Site Status: ACTIVE
Site Type: STATE RESPONSE OR NPL
Completed: 08/22/2008
Lien Amount: $350,000.00
Amount Remaining: Not reported
Description: The Site is located in a commercial/residential neighborhood and consists of one parcel identified as Lot 51 and Lot 52 of Annandale View Terrace, in the City of Los Angeles, County of Los Angeles, as recorded in Book 11, Page 24. The Assessor's Parcel Number is 5480-012-016. Historic records indicate that a dry-cleaning operation was located in the retail portion of the northern parcel from the 1940s to the mid 1970s. In 2005, the City of Los Angeles identified both parcels for nuisance conditions and filed a Notice to Abate Vacant Structure and File Statement of Intent on March 14, 2005 for the southern parcel. Eviction proceedings have been continuing for the residents on the northern parcel. The site has been secured by chain-link fencing on the east and west, however, trespassers continue to inhabit the northern and southern parcels.

Envirostor Id: 60000305
Latitude: 35.13861
Longitude: -118.18861
Project Mgr: LORI PARNASS
Project Code: 301285
If Satisfied: NO
Date Satisfied: Not reported
Site Status: ACTIVE
Site Type: STATE RESPONSE OR NPL
Completed: 09/05/2014
Lien Amount: $1,541,892.39
Amount Remaining: Not reported
Description: The Site is located in a commercial/residential neighborhood and consists of one parcel identified as Lot 51 and Lot 52 of Annandale View Terrace, in the City of Los Angeles, County of Los Angeles, as recorded in Book 11, Page 24. The Assessor's Parcel Number is 5480-012-016. Historic records indicate that a dry-cleaning operation was located in the retail portion of the northern parcel from the 1940s to the mid 1970s. In 2005, the City of Los Angeles identified both parcels for nuisance conditions and filed a Notice to Abate Vacant Structure and File Statement of Intent on March 14, 2005 for the southern parcel. Eviction proceedings have been continuing for the residents on the northern parcel. The site has been secured by chain-link fencing on the east and west, however, trespassers continue to inhabit the northern and southern parcels.

CORTESE:
Region: CORTESE
Envirostor Id: 60000305
Site/Facility Type: STATE RESPONSE
Cleanup Status: ACTIVE
Status Date: 05/05/2006
Site Code: 301285
Latitude: 34.13054
Longitude: -118.18855
Owner: Not reported

SPENCE PROPERTY AKA DRY CLEANER IN EAGLE ROCK (Continued) **S109149594**

Enf Type:	Not reported
Swat R:	Not reported
Flag:	envirostor
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 75

Source: EPA
Telephone: N/A
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 75

Source: EPA
Telephone: N/A
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 75

Source: EPA
Telephone: N/A
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/10/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Varies

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/12/2015
Next Scheduled EDR Contact: 11/30/2015
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/31/2015
Next Scheduled EDR Contact: 12/14/2015
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/31/2015
Next Scheduled EDR Contact: 12/14/2015
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 08/03/2015
Date Data Arrived at EDR: 08/04/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 30

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 08/03/2015
Date Data Arrived at EDR: 08/04/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 30

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/17/2015
Date Data Arrived at EDR: 08/18/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 16

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/18/2015
Next Scheduled EDR Contact: 11/30/2015
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 48

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 03/17/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 52

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 04/30/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 53

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 24

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/10/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 19

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 03/17/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 52

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 48

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/06/2015
Date Data Arrived at EDR: 05/19/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 04/30/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 53

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/03/2015
Date Data Arrived at EDR: 08/04/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 30

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/08/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 31

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/24/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/24/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 47

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/28/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 8

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/12/2015
Next Scheduled EDR Contact: 11/30/2015
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/03/2015
Date Data Arrived at EDR: 08/04/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 30

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/11/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/08/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 35

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/09/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 07/28/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 6

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/28/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 07/08/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/12/2015
Next Scheduled EDR Contact: 11/30/2015
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/25/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 110

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/29/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/17/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/07/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/04/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/07/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 07/22/2015
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 40

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 07/22/2015
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 40

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/22/2015
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/14/2015
Date Data Arrived at EDR: 06/03/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 91

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/01/2015
Next Scheduled EDR Contact: 12/14/2015
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 18

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 02/18/2015
Date Data Arrived at EDR: 02/20/2015
Date Made Active in Reports: 03/12/2015
Number of Days to Update: 20

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 03/25/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 34

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/25/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 12

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 08/03/2015
Date Data Arrived at EDR: 08/06/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 07/24/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/17/2015
Date Data Arrived at EDR: 08/18/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 16

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/14/2015
Next Scheduled EDR Contact: 11/30/2015
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 35

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/17/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Annually

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/28/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/28/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/13/2015
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 35

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/09/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/18/2015
Date Data Arrived at EDR: 05/20/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/07/2015
Date Data Arrived at EDR: 06/10/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 34

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/19/2014
Date Data Arrived at EDR: 12/15/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 45

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/19/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners
EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/21/2015
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/05/2015
Number of Days to Update: 12

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 08/10/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/21/2015
Date Data Arrived at EDR: 07/22/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 12

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 06/05/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 31

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 11/20/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 01/07/2015
Number of Days to Update: 44

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 07/15/2015
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 17

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/11/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 24

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 08/10/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/03/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 05/20/2015
Date Data Arrived at EDR: 08/03/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 31

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 7

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 08/03/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/13/2015
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 20

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/06/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/04/2015
Date Data Arrived at EDR: 08/07/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 27

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/24/2015
Next Scheduled EDR Contact: 12/07/2015
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 08/11/2015
Date Data Arrived at EDR: 08/14/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 20

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 05/19/2015
Date Data Arrived at EDR: 06/18/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 34

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/28/2015
Date Made Active in Reports: 06/15/2015
Number of Days to Update: 18

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 08/11/2015
Date Data Arrived at EDR: 08/14/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 20

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/20/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 33
Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/10/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 07/21/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 13
Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/21/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2015
Date Data Arrived at EDR: 07/27/2015
Date Made Active in Reports: 08/10/2015
Number of Days to Update: 14
Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/20/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 40
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/15/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 11
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/17/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/03/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 16
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 07/27/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/03/2015
Date Data Arrived at EDR: 06/04/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 32
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/15/2015
Number of Days to Update: 17

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 10/08/2014
Date Data Arrived at EDR: 10/22/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 54

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/06/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 05/22/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 10

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 06/01/2015
Date Data Arrived at EDR: 06/03/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 33

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/30/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 07/16/2015
Number of Days to Update: 9

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 06/03/2015
Date Data Arrived at EDR: 06/04/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 48
Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/10/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 24
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/06/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 06/08/2015
Number of Days to Update: 27
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/11/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 23
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/11/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 07/01/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 08/05/2015
Number of Days to Update: 29
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/15/2015
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 17
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/15/2015
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 17
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 10
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 07/27/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 7
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 06/30/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 7

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/10/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2014
Date Data Arrived at EDR: 11/21/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/03/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/06/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/06/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 10

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/22/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/10/2015
Number of Days to Update: 15

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 07/22/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 12

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/15/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/10/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 28

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 06/10/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/10/2015
Date Data Arrived at EDR: 08/14/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 20

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/07/2015
Next Scheduled EDR Contact: 11/23/2015
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 05/22/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/08/2015
Number of Days to Update: 13

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/12/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 24

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/19/2015
Date Data Arrived at EDR: 06/24/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 20

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/19/2015
Date Data Arrived at EDR: 06/30/2015
Date Made Active in Reports: 07/07/2015
Number of Days to Update: 7

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 18

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/01/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 7

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/05/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 27

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 07/13/2015
Date Data Arrived at EDR: 07/28/2015
Date Made Active in Reports: 08/03/2015
Number of Days to Update: 6

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/24/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 08/17/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 17

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/12/2015
Next Scheduled EDR Contact: 11/30/2015
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/12/2015
Next Scheduled EDR Contact: 11/30/2015
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 07/29/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 36

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/27/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/27/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 19

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 07/08/2015
Date Data Arrived at EDR: 07/13/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 9

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 07/06/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/04/2015
Date Data Arrived at EDR: 08/07/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 27

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/31/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/06/2015
Date Made Active in Reports: 08/24/2015
Number of Days to Update: 18

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/06/2015
Next Scheduled EDR Contact: 11/16/2015
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/18/2015
Number of Days to Update: 25

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/20/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/11/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Telephone: 281-546-1505
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: 800-823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SCHOLL CANYON LANDFILL
7721 NORTH FIGUEROA STREET
LOS ANGELES, CA 90041

TARGET PROPERTY COORDINATES

Latitude (North):	34.1505 - 34° 9' 1.80''
Longitude (West):	118.1901 - 118° 11' 24.36''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	390285.6
UTM Y (Meters):	3779288.0
Elevation:	1176 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5636829 PASADENA, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

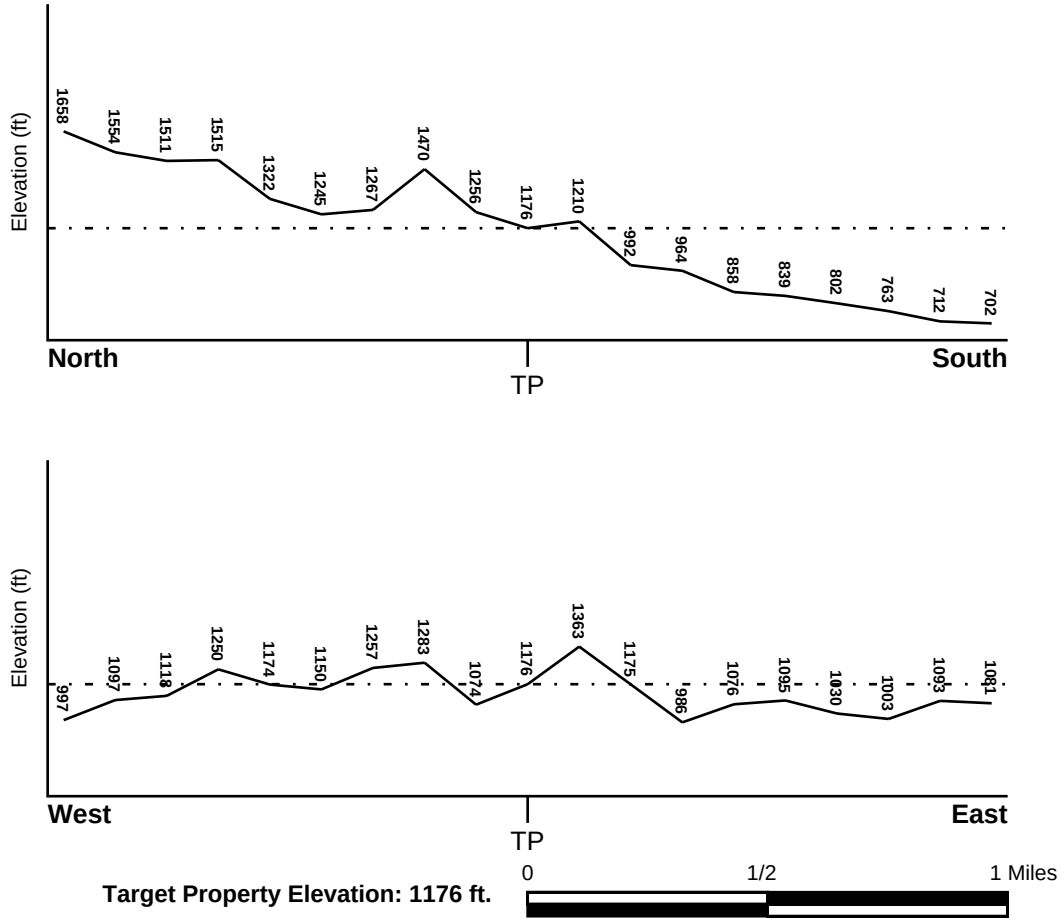
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
LOS ANGELES, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06037C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
PASADENA	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT **GEOLOGIC AGE IDENTIFICATION**

Era:	Precambrian	Category:	Metamorphic Rocks
System:	Precambrian		
Series:	Orthogneiss and paragneiss		
Code:	Xm *(decoded above as Era, System & Series)*		

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	FALLBROOK
Soil Surface Texture:	sandy loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 40 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 7.30 Min: 6.10
2	6 inches	12 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 6.10
3	12 inches	28 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 0.60 Min: 0.20	Max: 7.30 Min: 6.10
4	28 inches	47 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 6.10
5	47 inches	51 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: coarse sandy loam
unweathered bedrock
fine sandy loam

Surficial Soil Types: coarse sandy loam
unweathered bedrock
fine sandy loam

Shallow Soil Types: sandy clay loam
clay
fine sandy loam
gravelly - loam
clay loam

Deeper Soil Types: gravelly - sandy loam
unweathered bedrock

very fine sandy loam
silty clay loam
sandy loam

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

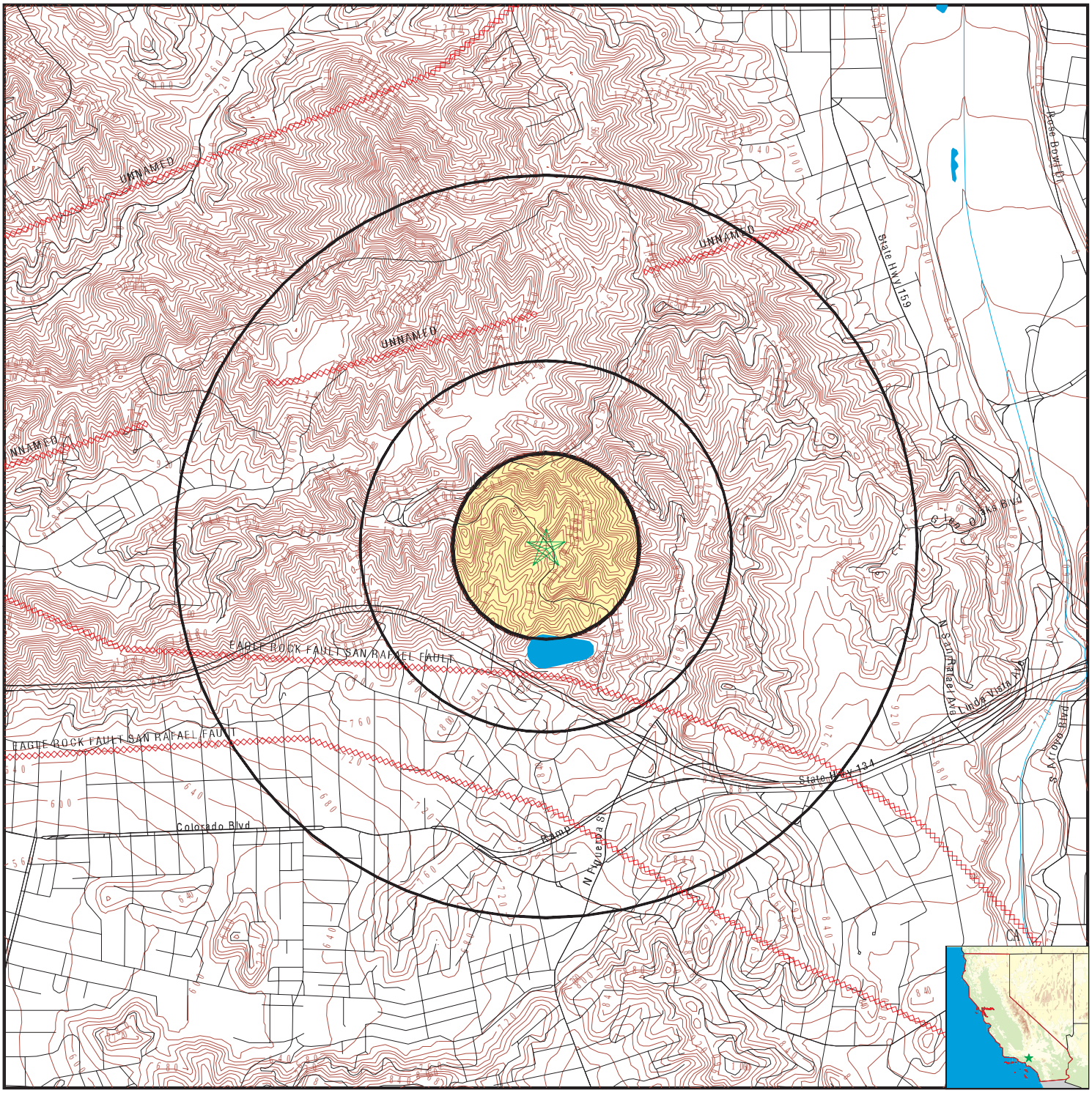
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 4407421.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Scholl Canyon Landfill	CLIENT:	Stantec
ADDRESS:	7721 North Figueroa Street Los Angeles CA 90041	CONTACT:	Anuya Sawant
LAT/LONG:	34.1505 / 118.1901	INQUIRY #:	4407421.2s
		DATE:	September 10, 2015 2:41 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
91206	31	0

Federal EPA Radon Zone for LOS ANGELES County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for LOS ANGELES COUNTY, CA

Number of sites tested: 63

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.711 pCi/L	98%	2%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.933 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

Appendix E
HISTORICAL RECORDS

Scholl Canyon Landfill
7721 North Figueroa Street
Los Angeles, CA 90041

Inquiry Number: 4407421.5
September 15, 2015

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1920 through 2013. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 332 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2013	Cole Information Services	-	-	-	-
2008	Cole Information Services	X	X	X	-
2006	Haines Company	-	-	-	-
2004	Haines Company	-	-	-	-
2003	Haines & Company	-	-	-	-
2001	Haines Company, Inc.	-	-	-	-
2000	Haines	-	-	-	-
1999	Haines Company	-	-	-	-
1996	GTE	-	-	-	-
1995	Pacific Bell	-	X	X	-
1992	PACIFIC BELL WHITE PAGES	-	-	-	-
1991	Pacific Bell	-	-	-	-
1990	Pacific Bell	X	X	X	-
1986	Pacific Bell	X	X	X	-
1985	Pacific Bell	-	X	X	-
1981	Pacific Telephone	-	X	X	-
1980	Pacific Telephone	X	X	X	-
1976	Pacific Telephone	-	X	X	-
1975	Pacific Telephone	-	-	-	-
1972	R. L. Polk & Co.	-	-	-	-
1971	Pacific Telephone	-	X	X	-
1970	Pacific Telephone	-	-	-	-
1969	Pacific Telephone	-	-	-	-
1967	R. L. Polk & Co.	-	-	-	-
1966	Pacific Telephone	-	-	-	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1965	GTE	-	-	-	-
1964	Pacific Telephone	-	-	-	-
1963	Pacific Telephone	-	-	-	-
1962	Pacific Telephone	-	X	X	-
1961	R. L. Polk & Co.	-	-	-	-
1960	Pacific Telephone	-	-	-	-
1958	Pacific Telephone	-	-	-	-
1957	Pacific Telephone	-	-	-	-
1956	Pacific Telephone	-	-	-	-
1955	R. L. Polk & Co.	-	-	-	-
1954	R. L. Polk & Co.	-	-	-	-
1952	Los Angeles Directory Co.	-	-	-	-
1951	Pacific Telephone & Telegraph Co.	-	X	X	-
1950	Pacific Telephone	-	-	-	-
1949	Los Angeles Directory Co.	-	-	-	-
1948	Associated Telephone Company, Ltd.	-	-	-	-
1947	Pacific Directory Co.	-	-	-	-
1946	Southern California Telephone Co	-	-	-	-
1945	R. L. Polk & Co.	-	-	-	-
1944	R. L. Polk & Co.	-	-	-	-
1942	Los Angeles Directory Co.	-	-	-	-
1940	Los Angeles Directory Co.	-	-	-	-
1939	Los Angeles Directory Co.	-	-	-	-
1938	Los Angeles Directory Company Publishers	-	-	-	-
1937	Los Angeles Directory Co.	-	-	-	-
1936	Los Angeles Directory Co.	-	-	-	-
1935	Los Angeles Directory Co.	-	-	-	-
1934	Los Angeles Directory Co.	-	-	-	-
1933	Los Angeles Directory Co.	-	-	-	-
1932	Los Angeles Directory Co.	-	-	-	-
1931	TRIBUNE-NEWS PUBLISHING CO.	-	-	-	-
1930	Los Angeles Directory Co.	-	-	-	-
1929	Los Angeles Directory Co.	-	-	-	-
1928	Los Angeles Directory Co.	-	-	-	-
1927	Los Angeles Directory Co.	-	-	-	-
1926	Los Angeles Directory Co.	-	-	-	-
1925	Los Angeles Directory Co.	-	-	-	-
1924	Los Angeles Directory Co.	-	-	-	-
1923	Los Angeles Directory Co.	-	-	-	-
1921	Los Angeles Directory Co.	-	-	-	-
1920	Los Angeles Directory Co.	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

7721 North Figueroa Street
Los Angeles, CA 90041

FINDINGS DETAIL

Target Property research detail.

N FIGUEROA ST

7721 N FIGUEROA ST

Year	*Uses*	*Source*
2008	SANITATION DISTRICTS F LS A	Cole Information Services
	SCHOOL CANYON LTD PAR	Cole Information Services
1990	SANITATION DISTRICTS OF L A COUNTY	Pacific Bell
1986	SANITATION DISTRICTS OF L A COUNTY LANDFILL NO 4 SCHOLL CANYON	Pacific Bell
1980	SANITATION DISTRICTS OF L A COUNTY	Pacific Telephone

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

FIGUEROA ST N

7616 FIGUEROA ST N

Year	Uses	Source
1951	N Figroa McMillan M T r	Pacific Telephone & Telegraph Co.

N FIGUEROA

7616 N FIGUEROA

Year	Uses	Source
1962	Mc Millan M T	Pacific Telephone

7620 N FIGUEROA

Year	Uses	Source
1962	Eddy Byron J	Pacific Telephone

7800 N FIGUEROA

Year	Uses	Source
1990	METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA PAS	Pacific Bell
1986	METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA PAS	Pacific Bell
1985	RIGDON BARBARA & PAULA	Pacific Bell
	ERDMANN R W JR	Pacific Bell
1981	METROPOLITAN WATCH REPAIRING	Pacific Telephone
1980	RIGDON EA LOS ANGELES	Pacific Telephone

N FIGUEROA ST

7800 N FIGUEROA ST

Year	Uses	Source
2008	THE METRO WATER DISTRICT OF SOUTHERN	Cole Information Services
1995	NORRIS W D	Pacific Bell
	Norrish M	Pacific Bell
	Norris W D	Pacific Bell
	Norrish M	Pacific Bell

FINDINGS

Year	Uses	Source
1976	METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	Pacific Telephone
	Western Distribution Control Center	Pacific Telephone
1971	METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	Pacific Telephone
	Western Distribution Control Center	Pacific Telephone

7820 N FIGUEROA ST

Year	Uses	Source
2008	JJS CAR WASH	Cole Information Services

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
7721 North Figueroa Street	2013, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
7616 FIGUEROA ST N	2013, 2008, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
7616 N FIGUEROA	2013, 2008, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
7620 N FIGUEROA	2013, 2008, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
7800 N FIGUEROA	2013, 2008, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
7800 N FIGUEROA ST	2013, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
7800 N FIGUEROA ST	2013, 2008, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1975, 1972, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
7820 N FIGUEROA ST	2013, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

Scholl Canyon Landfill
7721 North Figueroa Street
Los Angeles, CA 90041

Inquiry Number: 4407421.9
September 11, 2015

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography September 11, 2015

Target Property:

7721 North Figueroa Street

Los Angeles, CA 90041

Year	***Scale***	***Details***	***Source***
1928	Aerial Photograph. Scale: 1"=500'	Flight Year: 1928	USGS
1938	Aerial Photograph. Scale: 1"=500'	Flight Year: 1938	USGS
1952	Aerial Photograph. Scale: 1"=500'	Flight Year: 1952	USGS
1964	Aerial Photograph. Scale: 1"=500'	Flight Year: 1964	USGS
1972	Aerial Photograph. Scale: 1"=500'	Flight Year: 1972	EDR Proprietary Brewster Pacific
1977	Aerial Photograph. Scale: 1"=500'	Flight Year: 1977	EDR Proprietary Brewster Pacific
1983	Aerial Photograph. Scale: 1"=500'	Flight Year: 1983	EDR Proprietary Brewster Pacific
1989	Aerial Photograph. Scale: 1"=500'	Flight Year: 1989	USGS
1994	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1994	USGS/DOQQ
1994	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1994	USGS/DOQQ
2002	Aerial Photograph. Scale: 1"=500'	Flight Year: 2002	USGS
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP


INQUIRY #: 4407421.9
YEAR: 1928
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 1938
= 500'
N
EDR

INQUIRY #: 4407421.9

YEAR: 1952

= 500'

N

EDR


INQUIRY #: 4407421.9
YEAR: 1964
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 1972
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 1977
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 1983
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 1989
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 1994
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 1994
= 500'
N
EDR

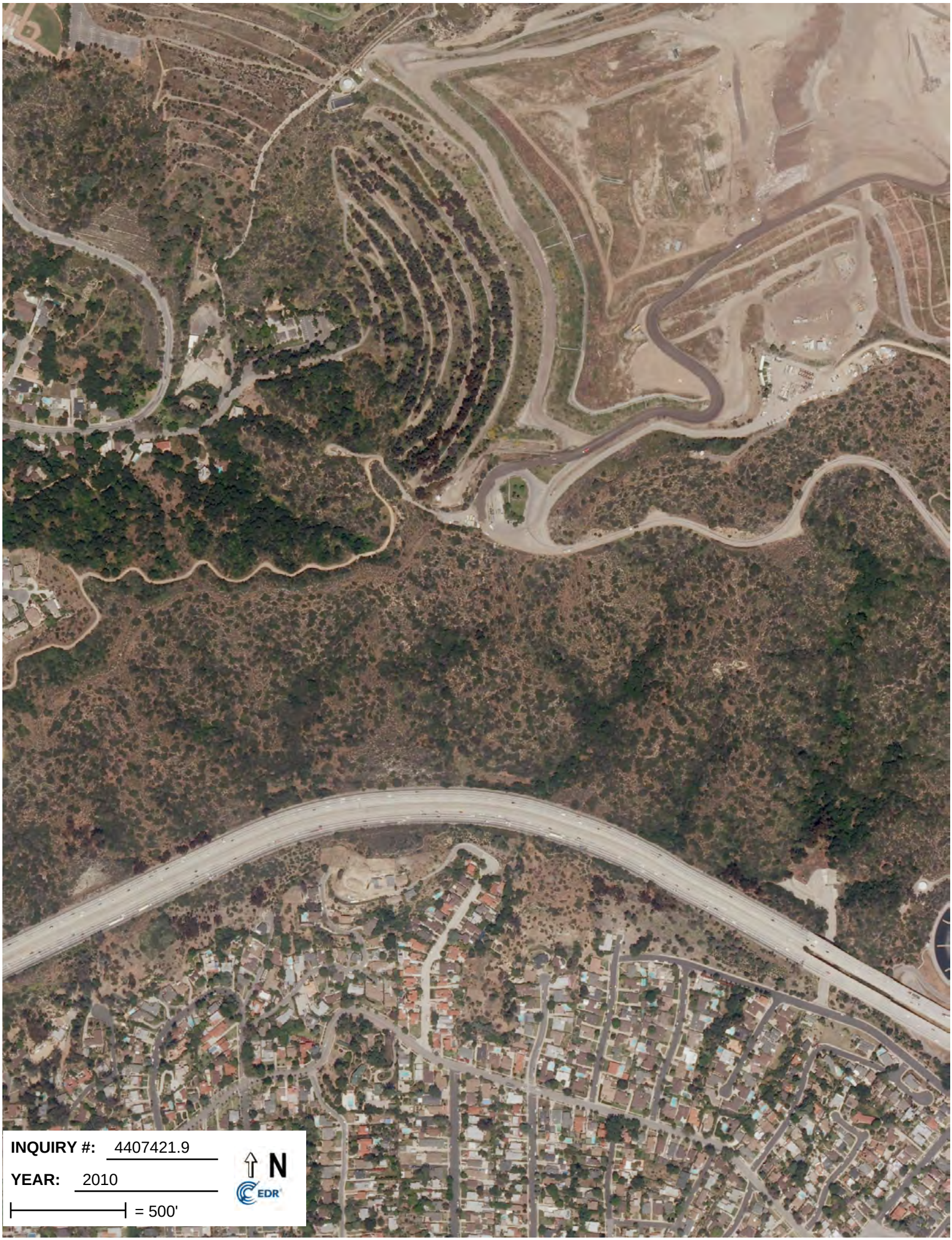

INQUIRY #: 4407421.9
YEAR: 2002
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 2005
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 2005
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 2009
= 500'
N
EDR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YEAR: 2010
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EDR


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YEAR: 2010
= 500'
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INQUIRY #: 4407421.9
YEAR: 2012
= 500'
N
EDR


INQUIRY #: 4407421.9
YEAR: 2012
= 500'
N
EDR

Scholl Canyon Landfill
7721 North Figueroa Street
Los Angeles, CA 90041

Inquiry Number: 4407421.4
September 10, 2015

EDR Historical Topographic Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

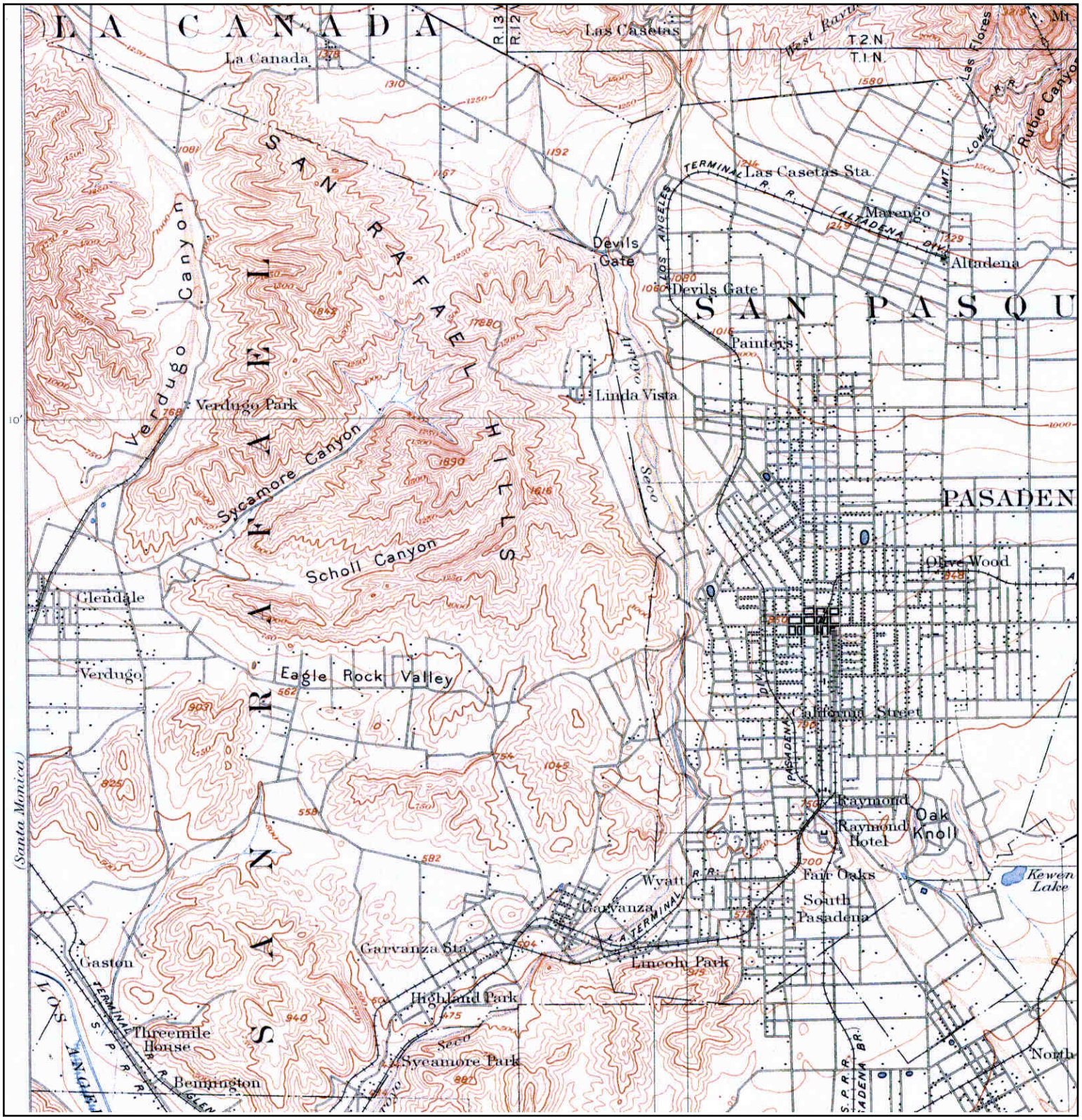
Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map

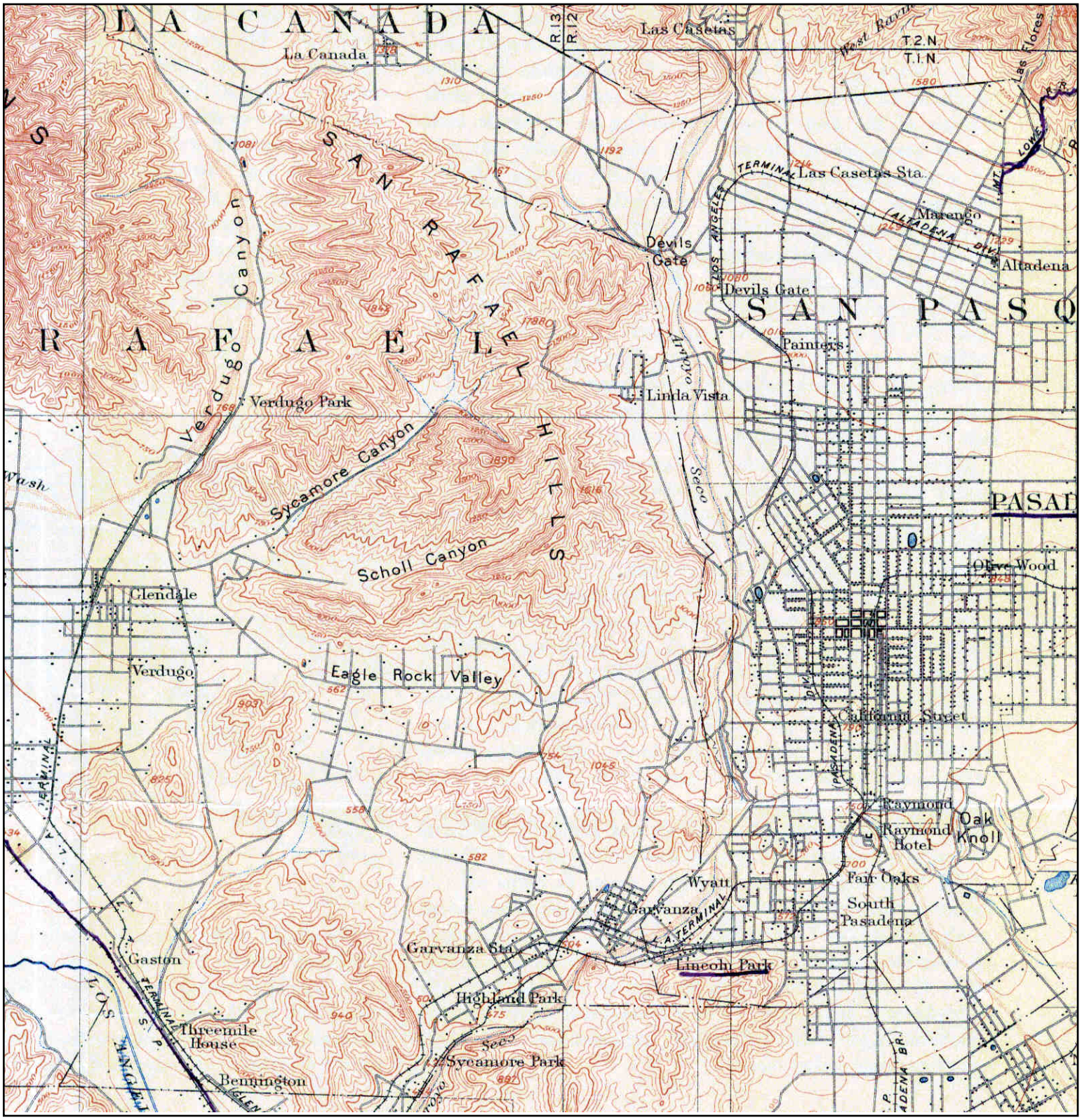
N	TARGET QUAD NAME: PASADENA MAP YEAR: 1896 SERIES: 15 SCALE: 1:62500	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map



N	TARGET QUAD NAME: PASADENA MAP YEAR: 1900 SERIES: 15 SCALE: 1:62500	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map

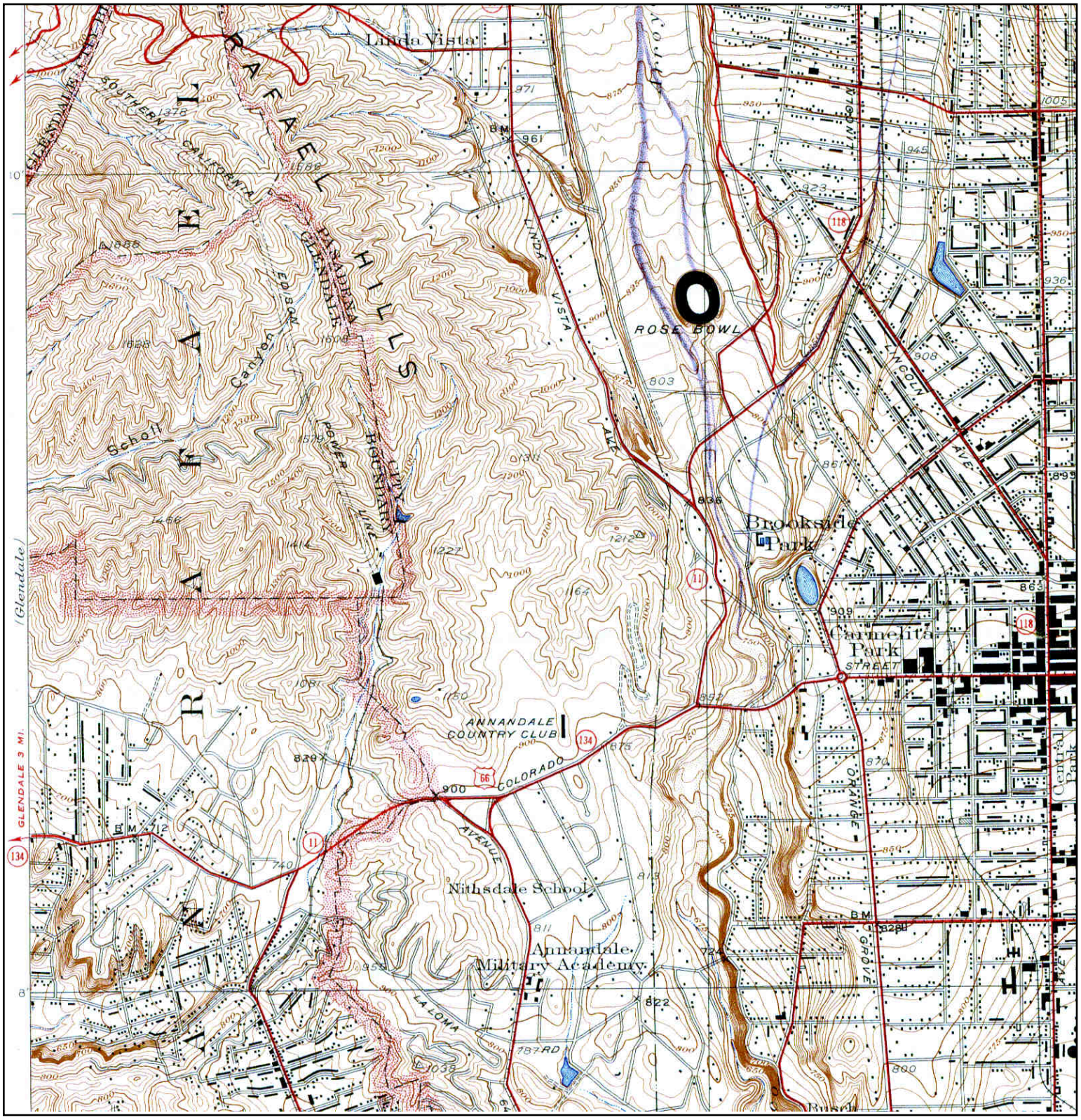


N	TARGET QUAD NAME: LOS ANGELES MAP YEAR: 1900 SERIES: 15 SCALE: 1:62500	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map

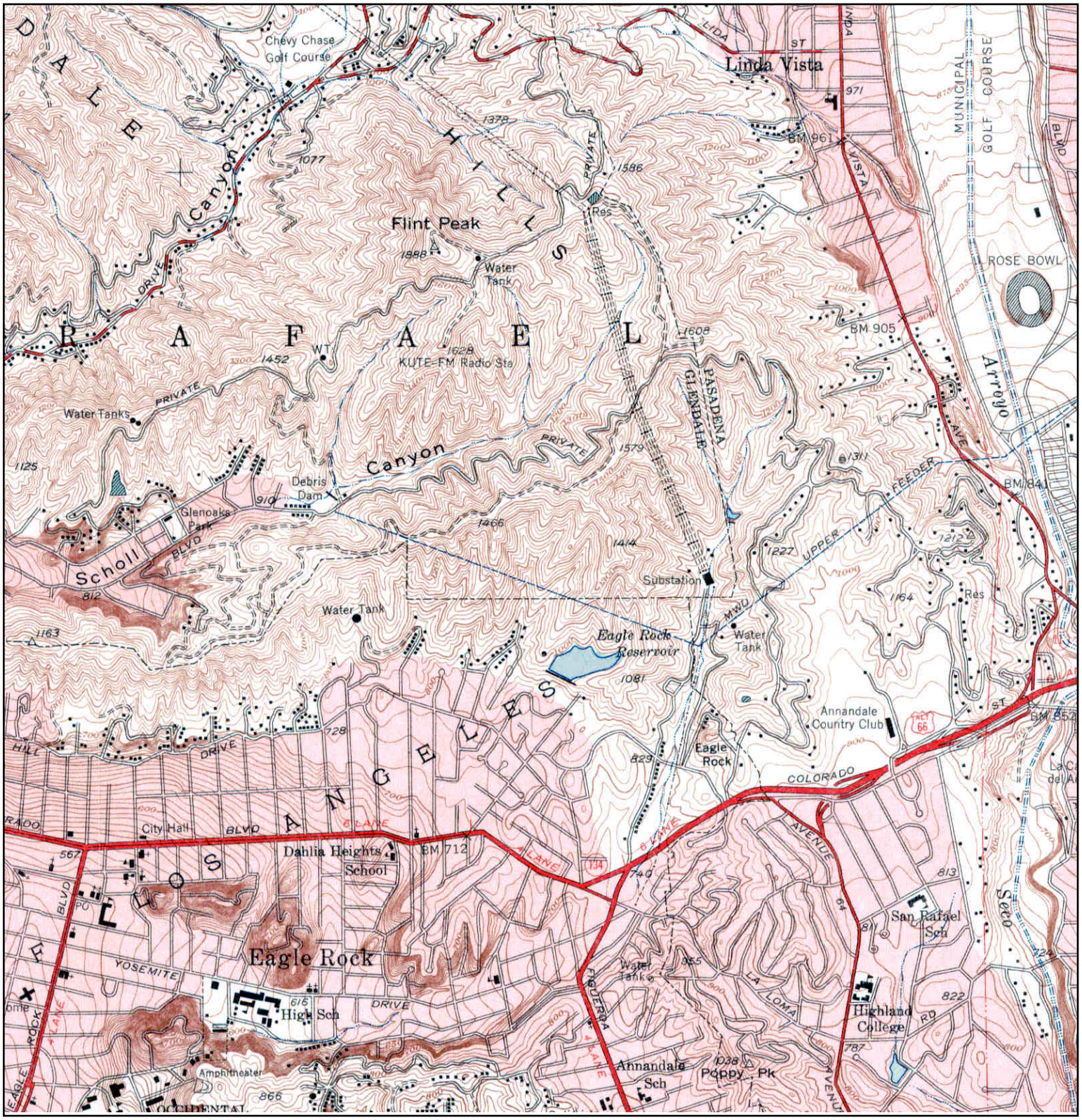
N	TARGET QUAD NAME: SOUTHERN CA SHEET 1 MAP YEAR: 1901 SERIES: 60 SCALE: 1:250000	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map



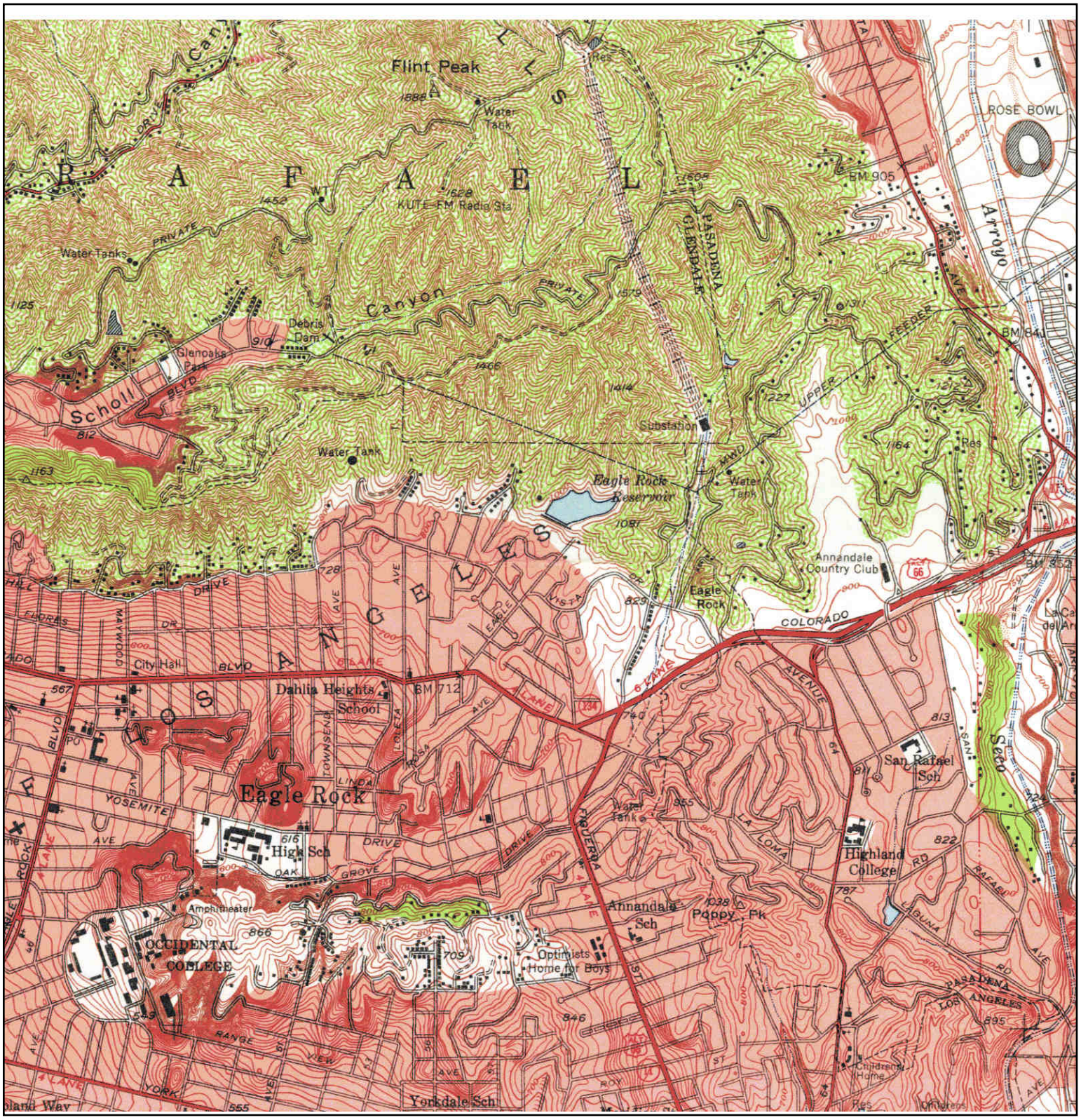
N	TARGET QUAD NAME: ALTADENA MAP YEAR: 1941 REVISED FROM :1928 SERIES: 6 SCALE: 1:24000	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map



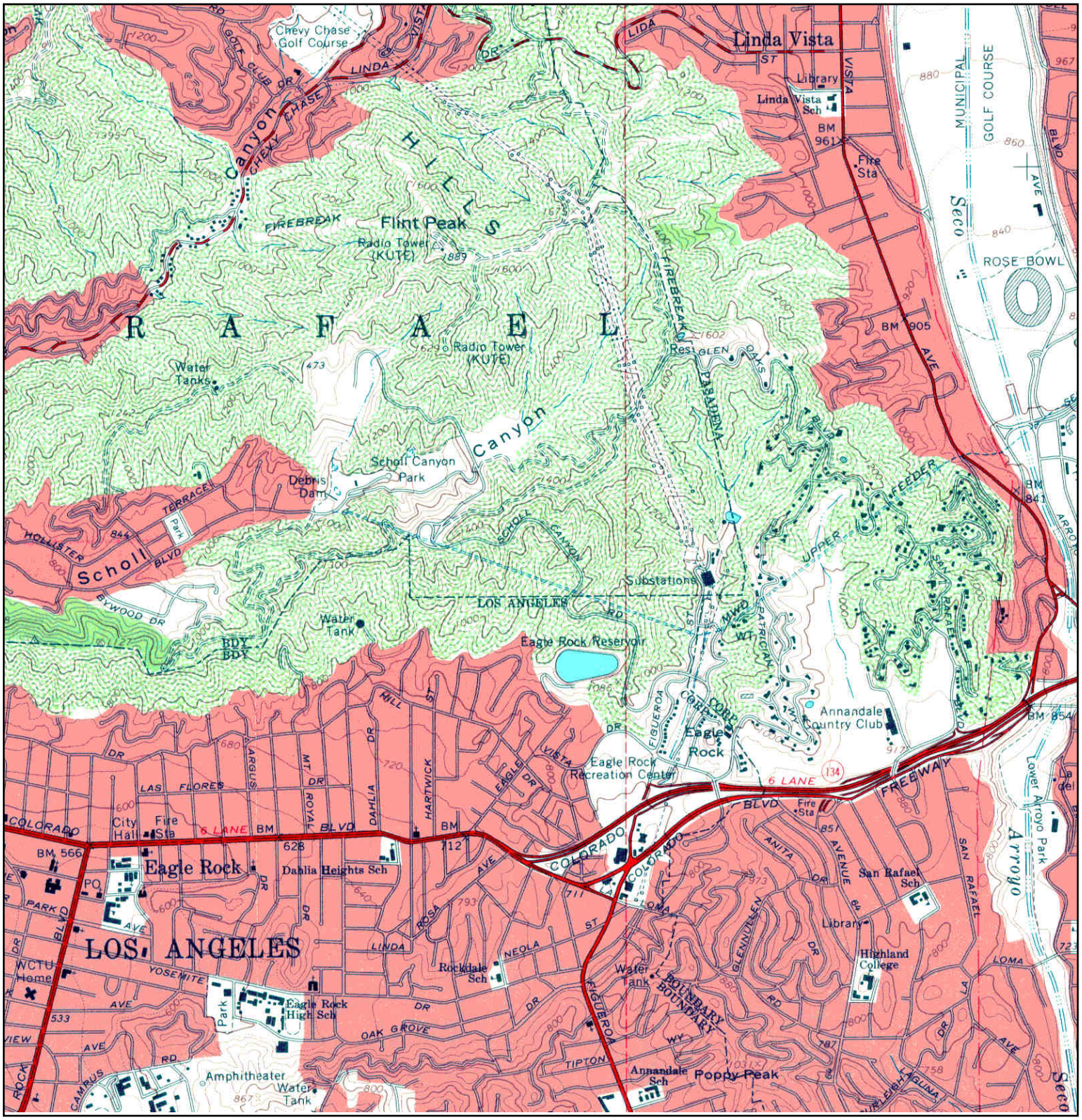
N	TARGET QUAD NAME: PASADENA MAP YEAR: 1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map



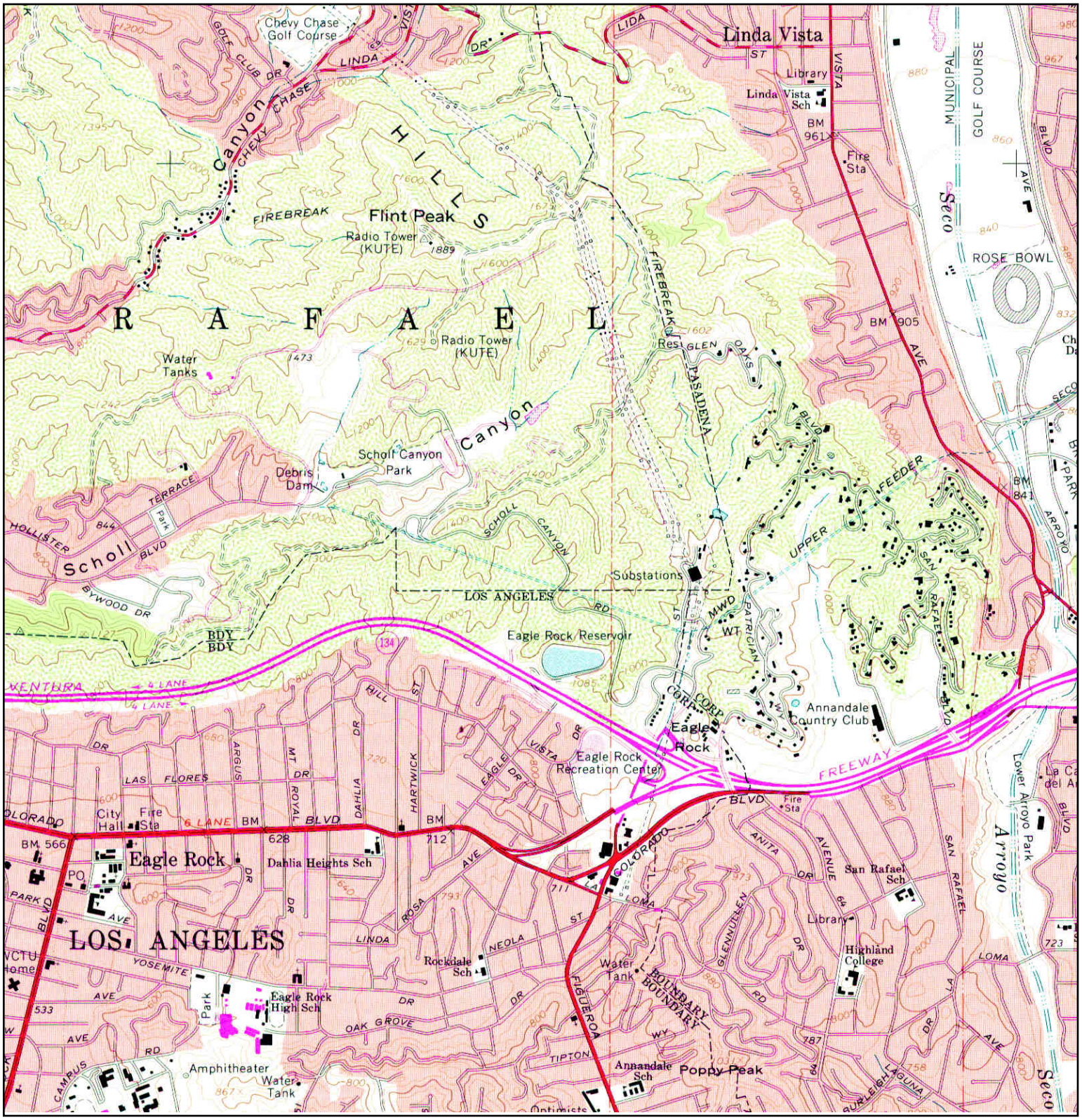
N	TARGET QUAD NAME: LOS ANGELES AND VICINITY EAST 3 OF 4 MAP YEAR: 1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map



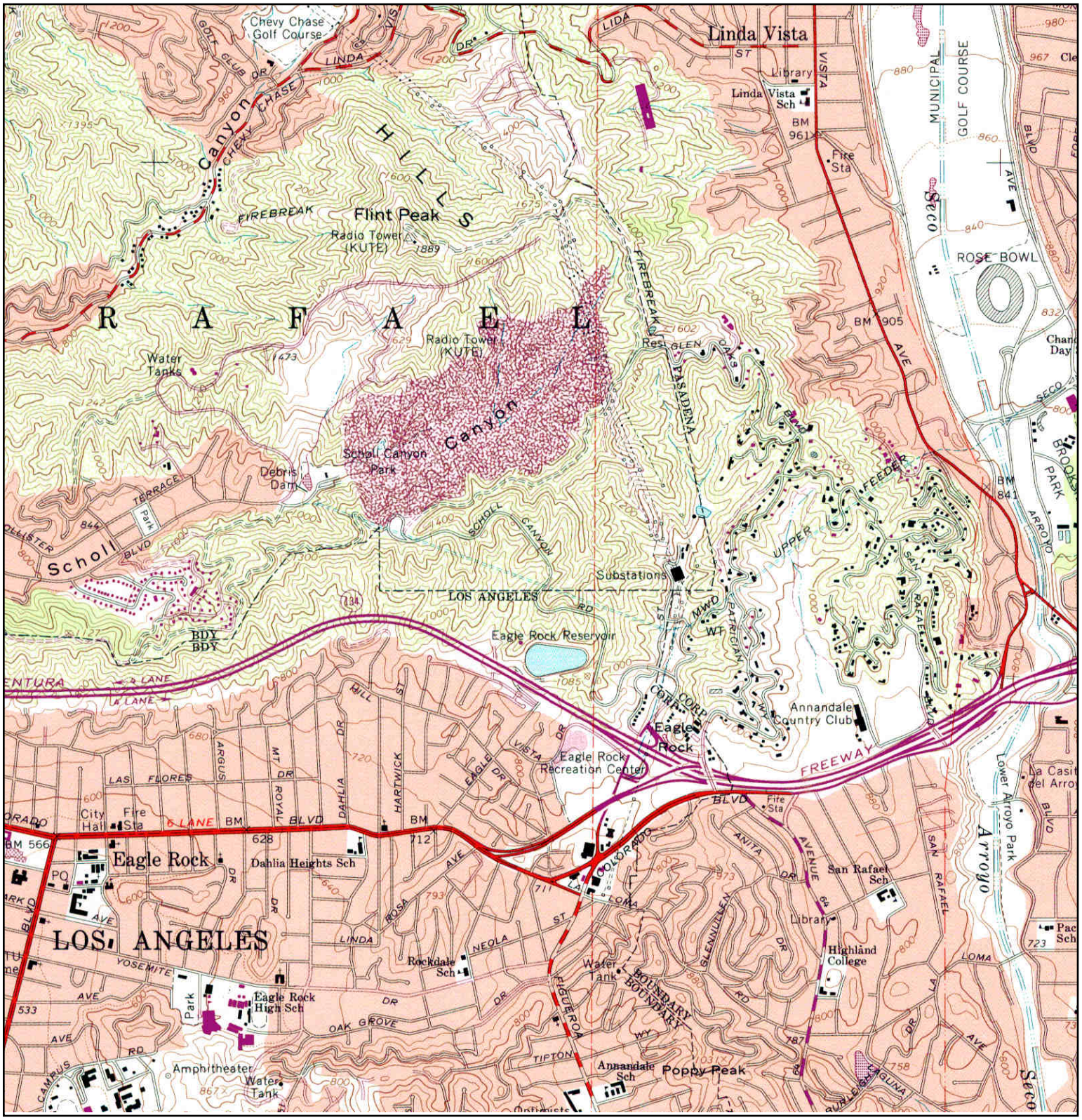
N	TARGET QUAD NAME: PASADENA MAP YEAR: 1966 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map



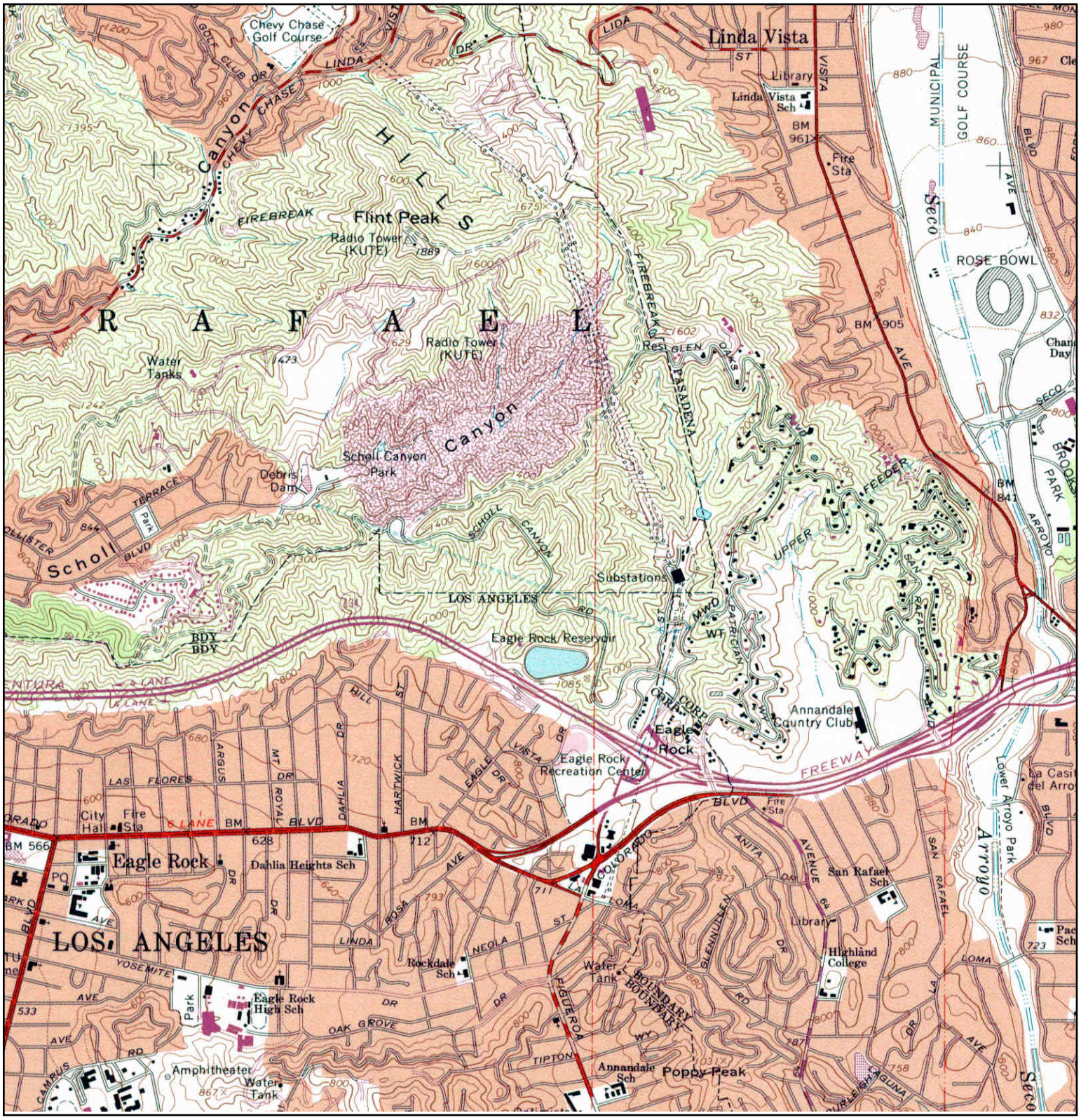
N	TARGET QUAD		SITE NAME:	Scholl Canyon Landfill	CLIENT:	Stantec
	NAME:	PASADENA	ADDRESS:	7721 North Figueroa Street	CONTACT:	Anuya Sawant
	MAP YEAR:	1972		Los Angeles, CA 90041	INQUIRY#:	4407421.4
	PHOTOREVISED FROM :	1966	LAT/LONG:	34.1505 / -118.1901	RESEARCH DATE:	09/10/2015
	SERIES:	7.5				
	SCALE:	1:24000				

Historical Topographic Map



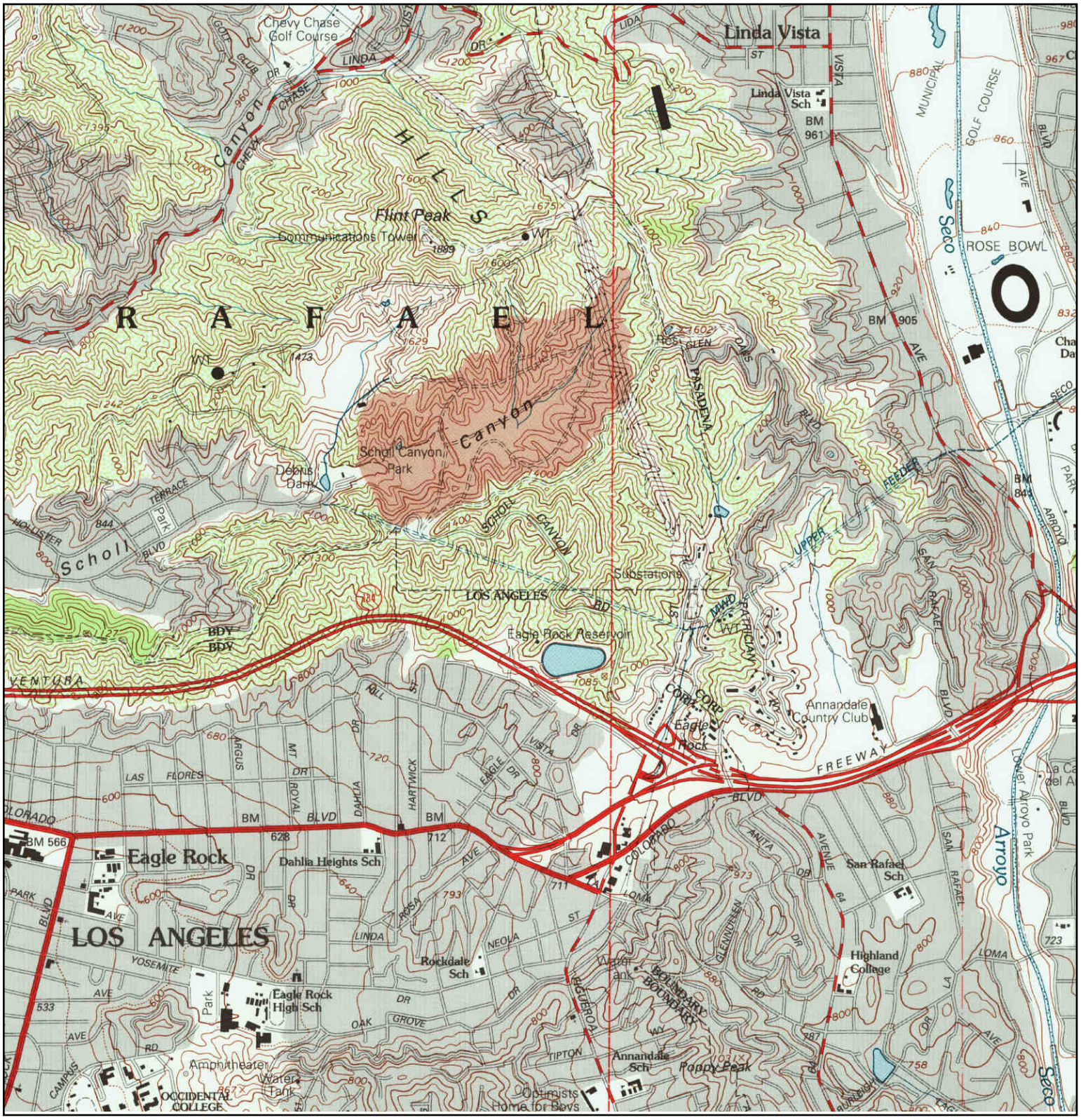
N	TARGET QUAD NAME: PASADENA MAP YEAR: 1988 PHOTOREVISED FROM :1966 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map



N	TARGET QUAD NAME: PASADENA MAP YEAR: 1994 REVISED FROM :1966 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Historical Topographic Map



N	TARGET QUAD NAME: PASADENA MAP YEAR: 1995 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Scholl Canyon Landfill ADDRESS: 7721 North Figueroa Street Los Angeles, CA 90041 LAT/LONG: 34.1505 / -118.1901	CLIENT: Stantec CONTACT: Anuya Sawant INQUIRY#: 4407421.4 RESEARCH DATE: 09/10/2015

Scholl Canyon Landfill
7721 North Figueroa Street
Los Angeles, CA 90041

Inquiry Number: 4407421.3
September 10, 2015

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

9/10/15

Site Name:
Scholl Canyon Landfill
7721 North Figueroa Street
Los Angeles, CA 90041

Client Name:
Stantec
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

EDR Inquiry # 4407421.3

Contact: Anuya Sawant

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Stantec were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: Scholl Canyon Landfill
Address: 7721 North Figueroa Street
City, State, Zip: Los Angeles, CA 90041
Cross Street:
P.O. # NA
Project: Scholl Canyon Landfill
Certification # 437E-40FF-B008

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results
Certification # 437E-40FF-B008

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Appendix F
AGENCY RECORDS

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee, Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

September 4, 2015

Anuya Sawant
Stantec Consulting Services Inc.
290 Conejo Ridge Avenue
Thousand Oaks, California 91361

7721 North Figueroa Street, Los Angeles, California 90041
PR4-090315-04

Dear Anuya Sawant:

We have received your Public Records Act Request for records from the Department of Toxic Substances Control.

After a thorough review of our files we have found that no such records exist at this office pertaining to the site/facility reference above.

We would like to inform you about EnviroStor, a database that provides information and documents on over 5,000 DTSC cleanup sites. EnviroStor can be accessed at: **http://www.envirostor.dtsc.ca.gov/public**. Also, a computer is available in the Central Files of each DTSC Regional Office for use by community members to view EnviroStor.

If you have any questions or would like further information regarding your request, please contact our Regional Records Coordinator at: (714) 484-5336.

Sincerely,

Jone Barrio

Regional Records Coordinator
Cypress Administrative Services

brm

GLENDALE FIRE DEPARTMENT
FIRE PREVENTION BUREAU
ENVIRONMENTAL MANAGEMENT CENTER
780 FLOWER ST.
GLENDALE, CA 91201-3057
PH: (818) 548-4810
FAX: (818) 549-9777
WWW.GLENDALEFIRE.ORG

COPY

September 21, 2011

City of Glendale
Water and Power
Glendale, CA 91206

Attention: Steven Lins

Subject: Industrial Waste Permit W-4339
3001 Scholl Canyon Road

Mr. Dodge,

Enclosed herewith is Industrial Waste Permit (Permit) W-4339, issued by the City of Glendale Industrial Waste Program for the subject facility. Please complete the receipt enclosed with your permit and return to this office. You are requested to submit a **Fact Sheet** which describes in detail the operations and pretreatment processes along with a **Site Plan** that includes a tank and piping flow diagram.

This Permit covers all the requirements necessary for maintaining compliance with EPA and City standards. In order to verify compliance with the standards, this office will continue to conduct facility inspection and sampling, review reports submitted by Glendale Water and Power and report on compliance to the EPA and Regional Water Quality Control Board (RWQCB) as required.

The Permit issued to your company, that became effective on September 21, 2011, shall expire at midnight on December 31, 2016. During the term of this Permit, the permittee shall notify the Fire Chief 90 days prior to any changes to the facility, process, production or pretreatment system that may change the characteristics which causes it to be different from that expressly allowed under this Permit.

If you have any questions regarding this matter, please feel free to contact me at (818)548-4810.

Very truly yours,

Gregory P. Ahern, Sr.

Gregory P. Ahern, Sr.
Sr. Fire/Environmental Safety Specialist

3001 Scholl Canyon

Send Completed form To:
City of Glendale Fire Department
780 Flower Street
Glendale, CA 91201
Attention: Industrial Waste

INDUSTRIAL USERS SEMI-ANNUAL COMPLIANCE REPORT FORM

If you have any questions about completing this form call:

(818)548-4810

COMPANY NAME: I.W. PERMIT #: W -

PHONE #: CHECK REPORTING PERIOD: [ ] JAN-MAR [ ] APR-JUN [ ] JUL-SEPT [ ] OCT-DEC

COMPANY ADDRESS:

AVERAGE DAILY FLOW: MEASURED [ ] ESTIMATED [ ] CALCULATED [ ]

MAXIMUM DAILY FLOW: MEASURED [ ] ESTIMATED [ ] CALCULATED [ ]

TOTAL TOXIC ORGANIC (TTO) INVENTORY LIST

INVENTORY DATE:

REGULATED TOXIC ORGANICS USE (IF NONE STATE NONE)	AMOUNT USE PER MONTH	REGULATED TOXIC ORGANICS USE (IF NONE STATE NONE)	AMOUNT USE PER MONTH

LOCATION SAMPLE TAKEN

(1):
(2):
(3):
(4):
(5):
(6):

SAMPLE TAKEN BY (name of person)

SAMPLE DATE

PRENOTIFICATION DATE

LABORATORY NAME

(1):
(2):
(3):
(4):
(5):
(6):

REPORTED FLOW (GPD)

FLOW WAS:	MEASURED	CALCULATED	ESTIMATED
(1)	[ ]	[ ]	[ ]
(2)	[ ]	[ ]	[ ]
(3)	[ ]	[ ]	[ ]
(4)	[ ]	[ ]	[ ]
(5)	[ ]	[ ]	[ ]
(6)	[ ]		

Pollutants (in mg/l except pH)	Daily Maximum	Lab Results A	Violation Yes/No	Lab Results B	Violation Yes/No	Lab Results C	Violation Yes/No	Lab Results D	Violation Yes/No	Lab Results E	Violation Yes/No
Arsenic	3.0										
Cadmium	15.0										
Copper	15.0										
Nickel	15.0										
Silver	5.0										
Chromium (total)	10.0										
Zinc	25.0										
Lead	5.0										
Cyanide (total)	10.0										
Cyanide (free)	2.0										
Dissolved Sulfides	0.1										
TTO	2.0										
pH	5.5-11.0										
Dispersed O & G	600.0										
Chloride	* * *										
BOD	* * *										
COD	* * *										
Suspended Solids	* * *										

IF NOT IN COMPLIANCE, ATTACH A STATEMENT OF REASONS FOR NON-COMPLIANCE AND ACTIONS TAKEN TO CORRECT THE PROBLEM.

I have properly examined and am familiar with the information submitted in this document and attachments. Based on my inquiry of those individuals responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment as directed by 40 CFR 403.12(k) and GMC 25-30.2(e).

AUTHORIZED REPRESENTATIVE SIGNATURE | PRINTED NAME | TITLE | DATE

3001 Scholl Canyon Rd L-4339

HAZARDOUS MATERIALS BUSINESS PLAN
CITY OF GLENDALE
SCHOLL CANYON LANDFILL GAS PROCESSING FACILITY
GLENDALE, CALIFORNIA

Prepared for:

Scholl Canyon LFG Limited Partnership
3001 Scholl Canyon Road
Glendale, California
(818) 244-9722

Prepared By:

SCS Engineers
3711 Long Beach Boulevard
Ninth Floor
Long Beach, California 90807
(310) 426-9544

May 1997

File No. 0197007.00 Task 17

GLENDALE FIRE DEPARTMENT
HAZARDOUS MATERIALS SECTION
780 Flower Street
Glendale CA 91201
(818) 548-4030

BUSINESS EMERGENCY PLAN

TO AVOID PENALTY, THIS FORM MUST BE RETURNED WITHIN TWENTY-ONE (21) DAYS. THE INFORMATION SHOULD BE TYPED OR PRINTED.

PART I: BUSINESS IDENTIFICATION DATA

BUSINESS NAME. (DBA): Scholl Canyon LFG Limited Partnership

BUSINESS ADDRESS: 3001 Scholl Canyon Rd., Glendale, CA 91206
NUMBER STREET

MAILING ADDRESS: 13 Elm St., Ste.#200, Cohasset, MA 02025
CITY ZIP CODE

BUSINESS PHONE: (617) 383-3200
AREA

BUSINESS OWNER: Scholl Canyon Landfill Gas Corporation, General Partner
LAST NAME FIRST NAME

PRIMARY CONTACT PERSON: Gordon L. Deane
TITLE: President

NATURE OF YOUR BUSINESS (Describe Briefly): Landfill Gas Recovery & Processing

EMERGENCY CONTACT PERSON (After business hours): Bier, Jim
LAST NAME FIRST NAME

Project Manager ( ) 310 798-9208
TITLE PHONE #

EMERGENCY CONTACT PERSON (Alternate): Everett, Brad
LAST NAME FIRST NAME

Plant Operator ( ) 310 930-8951
TITLE PHONE #

EMERGENCY CONTACT PERSONS MUST HAVE FULL ACCESS TO THE FACILITY ALONG WITH SITE FAMILIARITY AND AUTHORITY TO MAKE DECISIONS FOR THIS BUSINESS.

PART II - EMERGENCY RESPONSE PLAN AND NOTIFICATION RESPONSIBILITIES

You are required to **immediately** report any hazardous materials or waste release to the Glendale Fire Department by dialing 911, and to the Governor's Office of Emergency Services (OES) at (800) 852-7550. Failure to do so may result in criminal and/or civil prosecution to the fullest extent to the law. Designate employees who will notify above agencies in case of an emergency.

Steve Cooper	Plant Operator	(818) 244-9722
Employee Name	Title	Phone #
Brad Everett	Plant Operator	(818) 244-9722
Employee Name	Title	Phone #

MISCELLANEOUS CONTACT INFORMATION

1. Hazardous Waste contractor/Hauler

Asbury Environmental	(310) 886-3400
Name	Phone #

2. Insurance Company

Minet Insurance Brokers - Rob Bothwell	(617) 261-6700
Name	Phone #

3. Poison Control Center (Los Angeles) (213) 484-5151

4. Poison Control Center (UCI) (714) 634-5988

* Dun & Bradstreet # None.

City of Glendale
Fire Department
Environmental Management Center
780 Flower Street
Glendale, CA 91201-3057
ATTN: Industrial Waste Program

FILE COPY

RECEIPT OF INDUSTRIAL WASTEWATER DISCHARGE PERMIT W-4339

Company Name: City of Glendale Water & Power

Location: 3001 Scholl Canyon Road

I.W. Permit No: W-4339

I hereby certify that I have received the INDUSTRIAL WASTEWATER DISCHARGE PERMIT W-4339 for the facility location at the City of Glendale Water & Power Landfill Gas to Energy Plant 3001 Scholl Canyon Road.

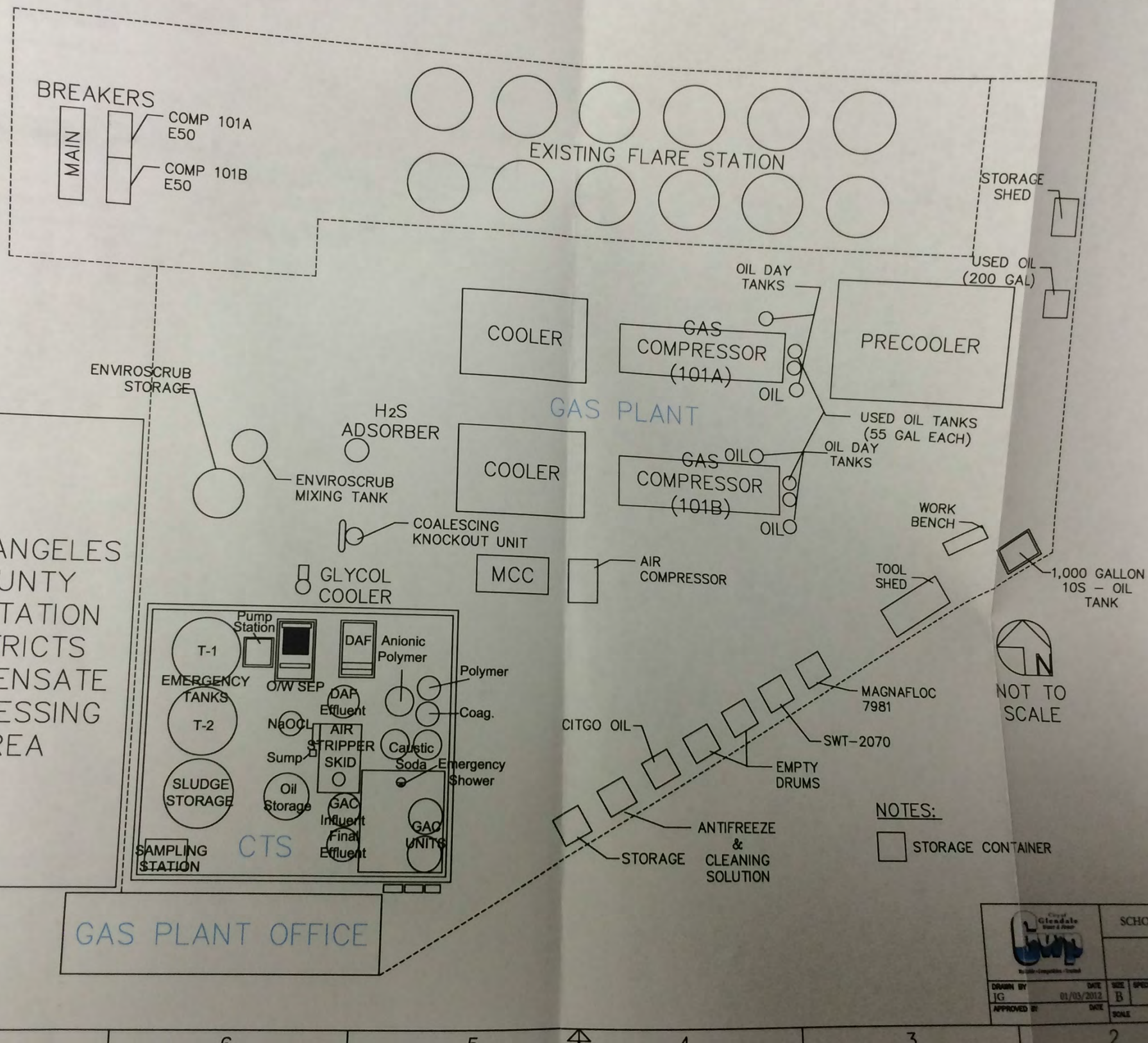
All requirements, discharge limitations, point(s) of compliance and standard and specific conditions have been reviewed. I fully understand the requirements, and I am aware that failure to comply with these requirements may result in enforcement action against my company.

JOHN ESCUDERO
AUTHORIZED REPRESENTATIVE (PRINT)

SIGNATURE

OPERATIONS SUPERVISOR
TITLE

1/9/2012
DATE



SCHOLL CANYON LANDFILL GAS PLANT

3001 SCHOLL CANYON ROAD
GLENDALE, CA 91206
SITE MAP

DRAWN BY	DATE	SIZE	SPECIFICATIONS NO.	PROJECT NO.	DWG NO.	REV
JG	01/03/2012	B			MAP #2	01
APPROVED BY	DATE	SCALE NTS	REQUISITION NO.		SHEET	

City of Glendale – Unified Program (CUPA) Agency
780 Flower Street, Glendale, CA 91201
HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (Form 2731)

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Scholl Canyon Landfill Gas Plant

CHEMICAL LOCATION 201
CTS and Gas Plant

CHEMICAL LOCATION CONFIDENTIAL (EPCRA) 202 ☐ YES ☒ NO

FACILITY ID # 2 1 9 0 0 0 - 0 0 2 5 7 2 1

MAP# 203: 2

GRID# 204: B4 & B3

II. CHEMICAL INFORMATION

CHEMICAL NAME 205

TRADE SECRET 206 ☐ Yes ☒ No
If Subject to EPCRA, refer to instructions

COMMON NAME SWT 2070 207

EHS* 208 ☐ Yes ☐ No

CAS# 209

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES 210

HAZARDOUS MATERIAL TYPE (Check one item only) 211 ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE

RADIOACTIVE 212 ☐ Yes ☒ No

CURIES 213

PHYSICAL STATE (Check one item only) 214 ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS

LARGEST CONTAINER 215: 120

FED HAZARD CATEGORIES (Check all that apply) 216 ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☑ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
230	340		

UNITS* (Check one item only) 221 ☒ a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

DAYS ON SITE: 222: 365

STORAGE CONTAINER 223
☒ a. ABOVE GROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224 ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225 ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

	%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	30-50 226	Polyaluminum Chloride 227	☐ Yes ☒ No 228	1327-41-9 229
2	50-70 230	Water 231	☐ Yes ☒ No 232	7732-18-5 233
3	234	235	☐ Yes ☐ No 236	237
4	238	239	☐ Yes ☐ No 240	241
5	242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246

If EPCRA, Please Sign Here X_____
(Facilities reporting Chemicals subject to EPCRA reporting thresholds must sign each Chemical Description page for each EPCRA reported chemical.)

OPERATIONS AND EMERGENCY RESPONSE DOCUMENT

PALMER MANAGEMENT GAS PLANT AND CONDENSATE TREATMENT SYSTEM SCHOLL CANYON LANDFILL

PREPARED FOR:

PALMER MANAGEMENT

SCHOLL CANYON LANDFILL

7721 N. Figueroa Street

Glendale, CA 90041

PREPARED BY:

INVIROTREAT INC.

P.O. Box 3970

Fullerton, CA 92834

NOVEMBER 30, 2007

CITY OF Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201

(818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

May 24, 2000

Scholl Canyon LFG Limited Partnership
1309 114th Avenue SE #101
Bellevue, WA 98004

Attention: David Marques,

Subject: NOTICE OF VIOLATION
Scholl Canyon LFG Limited Partnership
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice, and does hereby so provide, that your failure to sample the waste effluent for flammability during the fourth quarter of 1999 and the first quarter of 2000 is in violation of the Industrial Waste Permit Monitoring requirements for the subject facility. The above violations were brought to the attention of your Plant Manager Bradley Everett, on April 19, 2000.

It is necessary that you immediately cease and desist at once from any and all violations of established permit monitoring requirements for the subject facility. You are hereby required to submit within 20 days of receipt of this Notice of Violation a detail letter of explanation as to the cause of the above violations and corrective actions that will be taken to prevent future violations.

If you have any questions regarding the above subject matter, you may contact me or Captain Eric Indermill at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.

Gregory P. Ahern, Sr.
Fire/Environmental Safety Specialist

cc: ~~Capt. Indermill, Fire~~
Vasken Demirjian, Fire
Jake Amar, P.W. Engineering
Steve Zurn, P.W. Administration

Z-7

Copy

STATE OF CALIFORNIA

DEPARTMENT OF INDUSTRIAL RELATIONS
CAL/OSHA CONSULTATION SERVICE
10350 Heritage Park Drive, Suite 201
Santa Fe Springs, CA 90670-7312

Phone: (562) 944-9366
FAX No.: (562) 941-3133

April 13, 2000

Refer to Case File Number: 00081

Mr. Bradley Everett
Plant Manager
Palmer Management
3001 Scholl Canyon Road
Glendale, CA 91206

Dear Mr. Everett:

We received your Report of Action Taken on Correction of Hazards for the survey done at your facility referenced above. Your report indicated that all items were corrected as of March 16, 2000.

Your steps taken to correct these hazards seem to be satisfactory. Your file was closed on March 20, 2000.

Please call us at (562) 944-9355, if you have any additional questions.

Sincerely,

Kelly J. Howard
Area Manager

cc: Paul Gupta
Safety Consultant

APR 2000
Received
Hazardous Materials
Section (EMC)

March 16, 2000

Mr. Paul Gupta
Department of Industrial Relations
Cal/OSHA Consultation Service
10350 Heritage Park Dr., Suite 201
Santa Fe Springs, CA 90670-7312

RE: Palmer Management/Scholl Canyon Landfill
(Visit No. 501148407; Case File #: 00081)

Dear Paul:

Attached please find the Employer Report of Action Taken, which addresses the corrective measures taken by Palmer Management to bring the Condensate Treatment System at Scholl Canyon Landfill to compliance with Cal/OSHA.

Please call me if you have any questions or comments regarding our corrective action measures.

We thank you for your assistance in restoring safe environment at our facility.

Sincerely,

Bradley Everett
Plant Manager

cc: Dr. Alon Lebel, Invirotreat Inc.

PALMER MANAGEMENT
3001 SCHOLL CANYON ROAD
GLENDALE, CA

EMPLOYER REPORT OF ACTION TAKEN

Item Number	0001	Hazard Type	Serious	Standard	.3203(a)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Developed a written Injury and Illness Prevention (IIP) Program.

Action Taken to Prevent Recurrence

Maintain the IIPP updated and on the premises.

Item Number	0002	Hazard Type	Serious	Standard	.3314(f)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Developed a written Lockout/Blockout Program to provide specific energy control procedures be utilized for the control of hazardous energy during maintenance/servicing/repair of equipment.

Action Taken to Prevent Recurrence

Implement lockout/tagout procedures, and enforce through safety meeting, communication and oversight.

Item Number	0003	Hazard Type	Serious	Standard	.5194(e)(01)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Developed a written hazard communication program.

Action Taken to Prevent Recurrence

Maintain the hazard communication program updated and on the premises.

EMPLOYER REPORT OF ACTION TAKEN

Item Number	0004	Hazard Type	Serious	Standard	.5144(c)(01)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

The facility is an outdoor treatment system with passive vapor control system. The air emissions are not at trace levels only, well below the threshold concentrations that will have potential for harmful exposures to operators and visitors. Therefore, no respiratory protection program is required.

Action Taken to Prevent Recurrence

Maintain engineering controls to eliminate exposure to harmful vapors and airborne particulates.

Item Number	0005	Hazard Type	Serious	Standard	.3321(a)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Identified by clear tags, all process piping and tanks in the facility.

Action Taken to Prevent Recurrence

Maintain the tags clean and legible at all times. Replace when necessary.

Item Number	0006	Hazard Type	Serious	Standard	.3273(l)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Install a cover over the sump pit in the treatment system area.

Action Taken to Prevent Recurrence

Maintain the cover in place at all times, expect when service/maintenance work is required.

Z-7

Z-7

ALMER MANAGEMENT
3001 SCHOLL CANYON ROAD
GLENDALE, CA

EMPLOYER REPORT OF ACTION TAKEN

Item Number	0007	Hazard Type	Serious	Standard	2340.0011(a)(01)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00
Describe Corrective Action Taken					
Enclose conductor in an rain-tight conduits, per Electrical Code.					
Action Taken to Prevent Recurrence					
Inspect the electrical raceways and equipment regularly and repair any hazard conditions as they are detected.					

VISIT NO: 501148407 DATE OF SURVEY: 1/20/00 CASE FILE: #: 00081

City of Glendale
AVOID VERBAL ORDERS

September 24, 1998

To Jake Amar, Senior Environmental Technician

From David Starr, Fire Marshal

Subject Scholl Canyon LFG

On September 21, 1998 we received a letter from Patrick Sullivan of SCS Engineers updating us on progress at the landfill gas processing facility. This letter did not address many of the Fire Department's concerns. To avoid confusion I would like to review our requirements for the facility.

The Fire Department is responsible for assuring appropriate Hazardous and Industrial waste treatment and disposal, and adequate fire and life safety in the design and operation of facilities within the City. The variability of the waste stream and gasses produced in the landfill makes it difficult to identify what are reasonable requirements in both these areas. It was for this reason that we required third party review. All parties involved agreed that OWT Emcon has the technical expertise to evaluate problems and solutions encountered in this process.

The Scholl Canyon Landfill Gas processing Facility (Scholl LFG) operates under an Industrial Waste Permit. This requires that all discharge to sewer meet Federal, State and Local water quality standards and that pretreatment facilities and processes are adequate to maintain discharge at those levels. Scholl LFG has also applied for a Hazardous Waste Treatment Tiered Permit as required by CCR Title 22. These permits will be issued after the treatment system has been evaluated and approved.

Prior to construction Fire Department Inspectors in the Permit Services Center perform Plan Review to verify compliance with applicable sections of the Building and Fire Codes. The plans for the Scholl LFG were not approved for the reasons detailed the letter to Mr. Maloney dated January 7, 1998, attached.

Steve Zurn, Senior Executive Assistant, Public Works, asked for and received permission to operate the treatment system prior to plan approval contingent on several conditions including the selection of a third party for review and recommendations. Please see the letter to Steve Zurn dated January 29, 1998, attached. OWT Emcon was selected early this year and started working on the project in April. The Scope of Work for OWT Emcon is to:

- characterize the landfill gas prior to treatment, post treatment and between stages of treatment as appropriate.
- review the pre-treatment system for adequacy
- review the system plans for items listed in plan check review letter dated January 7, 1998 (attached.)

Z-7

As of September 24, 1998 no Building Permits have been issued for the construction at the Scholl LFG. The plant has been operating without an active Industrial Waste Permit by disposing of effluent off site. The Facility was granted permission to batch test and dump waste water to the sewer system during a "break-in" operation period.

In light of Mr Sullivan's letter we feel it is important to clarify the following.

- No changes in the requirements spelled out in attachments 1or 2 have been made.
- We will expect the recommendations to OWT Emcon to be met prior to issuing any Building Permits.
- No Permits will be issued to the facility until the Building and Fire Code issues are addressed satisfactorily.

If you would like to discuss this matter please contact me directly. Please contact Captain Indermill at the EMC (4030) to coordinate technical assistance by our staff.

Public Works called the meeting and has never given us an agenda beyond "Scholl Canyon". I spoke with Steve Zurn and Jake and they said it is to discuss the high cost of meeting our requirements for site safety and operations plans reviews. EMCON reportedly estimates that to be a $10,000 job that will take at least one month. The attachment is a pretty good summary that was sent to you last week, with a request for guidance on what else we need to provide the Chiefs. I do not know what has been sent on.

<< File: background 073099.wpd >>

It basically comes down to what we accept as adequate procedural safeguards for a process that can, and has, produce(d) flammable concentration in the tanks. We have fire permitting responsibilities and authority to approve a Contingency plan (H&S Title 22) and Training plans (H&S Title 22 and OSHA).

I think Public Works wants a safe operation, they just don't know how to get one for free.

Jeff was involved in the original review of the plant- he is on vacation.

Vasken can provide expertise on the Codes authorizing our requirements, he has never finalized his position on appropriate permitting of the facility as a waste treatment site.

Ahern has been on many inspections and spills at the facility. Do you want to meet?

Eric

April 27, 1998

Mr. Jake Amar
Senior Environmental Technician
CITY OF GLENDALE
633 E. Broadway, Room 205
Glendale, CA 91206

Subject: Scholl Canyon Landfill Condensate

Per a meeting with Mr. Eric Indermill, Fire Captain; Mr. Vasken Demirjian, Hazardous Materials Supervisor, and Mr. Jake Amar, Senior Environmental Technician, Scholl Canyon Landfill, at the Environmental Management Center in the City of Glendale on April 20, 1998, I have summarized the initial scope of work proposed by EMCON.

PROJECT UNDERSTANDING

The major concern is that there are oily substances in the landfill gas (LFG) condensate that are causing the flammability point to be less than the 140° Farhenheit allowable threshold. This condition is a potential safety hazard due to the explosive nature of the oily condensate. The source of the oily condensate is unknown at this time, but it is suspected that oil is being inadvertently added to the condensate during processing of the LFG; possibly at the compressor station. Laboratory analysis of the LFG condensate has been performed to determine the source of the oily condensate, but the results are inconclusive due to possible laboratory or sampling error.

A condensate pre-treatment system has been reviewed by the City of Glendale Fire Department. However, the proposed plans have not been approved due to several of the Fire Department's concerns as stated in the attached letter dated January 7, 1998. Primary concern is that the condensate influent and the process effluent is considered a Class I flammable liquid, and has not been adequately addressed in the proposal.

15255 ALTON PARKWAY, STE. 100 · IRVINE, CA 92618
TEL 714·450·0622 · FAX 714·450·0524

SCOPE OF WORK

EMCON is to provide third-party review services for the Glendale Fire Department and the City of Glendale. Based on our understanding of the project, available correspondence, the attached letter, and the meeting held on March 23, 1998, the following scope of work is anticipated:

- EMCON will facilitate the testing to be performed to characterize the LFG condensate prior to treatment, post treatment and between stages of treatment (if deemed appropriate) at locations determined upon review (Item #3, attached letter).
- EMCON will review the pre-treatment system for adequate treatment of the LFG condensate, and offer recommendations (Item #3, attached letter).
- EMCON will review the treatment system plans for completion of items listed under Item #2 in attached letter.

To perform the scope of work, the initial tasks will be performed.

- EMCON personnel will review available plans and past LFG condensate laboratory results, and visit the pre-treatment system in preparation of system assessment for issues listed in Item #2.

- EMCON personnel will visit the site with City and Fire Department representatives to familiarize EMCON personnel with the site and further define pertinent issues. The visit will include a review of the pre-treatment system in preparation of system assessment for issues listed in Item #2. In addition, potential sampling locations for further LFG condensate analysis will be determined.

- Three certified laboratories will be selected to analyze the samples. The selected labs will not be the same labs that performed the analysis of condensate samples in the prior year.

- EMCON will prepare a detailed scope of work once the site visit has been conducted.

- EMCON will participate in a meeting with all parties involved with this project to explain the detailed scope of work. Revisions to the scope of work will be made as agreed upon by involved parties. A schedule showing when tasks are to be performed and completed will be developed and submitted to the Fire Department and City of Glendale.

SCHEDULE

EMCON staff will review available plans and laboratory results prior to our site visit. It is proposed that the site visit be performed within the first two weeks of May. A detailed proposal will be submitted and a meeting between involved parties will be held within the last two weeks of May. Meanwhile, depending on the availability of revised plans referred to in Item #2, a review of the system will be performed.

Please call me if you have any questions. EMCON Senior Engineer, Stan Strong, will be available to work on this project beginning May 4th. I will make arrangements early next week with EMCON personnel, the Fire Department and Jake Amar to visit Scholl Canyon Landfill.

Sincerely,

Vicki Castle

Vicki Castle
Area Manager

Encl: Letter from City of Glendale - Fire Department
dated January 7, 1998

cc: Vasken Demirjian, Hazardous Materials Supervisor,
City of Glendale
Eric Indermill, Fire Captain, City of Glendale
Stan Strong, EMCON-San Jose

DRAFT

City of Glendale - Fire Department

Fire Prevention Bureau

Permit Services Center
633 East Broadway, Room 101
Glendale, CA 91206-4390
Ph: 818/548-3207
FAX: 818/548-3215

Project Address: 3001 Scholl Canyon
Scholl Canyon Landfill

Date: January 7, 1998

Applicant: Mr. G. F. Maloney
Maloney Process, Inc.

Ph: 714/630-3770
FAX: 714/630-3793

Plan Review for: Industrial Waste Treatment System

Plan Check No. 10339

The Glendale Fire Department has completed a preliminary plan review of the proposed industrial waste treatment system for the abovementioned project. These plans are not approved and shall be revised, resubmitted and approved prior to issuance of the fire prevention permit. The following items shall be provided:

_____Item #1. The plans submitted have been preliminarily reviewed. The review cannot be completed, however, at this time. It has come to the Fire Department's attention that the condensate influent and the process effluent are class I flammable liquid. Because the treatment plant as it exits was not intended for the processing of flammable liquids, and the current proposal does not adequately address this hazard, as well as other Fire Department concerns (described in item #2), the plans shall be revised based on further engineering analysis (as described in item 3 below).

_____Item #2. The plans shall be revised to address the following items:

a. Flammability throughout the process - details on proper handling, processing, treatment, and disposal of flammable liquids; shall include equipment, piping, monitoring systems, automatic shutdowns and automatic interlocks, etc., from a global [total process] perspective;
b. Sulfides pretreatment control for waste stream discharge;
c. Oil and grease extraction, processing, and disposal;
d. Odor elimination;
e. Secondary containment of the condensate collection tank and the piping between the tank and the treatment facility (this item may be considered for a phased approach; a work plan describing a proposed approach with time frames for phasing shall be approved as part of these plans);
f. Placarding and/or signage of the site, all tanks, piping, and equipment.

_____Item #3. In order to assist the Fire Department in review of this project, a third party technical report shall be provided by a competent expert acceptable to both the owner(s) and the Glendale Fire Department. The costs associated with this shall be borne by the owner(s) [94 UFC Section 103.1.1]. The consultant shall have all necessary testing performed to fully characterize all current and potential products that could reasonably be found at such sites and be transported through the treatment system, review the proposed system for treatment of all such products, and make recommendations. The Fire Department will develop a list of acceptable consultants. Prior to hiring the consultant, a scoping and objectives meeting shall be set with the Fire Department.

If you should have any questions, please do not hesitate to call.

Jeffrey D. Halpert
Kelly Coudsy
Patrick Shelton
Fire Prevention Inspector

cc: Steve Zurn, Public Works

WASTEWATER RECLAMATION
SOLID WASTE MANAGEMENT

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422

CHARLES W. CARRY
Chief Engineer and General Manager

February 12, 1998
File No. 31R-104.10

Mr. Vasken Demirjian
Hazardous Materials Supervisor
Glendale Fire Division
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, CA 91201

Dear Mr. Demirjian:

Scholl Canyon Landfill
Landfill Gas Condensate Characterization and Discharge
(Permit No. W-2762)

This is in response to your January 26, 1998 letter regarding condensate characterization and discharge from Scholl Canyon Landfill.

The Sanitation Districts understand the significance of the flash point results. The Sanitation Districts did take appropriate action and worked cooperatively with City of Glendale Fire Department staff to address this issue.

As discussed in the Scholl Canyon Landfill Industrial Wastewater Discharge Self Monitoring Report for the Fourth Quarter of 1997, two samples analyzed by the Montgomery Watson Laboratories (MWL) during the monitoring period showed flash point values lower than 140 degrees Fahrenheit. To verify these results, both the City of Glendale and the Sanitation Districts collected multiple samples in December 1997 and January 1998 for flash point analyses. These analyses were conducted at Weck Laboratory and City of Los Angeles Department of General Services. All samples analyzed at these two laboratories showed that landfill gas condensate discharged from the Scholl Canyon Landfill was not flammable. The attached table summarizes these results.

As indicated in the table, there were five samples that did not meet the flash point requirement. Three of these samples were analyzed by MWL. The other two samples were collected on December 18, 1997 by the City of Glendale inspector and analyzed at an unknown laboratory. The results from these two samples are questionable because these samples, although having very different characteristics, were found to have almost identical flash points - 83 and 84 degrees Fahrenheit. One of these samples consisted of 100% landfill gas condensate, while the other was 90% canyon water and 10% condensate. The Sanitation Districts would appreciate knowing if these samples were analyzed by MWL.

The Sanitation Districts initiated an evaluation of the equipment and procedures used by MWL

for flash point analysis in January 1998. The evaluation was prompted by an observation that virtually all (33 out of 34) samples analyzed by MWL since September 24, 1997 for Sanitation Districts' industrial waste compliance programs were found to have low flash points. The Sanitation Districts recently completed this evaluation and concluded that flash point test results obtained by MWL are unreliable and are likely to give false positive results. The City of Glendale is free to contact MWL to verify these findings.

At the January 12, 1998 meeting, the Sanitation Districts found out that a sample was collected by the City of Glendale inspector on December 19, 1997 from the Scholl Canyon Landfill Gas Compressor Facility (Compressor Facility). The Compressor Facility, although located on the premises of the Scholl Canyon Landfill, is operated by the Scholl Canyon Landfill Gas Limited Partnership, and the Sanitation Districts have nothing to do with this facility. Wastewater from the Compressor Facility is discharged to the City of Glendale sewer system under a separate industrial wastewater discharge permit. Attached is a flow diagram of industrial wastewater streams generated from the Scholl Canyon Landfill site, both the active and closed portions of the landfill, and from the Compressor Facility. It is clear from this flow diagram that the discharge from the Compressor Facility is not related to Permit No. W-2762.

Finally, your letter also mentioned that the City of Glendale Fire Department is in the process of requiring a complete evaluation and analysis of gas recovery and treatment system by a third party. You indicated that this evalution would assist your plan-check process of treatment system modifications submitted by the Scholl Canyon Landfill Gas Limited Partnership. The Sanitation Districts would like to participate in this evaluation process since your requirements for discharge of canyon water and condensate may change pending results of this third party evaluation.

If you have any other questions regarding this matter, please do not hesitate to contact Mr. Larry Kaufman of this office.

Very truly yours,

Charles W. Carry

Thomas J. LeBrun
Division Engineer
Solid Waste Management Department

TJL:LDK:leh
Attachment

cc: Kerry Morford, City of Glendale, Director of Public Works

Scholl Canyon Landfill Waste Water Flash Point Analyses

SAMPLING DATE	COLLECTED BY	ANALYZED BY	FLASH POINT (°F)
CANYON WATER & CONDENSATE			
10/16/97	BCA	MWL	**76**
12/18/97	CITY	NA	**84**
12/19/97	BCA	MWL	**81**
12/19/97	CSD	WECK	>200
CANYON WATER			
12/19/97	BCA	MWL	>140
12/19/97	CSD	WECK	>200
12/31/97	CITY	LACL	>140
12/31/97	CSD	WECK	>200
LANDFILL GAS CONDENSATE			
12/18/97	CITY	NA	**83**
12/31/97	CITY	LACL	>140
12/31/97	CSD	WECK	>200
12/31/97	CSD	WECK	>200
1/5/98	CSD	MWL	**78**
1/5/98	CSD	WECK	>200
1/5/98	CITY	LACL	>140
1/12/98	CSD	WECK	>200
1/12/98	CITY	LACL	>140
1/12/98	CSD	WECK	>200
1/12/98	CITY	LACL	>140

NOTES:

BCA - BC ANALYTICAL

CITY - CITY OF GLENDALE

CSD - COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

MWL - MONTGOMERY WATSON LABORATORIES

WECK - WECK LABORATORY

LACL - ANALYSIS: CITY OF LOS ANGELES DEPT. OF GENERAL SERVICES, STANDARDS DIVISION

NA - NOT AVAILABLE (LABORATORY IDENTITY NOT CONFIRMED)

CITY OF GLENDALE

CLOSED SCHOLL CANYON LANDFILL

CLOSED SCHOLL CANYON LANDFILL GAS COLLECTION SYSTEM CONDENSATE (146,665 gal)

CLOSED SCHOLL CANYON LANDFILL CANYON WATER EXTRACTION WELLS (9,741,181 gal)

SCHOLL CANYON LANDFILL

SCHOLL CANYON LANDFILL CANYON WATER EXTRACTION WELLS (10,333,882 gal)

CANYON WATER AIR STRIPPER EFFLUENT

Average portion of discharge to sewer = 96.16%
Average BOD = 10.9 mg/l
Average TSS = 89.4 mg/l
(20,075,063 gal)

SAMPLE BOX IW1

WEIR BOX (INSTRUMENTED)

RADIATOR WATER FILLING PAD OVERFLOW (IN SCALE AREA)

Average portion of discharge to sewer = 0.55%
Average BOD = NOT ANALYZED
Average TSS = NOT ANALYZED
(115,450 gal)

TO CITY OF GLENDALE TRUNK SEWER LINE (PERMIT NUMBER W-2762)

SCHOLL CANYON LANDFILL GAS COLLECTION SYSTEM CONDENSATE (539,259 gal)

LANDFILL GAS CONDENSATE AIR STRIPPER EFFLUENT

Average portion of discharge to sewer = 3.29%
Average BOD = 2953.3 mg/l
Average TSS = 109.8 mg/l
(685,924 gal)

LIQUID SODIUM HYDROXIDE ADDED FOR NEUTRALIZATION OF PH

WEIR BOX INSTRUMENTATION:

1) WATER LEVEL SENSOR TO MEASURE FLOW THROUGH WEIR
   - CURRENT FLOW RATE DISPLAYED
   - CUMULATIVE FLOW RECORDED ON TOTALIZER

2) pH SENSOR
   - ACTIVATES ALARM IF OUTSIDE PERMITTED pH RANGE
   - pH RECORDED ON CHART

SANITARY DISCHARGE FROM FLARE STATION AREA TRAILERS

SANITARY DISCHARGE FROM SCALE AREA OFFICE

SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP

SCHOLL CANYON LANDFILL GAS COMPRESSOR FACILITY

CONDENSATE FROM SCHOLL CANYON LANDFILL GAS COMPRESSOR FACILITY (UNDER SEPARATE I.W. PERMIT)

COMPRESSOR FACILITY CONDENSATE AIR STRIPPER AND DISCHARGE POINT TO SEWER

FLOW METER *

SAMPLE BOX *

TO CITY OF GLENDALE TRUNK SEWER LINE

NOTES:

Discharge volumes and percentages are for 1995-1996 discharges.

Water quality data presented is average for sample data from 1995 - 1996.

* - Flow meter and sample box required, but not yet constructed.

CITY OF Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201 • (818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

January 20, 1998

County Sanitation Districts
of Los Angeles County
P.O.Box 4998
Whittier, CA 90607-1400

Attention: Thomas J. LeBrun, Division Engineer

Subject: Condensate Characterization and Discharge

Dear Mr. LeBrun:

On January 12, 1998, we met with the County Sanitation District staff at the Scholl Canyon Landfill to discuss and review the flammability issue of landfill gas condensate. A three point proposal was submitted by your staff highlighting a potential problem with flash point analysis results received from the Montgomery Watson Laboratories.

This issue was further discussed in your Self Monitoring Report for the fourth quarter of 1997, dated January 15,1998. However, both the January 15th. report and your staff proposal failed to acknowledge the significance of December 18 and 19 sample results indicating flammable characteristics.

Due to the dynamic nature of this waste stream and many unanswered questions that exist, the Fire Department is in process of requiring a complete evaluation and analysis of gas recovery and treatment system by a third party. This evaluation will also assist us in the plan-check process of treatment system modification plans submitted by the Scholl Canyon LFG Limited Partnership.

In the interim, as of January 13, 1998, the Fire Department approved the normal discharge of canyon water and condensate into the sewer. This activity is subject to potential future modification or policy directives to be established as a result of the third party evaluation.

Should you have any questions with regard this matter, please feel free to call me or Capt. Indermill at (818)548-4030.

Very truly yours,

Vasken Demirjian,
Hazardous Materials Suprv.

c.c.: Larry Kaufman
Capt. Indermill
Inspector Ahern

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

562 426-9544
FAX 562 427-0805
http://www.scseng.com

SCS ENGINEERS

April 9, 1998
File No. 0196115.00

City of Glendale
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

Attention: Industrial Waste Program

SUBJECT: INDUSTRIAL WASTEWATER MONITORING, FIRST QUARTER 1998, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

This letter constitutes notification that no industrial wastewater has been discharged from the Scholl Canyon facility between January 1, 1998 and March 31, 1998. As such, no self-monitoring was conducted at Scholl Canyon during the first quarter (January through March) 1998.

Since January 1998, all condensate collected as part of the Scholl Canyon Landfill Gas treatment facility has been collected and subsequently hauled off-site for appropriate disposal. This change in process is the result of repeated oil and grease discharge limitation violations. Please note that the pending upgrade and re-location of the system to the compressor station area will mitigate problems with oil and grease and will allow condensate to be treated and discharges to the city sewer system as originally intended.

Please address any questions or comments related to this submittal to our office.

Sincerely,

Ray Huff, R.E.A.
Project Scientist

Patrick S. Sullivan, R.E.A., C.P.P.
Project Manager
SCS ENGINEERS

Enclosures

cc: Chris Foland; SCS Field Services
Gordon Deane; Palmer Management Corp.

SCHOLL CANYON CONDENSATE TREATMENT UPGRADES

Areas of Fire Department Regulatory Concern.
- Hazardous and Industrial Waste.
- Fire and Life Safety.
  - Facility design and operation.
- Variability of product stream from Landfill gasses.

Hazardous waste- Industrial waste.
- Industrial waste.
  - Discharge to sewer shall meet State, Federal and Local standards.
  - Pretreatment facilities and processes shall be adequate to maintain discharge quality at those levels.
- Hazardous Waste having the characteristic of inflammability is regulated by *Title 22* CCR and Glendale as a CUPA requires
  - tiered perimiting
  - CUPA permit

Fire and Life Safety
- Plan review prior to construction to verify that safety issues are addressed prior to construction of inadequate design. Plan check evaluates (#10339 dated 1-7-98)
  - Handling of Flammable and combustible liquids.
    - Equipment, piping, monitoring systems, automatic shutdowns and interlocks.
    - Contaminants- oil and grease, sulfides and odor elimination
    - Secondary containment.

Variability of Waste stream.
- The landfill gasses collected at Scholl Canyon have, on occasion, shown the characteristic of inflammability. This in unusual but not unheard of. Treatment processes designed for this type of material are considerably more expensive to build and operate.
  - OWT Emcon was selected by Glendale Public Works, SCS-LP and Glendale Fire as a third party to evaluate waste stream variability and adequacy of design.

Glendale Fire has notified SCS-LP and SCS-Engineering that the following are required:
- All discharge to sewer system must meet State, Federal and Local limits.
  - Batch testing for flammability prior to discharge is allowble.
  - Periodic testing for other contaminants shall be performed as proscribed in the Permit when a permit for the new process is issued. Standards will be largely equal to those of the previous permit.
- Wate Treatment and disposal shall be permited by the Emvironmental Management Center per _____. Operation without such a permit is a violation of _____.

CITY OF GLENDALE

Temporary operation of the treatment system was allowed with the following provisions. (Letter from David Starr to Steve Zurn dated January 29, 1998.)

A third party review process must be in place.
The third party agreement was to be managed and funded by Public Works.
The treatment system developement and construction was to be continuously monitored by the third parry. Regular (weekly) reports were to be provided to the Fire Department (Captain Indermill.)
A working time schedule was to be provided that outlined when plans would be approved and implementation could begin.

Current situation

In a letter to Captain Indermill dated September 16,1998, SCS Engineering indicated

Construction is virtually complete
Building Permits have been signed off
No discussion of Fire Department Plan check requirements
No global analysis of the suitability of the equipment, piping, monitoring systems, automatic shutdowns and interlocks for use with flammable materials was performed.
No discussion of OWT Emcon's recommendations or involvement in the design review process.
No discussion of Tiered Permiting requirements that have or have not been met.
SCS would like to start up the plant with a four day "close-out sampling regime" developed with Public Works- not OWT Emcon.

Recommendation

We should not change or reduce any of the requirements previously communicated to SCS at this time.
We should have closer involvement in tracking the third party consultants involvement in the process evaluation.
We should require regular reports as spelled out in F. M. Starr's letter of January 29,1998.
We should follow the recommendations of the agreed third party as to additional requirements for process safety waste stream characterization.
We should not issue any permits until all areas of Fire Department concern are satified..
We should revoke the temporary operating permit on _____ if these conditions are not satified..

Z-7

CITY OF GLENDALE

INTERDEPARTMENTAL COMMUNICATION

DATE August 4, 1999

TO B/C Starrr

FROM Vasken Demirjian

SUBJECT Scholl Canyon Landfill Gas

Per your request, the following outline provides a summary of state regulations regarding hazardous waste handling, management and treatment:

1. California Code of Regulation (CCR), Title 22, Section 66265.31 - Maintain site to minimize possibility of fire, explosion, or unplanned release of hazardous waste constituents to air or surface water.
2. CCR, Title 22, Section 66265.51(a) - Maintain a contingency plan onsite.
3. CCR Title 22, Section 66265.52(d) - Identify an Emergency Coordinator.
4. CCR Title 22, Section 66265.16(a)(2) - Provide adequate training to the employees
5. CCR Title 22, Section 67450.3(c) - Prepare and maintain an Onsite Hazardous Waste Treatment Facility Information Plan.
6. CCR Title 22, Section 67450.3(c)(9) - Prepare and maintain a written Operating Instructions for the treatment unit.

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

562 426-9544
FAX 562 427-0805
http://www.scseng.com

SCS ENGINEERS

January 21, 1998
File No. 0196115.00

Mr. Gregory P. Ahern
City of Glendale
Environmental Management Center
780 Flower Street
Glendale, California 91201
OFFICE (818) 548-4030
FAX (818) 549-9777

SUBJECT: NOTICE OF VIOLATION, SCHOLL CANYON LFG LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

Dear Greg:

The Scholl Canyon LFG Limited Partnership (SC-LP) was recently issued a Notice of Violation (NOV, dated December 31, 1997) for violation of its effluent limitation for flash point, dissolved oil and grease, and dissolved sulfides, which occurred December 19, 1997, during grab sample collection by the City of Glendale. This response to the NOV is provided by SCS Engineers (SCS) on behalf of the SC-LP in accordance with Industrial Waste Discharge Permit (W-3142).

Analytical results from the December 19, 1997 sampling event indicated that the condensate from the treatment system had a flash point of 81° Fahrenheit, dissolved oil and grease content of 1,524 mg/L and a dissolved sulfides content of 4.54 mg/L. These levels are all in exceedance of the appropriate discharge limitations of >140° Fahrenheit for flash point, 600 mg/L for oil and grease, and 1.0 mg/L for dissolved sulfides. SC-LP believed that these violations, as well as the numerous violations that have occurred during 1997, are a result of the inadequacy of the existing wastewater treatment system. Further, it is believed that the pending upgrade to the condensate treatment system will solve the numerous violations problems that have become a more common occurrence.

Therefore, as of January 6, 1998, SC-LP has temporarily ceased discharging condensate to the publicly owned treatment works (POTW) sewer system, to expedite the upgrade of the condensate treatment system. The accumulated condensate on-site has been hauled away for proper disposal. Once the proper manifests have been returned to SC-LP, copies will be made available to the City of Glendale for your reference.

Further it should be noted that SC-LP's intent was to only temporarily cease discharge to the POTW and to resume discharge after the completion of the new condensate treatment system at the Scholl Canyon LFG compression station. However, due to the failure of the Fire Department to approve the plans, construction has been suspended.

WASTEWATER RECLAMATION
SOLID WASTE MANAGEMENT

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (310) 699-7411, FAX: (310) 695-6139

CHARLES W. CARRY
Chief Engineer and General Manager

January 15, 1998
File No. 31R-104.10

Mr. Gregory P. Ahern
Industrial Waste Inspector
Glendale Fire Division
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, CA 91201

Attention: Industrial Waste Program

Dear Mr. Ahern:

Scholl Canyon Landfill
Industrial Wastewater Discharge Self Monitoring Report
For the Fourth Quarter of 1997
(Permit No. W-2762)

The purpose of this letter is to submit self monitoring data for Scholl Canyon Landfill pursuant to permit No. W-2762 issued by the City of Glendale. Included in this letter are the quarterly compliance report sheet and laboratory analysis reports for the fourth quarter of 1997.

On October 15, through 16, 1997, one sample was obtained for quarterly self monitoring at the site industrial waste sample box IW1. The sample was collected by BC Analytical sampling personnel, and sent to Montgomery Watson Laboratories (MWL), an independent, state certified laboratory for analysis. The discharge quantities reported in this letter consist solely of the volume discharged through the industrial wastewater flow meter except average daily flow which also includes the volume discharged from the radiator filling area drain. The laboratory results for the quarterly self monitoring sample are attached. The analytical results indicate no violations of discharge limits during the fourth quarter of 1997, except for flash point. The apparent violation of the flash point requirement is attributed to laboratory error, and is described in detail below.

On December 17, 1997, the Sanitation Districts notified the City of Glendale that the laboratory analyses performed by MWL on the quarterly industrial waste water sample had been completed, and that the results indicated an apparent violation of the flash point requirement for the waste water. MWL determined that the flash point for the sample is 76 degrees Fahrenheit (°F); the minimum flash point required in the permit is 140 °F. Historically, waste water discharged from

JULY
G.F. M
(1) F

the Scholl Canyon Landfill has always met the requirement for flash point. There were no unusual characteristics detected in the October 15-16, 1997 waste water sample that would account for the drastic decrease of the flash point. To verify the result, the City of Glendale and the Sanitation Districts collected additional waste water samples for flash point analyses. These samples were analyzed at the City of Los Angeles Department of General Services, Standards Division Laboratory (City Laboratory), MWL, and Weck Laboratory, another independent, state certified laboratory. The composition of the samples and the results from these samples are summarized on the attached table. Samples collected on the same date and analyzed at different laboratories indicate split samples.

Samples consisting of typical waste water, which contains a mixture of landfill gas condensate and canyon water, had varying flash point results depending on the laboratory conducting the analysis. However, samples consisting of only canyon water always met the flash point requirement of 140 °F. Therefore, the apparent flash point violations were presumably caused by landfill gas condensate, or by errors in conducting the flash point analyses. Following the instructions of the City of Glendale's industrial waste inspector, the Sanitation Districts began on December 31, 1997, to only discharge landfill gas condensate in batches after each batch had been tested and shown to have a flash point of greater than 140 °F. A total of ten landfill gas condensate samples were collected by the City of Glendale industrial waste inspectors and Sanitation Districts personnel between December 31, 1997, and January 12, 1998. The samples were analyzed by the City Laboratory, MWL, and Weck Laboratory. The results, as summarized on the attached table, show that all samples, except the one analyzed by MWL, meet the flash point requirement. These results suggest that flash point results from MWL are suspect. On January 12, 1998, the Sanitation Districts met with the City of Glendale to discuss this issue. Because the results overwhelmingly show that the flash point of landfill gas condensate is greater than 140 °F, the City of Glendale approved normal discharge of all waste water from the Scholl Canyon Landfill beginning on January 13, 1998.

If you have any questions regarding any of the enclosed materials, please call Mr. Larry Kaufman at the number listed above.

Very truly yours,

Charles W. Carry

Thomas J. LeBrun
Division Engineer
Solid Waste Management Department

TJL:LDK:leh
Enclosures

Scholl Canyon Landfill Waste Water Flash Point Analyses

SAMPLING DATE	COLLECTED BY	ANALYZED BY	FLASH POINT (°F)
CANYON WATER & CONDENSATE			
10/16/97	BCA	MWL	76
12/18/97	CITY	NA	84
12/19/97	BCA	MWL	81
12/19/97	CSD	WECK	>200
CANYON WATER			
12/19/97	BCA	MWL	>140
12/19/97	CSD	WECK	>200
12/31/97	CITY	LACL	>140
12/31/97	CSD	WECK	>200
LANDFILL GAS CONDENSATE			
12/18/97	CITY	NA	83
12/31/97	CITY	LACL	>140
12/31/97	CSD	WECK	>200
12/31/97	CSD	WECK	>200
1/5/98	CSD	MWL	78
1/5/98	CSD	WECK	>200
1/5/98	CITY	LACL	>140
1/12/98	CSD	WECK	>200
1/12/98	CITY	LACL	>140
1/12/98	CSD	WECK	>200
1/12/98	CITY	LACL	>140

NOTES:
BCA - BC ANALYTICAL
CITY - CITY OF GLENDALE
CSD - COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
MWL - MONTGOMERY WATSON LABORATORIES
WECK - WECK LABORATORY
LACL - ANALYSIS: CITY OF LOS ANGELES DEPT. OF GENERAL SERVICES, STANDARDS DIVISION
NA - NOT AVAILABLE (LABORATORY IDENTITY NOT CONFIRMED)

CITY OF Glendale CALIFORNIA

DRAFT

Environmental Management Center
780 Flower Street, Glendale, CA 91201

(818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

January 7, 1998

Scholl Canyon LFG Limited Partnership
c/o Scholl Canyon Land Fill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

ATTENTION: Gordon L. Deane, President

SUBJECT: Termination of Discharge and Proper Disposal of Flammable Material

Dear Mr. Deane:

On January 5, 1998, two split samples of condensate wastewater from the subject facility were taken and analyzed for ignitability (Flash Point) by two different State certified laboratories. According to the Lab analysis results, one sample exhibited the characteristic of ignitability (Flash Point<140°F) and the other did not. It is our intention at this point to base our decision by relying on the conservative result in order to protect and prevent any potential harm to the environment.

The Glendale Municipal Code (GMC), Article V, Section 13.40.310 prohibits the discharge of flammable materials to the sanitary sewer. Additionally, a material with a Flash Point below 140°F is also classified as being hazardous waste in accordance with California Code of Regulations (CCR) Title 22, Section 66261.21.

You are required to terminate the discharge of wastewater that meets the above criteria to the sanitary sewer, including the collected condensate wastewater in 10,000 gallons storage tanks.

In March and April of 1997, samples of condensate prior to its treatment also exhibited the characteristic of ignitability. In accordance with CCR, Title 22 any process treating waste with this characteristic must be performed under a Tiered Permit issued by this office.

CITY OF GLENDALE CALIFORNIA

PRINTED ON RECYCLED PAPER.

SCHOLL CANYON LFG LIMITED PARTNERSHIP
c/o Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200, Cohasset, MA 02025-1828
Tel: 617/383-3200; Fax: 617/383-3205

April 29, 1997

Mr. David D. Starr
Fire Marshall
Mr. Gregory P. Ahern, Sr.
Industrial Waste Inspector
Environmental Management Center
City of Glendale
780 Flower Street
Glendale, CA 91201

SUBJECT: Notices of Violation -- April 10, 1997; April 28, 1997

Gentlemen:

This letter will serve as our response to both of the aforementioned notices.

April 10, 1997 Notice

As discussed in paragraph 3 of the subject notice, prior to the time of the notice, Mr. Ahern was contacted by Patrick Sullivan of SCS Engineers and the problem and likely cause were discussed. It was agreed that the violation was likely caused by the loss of carbon from the carbon beds due to the loss of a screen which holds the carbon in place. Mr. Sullivan immediately obtained authorization to fix the screen and replace the carbon. In addition, as required by our permit, additional testing was scheduled. That testing was (and as discussed below, we hope still can be) scheduled for today.

With respect to the replacement of the oil water separator mentioned in Mr. Ahern's letter, we have sought and received proposals from two vendors. One proposal was returned as inadequate and we are awaiting a revised proposal from the vendor. As soon as a final decision is made with respect to the required equipment, the placement of the equipment, and the operation of the equipment for not only a new oil water separator system but also the other modifications being sought by the City, we will proceed with ordering. As you know, this project has been delayed many times due to circumstances beyond our control. The different parties involved have resulted in numerous changes being requested. These changes have been requested by your department as well as Glendale Public Works and the County Sanitation Districts of Los Angeles County. As of last week, again there have been suggested changes which we are trying to address. Currently, a meeting is being scheduled for Tuesday or Wednesday next week. We hope that all matters can be addressed at that time so the design is set, equipment can be ordered, and we can proceed with the installation.

April 28, 1997 Violation

With respect to the above notice, which was received via fax today, based on information received by us to date Scholl Canyon LFG Limited Partnership (SC-LP) does not believe that it was the cause of the odor complaints. We respectfully request that your office provide us with the exact dates, times, locations and sources of the complaints. A copy of your logs indicating complaints received will be required as well for our investigation. We have verbally requested similar information from Glendale Public Works, but that Department indicates that it has received no such complaints. Further, we have checked with our operators which are still required to conduct "odor patrols" when we are discharging and they have indicated that they have not noticed any odor at those times.

Despite the fact that we do not believe we are the cause, SC-LP had suspended discharges as requested pending the receipt of new carbon beds. Those beds are now in place. Further, we had scheduled a re-test of the condensate as required by our permit for today to demonstrate that our condensate is meeting the requirements of our permit. That test was put on temporary hold pending receipt of this notice which we were informed would be coming to us.

As indicated by your letter, we have the option of providing the required pretreatment or hauling the condensate off-site for legal disposal. Based on our belief that the required pretreatment is in place and that our discharge will be in full compliance with our permit, we have instructed our operators to proceed with the discharge and, hopefully, reschedule the test of the condensate for today or tomorrow to demonstrate such compliance.

Given the information which we have, the above should provide an adequate response to the two notices. Upon receipt of the requested information from your department, we can respond more fully to the specific complaints which your department says it has received.

Please feel free to contact me directly if you have any questions on this matter.

SCHOLL CANYON LFG LIMITED PARTNERSHIP
by Scholl Canyon Landfill Gas Corporation, its General Partner

Gordon L. Deane
President

cc: Steve Zurn, Jake Amar -- Glendale Public Works
Jim Bier, Steve Cooper -- SCS Field Services
Pat Sullivan -- SCS Engineers

CITY of GLENDALE - FIRE DEPARTMENT
Fire Prevention & Environmental Management Center - FP&EMC
780 Flower Street, Glendale, California 91201
(818) 548-4030
www.ci.glendale.ca.us

October 2008

Annual Unified Program Certification

Dear Business Owner:

Chapter 6.95 of the California Health and Safety Code requires your Hazardous Materials Business Emergency Plan (HMBEP) to be reviewed and updated annually.

Please find your most recent Hazardous Materials Business Emergency Plan that you have in your possession somewhere within your records. This Plan should include Facility & Chemical Inventory information. Review the information carefully and confirm the accuracy of all your hazardous materials with the actual quantities. If there are no changes, mark the first box below that indicates no changes have been made and **return this page to above address** on the letterhead. This will serve as your official certification statement and update in accordance with Title 19, Section 2729 requirements.

If you have made changes to your HMBEP, please check the "CHANGES HAVE BEEN MADE" box below **and return this page to above address** on the letterhead. The Fire Department will send you all of the appropriate forms necessary to update your status.

CHECK THE APPROPRIATE BOX AND SIGN THE FORM BELOW

☑ OUR BUSINESS HAS PREVIOUSLY FILED THE HAZARDOUS MATERIALS INVENTORY FORM PURSUANT TO SECTION 2729.2 AND 2729.3 REQUIREMENTS AND NO CHANGES HAVE BEEN MADE (all items must be correct):

1. The information contained in the hazardous materials inventory most recently submitted to the CUPA is complete, accurate, and up-to-date.
2. There has been no change in the quantity of hazardous material as reported in the most recently submitted Inventory.
3. No hazardous materials subject to inventory requirements and not listed on our most recently submitted inventory form are being handled.

☐ CHANGES HAVE BEEN MADE:

☐ **Emergency Contacts** - If within the last 12 months your facility changed the two main contacts and their phone, you can make the appropriate corrections by printing their names and phone numbers below and return to us to above address.

Emergency Contact #1 & Phone #: _____

Emergency Contact #2 & Phone #: _____

☐ **Chemical Inventory** - Review your facility Chemical Inventory. Check this box if additional types of chemicals, hazardous liquids, solids, compressed gases, or hazardous waste have been added or deleted from your business operation. If chemicals have been added or deleted, The Fire Department **will e-mail** you all of the forms necessary to update your record.

I certify under penalty of law, that I am the business owner or officially designated representative of the business, have reviewed the current hazardous materials inventory on file with the Glendale Fire Department and certify the submitted information is true, accurate and complete.

SCHOLL CANYON LANDFILL — Business Name

3001 SCHOLL CANYON ROAD — Facility Address

William Gross — Print Name of Owner/Operator

Signature of Owner/Operator

11/19/08 — Date

NOV 2008 Received Hazardous Materials Section (CUPA)

_____ **e-mail Address** (Required if you checked the last box)

PLEASE RETURN THIS FORM WITHIN 2 WEEKS OF RECEIPT

50007286

JAN 2008 Received

William Gross — Signature of Owner/Operator

3001 SCHOLL CANYON ROAD — Facility Address

CITY of GLENDALE - FIRE DEPARTMENT
Fire Prevention & Environmental Management Center - FP&EMC
780 Flower Street, Glendale, California 91201
(818) 548-4030
www.ci.glendale.ca.us

November 2007

Annual Unified Program Certification

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I certify under penalty of law, that I am the business owner or officially designated representative of the business, have reviewed the current hazardous materials inventory on file with the Glendale Fire Department and certify the submitted information is true, accurate and complete.

SCHOLL CANYON
Business Name

3001 SCHOLL CANYON ROAD
Facility Address

BRAD EVERETT
Print Name of Owner/Operator

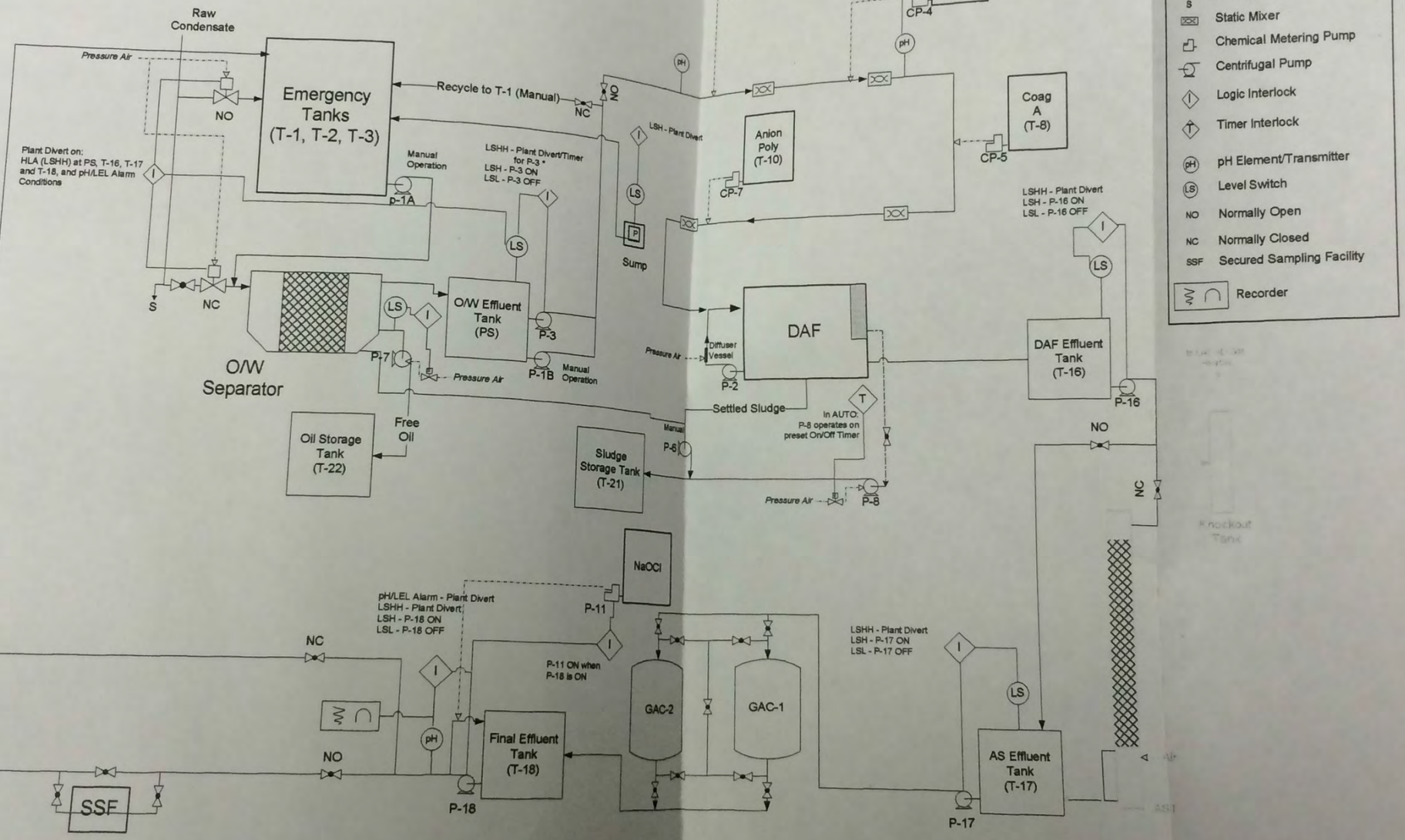
Signature of Owner/Operator

11-20-07
Date

NOV 2007
Received
Hazardous Materials Section

_____
e-mail Address (Required if you checked the last box)

PLEASE RETURN THIS FORM WITHIN 2 WEEKS OF RECEIPT



Symbols

- Pneumatic Shutoff Valve
- Solenoid Valve
- Ball Valve
- Sampling Port
- Static Mixer
- Chemical Metering Pump
- Centrifugal Pump
- Logic Interlock
- Timer Interlock
- pH Element/Transmitter
- Level Switch
- NO Normally Open
- NC Normally Closed
- SSF Secured Sampling Facility
- Recorder

Note:

* LSHH at PS divert raw condensate to T-1, but continues P-3 on timer. If LSHH disengages, plant to Normal Operation. If Timer times out, Plant to Divert

** Under normal conditions the Air Stripper is offline, as shown by valve positions at discharge from T-16.

REV.	DESCRIPTION	DATE	BY
1	Update PS pumps logic	3/24/99	AL
2	PS logic update/piping update	5/18/99	AL
3	Update Layout/Schedule	10/18/07	AL

INVIROTREAT INC.
INNOVATIVE TREATMENT
FULLERTON, CA

SCS FIELD SERVICES
LONG BEACH, CA

CTS RECORD DRAWINGS
PIPING & INSTRUMENTATION DIAGRAM

SCHOLL CANYON LANDFILL
CONDENSATE TREATMENT SYSTEM

SCALE: NOT TO SCALE
APP'D BY: KA
CHECKED: AL
DRAWN BY: AL

DRAWING No.
M-2

1. INTRODUCTION

This document serves as a hazard communication program to be used at the Palmer Management/Scholl Canyon Landfill Gas Plant and Condensate Treatment System. It is intended to identify the hazardous substances present at the Scholl Canyon facility, provide technical safety information on each substance (chemical) and precautionary measures that need to be taken to protect the employees during the workplace's normal operating conditions and in foreseeable emergencies.

For additional information, refer to the following documents which are stored at the Operation Trailer:

- Operations and Emergency Response Document
- Injury and Illness Prevention (IIP) Program
- CTS Process Safety Plan
- Gas Plant Field Operations Manual
- Facility MSDS Book
- Spill Prevention and Countermeasure Control Plan
- Hazardous Material Business Plan

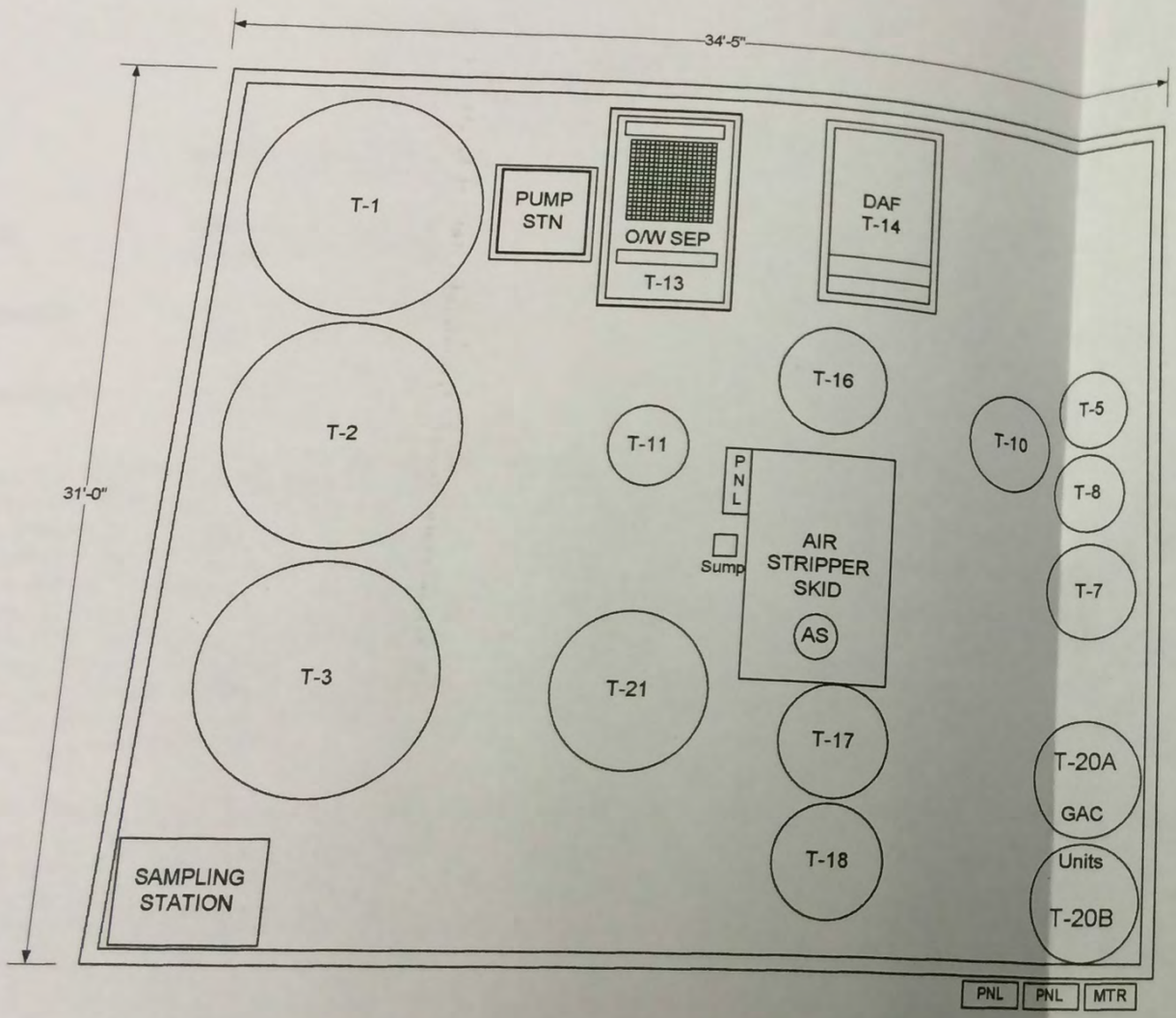
2. LIST OF HAZARDOUS MATERIALS IN THE WORKPLACE

Hazardous material being used at the Palmer Management Gas Plant and Condensate Treatment System include the following:

- Caustic Soda – Stock Solution, stored in a 180-gallon double contained tank
- Sodium Hypochlorite – Stock Solution, stored in a 150-gallon double contained tank
- Gibraltar Oil
- Used Oil – Removed and stored at the CTS for off-site disposal
- Sulfatrol

In addition, the plant also uses polymers and coagulants in the emulsion treatment process. These chemicals are not considered hazardous. However, they can cause skin, eye or respiratory irritation, and are a safety hazard during spills.

The Gas Plant also stores small quantities of antifreeze, gasoline and oxygen gas for GC calibration.



TANK SCHEDULE

TANK NO.	CAPACITY GALS	SERVICE	DIA IN.	HEIGHT IN.	CONTENTS	REMARKS
T-1	4,000	PROCESS TANK	95	140	RAW WASTEWATER	EXISTING (1)
T-2	4,000	PROCESS TANK	95	140	RAW WASTEWATER	(1)
T-3	4,000	PROCESS TANK	95	140	RAW WASTEWATER	(1)
T-5	110	CHEMICAL TANK	30	48	POLYMER	(1)
T-6						REMOVED
T-7	165	CHEMICAL TANK	36	58	NaOH	(1)
T-8	110	CHEMICAL TANK	30	48	POLYMER	(1)
T-9						REMOVED
T-10	200	CHEMICAL TANK	36	58	POLYMER DRY	(1)
T-11	110	CHEMICAL TANK	35	36	NaOCl	(1)
T-12	50	PROCESS UNIT	14	180	STRIPPER COLUMN	EXISTING
T-13	735	FRP PROCESS TANK		12'	O/W UNIT	
T-14	700	PROCESS TANK		5.5'	DAF UNIT	
T-15						REMOVED
T-16	300	PROCESS TANK	45	60	PARTIALLY TREATED	(1)
T-17	300	PROCESS TANK	45	60	TREATED WASTEWATER	(1)
T-18	300	PROCESS TANK	45	60	FINAL EFFLUENT	(1)
T-19						REMOVED
T-20A	25	PROCESS TANK		N/A	GAC MEDIA BEDS	
T-20B	25	PROCESS TANK		N/A	GAC MEDIA BEDS	
T-21	2,000	SLUDGE HOLDING	54	9.5FT	SLUDGE DAF + O/W	
T-22	300	RECYCLED OIL HOLDG	45	60	OIL SLOPS FROM O/W	
PS	200	PUMP STATION	3'x3'	3'	O/W EFF	
						(1)
TOTAL	18,670 GAL	= 155,750 LBS			(147.8 LB/FT SQ)	

(1) HDPE MATERIAL

LEGEND

PNL	Control Panel
MTR	Monitoring Panel

NOTE

Containment wall is 24-inches high;
Total containment volume is about 16,000 gallons

REV.	DESCRIPTION	DATE	BY
1	Update Tank Schedule	3/24/99	AL
2	Update Layout/Schedule	10/18/07	AL

INVIROTREAT INC.
INNOVATIVE TREATMENT
FULLERTON, CA

SCS FIELD SERVICES
LONG BEACH, CA

CONDENSATE TREATMENT PLANT
RECORD DRAWINGS
MECHANICAL LAYOUT

SCHOLL CANYON LANDFILL
CITY OF GLENDALE

SCALE 1" = 5'
APP'D BY KA
CHECKED BY AL
DRAWN BY AL

DRAWING No.
M-1

MATERIAL SAFETY DATA SHEET

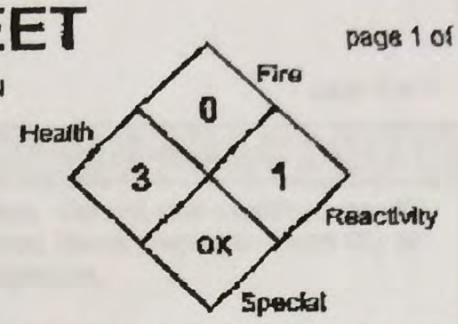
BRENNTAG [redacted]

[redacted]

Brenntag MSDS #:	BPI-30147
MSDS Revision/Issue Date:	08/23/07
Supercedes Revision Date:	07/12/04

NFPA 704 DESIGNATION
HAZARD RATING

4=Extreme
3=High
2=Moderate
1=Slight
0=Insignificant



1. CHEMICAL PRODUCT IDENTIFICATION & COMPANY IDENTIFICATION

PRODUCT IDENTIFIER: Sodium Hypochlorite 12.5% Solution

GENERAL USE: This product is to be used as an industrial bleaching solution. This product is not registered with the EPA for use as a disinfectant or sanitizer and can not be used for those purposes.

PRODUCT DESCRIPTION: An aqueous solution of Sodium Hypochlorite. Synonyms for Sodium Hypochlorite include: Dakins solution; hychlorite; sodium chloride oxide; and sodium oxychlorids.

INFORMATION PROVIDED BY:
Brenntag Pacific, Inc.
5700 N.W. Front Avenue
Portland, OR 97210

For MSDS call: PHONE: 503-242-0200

EMERGENCY PHONE NUMBERS

BRENNTAG:	503-699-7055
CHEMTREC:	800-424-9300
CANUTEC:	613-996-6666

2. COMPOSITION & INFORMATION ON INGREDIENTS

COMPONENT	CAS #	OSHA HAZARD	WT %	ACGIH TLV (TWA)	ACGIH STEL	OSHA PEL (TWA)	OSHA STEL
Sodium Hypochlorite BLEACH	7681-52-9	Corrosive; Oxidizer; Lung toxin	12.5 Minimum	None	None AIHA WEEL: 2 mg/m³ (for 15 minutes)	None	None
Sodium Hydroxide	1310-73-2	Corrosive; Lung toxin	2.0 Maximum	None Ceiling: 2 mg/m³	None	2 mg/m³	None

NDA = No Data Available N/A = Not Applicable

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: A clear, light yellow-green liquid having a chlorine-like odor. The liquid and mists may be corrosive to the eyes, skin and respiratory tract. Inhalation of high mist concentrations can cause permanent lung damage. The NIOSH I.D.L.H. for Sodium Hydroxide is: 10 mg/m³.

POTENTIAL HEALTH EFFECTS

INHALATION: Inhalation of mists may be severely irritating or corrosive to the nose, mouth, throat, mucous membranes and lungs. Symptoms of exposure may include shortness of breath, sneezing, coughing, choking, chest pain, impairment of lung function and burns to the respiratory tract with the production of lung edema. Inhalation of high mist concentrations may result in permanent lung damage.

EYE CONTACT: Exposure to the liquid or mists may cause severe eye irritation or burns. Symptoms of exposure may include tearing, redness, swelling and pain. Corneal damage with impairment of vision may result from direct contact with the liquid, unless treated promptly.

SKIN CONTACT: Exposure to the liquid or mists may cause severe skin irritation or burns. Symptoms of exposure may include redness, swelling, discomfort or pain and possible scab formation. Prolonged skin exposure to the liquid may cause destruction of the dermis with impairment of the skin, at site of contact, to regenerate. No published data indicates this product is absorbed through the skin.

INGESTION: Ingestion may cause severe irritation or burns to the entire gastrointestinal tract, including the stomach and intestines. Symptoms of exposure may include nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration.

CHRONIC: The chronic health effects of exposure to the liquid or mists are expected to be the same as for acute exposure.

Product #: 62409 Name: SODIUM HYDROXIDE 50% Desc: (12.82 PPG)
From: BRENNTAG PACIFIC INC. To: SCHOLL CANYON LFG LIMITED Monday, November 30, 2009

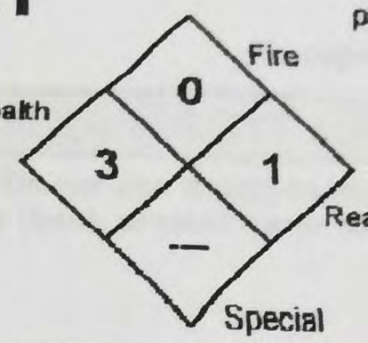
MATERIAL SAFETY DATA SHEET

BRENNTAG

Brenntag MSDS #:	BPI-00182
MSDS Revision/Issue Date:	07/31/07
Supercedes Revision Date:	New

NFPA 704 DESIGNATION
HAZARD RATING

4=Extreme
3=High
2=Moderate
1=Slight
0=Insignificant



1. CHEMICAL PRODUCT IDENTIFICATION & COMPANY IDENTIFICATION

PRODUCT IDENTIFIER: **Sodium Hydroxide 50% Solution (All Grades)**

GENERAL USE: Used in industry to neutralize acids; to precipitate alkaloids; in metal finishing; in cleaners; and to precipitate most metals (as hydroxides) from aqueous solutions.

PRODUCT DESCRIPTION: An aqueous solution of Sodium Hydroxide. Synonyms for Sodium Hydroxide include: caustic s lye soda, sodium hydrate and white caustic.

INFORMATION PROVIDED BY:
Brenntag Pacific, Inc.
5700 N.W. Front Avenue
Portland, OR 97210

For MSDS call: **PHONE: 503-242-0200**

EMERGENCY PHONE NUMBERS

BRENNTAG:	503-699-705
CHEMTREC:	800-424-930
CANUTEC:	613-996-666

2. COMPOSITION & INFORMATION ON INGREDIENTS

COMPONENT	CAS #	OSHA HAZARD	WT %	ACGIH TLV(TWA)	ACGIH STEL	OSHA PEL(TWA)	OSHA STEL
Sodium Hydroxide	1310-73-2	Corrosive; Lung Toxin	50 ± 1	None Ceiling: 2 mg/m³	None	2 mg/m³	None

CAUSTIC SODA

NDA = No Data Available N/A = Not Applicab

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: A clear to slightly turbid, colorless liquid having no characteristic odor. The mists and liquid are corrosiv all tissues contacted. Inhalation of mists may cause permanent lung damage. This material reacts with v to release a large amount of heat and can react violently with acids and other substances. The NI **I.D.L.H. for Sodium Hydroxide is: 10 mg/m³.**

POTENTIAL HEALTH EFFECTS

INHALATION: Inhalation of mists or an aerosol can cause severe irritation or burns to the nose, mouth, throat, mu membranes and lungs. Symptoms of exposure can include coughing, sneezing, choking, shortnes breath, chest pain and impairment of lung function. Inhalation of a high mist concentration may resu permanent lung damage.

EYE CONTACT: Exposure to the mists or liquid can cause severe eye irritation and/or burns. Symptoms of exposure include tearing redness, swelling, pain and possible mucous discharge. Exposure may cause cor damage and/or visual impairment even when prompt treatment is provided.

SKIN CONTACT: Exposure to the mists or liquid can cause severe skin irritation and/or burns. Symptoms of exposure include redness, swelling, pain and possible ulceration. Prolonged skin exposure to this material may ca destruction of the dermis with impairment of the skin, at site of contact, to regenerate. No published indicates this material is absorbed through the skin.

INGESTION: Ingestion can cause severe irritation and/or burns to the entire gastrointestinal
and intestines characteriz

Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant

Ciba

Date / Revised: 12-28-2006 Release: 1.0

Product: AGEFLOC B50-P

NFPA Hazard codes:

Health: 1	Fire: 0	Reactivity: 0	Special:

HMIS III rating

Health: 1	Flammability: 0	Physical hazard: 0	Personal protection: X

HMIS Note: * Indicates possible chronic health effects.

1. Identification of the Substance/Preparation and of the Company/Undertaking

Company Information

Company: Ciba Specialty Chemicals Corporation
2301 Wilroy Road
P.O.Box 820
Suffolk,VA 23434-0820
U.S.A.
Customer Service / Product Information: 1-800-322-3885
MSDS Request Line: 1-800-431-2360

Emergency Information

Emergency 24-Hour Health/Environmental Phone: (24h) +1-800-873-1138

CHEMTREC: (800) 424-9300 (24hrs) or (703) 527-3887

Product information

Product: AGEFLOC B50-P

Use: Coagulant.

2. Hazards Identification

Emergency overview

Signal word:	CAUTION: !
Colour:	amber
Appearance:	liquid
State of matter:	liquid
Odour:	Slightly amine
Health:	MAY CAUSE EYE IRRITATION., MAY CAUSE SKIN IRRITATION.
Physical/Chemical hazards:	Spills are very slippery.

Potential health effects

Primary routes of entry:

Eyes, Skin, Inhalation, Ingestion

Chronic exposure:

Prolonged or repeated contact may cause eye and skin irritation.

3. Composition/Information on Ingredients

Chemical name	CAS Number	Content (Weight)	Hazardous

Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant

Ciba

Release: 1.1

Date / Revised: 04-02-2007

Product: MAGNASOL 2000

NFPA Hazard codes:

Health: 3 Fire: 0 Reactivity: 0 Special: -

HMIS III rating

Health: 3 Flammability: 0 Physical hazard: 0 Personal protection: X

HMIS Note: * Indicates possible chronic health effects.

1. Identification of the Substance/Preparation and of the Company/Undertaking

Company Information

Company: Ciba Specialty Chemicals Corporation
2301 Wilroy Road
P.O.Box 820
Suffolk,VA 23434-0820
U.S.A.
Customer Service / Product Information: 1-800-322-3885
MSDS Request Line: 1-800-431-2360

Emergency information

Emergency 24-Hour Health/Environmental Phone: (24h) +1-800-873-1138

CHEMTREC: (800) 424-9300 (24hrs) or (703) 527-3887

Product information

Product: MAGNASOL 2000

Use: Coagulant.

2. Hazards Identification

Emergency overview

Signal word:	DANGER: !
Colour:	light yellow
Appearance:	liquid
State of matter:	liquid
Odour:	odourless
Health:	Severe irritant to eyes, skin and mucous membranes., Inhalation may cause severe irritation., Harmful if swallowed., Ingestion may result in severe irritaiton or burns of the mouth, esophagus and stomach.
Physical/Chemical hazards:	CORROSIVE LIQUID.

Potential health effects

Primary routes of entry:

Eyes, Skin, Inhalation, Ingestion

3. Composition/Information on Ingredients

Chemical name	CAS Number	Content (Weight)	Hazardous
Aluminum chloride, basic (9Cl)	1327-41-9	15.0 - 40.0 %	Y

Material Safety Data Sheet

OSHA / ANSI Z400.1-2004 Compliant

Ciba

Date / Revised: 03-09-2007

Release: 1.0

Product: MAGNAFLOC 919

NFPA Hazard codes:

Health: 1	Fire: 1	Reactivity: 0	Special:

HMIS III rating

Health: 1	Flammability: 1	Physical hazard: 0	Personal protection: X

HMIS Note: * Indicates possible chronic health effects.

1. Identification of the Substance/Preparation and of the Company/Undertaking

Company Information

Company: Ciba Specialty Chemicals Corporation
2301 Wilroy Road
P.O.Box 820
Suffolk,VA 23434-0820
U.S.A.
Customer Service / Product Information: 1-800-322-3885
MSDS Request Line: 1-800-431-2360

Emergency information

Emergency 24-Hour Health/Environmental Phone:	(24h) +1-800-873-1138
CHEMTREC:	(800) 424-9300 (24hrs) or (703) 527-3887

Product information

Product:	MAGNAFLOC 919
Use:	flocculation agent

2. Hazards Identification

Emergency overview

Signal word:	NOTICE! !
Colour:	off-white
Appearance:	powder
State of matter:	solid
Odour:	odourless
Health:	May cause mild eye and skin irritation based on a component of this product.
Physical/Chemical hazards:	Slip hazard when wet., Organic powders may be capable of generating static discharges and creating explosive mixtures in air. Handle with caution., Refer to MSDS Section 7 for Dust Explosion information.

Potential health effects

Primary routes of entry:

Eyes, Skin, Inhalation, Ingestion

Chronic exposure:

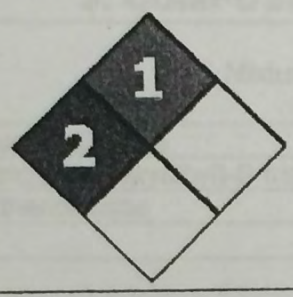
Dusts may cause mechanical irritation to eyes and skin.

3. Composition/Information on Ingredients

Chemical name	CAS Number	Content (Weight)	Hazardous
Urea	57-13-6	1.0 - 10.0 %	Y

multi-chem

Material Safety Data Sheet

NFPA	HMIS
	Health Hazard* 2 Fire Hazard 1 Reactivity 0

Issuing Date 02-Sep-2009 **Revision Date** 02-Sep-2009 **Revision Number** 3

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	MC MX 677-8
Product Code	MC MX 677-8
UN-No	3267
Recommended Use	Hydrogen Sulfide Scavenger.
Manufactured by:	Multi-Chem Group LLC 2905 Southwest Blvd San Angelo, TX 76904 Phone: 1 325 223 6200
Emergency Telephone Number	1 800 535 5053 +1 352 323 3500 (Outside United States)

2. HAZARDS IDENTIFICATION

Emergency Overview

Harmful in contact with skin

Harmful if swallowed

May cause burns of eyes, skin and mucous membranes

Irritating to respiratory system

May produce an allergic reaction

Appearance Clear **Physical State** Liquid **Odor** Slight amine

Potential Health Effects
Principle Routes of Exposure Eye contact, Skin contact, Inhalation, Ingestion

CITY OF Glendale CALIFORNIA

CITY OF GLENDALE, CALIFORNIA
Fire Division
FIRE PREVENTION BUREAU
Environmental Management Center - EMC

780 Flower Street
Glendale, California 91201
(818) 548-4030
www.ci.glendale.ca.us

August 5, 2002

Scholl Canyon LFG Limited Partnership
1309 114th Avenue SE #101
Bellevue, WA 98004

Attention: David Marques

Subject: Notice of Violation
Scholl Canyon LFG Limited Partnership
3001 Scholl Canyon Road

Gentlemen:

In an effort to help you comply with the conditions of your Industrial Waste Permit W-3142, this letter will serve notice that the Self-Monitoring grab sample taken on June 11 , 2002, at the subject facility was found to contain a Total Toxic Organics content of 3.63 mg/L in violation of local discharge limits (2.00 mg/L). The explanation given in the letter dated July 9, 2002, from Invirotreat Inc. concerning the above violation is unacceptable since the duplicate sample was taken 5 minutes after the original sample.

All discharges to the municipal wastewater system must comply with established Federal and Local discharge limits. It is required that a detailed letter explaining the cause of the above violation and describing the corrective actions that will be taken to prevent future violations be submitted to this office. This response should be submitted to this office by August 20, 2002.

If you have any questions regarding the above subject matter please contact me at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.
Fire/Environmental Safety Specialist

July 9, 2002

Mr. Greg Ahern
City of Glendale, E.C.M.
780 E. Flower Street
Glendale, California 91201

SUBJECT: SCHOLL CANYON LANDFILL, CONDENSATE TREATMENT SYSTEM
QUARTERLY MONITORING RESULTS FOR THE PERIOD
APRIL - JUNE 2002
INDUSTRIAL WASTEWATER DISCHARGE PERMIT NO. W-3142

Dear Mr. Ahern:

Invirotreat Inc., on behalf of Palmer Management Partnership/Scholl Canyon, is pleased to submit the results of the quarterly monitoring event conducted on June 11, 2002, at the Scholl Canyon Landfill, Condensate Treatment System (Quarterly period April – June 2002). Samples were taken from the Secured Sampling Facility of the Condensate Treatment System, representing the final discharge point to the City sewer. Sampling and analysis were conducted in accordance with the monitoring requirements of Industrial Wastewater Discharge Permit No. W-3142 for the above facility.

As shown in Table 1 (attached), the results indicate – with the exception of the total toxic organics (TTO's) - compliance with the discharge limitations established by the City of Glendale for this facility. The TTO results during the 6/11/02 monitoring event indicated a total concentration of 3.6 mg/l, which is above the 2 mg/l limit. It should be noted that the granular activated carbon (GAC) vessels, which are responsible for removal of TTO's at the Condensate Treatment System, were serviced a few days prior to the testing event and fresh carbon was deposited in the vessels. Therefore, effective removal of TTO's was anticipated.

We were informed of the elevated TTO results on July 2, 2002. The results reflected high concentrations of volatile organic compounds (VOC's). We immediately requested the laboratory to re-test for VOC's (EPA 8260) using the duplicate vial collected during the sampling event. The re-test results indicated TTO's concentration of 1.7 mg/l, which is below the discharge limit. We also collected on July 3, 2002 a fresh sample from the final effluent for VOC analysis. The results from this sampling event indicated TTO concentration of 0.379 mg/l, which is consistent with historic results.

Based on the results of the retest (6/11/02) sample and the fresh sample (7/3/02), and considering the recent service of the GAC vessels, we are confident that the original results for VOC's were erroneous, perhaps due to laboratory contamination. The proactive approach we took to retest the effluent and the fact that in later analytical results the effluent was in compliance with the discharge limits for TTO's support our conclusion discussed above.

2501 E. CHAPMAN AVENUE • SUITE 100 • FULLERTON• CA • 92831
TEL: (714) 871-1686 • FAX: (714) 871-1687 • WEBSITE: www.invirotreat.com

The complete analytical laboratory reports, including the additional analytical reports for VOC's are included as Attachment A.

Please address any questions or comments related to this submittal to our office or to the Plant Manager, Mr. Bradley Everett at (818) 244-9722. If you would like to discuss the TTO's results, please feel free to call me (office number: 714 871-1686; mobile phone number: 714 926-7505).

Sincerely,

INVIROTREAT INC.

Dr. Alon Lebel
Project Consultant

c: Mr. Brad Everett, Scholl Canyon
Mr. Dave Marques, Palmer Management
Mr. Jake Amar, City of Glendale

(quarterly monitoring report - 04-06-2002)

TABLE 1: ANALYTICAL DATA SUMMARY
SCHOLL CANYON LANDFILL CONDENSATE TREATMENT PLANT
APRIL - JUNE 2002

PARAMETER	UNITS	TEST RESULTS	DUPLICATE RUN	DISCHARGE LIMITS
Metals				
Arsenic	mg/l	<0.05	-	3
Cadmium	mg/l	<0.01	-	15
Chromonium (Total)	mg/l	<0.01	-	10
Copper	mg/l	<0.01	-	15
Lead	mg/l	<0.05	-	5
Nickel	mg/l	<0.02	-	12
Silver	mg/l	<0.01	-	5
Zinc	mg/l	0.05	-	25
Cyanide (Free)	mg/l	<0.02	-	2
Cyanide (Total)	mg/l	<0.02	-	10
Dissolved Sulfides	mg/l	<0.02	-	0.1
Dispersed Oil & Grease	mg/l	66	-	600
pH	s.u.	8.2	-	5.5 - 11
Chloride	mg/l	1,060	-	na
BOD	mg/l	11,200	-	No Limit
COD	mg/l	21,600	-	No Limit
TSS	mg/l	470	-	No Limit
Flash Point	°F	>200	-	<140
Total Toxic Organics (TTO) [1]	mg/l	3.630	1.758	2
VOC - 8260	mg/l	0.222		
SVOC - 8270	mg/l	0	-	
Pesticides - 8080	mg/l	0	-	

1 retest of VOC on 7/3/02 indicate total TTO of 0.379 mg/l

VIOLATION

CITY OF **Glendale** CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201 • (818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

May 24, 2000

FILE COPY

Scholl Canyon LFG Limited Partnership
1309 114th Avenue SE #101
Bellevue, WA 98004

Attention: David Marques,

Subject: NOTICE OF VIOLATION
Scholl Canyon LFG Limited Partnership
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice, and does hereby so provide, that your failure to sample the waste effluent for flammability during the fourth quarter of 1999 and the first quarter of 2000 is in violation of the Industrial Waste Permit Monitoring requirements for the subject facility. The above violations were brought to the attention of your Plant Manager Bradley Everett, on April 19, 2000.

It is necessary that you immediately cease and desist at once from any and all violations of established permit monitoring requirements for the subject facility. You are hereby required to submit within 20 days of receipt of this Notice of Violation a detail letter of explanation as to the cause of the above violations and corrective actions that will be taken to prevent future violations.

If you have any questions regarding the above subject matter, you may contact me or Captain Eric Indermill at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.

Gregory P. Ahern, Sr.
Fire/Environmental Safety Specialist

cc: Capt. Indermill, Fire
Vasken Demirjian, Fire
Jake Amar, P.W. Engineering
Steve Zurn, P.W. Administration

CITY OF GLENDALE CALIFORNIA

CITY OF **Glendale** CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201
(818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

May 24, 2000

COPY

Scholl Canyon LFG Limited Partnership
1309 114th Avenue SE #101
Bellevue, WA 98004

Attention: David Marques,

Subject: NOTICE OF VIOLATION
Scholl Canyon LFG Limited Partnership
3001 Scholl Canyon Road

Gentlemen:

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It is necessary that you immediately cease and desist at once from any and all violations of established permit monitoring requirements for the subject facility. You are hereby required to submit within 20 days of receipt of this Notice of Violation a detail letter of explanation as to the cause of the above violations and corrective actions that will be taken to prevent future violations.

If you have any questions regarding the above subject matter, you may contact me or Captain Eric Indermill at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.

Gregory P. Ahern, Sr.
Fire/Environmental Safety Specialist

cc: Capt. Indermill, Fire
Vasken Demirjian, Fire
Jake Amar, P.W. Engineering
Steve Zurn, P.W. Administration

CITY OF Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201 • (818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

January 14, 1998

Scholl Canyon LFG Limited Partnership
c/o Scholl Canyon Land Fill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

ATTENTION: Gordon L. Deane, President

SUBJECT: Termination of Discharge and Proper Disposal of Flammable Material

Dear Mr. Deane:

On January 5, 1998, two split samples of condensate wastewater from the subject facility were taken and analyzed for ignitability (Flash Point) by two different State certified laboratories. According to the Lab analysis results, one sample exhibited the characteristic of ignitability (Flash Point<140°F) and the other did not. It is our intention at this point to base our decision by relying on the conservative result in order to protect and prevent any potential harm to the environment.

The Glendale Municipal Code (GMC), Article V, Section 13.40.310 prohibits the discharge of flammable materials to the sanitary sewer. Additionally, a material with a Flash Point below 140°F is also classified as being hazardous waste in accordance with California Code of Regulations (CCR) Title 22, Section 66261.21.

You are required to terminate the discharge of wastewater that meets the above criteria to the sanitary sewer, including the collected condensate wastewater in 10,000 gallons storage tanks.

In March and April of 1997, samples of condensate prior to its treatment also exhibited the characteristic of ignitability. In accordance with CCR, Title 22 any process treating waste with this characteristic must be performed under a Tiered Permit issued by this office.

PRINTED ON RECYCLED PAPER

CITY OF **Glendale** CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201 • (818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

December 11, 1997

CERTIFIED MAIL
Return Receipt Requested

Scholl Canyon LFG Limited Partnership
c/o Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
Scholl Canyon Landfill Gas Recovery Project
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice that the Self-monitoring grab sample of condensate wastewater from the subject facility, taken on November 18,1997, was found to have an oil and grease content of 680 mg/L in violation of the local discharge limit for oil and grease of 600 mg/L.

You are required to immediately cease and desist from any and all violations of established local limits for discharge to the municipal wastewater system. You are also required to submit a detailed letter of explanation as to the cause of the above violation and description of corrective actions that will be taken to prevent future violations. Your letter must reach this office by January 5,1998.

Additionally, you are required to resample the wastestream for oil and grease by January 8,1998, to show compliance with local discharge limits.

If you have any questions regarding the above violation you may contact Doug Kitchen or myself at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.
Industrial Waste Inspector

cc: ~~Steve Zurn, P.W. Administration~~
Jake Amar, P.W. Engineering
Ray Huff, SCS

MALONEY PROCESS INC.,
1261 J NORTH LAKEVIEW AVENUE, UNIT 527
ANAHEIM CA. 92807
TEL 714 452 0966 FAX 714 452 0011

FACSIMILE

DATE: 9/2/97
TO: Greg Ahern
City of Glendale
Industrial Waste Inspector
RE: Scholl Canyon LGC Plant
SUBJECT: Final Submittals

SEND FAX TO NO. 818 548 9777
FROM: G.F. Maloney P.E.
Director of Engineering

THERE ARE _1___ PAGES ACCOMPANYING THIS FAX INCLUDING THIS COVER SHEET. PLEASE CALL THE ABOVE TELEPHONE NUMBER SHOULD YOU RECEIVE FEWER PAGES

Gentlemen,

Palmer Vendor Faxed the new data this afternoon showing their additional tankage. We needed this to complete the slab sizing. The data was sent on to the structural engineer who says he will complete his review with a stamp and signature Wednesday September 3, 1997. If he meets this schedule, we will pick it up tomorrow afternoon and bring it to the Building Department after the scheduled meeting, 8:00 Am with SCS on Thursday morning at the site

This new data increases the slab to 34' x 31'. It is not practical to place the filter press and any ancillary equipment inside the berm as you suggested to Pat. None of you have any idea of the quantity of solids expected. We have made some approximations, perhaps 250 to 400 lbs*/day based on the SCS data and spec sent to the Palmer vendor. At this loading, a 60% cake moisture, and a 7 to 9 cu. ft. press, a forklift will be problematic inside a berm. It isn't done this way for heavier cake loads unless the press is placed on a raised structural platform. We suggest a small side slab 10' x 10' x 3" high curb is the best solution and it can be added later in that area south of the existing control panel.

* 6,580 mgl x 4,000 gpd = 220 lb/d

E-7

CITY OF GLENDALE

INTERDEPARTMENTAL COMMUNICATION

DATE September 10, 1998

TO Jake Amar, P.W. Engineering

FROM David Starr, Fire Marshal

SUBJECT Scholl Canyon Landfill Gas Recovery Project
Wastewater Sampling Requirements Clarification

In your conversation with Captain Indermill today you stated that a full test for all wastewater components is being completed prior to any batch discharge from this facility per our requirements. Unfortunately, there seems to have been a misunderstanding of what wastewater components needed to be tested.

Per our letter dated December 31, 1997, (copy enclosed) which documented the meeting of December 30, 1997, wherein you and Mr. Desi Alvarez of P.W. Engineering, Steve Cooper of S.C.S. Field Services, Captain Indermill and Inspectors Kitchen and Ahern were present. It was agreed at this meeting that the condensate would be batch treated and tested for compliance with local discharge limits for flammability prior to obtaining discharge authorization from this office. Furthermore it was agreed that if a batch analysis failed local limits for flammability then said batch shall be hauled off-site for legal disposal. Additionally, it was agreed that this would be a temporary solution until adequate pretreatment has been provided, full compliance with discharge limits has been achieved and approval granted from this office. Although, it was not discussed in the December 30, 1997 meeting, it was understood that S.C.S. Field Services would continue to test for all discharge requirements quarterly as required per the Industrial Waste Discharge Permit for this facility.

I hope that this letter clarifies the discharge requirements for the Scholl Canyon Landfill Gas Recovery Project at this time. If you have any questions regarding the above subject matter please contact me at ext. 4810. Please contact Captain Indermill at ext. 4030 to coordinate technical assistance from the EMC Staff.

Very truly yours,

David Starr, Fire Marshal

cc: Chris Gray, Asst. Fire Chief
Steve Zurn, Asst. Director of Public Works
Eric Indermill, Fire Prevention Captain

CITY OF Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201
(818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

November 16, 1998

CERTIFIED MAIL
Return Receipt Requested

Scholl Canyon LFG Limited Partnership
c/o Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: Untreated Waste Condensate Spill/Unauthorized Release
3001 Scholl Canyon Road

Gentlemen:

On Oct. 21, 1998, at approximately 2:30 p.m. an incident occurred at the waste condensate storage tanks during a transfer of untreated waste condensate (condensate) from the storage tanks to an Asbury Environmental vacuum truck, resulting in the release of approximately 5,000 gallons of condensate. Although, this area is provided with an earthen berm equipped with a plastic liner as secondary containment, an uncontrolled release of condensate did occur by means of a large crack in the earthen berm. It is important to note that there were no SCS Field Services personnel supervising this transferring operation or on site at the time of the incident. Consequently, it was necessary for the operator of the vacuum truck to notify Los Angeles County Sanitation District (LACSD) staff onsite with regards to this incident. LACSD personnel in turn notified Glendale Public Works Engineering about the incident.

This office received a call from Jake Amar at 3:10 pm requesting that Inspector Ahern respond to Scholl Canyon Landfill as a result of this incident. Captain Indermill and Inspector Ahern arrived at the spill location at about 3:35 p.m. and met with Jake Amar, Glendale Public Works and Matt Zuro, Marty Zimlock both of LACSD. LACSD personnel had filled in the crack in the earthen berm to prevent any further release of condensate outside of the secondary containment. At this time there was about 1'-2' of free condensate inside of the secondary containment area, with condensate continuing to drain from one of the 10,000 gallon storage tanks through broken piping. Prior to the arrival of Captain Indermill and Inspector Ahern LACSD personnel closed the valves to isolate the leaking tank.

Brad Everett of SCS joined the above meeting at about 4:00 p.m. . At this meeting it was agreed that all free liquid would be removed, a deodorized would be put down and a plastic cover put over the spill area to minimize the odor problem for the night. Additionally, that additional cleanup would be done starting early the next morning. i.e. removal of storage tanks (unstable), cleanup of soil . . . etc.

Meeting Oct. 22, 1998, at approximately 3:30 p.m. Scholl Canyon Landfill, SCS Trailer. Greg Ahern and Vasken Demirjian, Glendale Fire, Jake Amar, Public Works Engineering and Ken Ayster of SCS Field Services. At this meeting it was clarified that as a CUPA the Fire Dept. was the responsible regulatory agency for this incident. It was further understood that your contractor, SCS Field Services was to submit a work plan to this office to determine the lateral and vertical extent of contamination that occurred as result of this unauthorized release. Additionally, that a detail letter of explanation as to the cause of the incident must be submitted to this office. It is recommended that all cleanup work be completed prior to the start of the rainy season in order to prevent further migration of contamination.

As of this date no work plan or letter of explanation has been received by this office. It is necessary that a work plan and letter of explanation be submitted to this office by November 30,1998.

Very truly yours,

Gregory P. Ahern, Sr.
Inspector

cc: Jake Amar, P.W. Engineering
Ken Ayster, SCS Field Services
Fire Marshal David Starr
Captain Eric Indermill

Scholl Canyon Landfill Gas Corporation

c/o Palmer Management Corp
1309-114th Avenue SE, Suite
Bellevue, Washington 98004
Tel: 425/635-1101; Fax: 425/63

May 31, 2000

Via Expres

Mr. Gregory P. Ahern
Environmental Safety Specialist
Environmental Management Center
City of Glendale
780 Flower Street
Glendale, California 91201

Subject: **Detailed Letter of Explanation for Notice of Violation Dated May 24, 2000**
Permit No: W-3142 -- Received May 30, 2000

Dear Mr. Ahern:

We are in receipt of the Notice of Violation as dated above. As you know, we are very concerned about proper operation of our facility and take our environmental responsibilities seriously. We endeavor to operate within the limitations of our environmental permits, including following all permit monitoring requirements.

Immediately after your discussions with the Plant operator, Brad Everett, on April 19th, Brad initiated flammability sampling of the discharge effluent on April 20th. On April 21st the results of the testing, which were negative, were faxed to your office. We will continue to test for flammability on a quarterly basis as required by our waste discharge permit.

Upon review of the monitoring events and the subject waste permit, it appears that the testing for flammability was not performed due to our confusion about the requirement for testing. The monitoring requirement appears on page 7 of the permit, but is placed under what appears to be a heading for a different section: Total Toxic Organic Management Plan. Due to our confusion about its placement in the permit, the plant operator did not realize that flammability was a required testing parameter.

We apologize if we have caused you any difficulty and as stated above we will included flammability testing in all future quarterly testing. If you have any questions please feel free to call me at (425) 635-1101.

Sincerely,

David A. Marques
Vice President
Scholl Canyon Landfill Gas Corporation

cc: Steve Zurn, Kerry Morford & Jake Amar, Public Works
Brad Everett & Gordon Deane, SCLP
Jeff Bernstein, Bernstein, Cushner & Kimmel

dale CALIFORNIA
Management Center
treet, Glendale, CA 91201 • (818) 548-4030

2000

oll Canyon LFG Limited Partnership
309 114th Avenue SE #101
Bellevue, WA 98004

Attention: David Marques,

Subject: NOTICE OF VIOLATION
Scholl Canyon LFG Limited Partnership
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice, and does hereby so provide, that your failure to sample the waste effluent for flammability during the fourth quarter of 1999 and the first quarter of 2000 is in violation of the Industrial Waste Permit Monitoring requirements for the subject facility. The above violations were brought to the attention of your Plant Manager Bradley Everett, on April 19, 2000.

It is necessary that you immediately cease and desist at once from any and all violations of established permit monitoring requirements for the subject facility. You are hereby required to submit within 20 days of receipt of this Notice of Violation a detail letter of explanation as to the cause of the above violations and corrective actions that will be taken to prevent future violations.

If you have any questions regarding the above subject matter, you may contact me or Captain Eric Indermill at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.

Gregory P. Ahern, Sr.
Fire/Environmental Safety Specialist

cc: Capt. Indermill, Fire
Vasken Demirjian, Fire
Jake Amar, P.W. Engineering
Steve Zurn, P.W. Administration

...ENDALE
...DEPARTMENT

...91204 - 1395

Hazardous Materials Unit
Environmental Management Center
780 Flower Street
Glendale, California 91201-3057

RICHARD E. HINZ
Fire Chief

DEPARTMENT USE ONLY:
MLI #:
Occupancy:
U & O #:

...: Brad Everett, Plant Operator

Re: Scholl Canyon Gas to Energy (LFG)
3001 Scholl Canyon Landfill.

On: 12/20/99 an inspection was made of the above referenced property.

Your attention is called to the following item(s) which must be corrected in order to meet the minimum requirements for fire and life safety:

(1) CEASE AND DESIST AT ONCE FROM DISCHARGING WASTEWATER FROM WITHIN THE CONTAINMENT AREA TO SEWER VIA THE CLEAN-OUT NEXT TO THE TRAILER. WATER COLLECTED INSIDE OF THE CONTAIMENT AREA IS CONSIDERED AS CONTAMINATED AND SHALL BE TREATED AS SUCH, UNLESS PROVEN OTHERWISE BY LABORATORY Results. [SUMP PUMP WITH HOSE LEADING INTO SEWER CLEAN-OUT, sump is Full of oil.]

(2) CAP AND SEAL SEWER CLEAN-OUT.

You are hereby notified to correct the condition(s) listed above. A reinspection will be made on or about Immediately.
Failure to comply with this notice may result in a legal action being filed against you by the City Attorney.

Inspector: Gregory Ahern Phone: (818) 548-4030 Telephone Hours: 7:30 - 8:30 a.m. and 4:30 - 6:00 p.m.

I have received a copy of this notice: No Bradley Gary Everett
(Signature of Owner or Owner's Agent)

F-231 A (4/94) White Copy: Customer Yellow Copy: File Pink Copy: Office Sheet 1 of 1.

Glendale CALIFORNIA
Environmental Management Center
780 Flower Street, Glendale, CA 91201 (818) 548-4030

October 2, 1997

CERTIFIED MAIL
Return Receipt Requested

SCHOLL CANYON LFG LIMITED PARTNERSHIP
c/o Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
Scholl Canyon Landfill Gas Recovery Project
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice that the POTW grab sample of condensate wastewater from the subject facility, taken on September 22, 1997, was found to have an oil and grease content of 965 mg/L in violation of the local discharge limit for oil and grease of 600 mg/L. This sampling was conducted as a result of the previously reported flash point violation of August 15, 1997.

During this sampling tour it was found that only one (1) carbon filter was being used to treat the wastestream. Since the two (2) carbon filtration units are acting as the only oil removal system it is imperative that both units be in operation when the system is discharging.

You are required to immediately cease and desist from any and all violations of established local limits for discharge to the municipal wastewater system. You are also required to submit a detailed letter of explanation as to the cause of the above violation and description of corrective actions that will be taken to prevent future violations. Your letter must reach this office by October 20, 1997.

Additionally, you are required to resample the wastestream for oil and grease within 30 days of receipt of this letter to show compliance with local discharge limits.

If you have any questions regarding the above violation you may contact Doug Kitchen or myself at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.
Industrial Waste Inspector

cc: Steve Zurn, P.W. Administration
Jake Amar; P.W. Engineering

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

562 426-9544
FAX 562 427-0805
http://www.scseng.com

SCS ENGINEERS

October 17, 1997
File No. 0196115.00

Mr. Gregory P. Ahern
City of Glendale
Environmental Management Center
780 Flower Street
Glendale, California 91201
OFFICE (818) 548-4030
FAX (818) 549-9777

SUBJECT: NOTICE OF VIOLATION, SCHOLL CANYON LFG LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

Dear Greg:

The Scholl Canyon LFG Limited Partnership (SC-LP) was recently issued a Notice of Violation (NOV, dated October 2, 1997) for violation of its effluent limitation for oil and grease, which occurred September 22, 1997, during grab sample collection by the City of Glendale. This response to the NOV is provided by SCS Engineers (SCS) on behalf of the SC-LP in accordance with Industrial Waste Discharge Permit (W-3142).

Analytical results from the September 22, 1997 sampling event indicated that the condensate from the treatment system had an oil and grease content of 965 mg/L, 365 mg/L above the discharge limitation of 600 mg/L. As mentioned in the NOV, this violation occurred due to the fact that only one carbon filter was being used to treat the wastestream at the time of sample collection. At that time, one of the two carbon filters normally in operation was not on-line as a result of a broken filter inlet. The sampling performed by the City of Glendale occurred during the time period between the broken canister being taken off-line and the delivery of a new carbon canister. A timeline for the events surrounding the carbon unit replacement is presented below.

- **September 12, 1997** - Both carbon canisters were replaced following a spill event which occurred on September 11, 1997. The previous carbon canisters had become fouled with oil due to the spill event.

- **September 17, 1997** - One of the carbon canisters was taken off-line due to a broken filter inlet. A new carbon canister was ordered immediately after the broken carbon unit was taken off-line.

- **September 24, 1997** - The new carbon unit was delivered and replaced.

In order to prevent further incidents of this type from occurring, and as a further measure to reduce the volatile organic content of the wastestream, SC-LP will arrange to have a third carbon unit integrated into the existing system as an interim measure until the new treatment system is brought on-line.

The required re-sampling will be conducted during the week of October 20-24, 1997, as set forth in the NOV and by SC-LP's revised Industrial Waste Discharge Permit (W-3142). Please address any questions or comments related to this submittal to our office.

Sincerely,

Ray Huff, R.E.A.
Project Scientist
SCS ENGINEERS

cc: Steve Cooper; SCS Field Services
Gordon Deane; Palmer Management Corp.

TY OF

Division
ARDOUS
TERIALS
CTION

Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201
(818) 548-4030

December 11, 1997

CERTIFIED MAIL
Return Receipt Requested

Scholl Canyon LFG Limited Partnership
c/o Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
Scholl Canyon Landfill Gas Recovery Project
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice that the Self-monitoring grab sample of condensate wastewater from the subject facility, taken on November 18,1997, was found to have an oil and grease content of 680 mg/L in violation of the local discharge limit for oil and grease of 600 mg/L.

You are required to immediately cease and desist from any and all violations of established local limits for discharge to the municipal wastewater system. You are also required to submit a detailed letter of explanation as to the cause of the above violation and description of corrective actions that will be taken to prevent future violations. Your letter must reach this office by January 5,1998.

Additionally, you are required to resample the wastestream for oil and grease by January 8,1998, to show compliance with local discharge limits.

If you have any questions regarding the above violation you may contact Doug Kitchen or myself at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.
Industrial Waste Inspector

cc: Steve Zurn, P.W. Administration
Jake Amar, P.W. Engineering
Ray Huff, SCS

CITY OF **Glendale** CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201 • (818) 548-4030

April 28, 1997

Fire Division
HAZARDOUS
MATERIALS
SECTION

CERTIFIED MAIL
Return Receipt Requested

Scholl Canyon Landfill Gas Limited Partnership
672 Jerusalem Road
Cohasset, Massachusetts 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice, and does hereby so provide, that the industrial wastewater discharge to the municipal wastewater system from the subject facility has been found to be a public nuisance, in violation of GMC Section 13.40.310(B)(1)(a)(v).

On Wednesday April 23, 1997, Inspectors Ahern and Kitchen responded to the subject facility as a result of an odor complaint in Glenoaks Canyon. SCS Field Staff were advised of the complaint and were informed that all condensate wastewater discharge must immediately cease until adequate pretreatment was provided.

On Friday April 25, 1997, Inspector Kitchen once again responded to the subject facility as a result of additional odor complaints. He found that wastewater was being discharged and that no repairs to the pretreatment system had occurred. Again SCS Field Staff were informed that all condensate wastewater discharge must immediately cease.

Please cease and desist immediately from any and all violations of established local limits for discharge to the municipal wastewater system. All industrial wastewater from the subject facility shall be hauled off-site for legal disposal until such time that adequate pretreatment has been provided and full compliance with discharge limits has been achieved. A manifest file, which shall be available for inspection at all times, shall be maintained for proof of legal disposal of all hauled wastewater.

Our policy requires that you submit a detailed description of corrective actions that will be taken to prevent future violations. We should receive your response no later than May 15, 1997.

At your option, you may provide the above required pretreatment or permanently haul the condensate wastewater for legal off-site disposal.

If you have any questions regarding this matter, please contact the Industrial Waste Program at (818) 548-4030.

Very truly yours,

David D. Starr
Fire Marshal

cc: Jake Amar, Public Works
Pat Sullivan, SCS Engineers

CITY OF **Glendale** CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201 • (818) 548-4030

April 10, 1997

Fire Division
HAZARDOUS
MATERIALS
SECTION

CERTIFIED MAIL
Return Receipt Requested

SCHOLL CANYON LFG LIMITED PARTNERSHIP
c/o Scholl Canyon Landfill Gas Corporation
672 Jerusalem Road
Choasset, MA 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
Scholl Canyon Landfill Gas Recovery Project
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice that the self-monitoring grab sample of condensate wastewater from the subject facility, taken March 13, 1997, was found to contain an Oil/Grease (O&G) content of 732 mg/L and a Total Toxic Organics (TTO) content of 4.5 mg/L both in violation of their local discharge limits of 600 mg/L and 2.0 mg/L respectfully.

It is necessary that you cease and desist immediately from any and all violations of established local limits for discharge to the municipal wastewater system. It is also necessary that you submit a detailed letter of explanation as to the cause of the above violations and a description of corrective actions that will be taken to prevent future violations. It is necessary that your response be submitted to this Office prior to April 28, 1997, to be considered timely.

As required Patrick Sullivan of SCS Engineers notified this Office of these discharge violations. During this conversation the cause of these violations were reviewed. It was agreed that the most probable cause of these violations was that the existing oil water separator was undersized and inadequate to handle the "new oil removal system". It is imperative that the oil water separator be adequately sized and capable of preventing any bypass of flocculated oil which will cause this facility to be in violation of local wastewater discharge limits.

FILE COPY

September 26, 1997

CERTIFIED MAIL
Return Receipt Requested

SCHOLL CANYON LFG LIMITED PARTNERSHIP
c/o Scholl Canyon Landfill Gas Corporation
13 ELM Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
Scholl Canyon Landfill Gas Recovery Project
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice that the self-monitoring grab sample of condensate wastewater from the subject facility, taken on August 15, 1997, was found to have a flash point of 131^{0} fahrenheit in violation of local prohibitive discharge limits.

It is necessary that you cease and desist immediately from any and all violations of established local limits for discharge to the municipal wastewater system. It is also necessary that you submit a detailed letter of explanation as to the cause of the above violation and a description of corrective actions that will be taken to prevent future violations.

It is important to note that the Third Quarter Compliance Report for 1997 stated "that Scholl Canyon is in full compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142)." Once the Third Quarter Compliance Report was reviewed by this office it was found that the above statement was in error. The above violation was reviewed with

Mr. Ray Huff from SCS Engineers who stated that he was unaware of a discharge limitation on flash point for the subject location.

Upon further review of the third quarter sample results it was found that the sample was not analyzed for flash point until six (6) days after sampling.

It is important to note that due to the volatile nature of the constituents found in the sample, the analysis for flash point be done immediately so that the data reflects the true nature of the sample and that the sample is not allowed to degrade.

If you have any questions regarding the above violation you may contact Doug Kitchen or myself at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.
Industrial Waste Inspector

cc: Steve Zurn, P.W. Administration
Jake Amar, P.W. Engineering

...nsultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

562 426-9544
FAX 562 427-0805
http://www.scseng.com

...CS ENGINEERS

October 15, 1997
File No. 0196115.00

Mr. Gregory P. Ahern
City of Glendale
Environmental Management Center
780 Flower Street
Glendale, California 91201
OFFICE (818) 548-4030
FAX (818) 549-9777

SUBJECT: NOTICE OF VIOLATION, SCHOLL CANYON LFG LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

Dear Greg:

The Scholl Canyon LFG Limited Partnership (SC-LP) was recently issued a Notice of Violation (NOV, dated September 26, 1997) for violation of its effluent limitation for flashpoint, which occurred August 15, 1997, during self monitoring for the third quarter (July through September) 1997. This response to the NOV is provided by SCS Engineers (SCS) on behalf of the SC-LP and presents the analytical results from re-sampling activities conducted in accordance with Industrial Waste Discharge Permit (W-3142).

Analytical results from the August 15, 1997 sampling episode indicated that the condensate from the treatment system had a flashpoint of 131° Fahrenheit, 9° lower than the discharge limitation of 140°. This violation occurred due to the fact that a significant volume of oil and oil sludge had accumulated in the holding tanks. During discharge, a portion of this oil was inadvertently processed through the carbon adsorption unit, reducing its effectiveness. The fouled carbon did not adequately remove volatile organics from the waste stream. These volatiles caused the sample to fail the flashpoint test.

To correct this problem, SC-LP recently removed all floating oil and sludge from the holding tanks. We have also implemented an operational change in which we will periodically remove oil and sludge from the tanks to prevent accumulation. SC-LP feels that this operational change will minimize the potential for fouling of the carbon with oil.

The required re-sampling was conducted on October 3, 1997, as soon as possible following notification by the City of Glendale of a reporting error on the Third Quarter Sampling Compliance report. Re-sampling was conducted as set forth by SC-LP's revised Industrial Waste Discharge Permit (W-3142).

CITY OF Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201 • (818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

October 2, 1997

CERTIFIED MAIL
Return Receipt Requested

SCHOLL CANYON LFG LIMITED PARTNERSHIP
c/o Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
Scholl Canyon Landfill Gas Recovery Project
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice that the POTW grab sample of condensate wastewater from the subject facility, taken on September 22, 1997, was found to have an oil and grease content of 965 mg/L in violation of the local discharge limit for oil and grease of 600 mg/L. This sampling was conducted as a result of the previously reported flash point violation of August 15, 1997.

During this sampling tour it was found that only one (1) carbon filter was being used to treat the wastestream. Since the two (2) carbon filtration units are acting as the only oil removal system it is imperative that both units be in operation when the system is discharging.

You are required to immediately cease and desist from any and all violations of established local limits for discharge to the municipal wastewater system. You are also required to submit a detailed letter of explanation as to the cause of the above violation and description of corrective actions that will be taken to prevent future violations. Your letter must reach this office by October 20, 1997.

Additionally, you are required to resample the wastestream for oil and grease within 30 days of receipt of this letter to show compliance with local discharge limits.

If you have any questions regarding the above violation you may contact Doug Kitchen or myself at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.
Industrial Waste Inspector

cc: Steve Zurn, P.W. Administration
Jake Amar; P.W. Engineering

June 20, 1995

Scholl Canyon Landfill Gas Limited Partnership
672 Jerusalem Road
Cohasset, Massachusetts 02025

CERTIFIED MAIL
Return Receipt Requested

Attention: Gordon L Deane, President

Subject: NOTICE OF VIOLATION
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice, and does hereby so provide, that the industrial wastewater discharge to the municipal wastewater system from the subject facility has been found to be a public nuisance, in violation of GMC Section 25-28(b)1a(5). This violation was brought to the attention of Greg Moore of SCS Field Services.

Please cease and desist immediately from any and all violations of established local limits for discharge to the municipal wastewater system. All industrial wastewater from the subject facility shall be hauled off-site for legal disposal until such time that adequate pretreatment has been provided and full compliance with discharge limits has been achieved. A manifest file, which shall be available for inspection at all times, shall be maintained for proof of legal disposal of all hauled wastewater.

Our policy requires that you submit a detailed description of corrective actions that will be taken to prevent future violations. We should receive your response no later than July 10, 1995.

At your option, you may provide the above required pretreatment or permanently haul the condensate wastewater for legal off-site disposal.

Very truly yours,

George A. Miller
Director of Public Works

GAM\WO\GA\s

cc: Donald M. Campbell, City Engineer
Wayne O'Shana, Senior I.W. Inspector
Jake Amar, Senior Environmental Engineer
John H. Gulledge, L.A. County Sanitation District
Hamid Tadayon, City of L.A.

CITY OF Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201 (818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

December 31, 1997

CERTIFIED MAIL
Return Receipt Requested

Scholl Canyon LFG Limited Partnership
c/o Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
Scholl Canyon Landfill Gas Recovery Project
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice, and does hereby so provide, that the POTW grab sample of condensate wastewater from the subject facility, taken on December 19,1997, was found to have a flash point of 81^0 Fahrenheit in violation of local prohibitive discharge limits of 140^0 Fahrenheit. Additionally, this sample was found to contain an oil and grease content of 1524 mg/L and a dissolved sulfides content of 4.54 mg/L in violation of their local discharge limits of 600 mg/L and 0.1 mg/L respectfully.

On December 30,1997, your representative at this facility Mr. Steve Cooper of SCS Field Services was advised of the above violations and was instructed to cease discharge of the condensate to the municipal wastewater system. Per our conversation with Mr. Cooper of SCS Field Services, Mr. Jake Amar and Mr. Desi Alvarez of Glendale P.W. it was agreed that the condensate would be batch treated and tested for compliance with local discharge limits for flammability prior to obtaining discharge authorization from this office. Furthermore it was agreed that if a batch analysis failed local limits then said batch shall be hauled off-site for legal disposal. Additionally, it was agreed that this would be a temporary solution until the cause of the violations have been determined, adequate pretreatment has been provided, full compliance with discharge limits has been achieved and approval granted from this office.

It is required that you submit within 20 days of receipt of this notice of violation a detailed letter of explanation as to the cause of the above violations and corrective actions that will be taken to prevent future violations.

If you have any questions regarding the above subject matter you may contact Doug Kitchen or myself at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.
Industrial Waste Inspector

cc: Steve Zurn, P.W.
Jake Amar, P.W.
Ray Huff, SCS
Steve Cooper, SCS

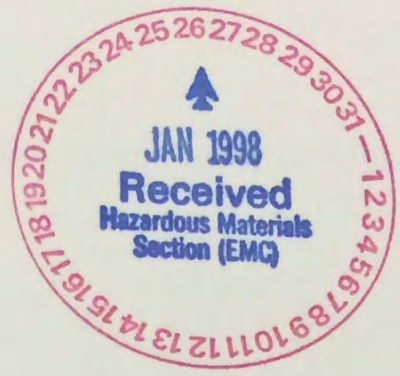
Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

562 426-9544
FAX 562 427-0805
http://www.scseng.com

SCS ENGINEERS

January 21, 1998
File No. 0196115.00



Mr. Gregory P. Ahern
City of Glendale
Environmental Management Center
780 Flower Street
Glendale, California 91201
OFFICE (818) 548-4030
FAX (818) 549-9777

SUBJECT: NOTICE OF VIOLATION, SCHOLL CANYON LFG LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

Dear Greg:

The Scholl Canyon LFG Limited Partnership (SC-LP) was recently issued a Notice of Violation (NOV, dated December 31, 1997) for violation of its effluent limitation for flash point, dissolved oil and grease, and dissolved sulfides, which occurred December 19, 1997, during grab sample collection by the City of Glendale. This response to the NOV is provided by SCS Engineers (SCS) on behalf of the SC-LP in accordance with Industrial Waste Discharge Permit (W-3142).

Analytical results from the December 19, 1997 sampling event indicated that the condensate from the treatment system had a flash point of 81° Fahrenheit, dissolved oil and grease content of 1,524 mg/L and a dissolved sulfides content of 4.54 mg/L. These levels are all in exceedance of the appropriate discharge limitations of >140° Fahrenheit for flash point, 600 mg/L for oil and grease, and 1.0 mg/L for dissolved sulfides. SC-LP believed that these violations, as well as the numerous violations that have occurred during 1997, are a result of the inadequacy of the existing wastewater treatment system. Further, it is believed that the pending upgrade to the condensate treatment system will solve the numerous violations problems that have become a more common occurrence.

Therefore, as of January 6, 1998, SC-LP has temporarily ceased discharging condensate to the publicly owned treatment works (POTW) sewer system, to expedite the upgrade of the condensate treatment system. The accumulated condensate on-site has been hauled away for proper disposal. Once the proper manifests have been returned to SC-LP, copies will be made available to the City of Glendale for your reference.

Further it should be noted that SC-LP's intent was to only temporarily cease discharge to the POTW and to resume discharge after the completion of the new condensate treatment system at the Scholl Canyon LFG compression station. However, due to the failure of the Fire Department to approve the plans, construction has been suspended.

Please address any questions or comments related to this submittal to our office.

Sincerely,

Ray Huff, R.E.A.
Project Scientist
SCS ENGINEERS

cc: Steve Cooper; SCS Field Services
Gordon Deane; Palmer Management Corp.

DRAFT 4/25/00
Given To
Capt Indermill for
His Review & Chief Howard.
Review
G.H.

April 25, 2000

Scholl Canyon LFG Limited Partnership
c/p Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
Scholl Canyon Landfill Gas Recovery Project
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice, and does hereby so provide, that your failure to sample the waste effluent for flammability during the four quarter of 1999 and the first quarter of 2000 is in violation of the Industrial Waste Permit Monitoring requirements for the subject facility. The above violations were brought to the attention of your Plant Manager Bradley Everett.

It is necessary that you immediately cease and desist at once from any and all violations of established permit monitoring requirements for the subject facility. You are hereby required to submit within 20 days of receipt of this notice of violation a detail letter of explanation as to the cause of the above violations and corrective actions that will be taken to prevent future violations.

As office hearing regarding these violations has been set for 10:00 am Tuesday May 30, 2000, at the Environmental Management Center 780 Flower Street, Glendale CA. It is necessary that yourself or your representative(s) be present at the office hearing to review the cause of these violations and corrective actions taken to prevent future violations.

If you have any questions regarding the above subject matter you may contact Captain Eric Indermill at (818)548-4030.

Very truly yours,

Steve L. Howard,
Battalion Chief/Fire Marshal

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

562 426-9544
FAX 562 427-0805
http://www.scseng.com

SCS ENGINEERS

July 11, 1997
File No. 0196115.00

City of Glendale
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

Attention: Industrial Waste Program

SUBJECT: RE-SAMPLING REPORT, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

The Scholl Canyon Landfill Gas Limited Partnership recently reported a violation of its effluent limitation for dispersed oil and grease which occurred during self monitoring for the second quarter (April through June) 1997. This letter presents the analytical results from re-sampling activities conducted in accordance with Industrial Waste Discharge Permit (W-3142).

Resampling was conducted, and analytical data reported as soon as possible following the repair of the carbon filtration system which resulted in excessive levels of dispersed oil and grease reported for the second quarter sampling round. During the re-sampling a grab sample was collected from Sampling Point 01 and analyzed for dispersed oil and grease by EPA Method 413.2.

Based on analytical data generated during resampling, Scholl Canyon is in compliance with discharge limitation for TTOs, as set forth in its Industrial Waste Discharge Permit (W-3142).

Please address any questions or comments related to this submittal to our office.

Sincerely,

Ray Huff, REA
Project Scientist
SCS ENGINEERS

Enclosures

cc: Jim Bier; SCS Field Services
Gordon Deane; Palmer Management Corp.

Pollutants (in mg/l except pH)	Daily Maximum	Lab Results A	Violation Yes/No	Lab Results B	Violation Yes/No	Lab Results C	Violation Yes/No	Lab Results D	Violation Yes/No	Lab Results E	
Arsenic	3.0	—									
Cadmium	15.0	—									
Copper	15.0	—									
Nickel	15.0	—									
Silver	5.0	—									
Chromium (total)	10.0	—									
Zinc	25.0	—									
Lead	5.0	—									
Cyanide (total)	10.0	—									
Cyanide (free)	2.0	—									
Dissolved Sulfides	0.1	—									
TTO	2.0	—									
pH	5.5-11.0	—									
Dispersed O & G	600.0	145	No								
Chloride	• • •	—									
BOD	• • •	—									
COD	• • •	—									
Suspended Solids	• • •	—									
		—									

IF NOT IN COMPLIANCE, ATTACH A STATEMENT OF REASONS FOR NON-COMPLIANCE AND ACTIONS TAKEN TO CORRECT THE PROBLEM

I have properly examined and am familiar with the information submitted in this document and attachments. Based on my inquiry of those individuals responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment as directed by 40 CFR 403.12(k) and GMC 25-30.2(e).

A. Robert Russell III — A. ROBERT RUSSELL III — PRINTED NAME

Treasurer for G.P. — TITLE

7/16/97 — DATE

AUTHORIZED REPRESENTATIVE SIGNATURE

Page 1

Container Types: T=Tube ... DISTRIBUTION: White with report, Yellow to folder, Pink to submitter.

Form GS/STD 911

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242
FAX (213) 485-5075

Lab. Nos.: 97-000368
97-000369
Date Received: April 9, 1997
Date Reported: April 10, 1997

To: CAPT. AARON AUSTIN
ENVIRONMENTAL MANAGEMENT CENTER
CITY OF GLENDALE

Attn: GREG AHERN, Inspector
INDUSTRIAL WASTE PROGRAM

TEST REPORT

Two grab samples from Scholl Canyon Landfill were tested for flash point for the City of Glendale. Sample No. 97-000368 was collected from the sample spigot prior to pre-treatment at Scholl Canyon/SCS Engineers on April 9, 1997 at 1253 hours. Sample No. 97-000369 was collected from the sample spigot prior to pre-treatment at Scholl Canyon/LA County on April 9, 1997 at 1329 hours.

Both samples were collected by Greg Ahern and delivered to the laboratory on April 9, 1997 at 1405 hours by Greg Ahern and Doug Kitchen. Flash point analysis was performed in accordance with ASTM Method D93-90, "Standard Methods for Flash Point by Pensky-Martens Closed Tester".

Standards Division Sample !D#	Date Analyzed	Flash Point (°C)
97-000368	4/10/97	40
97-000369	4/10/97	No Flash (≥ 70)

Papkin K. Hovasapian, Director
General Services/Standards
PKH:KK:JB:ES:es

SCHOLL CANYON LFG
LIMITED PARTNERSHIP
c/o Scholl Canyon Landfill Gas Corporation
672 Jerusalem Road, Cohasset, MA 02025
Tel: 617/383-1293; Fax: 617/383-0203

November 8, 1994

Mr. Wayne O'Shana
Mr. Gregory P. Ahern
City of Glendale -- Industrial Waste
Engineering Section
633 East Broadway, Room 205
Glendale, CA 91206-4388

Subject: ***Proposed Temporary Treatment for Landfill Gas Condensate Disposal from Gas Processing Facility***

Gentlemen:

As you know, according to several of the lab analyses from last week's sampling of the condensate from our gas processing facility at the Scholl Canyon Landfill, sulfides appear to be present in our untreated (except for stripping) condensate. Further, the lab analyses indicate the presence of certain organics [e.g., acetone and 2-butanone (aka MEK)] which the City has indicated is a prohibited discharge under a City ordinance without a permit. Currently, our permit does not address these compounds.

To expedite a temporary solution to this problem which avoids a shutdown of the project, we propose implementing the following procedures as soon as we have your approval to do so:

1. To reduce sulfides in the condensate, we will treat the raw condensate in the same manner as currently being implemented by the Los Angeles County Sanitation Districts (i.e., adding chloride on a batch basis) immediately prior to discharge. We will plan to add an excess of chlorine and test for chlorine levels as per instructions from SCS Engineers.

2. To reduce the organics, we will:

   a. continue to run the condensate through the stripper since the preliminary SCS reports suggest a 40 to 70% reduction in MEK and acetone, respectively;

   b. add a temporary pre-treatment system using 2 carbon beds in series which will further process the post-stripper condensate prior to discharge. We believe the two carbon beds (each with a footprint of 4'x4') can be installed within the diked area by the air stripper. The carbon beds will be piped in series with a sampling point between them and with piping/pumping to allow us to use either bed first so they may be switched to always have the newest bed as the last (polishing)

bed in the series (see below for operating conditions). We recognize that the chlorine may cause some conversion (especially acetone) to chloroform but we have been told that the chloroform is actually easier to remove by the carbon beds than the acetone.

According to Wheelabrator/Westates Carbon, the carbon consumption is projected to be 35-60 lbs of carbon per 1000 gallons of condensate (see analysis attached). Using these numbers, with approximately 30,000 gallons on site (10,000 at the stripper and 20,000 in the Baker tank), the projected carbon consumption is 1050 to 1800 lbs. Therefore we would propose to install 2-1000 lb. carbon beds in series and operate as follows:

A. We would run 15,000 gallons through the beds and then sample at the effluent of both beds. Grab samples (not 24-hour composites) will be taken and samples will be analyzed for total toxic organics ("TTOs") -- the total to include acetone and MEK. Analyses will be conducted by SCS Analytical Laboratory unless the City wants to conduct its own sampling and analyses at its cost, in which case we will use the City's numbers.

B. If the discharge level from the first bed is within the permit level of 2 mg/l for TTOs (i.e., no "breakthrough"), another 7500 gallons will be discharged and the sampling and analysis will then be repeated.

C. If there is breakthrough of both beds, they will both be replaced and another 7500 gallons will be discharged before sampling and analysis. (This iteration will continue until we can achieve a sampling frequency which indicates the first bed has broken through but not the second one.)

D. If the analysis indicates there is breakthrough of the first bed but not the second bed, the second bed will become the first bed and the second bed will be replaced with a fresh bed.

E. Again the discharge will continue at half the prior discharge level with the same iterations of sampling and analysis until we can reasonably determine the life of the first bed.

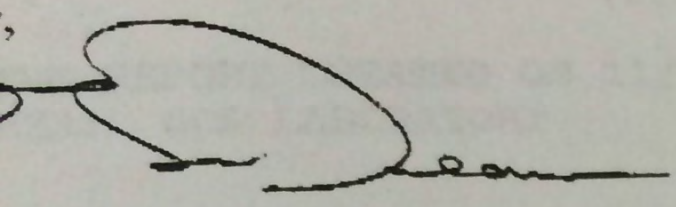
F. Once the life of the first bed is determined, the sampling and analysis for the effluent of the first bed will be conducted at the projected half-life level, three-quarter life level and the end-life level, with testing frequency reviewed periodically based on recent history.

The above approach, by which the discharge level is measured prior to the polishing bed, should always keep SC-LP within a TTO limit of 2 mg/l, including any acetone and MEK that is found.

Based on the results of this program, Scholl Canyon LFG Limited Partnership (SC-LP) may suggest alternate programs in the future. Further, while SC-LP is proposing to undertake the above program in a good faith effort to promptly address the issues and concerns raised by the City, SC-LP is reserving its rights to petition the City for permits to dispose of these compounds at some other level as part of its industrial waste discharge permit.

If the above approach meets with your approval, please provide your concurrence as soon as possible so that we can implement the above program and prevent a shutdown and/or unnecessary costs and aggravation to the project.

tinued cooperation on this program is much appreciated.



L. Deane
nt
Canyon Landfill Gas Corporation, General Partner

Steve Zurn, Kerry Morford -- Glendale Public Works
Jim Bier, Steve Svorinich, Greg Moore -- SCS Field Services
Patrick Sullivan -- SCS Engineers
Richard T. Mandeville
Jeffrey M. Bernstein, Esq.
David A. Marques -- SC-LP
Steve Aakhus -- ARB
Mary Bookman, Morten Sissener -- Heller Financial

WESTATES CARBON, INC.
2130 LEO AVE.
LOS ANGELES, CA. 90040-1634
(213)722-7500

ISOTHERM REPORT CREATED ON 11/07/94 AT 09:57 BY SLH
CUSTOMER: SCS LABORATORY

LIQUID PHASE DESIGN PARAMETERS

Total Flow of Water [gpm] 10.000

LIQUID PHASE DESIGN

Component	Concentration [ppm]	#GAC/1000 gal water
ACETONE	30.200	34.48
KETONE,METHYLETHYL- (MEK)	24.000	25.02
BENZENE,1,4-DICHLORO-	.375	.02
BENZENE,ETHYL-	.214	.04
NAPHTHALENE	.684	.09
TOLUENE	.371	.08
XYLENE,p-	.499	.04
XYLENE,p-	.232	.03

TOTAL CARBON NEEDED

861.08 #GAC/day
35 - 59.80 #GAC/1000 gal water

April 13, 1994 - Industrial Waste

To Steve Aakhus
Frank Whipple
Kerry Morford

From Gordon Deane

Subject Condensate Disposal

As a follow-up to our meeting today with LACSD our earlier proposal should be amended with respect to the temporary hood-up. Specifically - SC-LP would prefer to do the following for the temporary hook-up.

(1) SC-LP will install a pump and temporary storage tank at the top of the hill with a drain from the tank to the current condensate line at the north side of the flare.

We feel this option, which appeared somewhat acceptable to LACSD earlier today, has the following operational advantages:

(a) there is not much space down by the current stripper system and it cannot be easily monitored;

(b) installation will not require cutting pavement again and another road crossing to install a dedicated drain line;

(c) our operator will be able to visibly monitor the level of the tank as well as values controlling the flow;

(d) in case of problems with the LACSD pump in the drain line (which appeared to be LACSD's biggest concern about this option), there will be approximately 3 days storage, more than enough to allow LACSD to fix the pump.

I hope this is acceptable to the City and LACSD. We thank you for your assistance on this matter.

SCHOLL CANYON LFG
LIMITED PARTNERSHIP
c/o Scholl Canyon Landfill Gas Corporation
672 Jerusalem Road, Cohasset, MA 02025
Tel: 617/383-1293; Fax: 617/383-0203

May 8, 1994

To: Kerry Morford, City of Glendale
Ed Wheless, LACSD

From: Gordon Deane

Subject: ***Condensate Disposal***

On April 27, at a meeting at the Scholl Canyon landfill including representatives from Scholl Canyon Landfill Gas Limited Partnership (SC-LP), the County Sanitation Districts of Los Angeles (LACSD) and ARB, Inc., LACSD proposed the following temporary and permanent means of handling condensate from the gas processing facility (GPF) being installed by SC-LP as ones which would be acceptable to LACSD. SC-LP indicated that the proposal would be acceptable to it assuming (a) the City (including its industrial waste division) concurs and (b) SC-LP's review of the condensate data and the air stripper manual did not result in any major surprises. SC-LP volunteered to summarize the proposed agreement and to circulate it to the City and LACSD for comment and eventual sign-off. The following is that summary with bracketed items indicating further thoughts by SC-LP for which LACSD and City comments and/or concurrence are sought.

Temporary

From the time of start-up of the GPF until such time (estimated to be within 6 months from now) as LACSD establishes a new system for handling, processing and disposal of condensate collected upstream of the GPF, SC-LP and LACSD would agree that:

1) SC-LP would collect and store condensate generated by the GPF in a temporary storage facility (approximately 10,000 gallon capacity) to be located near the GPF in accordance with the design submitted to LACSD and City on April 22 and attached hereto as Exhibit A.

2) SC-LP would connect the outlet of the temporary storage facility to the existing air stripper by a dedicated, above ground (except for road crossings) pipeline (HDPE or better and steel encased for road crossings) following the 18" header routing and using its supports. The connection would be pre or post LACSD's pump, depending on pressure and control requirements. In this manner, the condensate stream from the GPF would be isolated from the condensate stream from the gas collection system.

3) SC-LP would assume ownership of the complete existing condensate air stripper system without cost. The existing system includes two 10,000 gallon tanks, an air stripper, all pumps and controls necessary for its operation to process condensate, a meter for measuring

the flow of condensate to the sewer, and the sewer connection. [There may be a question regarding exactly when ownership changes hands if a new SCAQMD permit or other permits are required first. SC-LP would appreciate receiving from LACSD a list of all equipment and copy of all permits applicable to the existing tanks and stripper system.]

4) SC-LP would use the existing air stripper without cost on a regular basis for the batch processing and disposal of condensate from the SC-LP via the same 6" sewer connection as currently exists. Its condensate could be sampled at the same sample box location. [Since SC-LP has only one waste water stream, 24-hr composites should not be necessary. SC-LP may have only one discharge per day.]

5) SC-LP would be liable for all damage or repairs caused solely by SC-LP's operation of the system or by any fouling of the system due to processing of the GPF condensate should LACSD be the operator during the interim period. In the event the equipment becomes inoperable for any reason, SC-LP and LACSD would each be responsible for arranging alternate disposal for their own condensate.

6) LACSD would continue to use the existing tanks and air stripper system for storage, processing and disposal of its condensate without cost or expense to SC-LP and without additional cost to LACSD (i.e., other than costs now being incurred) until LACSD establishes its new condensate storage, treatment and disposal facility. [SC-LP assumes that LACSD would be similarly responsible for any damage which it causes to the tanks and stripper system under its control.]

7) SC-LP would seek and obtain its own permit form the City of Glendale for disposal of the condensate from the GPF. [SC-LP would expect to obtain a permit for 3,500 gallons per day and with discharge limits and sampling and reporting requirements no more stringent than now imposed on LACSD. We expect that permit will require 10,000 gallons of storage (3 days) so that we may be able to use the proposed temporary tank; the permanent solution would also have a requirement for 10,000 gallons of storage. The extra tank SC-LP is acquiring and/or the space may be used by SC-LP for any additional gas processing that we may decide to implement.]

3300

8) SC-LP would agree to store condensate from the GPF for a period of not less than 24 hours to allow LACSD to collect a 24-hr composite sample from its operation unaffected by condensate form the GPF.

In addition to the above understandings, SC-LP has previously proposed to the City that it would sample the GPF condensate approximately 15 days after start-up of the GPF and would provide the City with a proposal for the permanent handling and any further processing of its condensate prior to disposal within 90 days of start-up. SC-LP would still plan to conduct such a testing and analysis program, recognizing that it may not be able to implement a permanent system until such time as LACSD moves its operation and relinquishes control of the tanks.

Permanent

When LACSD moves its processing station (expected to be within 6 months from now), SC-LP would then be allowed to:

A) Remove its temporary storage tank and connect directly to the tanks at the current air stripper system;

B) Have sole use thereafter of the 2 tanks (estimated capacity 20,000 gallons) and a system and sole operating responsibility;

C) Dispose of its processed condensate (assuming meeting permit conditions) throug current sewer line hook-up and using the current flow meters located at the site. LA has indicated to SC-LP that it has no future plans for the property on which the current stripper system is located and does not foresee that SC-LP would be required to move it fo any reason.

SC-LP will provide LACSD with 2 new tanks (comparable size and composition) for use in LACSD's new condensate processing system. The 2 tanks will be purchased and delivered at the time necessary for LACSD's construction of its new system.

SC-LP will be responsible for additional equipment and controls as the City may require be added to the current system (e.g., pH control) subsequent to LACSD's move.

SC-LP and LACSD shall negotiate in good faith to establish a flat monthly payment payable to LACSD by SC-LP for use of electricity by the stripper system (perhaps to be combined with a payment for water usage by the GPF).

Understanding

If the above summary is an accurate representation of an approach acceptable to LACSD and the City (including the City's industrial waste division), please indicate your acceptance below and return a copy to me. To expedite matters, this understanding may be executed in counterparts and is not binding on any party unless signed by all parties. The parties agree to cooperate in good faith to negotiate and execute any additional documents reasonably necessary to consummate this agreement. Given the status of the construction of SC-LP's project, SC-LP will plan to proceed with its construction plans relying on this understanding.

THE ABOVE UNDERSTANDING AGREED & ACCEPTED this _____ day of May 1994 for
SCHOLL CANYON LFG LIMITED PARTNERSHIP
by SCHOLL CANYON LANDFILL GAS CORPORATION
its General Partner

_____
Gordon L. Deane
President

THE ABOVE UNDERSTANDING AGREED & ACCEPTED this _____ day of May 1994 for the
CITY OF GLENDALE

_____
Title: _____

THE ABOVE UNDERSTANDING AGREED &
COUNTY SANITATION DISTRICTS OF LOS A

Title:

Permit # W-3142

CITY OF GLENDALE - FIRE DIVISION
ENVIRONMENTAL MGNT. CENTER
780 Flower Street, Glendale, CA 91201-3057 Phone 548-4030
APPLICATION FOR 90 DAY TEMPORARY INDUSTRIAL WASTE PERMIT

Business Name: Scholl Canyon LFG Limited Partnership

Business Owner: Same **Phone:** (617) 383-3200

Address of Installation: 3001 Scholl Canyon Road, Glendale, CA, 91206

Mailing Address: 13 Elm Street, Suite 200, Cohasset, MA, 02025

Type of Industry: Landfill Gas Recovery **SIC Code:** 4920

Character of operation producing waste: Condensate generated during landfill gas processing operations. Waste is derived from moisture in landfill gas.

Types of chemicals, solvents, cleaning compounds, oils and other substances contained in liquid waste discharge: Chlorinated, aromatic, oxygenated and other hydrocarbons from landfill gas; Oil from compressors; Sulfur-containing compounds

Approximate gallonage of waste liquids (3300) **per** (day) ~~hour~~ **day.**

Additional information: This is an application for a temporary industrial waste permit to be used until the existing permit (W-3142) can be renewed.

Drivers License # 298501772

FEE: $85.00 (Checks made payable to the CITY OF GLENDALE)

For further information, if necessary, call 548-4030.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Authorized Signature Required

1. Business Owner.
2. Corporate officer or designated employee with written authorization.
3. Managing partner.

Scholl Canyon LFG Limited Partnership
(Firm Name)

A. Robert Russell
(Applicant's Signature)

A. Robert Russell III, Treasurer
(Type or print name and title)

Scholl Canyon Landfill Gas Corp.,
General Partner

GS/STD 911 (1-80)

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS

2319 DORRIS PLACE
LOS ANGELES, CA 90031
485-2242

ab. #: 98-000063

eceived: August 13, 1997
eported: September 02, 1997

o: CAPTAIN AARON AUSTIN
ENVIRONMENTAL MANAGEMENT CENTER

ttn: Mr. Gregory P. Ahern Sr.
Industrial Waste Program

INDUSTRIAL WASTE ANALYSIS RESULTS

At the request of Gregory P. Ahern Sr., Industrial Waste Inspector, one sample was analyzed for possible chemical contamination.

Quantitative analysis for Volatile Organic Compounds was performed in accordance with EPA Method 8260A and Hazardous Waste characterization was performed using EPA Method 1311 - Toxicity Characteristic Leaching Procedure (TCLP).

Note 1: The results do not exceed the TCLP maximum concentration limit. A table comparing the analytical results with the TCLP limits is included.

Note 2: The Total Toxic Organic (Volatiles Only) of 4510 ppb (4.51 ppm) does exceed the regulatory discharge limit as established in the Code of Federal Regulations 40 Part 433.

Data sheets are attached.

Papkin K. Hovasapian, Director
General Services/Standards

PKH:KK:JDB:CW:cw

Comparison Table
Toxicity Characteristic Leaching Procedure (TCLP)
(Volatile Organics Only)

Contaminant	Regulatory Level	98-000063			
Benzene	0.5	ND			
Carbon tetrachloride	0.5	ND			
Chlorobenzene	100.0	ND			
Chloroform	6.0	ND			
1,4-Dichlorobenzene	7.5	0.71			
1,2-Dichloroethane	5.0	ND			
1,1-Dichloroethylene	0.7	ND			
Methyl ethyl ketone	200.0	64			
Tetrachloroethylene	0.7	ND			
Trichloroethylene	0.5	ND			
Vinyl Chloride	0.2	ND			

ND - Not Detected at Reporting Level
All results in mg/L (ppm)

EMPLOYER REPORT OF ACTION TAKEN

Item Number	0001	Hazard Type	Serious	Standard	.3203(a)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Developed a written Injury and Illness Prevention (IIP) Program.

Action Taken to Prevent Recurrence

Maintain the IIPP updated and on the premises.

Item Number	0002	Hazard Type	Serious	Standard	.3314(f)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Developed a written Lockout/Blockout Program to provide specific energy control procedures be utilized for the control of hazardous energy during maintenance/servicing/repair of equipment.

Action Taken to Prevent Recurrence

Implement lockout/tagout procedures, and enforce through safety meeting, communication and oversight.

Item Number	0003	Hazard Type	Serious	Standard	.5194(e)(01)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Developed a written hazard communication program.

Action Taken to Prevent Recurrence

Maintain the hazard communication program updated and on the premises.

EMPLOYER REPORT OF ACTION TAKEN

Item Number	0004	Hazard Type	Serious	Standard	.5144(c)(01)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

The facility is an outdoor treatment system with passive vapor control system. The air emissions are not at trace levels only, well below the threshold concentrations that will have potential for harmful exposures to operators and visitors. Therefore, no respiratory protection program is required.

Action Taken to Prevent Recurrence

Maintain engineering controls to eliminate exposure to harmful vapors and airborne particulates.

Item Number	0005	Hazard Type	Serious	Standard	.3321(a)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Identified by clear tags, all process piping and tanks in the facility.

Action Taken to Prevent Recurrence

Maintain the tags clean and legible at all times. Replace when necessary.

Item Number	0006	Hazard Type	Serious	Standard	.3273(l)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00

Describe Corrective Action Taken

Install a cover over the sump pit in the treatment system area.

Action Taken to Prevent Recurrence

Maintain the cover in place at all times, expect when service/maintenance work is required.

MER MANAGEMENT
1 SCHOLL CANYON ROAD
LENDALE, CA

EMPLOYER REPORT OF ACTION TAKEN

Item Number	0007	Hazard Type	Serious	Standard	2340.0011(a)(01)
Instance	A	Correction Due Date	3/20/00	Date Corrected	3/16/00
Describe Corrective Action Taken					
Enclose conductor in an rain-tight conduits, per Electrical Code.					
Action Taken to Prevent Recurrence					
Inspect the electrical raceways and equipment regularly and repair any hazard conditions as they are detected.					

SOLID WASTE MANAGEMENT PROGRAM

FAX

COVER SHEET

To: GREG AHERN
Fax #: (818) 548-9777
Subject: SCHOLL CANYON LANDFILL
Date: 3/30/98
Pages: 3 , including this cover sheet.

COMMENTS:

CONDENSATE SPILLS AT SCHOLL CYN L.F.

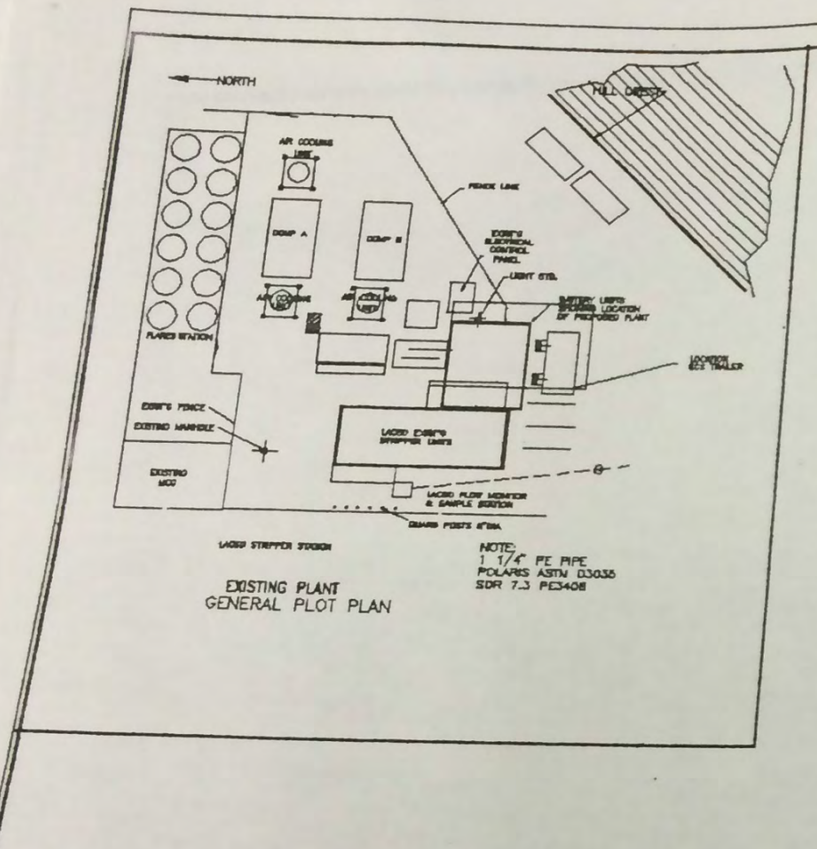
3/14/97 - APPROX 3000 GALLONS

3/11/98 - APPROX 10 GALLONS

APPARENTLY I OVERESTIMATED THE # OF SPILLS - I HAVE RECORDS OF 2 SPILLS FOR THE LAST 4 ~~YEAR~~/AS LISTED ABOVE

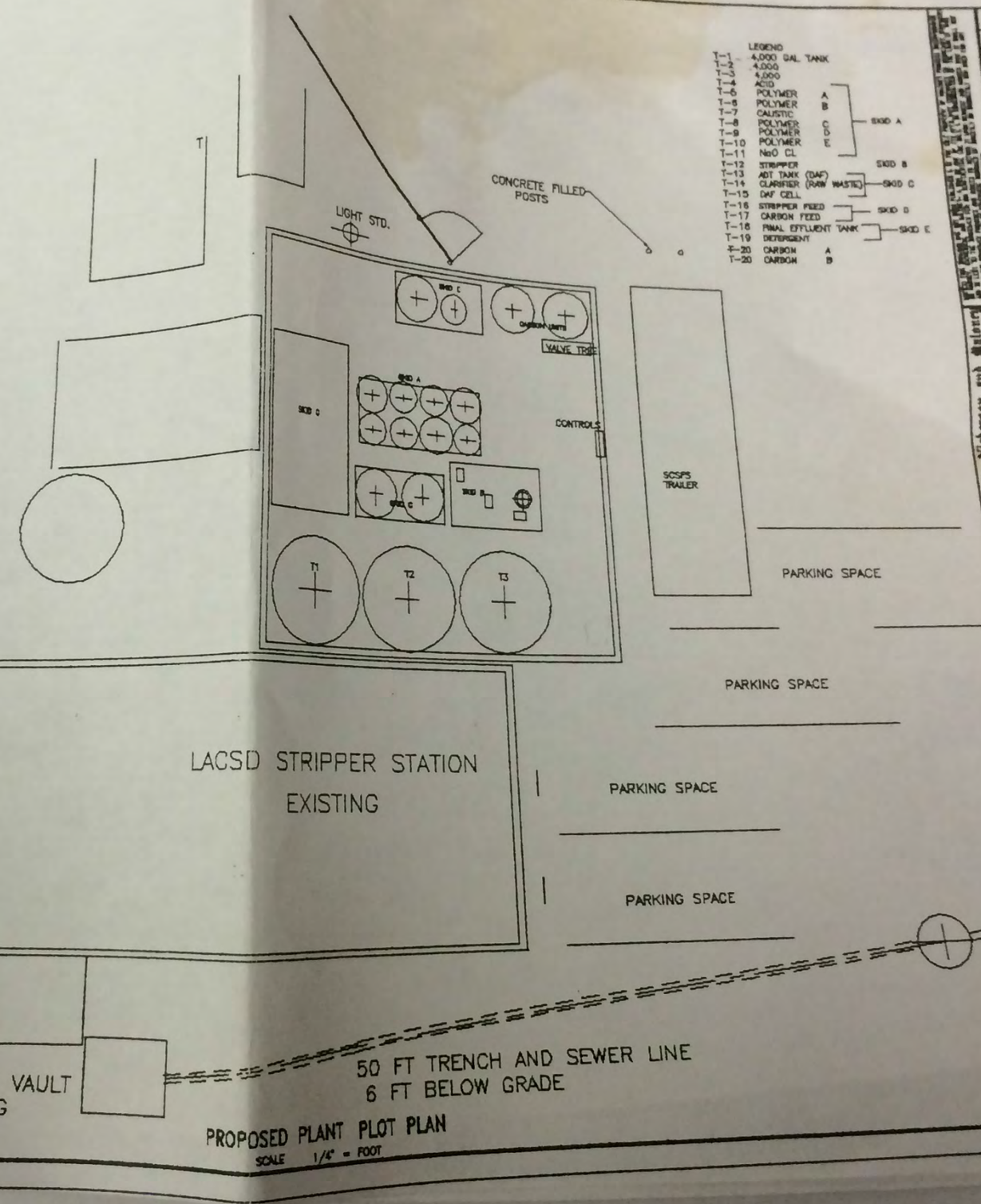
From the desk of:
KIM YAPP
Phone #:
(213) 881 4151
Fax #:
(213) 269 4327

GREG AHERN



EXISTING PLANT
GENERAL PLOT PLAN

NOTE:
1 1/4" PE PIPE
POLARIS ASTM D3035
SDR 7.3 PE3408



PROPOSED PLANT PLOT PLAN
SCALE 1/4" = FOOT

LEGEND

T-1	4,000 GAL TANK		
T-2	4,000		
T-3	4,000		
T-4	ACID		
T-5	POLYMER	A	SKID A
T-6	POLYMER	B	
T-7	CAUSTIC		
T-8	POLYMER	C	
T-9	POLYMER	D	
T-10	POLYMER	E	
T-11	NaO CL		
T-12	STRIPPER		SKID B
T-13	ADT TANK (DAF)		SKID C
T-14	CLARIFIER (RAW WASTE)		
T-15	DAF CELL		
T-16	STRIPPER FEED		SKID D
T-17	CARBON FEED		
T-18	FINAL EFFLUENT TANK		SKID E
T-19	DETERGENT		
T-20	CARBON	A	
T-20	CARBON	B	

1	5/97	MODIFIED EQUIP. IN BERM	
A	5/97	REVISED	
REV	DATE		

Ramsey, Nickerson and Slattery
Engineers and Constructors
A MALCOLM PIRNIE, INC. COMPANY
1391 DEL LAGUNA AVENUE SUITE 102
MODESTO, CALIFORNIA 95350

DRAWN BY GEN.
CHK'D BY
TRACED BY
TRC'G CHK
APP'D
APP'D AS NOTED
SCALE
DATE 4/8/97

PLOT PLAN OF AREA

LANDFILL GAS CONDENSATE PROCESSING PLANT
SCHOLL CANYON LANDFILL
CITY OF GLENDALE, CA.

JOB No. 97-112

DRAWING No.
S-5
REV B

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
FAX 310 427-0805

SCS ENGINEERS

April 7, 1997
File No. 0196115.00

City of Glendale
Engineering Section
633 E. Broadway, Room 205
Glendale, California 91206-4388

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF PERIODIC COMPLIANCE REPORT (PCR), FIRST QUARTER 1997, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed PCR forms and accompanying laboratory reports (with chain-of-custody documentation) for self-monitoring conducted at Scholl Canyon during the first quarter (January through March) 1997. During this round of self-monitoring, Sampling Point 01 (regulated quarterly) was monitored in accordance with Scholl Canyon's revised industrial waste discharge permit (W-3142, March 8, 1995). The enclosed document has been prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon Landfill Gas Limited Partnership (SC-LP).

Based on analytical data generated during monitoring, it appears that SC-LP is in compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142), with the exception of exceedances of the discharge limits for total toxic organics (TTO) (2.0 mg/L) and dispersed oil and grease (600.0 mg/L). Concentrations of 4.286 mg/L of TTO and 732 mg/L of dispersed oil and grease were detected in a grab sample collected from Sampling Point 01.

The excessive concentrations of TTO and dispersed oil and grease present in the condensate sample is most likely the result of the temporary failure of the carbon filtration units attached to the condensate outflow. This failure has been remedied by the replacement of the carbon canisters as well as the overhauling of the valve system attached to the carbon filtration system. SC-LP is already in the process of scheduling the necessary re-sampling event required by the permit.

We are hopeful that this corrective safety strategy will be acceptable to the City of Glendale. Please note that the pending upgrade and re-location of the system to the compressor station area will further mitigate potential problems with TTOs and oil and grease.

Please address any questions or comments related to this submittal to our office.

Sincerely,

Ray Huff
Project Scientist
SCS ENGINEERS

Enclosures

cc: Jim Bier; SCS Field Services
Gordon Deane; Palmer Management Corp.

STD 911

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242
FAX (213) 485-5075

Lab. No.: 97-000413 -01 to -02
Date Received: May 20, 1997
Date Reported: May 28, 1997

To: CAPT. AARON AUSTIN
ENVIRONMENTAL MANAGEMENT CENTER
CITY OF GLENDALE

Attn: GREG AHERN, Inspector
INDUSTRIAL WASTE PROGRAM

TEST REPORT

One grab sample collected from Scholl Canyon Landfill at the sample spigot after pretreatment was tested for pH and various analytes for the City of Glendale. The sample was collected at 1049 hours on May 20, 1997 and delivered to the laboratory on the same day by Greg Ahern. Specific methods used for the analyses are listed in the table of results.

TEST DATA

Laboratory ID No. 97-000413	-01	-02	Reporting Limit	EPA Method No.*
pH	8.4		N/A	150.1
Chlorides, mg/L	64		0.2	325.1
Dissolved Sulfides, mg/L	< 0.03		0.03	376.2
Oil and Grease, Total, mg/L		516	3	413.1

* EPA Methods for Chemical Analysis of Water and Wastes, 1983.

Gregory D Bohn for
Papkin K. Hovasapian, Director
General Services/Standards
PKH:KK:ES:es

01

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242
FAX (213) 485-5075

Lab. No.: 97-000398 -01 to -02
Date Received: May 6, 1997
Date Reported: May 13, 1997

To: CAPT. AARON AUSTIN
ENVIRONMENTAL MANAGEMENT CENTER
CITY OF GLENDALE

Attn: GREG AHERN, Inspector
INDUSTRIAL WASTE PROGRAM

TEST REPORT

One grab sample collected from Scholl Canyon Landfill at the sample spigot after pretreatment was tested for various analytes and for pH and flash point for the City of Glendale. The sample was collected at 1240 hours on May 6, 1997 and delivered to the laboratory on the same day by Greg Ahern. Specific methods used for the analyses are listed in the table of results.

TEST DATA

Laboratory ID No. 97-000398	-01	-02	Reporting Limit	EPA Method No.
pH	7.4		N/A	150.1
Cyanide, Free, mg/L	< 0.004		0.004	335.1
Cyanide, Total, mg/L	0.004		0.004	335.2
Chlorides, mg/L	848		0.2	325.1
Dissolved Sulfides, mg/L	67.1		0.03	376.2
Oil and Grease, Total, mg/L		635	3	413.1
Flash Point, °C	No flash (≥ 70°C)		N/A	1020*

* EPA SW-846, 3rd ed,, Setaflash Closed-Cup Method for Ignitability.

for
Parkin K. Hovasapian, Director
General Services/Standards
PKH:KK:JB:ES:es

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
FAX 310 427-0805

SCS ENGINEERS

July 11, 1996
File No. 0196007.00

City of Glendale
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF INDUSTRIAL USERS QUARTERLY COMPLIANCE REPORT FORM, SECOND QUARTER 1996, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed Industrial Users Quarterly Compliance Report forms and accompanying laboratory reports (with chain-of-custody documentation) for self-monitoring conducted at Scholl Canyon during the second quarter (April through June) 1996. During this round of self-monitoring, Sampling Point 01 (regulated quarterly) was monitored in accordance with Scholl Canyon's revised industrial waste discharge permit (W-3142, March 8, 1995). The enclosed document has been prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon Landfill Gas Limited Partnership.

Based on analytical data generated during monitoring, it appears that Scholl Canyon is in full compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142). Please address any questions or comments related to this submittal to our office.

Sincerely,

Patrick S. Sullivan, R.E.A.
Senior Project Scientist
SCS ENGINEERS

Enclosures

cc: Jim Bier; SCS Field Services
Gordon Deane; Palmer Management Corp.

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
FAX 310 427-0805

SCS ENGINEERS

January 13, 1997
File No. 0196115.00

City of Glendale
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF INDUSTRIAL USERS QUARTERLY COMPLIANCE REPORT FORM, FIRST QUARTER 1996, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed Industrial Users Quarterly Compliance Report forms and accompanying laboratory reports (with chain-of-custody documentation) for self-monitoring conducted at Scholl Canyon during the first quarter (October through December) 1996. During this round of self-monitoring, Sampling Point 01 (regulated quarterly) was monitored in accordance with Scholl Canyon's revised industrial waste discharge permit (W-3142, March 8, 1995). The enclosed document has been prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon Landfill Gas Limited Partnership.

Based on analytical data generated during monitoring, it appears that Scholl Canyon is in full compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142).

Please address any questions or comments related to this submittal to our office.

Sincerely,

Ray Huff
Project Scientist
SCS ENGINEERS

Enclosures

cc: Jim Bier; SCS Field Services
Gordon Deane; Palmer Management Corp.

G.S.D. / STANDARDS TEL:213-

SCHOLL CANYON LFG LIMITED PARTNERSHIP
c/o PALMER MANAGEMENT CORPORATION
672 JERUSALEM ROAD
COHASSET, MASSACHUSETTS 02025
TEL: (617) 383-1293; FAX: (617) 383-0203

January 12, 19954

City of Glendale
Engineering Section
633 East Broadway, Room 205
Glendale, California 91206

Gentlemen:

Enclosed please find a completed Industrial User's Quarterly Compliance Report Form for our site in Glendale. This report covers the period October 1, 1994-December 31, 1994. The appropriate supporting lab reports are attached.

As can be seen, the facility was in compliance throughout the quarter.

Should you have any questions, please feel free to call.

Sincerely,

A. Robert Russell III
Treasurer, Scholl Canyon Landfill
Gas Corporation, General Partner

Enclosure

2 NOV 8:0

City of Los Angeles
Department of General Services
Standards Testing Laboratory

Lab Number: 95-000535 Date Sampled: 10/26/94
Location: SCHOLL CANON LANDFILL/GAS TO ENER Date Analyzed: 10/26/94
M.H. AFTER AIR STRIPPER
Permit #: W-NONE Analyzed By: MG/PW
Date Reported: 10/27/94

ADDITIONAL VOLATILES (NON-TTO)

Volatile Organic Compounds *Concentrations in ug/L*

Compound	RL	Result
Dichlorodifluoromethane	10.0	*
Trichlorofluoromethane	10.0	*
2-Propanone (Acetone)	30.0	41100
2,2-Dichloropropane	2.00	*
cis-1,2-Dichloroethene	2.00	*
2-Butanone (MEK)	15.0	31200
Bromochloromethane	2.00	*
1,1-Dichloropropene	2.00	*
Dibromomethane	2.00	*
1,3-Dichloropropane	2.00	*
1,2-Dibromoethane	2.00	*
1,1,1,2-Tetrachloroethane	2.00	*
m,p-Xylenes	2.00	433
o-Xylene	2.00	210
Styrene	2.00	*
Isopropylbenzene	2.00	*
Bromobenzene	2.00	*
1,2,3-Trichloropropane	2.00	*
n-Propylbenzene	2.00	*
2-Chlorotoluene	2.00	*
4-Chlorotoluene	2.00	*
1,3,5-Trimethylbenzene	2.00	*
tert-Butylbenzene	2.00	*
1,2,4-Trimethylbenzene	2.00	656
sec-Butylbenzene	2.00	*
p-Isopropyltoluene	2.00	1310
n-Butylbenzene	2.00	*
1,2-Dibromo-3-Chloropropane	2.00	*
1,2,3-Trichlorobenzene	2.00	*

A. Method: EPA Method 8260
B. Instrument: Hewlett-Packard 5890 with 5971A Mass-Selective Detector
C. Column: DB624, 0.53 I.D., 3.0 Micron Film Thickness, 75 Meters
RL: Reporting Limit
* Below Reporting Limit

April 12, 1995
File No. 0195007.00

City of Glendale
Engineering Section
633 E. Broadway, Room 205
Glendale, California 91206-4388

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF PERIODIC COMPLIANCE REPORT (PCR), FIRST QUARTER 1995, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed PCR forms and accompanying laboratory reports (with chain-of-custody documentation) for self-monitoring conducted at Scholl Canyon during the first quarter (January through March) 1995. During this round of self-monitoring, Sampling Point 01 (regulated quarterly) was monitored in accordance with Scholl Canyon's revised industrial wastewater discharge permit (W-3142, March 8, 1995).

Based on the data generated during sampling, it appears that Scholl Canyon is in full compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142) at Sampling Location 01. Note that both grab and composite sampling were conducted as required by the permit.

Please address any questions or comments related to this submittal to our office.

Sincerely,

Patrick S. Sullivan

Patrick S. Sullivan, R.E.A.
Project Scientist
SCS ENGINEERS

Enclosures

cc: Jim Bier; SCS Field Services
Gordon Deane; Palmer Management Corp.

B C ANALYTICAL

GLENDALE LABORATORY
801 Western Avenue
Glendale, California 91201
Voice: 818/ 247-5737
FAX: 818/ 247-9797

DATE Nov 3, 1994

TO: Mr. Tony Svorinich SCS Engineers (818) 244-9712
(PERSON) (COMPANY) (FAX NUMBER)

FROM: Charles Holmes

Number of pages including this page. 6

If you do not receive all pages call
818/ 247-5737

Comments:

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
310 427-0805 FAX

SCS ENGINEERS

Offices Nationwide

January 12, 1996
File No. 0195007.00

City of Glendale
Engineering Section
633 E. Broadway, Room 205
Glendale, California 91206-4388

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF PERIODIC COMPLIANCE REPORT (PCR), FOURTH QUARTER 1995, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed PCR forms and accompanying laboratory reports (with chain-of-custody documentation) for self-monitoring conducted at Scholl Canyon during the fourth quarter (October through December) 1995. During this round of self-monitoring, Sampling Point 01 (regulated quarterly) was monitored in accordance with Scholl Canyon's revised industrial waste discharge permit (W-3142, March 8, 1995). The enclosed document has been prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon Landfill Gas Limited Partnership.

Based on analytical data generated during monitoring, it appears that Scholl Canyon is in compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142), with the exception of an exceedance of the discharge limit for dissolved sulfides (0.1 mg/L). A concentration of 0.27 mg/L of dissolved sulfides was detected in a grab sample collected from Sampling Point 01.

Scholl Canyon is currently in the process of evaluating the cause of this violation. We will provide additional information on this issue as it becomes available. After review and evaluation of possible causes, Scholl Canyon will develop and implement a course of action for mitigation of the dissolved sulfide problem, if necessary. In the meantime, Scholl Canyon has conducted the necessary re-sampling required by the permit.

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
FAX 310 427-0805

SCS ENGINEERS

October 11, 1996
File No. 0196007.00

City of Glendale
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF INDUSTRIAL USERS QUARTERLY COMPLIANCE REPORT FORM, THIRD QUARTER 1996, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed Industrial Users Quarterly Compliance Report forms and accompanying laboratory reports (with chain-of-custody documentation) for self-monitoring conducted at Scholl Canyon during the third quarter (July through September) 1996. During this round of self-monitoring, Sampling Point 01 (regulated quarterly) was monitored in accordance with Scholl Canyon's revised industrial waste discharge permit (W-3142, March 8, 1995). The enclosed document has been prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon Landfill Gas Limited Partnership.

Based on analytical data generated during monitoring, it appears that Scholl Canyon is in full compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142). Please address any questions or comments related to this submittal to our office.

Sincerely,

Patrick S. Sullivan, R.E.A.
Senior Project Scientist
SCS ENGINEERS

Enclosures

cc: Jim Bier; SCS Field Services
Gordon Deane; Palmer Management Corp.

Environmental Consultants

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
FAX 310 427-0805

SCS ENGINEERS

October 11, 1996
File No. 0196007.00

City of Glendale
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF INDUSTRIAL USERS QUARTERLY COMPLIANCE REPORT FORM, THIRD QUARTER 1996, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed Industrial Users Quarterly Compliance Report forms and accompanying laboratory reports (with chain-of-custody documentation) for self-monitoring conducted at Scholl Canyon during the third quarter (July through September) 1996. During this round of self-monitoring, Sampling Point 01 (regulated quarterly) was monitored in accordance with Scholl Canyon's revised industrial waste discharge permit (W-3142, March 8, 1995). The enclosed document has been prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon Landfill Gas Limited Partnership.

Based on analytical data generated during monitoring, it appears that Scholl Canyon is in full compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142). Please address any questions or comments related to this submittal to our office.

Sincerely,

Patrick S. Sullivan, R.E.A.
Senior Project Scientist
SCS ENGINEERS

Enclosures

cc: Jim Bier; SCS Field Services
Gordon Deane; Palmer Management Corp.

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
310 427-0805 FAX

SCS ENGINEERS

Offices Nationwide

October 19, 1995
File No. 0195007.00

City of Glendale
Engineering Section
633 E. Broadway, Room 205
Glendale, California 91206-4388

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF PERIODIC COMPLIANCE REPORT, RESAMPLING FOR TOTAL TOXIC ORGANICS, THIRD QUARTER 1995, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed periodic compliance report (PCR) forms and accompanying laboratory reports (with chain-of-custody documentation) for resampling conducted at Scholl Canyon on October 6, 1995. The enclosed documentation has been prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon Landfill Gas Limited Partnership.

The recent resampling was conducted due to a violation of the effluent limitation for total toxic organics (TTOs) which occurred during self monitoring for the third quarter (July through September) 1995. Resampling was conducted and is herewith reported within 30 days of first becoming aware of the violation (October 3, 1995), as required by Scholl Canyon's revised Industrial Waste Discharge Permit (W-3142, March 8, 1995).

During the resampling, grab samples were collected from Sampling Point 01 (manhole location at bottom of canyon; Man-1) and a sampling port directly after the carbon adsorption unit (Carb-1). The two grab samples were analyzed for TTOs by EPA Method 625. Samples were not analyzed for EPA Method 624 or 608 compounds since the previous violation was due entirely to bis-2-ethylhexylphthalate, a EPA 625 compound.

Based on analytical data generated during resampling, Scholl Canyon is in compliance with discharge limitation for TTOs, as set forth in its Industrial Waste Discharge Permit (W-3142). In addition, there does not appear to be any difference in the water quality between the two sampling locations.

Scholl Canyon is unsure of the source of bis-2-ethylhexylphthalate which caused the aforementioned violation. This compound had never been detected at the site in previous monitoring rounds.

April 11, 1996
File No. 0195007.00

City of Glendale
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF INDUSTRIAL USERS QUARTERLY COMPLIANCE REPORT FORM, FIRST QUARTER 1996, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed Industrial Users Quarterly Compliance Report forms and accompanying laboratory reports (with chain-of-custody documentation) for self-monitoring conducted at Scholl Canyon during the first quarter (January through March) 1996. During this round of self-monitoring, Sampling Point 01 (regulated quarterly) was monitored in accordance with Scholl Canyon's revised industrial waste discharge permit (W-3142, March 8, 1995). The enclosed document has been prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon Landfill Gas Limited Partnership.

Based on analytical data generated during monitoring, it appears that Scholl Canyon is in full compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142).

Please address any questions or comments related to this submittal to our office.

Sincerely,

Patrick S. Sullivan, R.E.A.
Senior Project Scientist
SCS ENGINEERS

Enclosures

cc: Jim Bier; SCS Field Services
Gordon Deane; Palmer Management Corp.

October 11, 1995
File No. 0195007.00

City of Glendale
Engineering Section
633 E. Broadway, Room 205
Glendale, California 91206-4388

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF PERIODIC COMPLIANCE REPORT (PCR), THIRD QUARTER 1995, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

Enclosed please find two copies of completed PCR forms and accompanying laboratory reports (with chain-of-custody documentation) for self-monitoring conducted at Scholl Canyon during the third quarter (July through September) 1995. During this round of self-monitoring, Sampling Point 01 (regulated quarterly) was monitored in accordance with Scholl Canyon's revised industrial waste discharge permit (W-3142, March 8, 1995). The enclosed document has been prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon Landfill Gas Limited Partnership.

Based on analytical data generated during monitoring, it appears that Scholl Canyon is in compliance with discharge limitations set forth in its industrial waste discharge permit (W-3142), with the exception of an exceedance of the discharge limit for total toxic organics (TTOs; 2.0 mg/L). 5.76 mg/L of bis-2-ethylhexylphthalate (a TTO) was detected in a grab sample collected from Sampling Point 01.

Scholl Canyon is unsure of the source of this contaminant; bis-2-ethylhexylphthalate has never been detected at the site in previous monitoring rounds. In order to best evaluate possible corrective actions, Scholl Canyon proposes to investigate potential source(s) of bis-2-ethylhexylphthalate in landfill gas condensate. In this regard, Scholl Canyon requests assistance from the City of Glendale in identifying contaminant source(s). If possible, we would like to review monitoring data submitted by the Los Angeles County Sanitation Districts for condensate from Scholl Canyon landfill.

In this way, we can determine whether a TTO problem exists or whether the detected TTO concentration was a sampling/analytical anomaly. After review of existing monitoring data and plant operating parameters, Scholl Canyon will develop and implement a course of action for mitigation of the TTO problem, if necessary. In the meantime, Scholl Canyon has conducted the necessary re-sampling required by the permit.

SCHOLL CANYON LFG LIMITED PARTNERSHIP
SCHOLL CANYON LANDFILL GAS CORPORATION

c/o Palmer Management Corporation
672 Jerusalem Road, Cohasset, MA 02025
Tel: (617) 383-1293 || Fax: (617) 383-0203

DATE: 16-Sep-94 TIME: 10:05 AM

EXPRESS TRANSMITTAL MEMORANDUM

Please deliver the following pages to:

NAME:	Greg Ahern
COMPANY:	Glendale Industrial Waste
CC:	Kerry Morford, Steve Zurn
COMPANY:	Glendale Public Works Department
CC:	Jim Bier
COMPANY:	SCS Field Services

FROM: Gordon L. Deane
SUBJECT: CONDENSATE REPORT

This is to follow-up on our phone conversation yesterday discussing the recent condensate sampling from our gas processing station. As we discussed:

1 Since we have a temporary permit, we have no permit number. Therefore, we will simply write temporary permit on the form.

2 Despite specific instructions provided to them, SCS did not notify the City before sampling. You indicated you thought the City could overlook this transgression. SCS has been notified to not allow this to happen again.

3 The summary of the report which was received late on Wednesday is attached. We do not yet have the actual lab results, which will be forwarded to you when received.

4 As noted on the report, all items reported on the form are well within the limits of the permit except for Dispersed Oil & Grease. The exceedance due to oil and grease is thought to be due to a couple of conditions: (A) As you know, during start-up of the compressors, much more oil is used than during routine operation. The start-up level of oil is 10 gallons per compressor per day. Compressor B has had its oil consumption lowered recently to around 3 gallons/day. Compressor A, which has had less run time, is down to 8 gallons/day; we expect compressor A's oil consumption will continue to drop. (B) The extra oil consumed during start-up has also lead to a foaming action, causing emulsification of oil with the condensate. Therefore, the use of the Baker tank is less efficient than we had originally thought.

5 Both reduced oil consumption and less emulsification should help to lower the levels of oil and grease. Also, we have arranged for the removal of the oil in the Baker tank to try to help improve the separation efficiency and generally reduce the amount of oil in the system.

6 Further, since it appears that LACSD will not start construction of its new condensate system before December, we have proceeded to specify, and plan to order soon, an oil/water separator. I already have a proposal but have asked the engineers for some design changes to make operation easier. We would hope to place an order before the end of the month with installation in 6-8 weeks.

7 As required, we will plan to re-test the condensate within 30 days simply for oil and grease and report those findings to you.

Thank you for your cooperation and assistance on this matter. Feel free to call me if you have any questions.

CC: David Marques, Jeff Bernstein, Esq.; Mary Bookman, Heller Financial

Number of pages being transmitted, including this cover page = 2

IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE NOTIFY US AS SOON AS POSSIBLE BY CALLING (617) 383-1293

Pollutants (in mg/l except pH)	Daily Maximum	Lab Results A	Violation Yes/No	Lab Results B	Violation Yes/No	Lab Results C	Violation Yes/No	Lab Results D	Violation Yes/No	Lab Results E	Violation Yes/No
Arsenic	3.0	0.048	No								
Cadmium	15.0	<0.002	No								
Copper	15.0	0.02	NO								
Nickel	15.0	<0.02	NO								
Silver	5.0	<0.02	NO								
Chromium (total)	10.0	<0.02	NO								
Zinc	25.0	1.31	No								
Lead	5.0	<0.003	NO								
Cyanide (total)	10.0	0.21	NO								
Cyanide (free)	2.0	0.05	NO								
Dissolved Sulfides	0.1	<0.07	No								
TTO	2.0	0.32	NO								
pH	5.5-11.0	7.19	No								
Dispersed O & G	600.0	2,440	YES								
Chloride	...	4.3	NO								
BOD	...	75.5	NO								
COD	...	23,200	NO								
Suspended Solids	...	15.0	No								

IF NOT IN COMPLIANCE, ATTACH A STATEMENT OF REASONS FOR NON-COMPLIANCE AND ACTIONS TAKEN TO CORRECT THE PROBLEM.

...e properly examined and am familiar with the information submitted in this document and attachments. Based on my inquiry of those individuals ...ble for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete. I am aware that there ... penalties for submitting false information including the possibility of fine and imprisonment as directed by 40 CFR 403.12(k) and GMC

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
310 427-0805 FAX

SCS ENGINEERS

Offices Nationwide

June 29, 1995
File No. 0195007.00

City of Glendale
Engineering Section
633 E. Broadway, Room 205
Glendale, California 91206-4388

Attention: Industrial Waste Program

SUBJECT: SUBMITTAL OF PERIODIC COMPLIANCE REPORT (PCR), SECOND QUARTER 1995, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

This letter is to inform you that the Scholl Canyon Landfill Gas Limited Partnership (SCLP) was unable to complete quarterly monitoring for the second quarter of 1995 due to an unforeseen situation. Based on a telephone conversation with Inspector Greg Ahern (June 22, 1995), SCS Engineers (SCS) submits the enclosed letter on behalf of the SCLP in order to explain the present situation.

SCLP was recently issued a Cease and Desist Order from the City of Glendale due to odor complaints. Therefore, until further notice, SCLP is not permitted to discharge landfill gas condensate to the sanitary sewer system. As such, SCLP cannot complete the required quarterly monitoring prescribed in its industrial wastewater discharge permit.

In the future, SCLP will make ever effort to complete its quarterly monitoring earlier in the monitoring period so that these unforeseen situations due to prevent us from completing the necessary sampling. Please address any questions or comments related to this submittal to cur office.

Sincerely,

Patrick S. Sullivan, R.E.A.
Project Scientist
SCS ENGINEERS

Enclosures

cc: Jim Bier; SCS Field Services
Gordon Deane; Palmer Management Corp.

SCHOLL CANYON LFG LIMITED PARTNERSHIP
c/o Scholl Canyon Landfill Gas Corporation
672 Jerusalem Road, Cohasset, MA 02025
Tel: 617/383-1293; Fax: 617/383-0203

June 12, 1995

Mr. George R. Miller
Director of Public Works
City of Glendale
633 East Broadway, Room 209
Glendale, CA 91206-4385

Subject: Industrial Waste Discharge Permit Revision W-2762, Scholl Canyon Landfill

Dear George:

Whoops!

Sitting on my desk was the enclosed requested receipt for the subject permit which was supposed to be returned by April 5, 1995. While I had discussed the permit and the receipt with Kerry and Steve the last time I was in California, I carried it back to the office and there it sat again. Fortunately, my oversight has not stopped SCS from addressing the requirements of the permit which had been immediately sent on to them. Based on recent correspondence, it appears that the plans are moving ahead. Also, odor problems appear to have been addressed. We will continue to monitor the situation.

With respect to the permit, SCS has answered most of my questions on how we address the monitoring issues in the permit. However, to my knowledge, there are still two unresolved questions.

The first is the issue of the maximum daily discharge of 3300 gallons per day which is mentioned in Part 1, paragraph A. As you probably know, since LACSD and Scholl Canyon LFG Limited Partnership are currently using the same condensate disposal system, the practice has been to hold condensate and only discharge on certain days when LACSD is not using the system. This practice has been condoned by the City as long as our average daily discharge is not in excess of 3300 gallons per day. We prefer to continue to have the flexibility to operate in this manner even after we are separated from the LACSD system. By allowing this flexibility, we can better respond to issues such as odor that have arisen in the past when there are questions of the source since we can suspend disposal and check for cause and effect. Also, this flexibility gives us a better opportunity to have the disposal occur while the system is being manned.

Also, under Part 4, paragraph D, it states that the pH chart must be initialed daily by an operator of the facility. We have no problem doing this but only on days when the facility is manned. Once the compressor problems are behind us, we do not expect the facility to be manned on a daily basis.

I hope these understandings are acceptable to the City. If there are any questions, please give me a call. Once again, my apologies for being tardy in sending you this letter and returning the enclosed receipt for the permit.

Sincerely,

Gordon L. Deane
President
Scholl Canyon Landfill Gas Corporation
General Partner

cc: Kerry Morford, Steve Zurn
Jim Bier, SCS Field Services
Patrick Sullivan, SCS Engineers

12/16/94 15:18 ☎310 492 6210 SCS FIED SERV 001/003

19 DEC 94 7:08 -W. ADMIN. -

4014 Long Beach Blvd., Third Floor
Long Beach, California 90807
310 492-6222
FAX 310 492-6210

SCS FIELD SERVICES

Engineering

Greg Ahern

Your info.

Steve Zunn
PWA

DATE 12/

FROM - NA

JOI

TO - NA c.c. Gordon Deane

CC ndale

FA 7

PH

CHECK ONE

___ NORMAL PROCESSING

___ CONFIDENTIAL

X CALL TO CONFIRM ON ARRIVAL
(310) 492-6222

___ MAIL

X RETURN TO ORIGINATOR

MESSAGE: Dear Kerry

Attached is the lab report indicating that the oil/grease detected is below to permitted 600 mg/l.

Porsuant to your verbal authorization, SCS-FS is proceeding with the disposal of 40,000 gallons of stored condensate.

We look forward to the resolution of a long term solution w/in the next few wks.

TOTAL PAGES (INCLUDING THIS COVER) 3

CITY OF Glendale CALIFORNIA

12/16/94 15:19 ☎310 492 6210 SCS FIED SERV 002/003

DEC 15 '94 04:35PM SCS LABORATORY P.1/2

SCS ANALYTICAL LABORATORY
2860 WALNUT AVENUE
LONG BEACH, CALIFORNIA 90806
(310) 595-9324
FAX (310) 595-6709

SCS FIELD SERVICES
4014 Long Beach Blvd.
Long Beach, CA 90807

ATTN: Jim Bier

December 15, 1994

Page 1 of 1

PROJECT NO.: 0694033.00
P.O. NO.: None
FOLDER NO.: 2662

LABORATORY REPORT

Sample: One (1) water sample from Scholl Canyon Landfill, collected and received on 12/15/94. (Immediate Rush Analysis)

Sample ID	Oil & Grease (413.2) * mg/L
Scholl Canyon	416
Reporting Limit	20
Date Analyzed	12/15/94

* The analysis was performed at ATL.

Reviewed by

Approved by

S2662.rep

2319 DORRIS PLACE
LOS ANGELES, CA 90031

CITY OF Glendale CALIFORNIA

633 East Broadway, Room 101, Glendale, CA 91206-4399 • Tel: (818) 548-3200
Fax: (818) 548-3215

PERMIT
SERVICES
CENTER

FACSIMILE TRANSMITTAL

DATE: 12-6-94

TO: Gordon Deane

COMPANY: L.F.G.

SUBJECT: Activated Carbon Treatment Systems

FACSIMILE #

FROM: Greg Ahern
~~PERMIT SERVICES CENTER~~, PUBLIC WORKS DIVISION

TELEPHONE # (818) 548-3945

FACSIMILE # (818) 548-3215

TOTAL NUMBER OF PAGES YOU SHOULD RECEIVE INCLUDING THIS COVER SHEET: 10

COMMENTS:

Form GS/STD 911

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242
FAX (213) 485-5075

Lab. Nos.: 97-000368
97-000369

Date Received: April 9, 1997
Date Reported: April 10, 1997

To: CAPT. AARON AUSTIN
ENVIRONMENTAL MANAGEMENT CENTER
CITY OF GLENDALE

Attn: GREG AHERN, Inspector
INDUSTRIAL WASTE PROGRAM

TEST REPORT

Two grab samples from Scholl Canyon Landfill were tested for flash point for the City of Glendale. Sample No. 97-000368 was collected from the sample spigot prior to pre-treatment at Scholl Canyon/SCS Engineers on April 9, 1997 at 1253 hours. Sample No. 97-000369 was collected from the sample spigot prior to pre-treatment at Scholl Canyon/LA County on April 9, 1997 at 1329 hours.

Both samples were collected by Greg Ahern and delivered to the laboratory on April 9, 1997 at 1405 hours by Greg Ahern and Doug Kitchen. Flash point analysis was performed in accordance with ASTM Method D93-90, "Standard Methods for Flash Point by Pensky-Martens Closed Tester".

Standards Division Sample !D#	Date Analyzed	Flash Point (°C)
97-000368	4/10/97	40
97-000369	4/10/97	No Flash (≥ 70)

Papkin K. Hovasapian, Director
General Services/Standards
PKH:KK:JB:ES:es

05/23/94

TEMPORARY PERMIT # W-3142

CITY OF GLENDALE
PERMIT SERVICES CENTER
633 East Broadway, Rm 101, Glendale, CA 91206-4390

Receipt# 3609B020
Phone 548-3200

APPLICATION FOR INDUSTRIAL WASTE PERMIT

Business Name: Scholl Canyon Landfill Gas Limited Partnership

Business Owner: Gordon L Deane, President Phone: (818)956-8123

Address of Installation: 3001 Scholl Canyon Road 91206

Mailing Address: Same

Type of Industry: Gas Production and Distribution SIC Code: 4922

Character of operation producing waste:

Landfill Condensate Gas to Energy Project

Types of chemicals, solvents, cleaning compounds, oils and other substances contained in liquid waste discharge:

Water, oil and trace organics

Approximate gallonage of waste liquids (3,300) per (24) hour day.

Additional information: Temporary permit for a period of 6 months. Permittee to implement a self-monitoring program (copy attached). Permittee shall install all required tanks, equipment and controls prior to start of Permanent Operations in 6 months. Existing 10 gpm air stripper.

Drivers License # ✓ 298501772-MA

✓ Fee: $85.00 (Checks made payable to the City of Glendale.)

For further information, if necessary, call 548-3945.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

AUTHORIZED SIGNATURE REQUIRED

1. Business Owner.
2. Corporate officer or designated employee with written authorization.
3. Managing partner.

Scholl Canyon Landfill Gas
(Firm Name)

✓ J. Deane
(Applicants Signature)

Gordon L Deane, President
(Type or print name and title)

SELF-MONITORING REQUIREMENTS

The permittee shall monitor sampling point 01 for the following parameters, at the indicated frequency and by the indicated sample type:

Constituents	Units	Measurement Frequency	Sample Type
Flow	GPD	-------	Report
Arsenic	mg/l	1/3mos. [1]	Composite
Cadmium	mg/l	1/3mos. [1]	Composite
Copper	mg/l	1/3mos. [1]	Composite
Chromium(Total)	mg/l	1/3mos. [1]	Composite
Cyanide(Free)[5]	mg/l	1/3mos. [1]	Grab
Cyanide(Total)	mg/l	1/3mos. [1]	Grab
Nickel	mg/l	1/3mos. [1]	Composite
Lead	mg/l	1/3mos. [1]	Composite
Zinc	mg/l	1/3mos. [1]	Composite
Silver	mg/l	1/3mos. [1]	Composite
pH	S.U.	1/3mos. [1]	Grab
Dissolved Sulf.	mg/l	1/3mos. [1]	Grab
Oil & Grease	mg/l	1/3mos. [1]	Grab
Chlorides [3]	mg/l	1/3mos. [1]	Composite
TTO [4]	mg/l	1/3mos. [1]	Grab
BOD[3]	mg/l	1/3mos. [1]	Grab
COD[3]	mg/l	1/3mos. [1]	Composite
Suspended Solids	mg/l	1/3mos. [1]	Composite

FOOTNOTES TO MONITORING REQUIREMENTS

1. The sample shall be taken on a day when these substances are likely to be present in their maximum concentration.

2. Los Angeles County Sanitation District shall store all wastewater for a period of not less than 24 hours to allow SC-LP to collect a 24-hr composite sample and grab samples from its operation unaffected by their waste stream.

3. The City is in the process of establishing a database for these constituents.

4. Total Toxic Organics (TTO) shall be the summation of all quantifiable values greater than 0.01 milligrams per liter for the following toxic organics:

Acenaphthene
Acrolein
Acrylonitrile
Benzene
Benzidine
Carbon tetrachloride (tetrachloromethane)
Chlorobenzene
1,2,4-trichlorobenzene
Hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
Hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
Chloroethane
Bis(2-chloroethyl) ether
2-chloroethyl vinylether(mixed)
2-chloronaphthalene
2,4,6-trichlorophenol
Parachlorometa cresol
Chloroform (trichloromethane)
2-chlorophenol
1,2-dichlorobenezene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3-dichlorobenzidine
1,1-dichloroethylene
1,2-trans-dichloroethylene
2,4-dichlorophenol
1,2-dichloropropane
1,3-dichloropropylene
2,4-dimethylphenol
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
Ethylbenzene
Fluoranthene
4-chlorophenyl phenyl ether
Indeno(1,2,3-cd)pyrene
Pyrene
Toluene
Trichloroethylene
Vinyl chloride
Aldrin
Dieldrin
Chlordane (technical mixtures and metabolites)
4,4-DDT
4-bromophenyl phenyl ether
Bis(2-chloroisopropyl)ether
Bis(2-chloroethoxy) methane
Methylene Chloride
Methyl Chloride
Methyl Bromide
Bromoform
Dichlorobromomethane
Chlorodibromomethane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
Pentachlorophenol
Phenol
Bis(2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
1,2-Benzanthracene
Benzo(a)pyrene
3,4-Benzofluorznthene
11,12-Benzofluoranthene
Chrysene
Acenaphthylene
Anthracene
1,12-Benzoperylene
Fluorene
Phenanthrene
1,2,5,6-Dibenzanthracene

4,4-DDE
Tetrachloroethylene
4,4-DDD
Alpha-endosulfan
Beta-endosulfan
Endosufan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
(BCH-hexachlorocyclohexane)
- Alpha-BHC
- Beta-BCH
- Gamma-BCH
- Delta-BCH

(PCB-polychlorinated biphenys)
- PCB-1242 (Arochlor 1242)
- PCB-1254 (Arochlor 1254)
- PCB-1221 (Arochlor 1221)
- PCB-1232 (Arochlor 1232)
- PCB-1248 (Arochlor 1248)
- PCB-1260 (Arochlor 1260)
- PCB-1016 (Arochlor 1016)

Toxaphene
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

5. Cyanide (Free) shall mean cyanide amenable to chlorination as defined by 40 CFR 136.

A. Monitoring and sampling shall be carried out during a period of normal operations.

B. All handling and preservation of collected samples and laboratory analyses of samples shall be performed in accordance with 40 CFR 136 and amendments thereto unless specified otherwise in the monitoring conditions of this permit. The collection, handling, storage and analyses of all samples taken for determination of the wastewater characteristics discharged shall be performed by independent laboratories certified by the State of California or approved by the Director of Public Works of the City of Glendale.

REPORTING REQUIREMENTS

A. Self-Monitoring

The permittee shall implement a self-monitoring program. Monitoring results obtained shall be summarized and reported on a periodic compliance report form and submitted by the 15th day of the month following the monitoring period. The reporting schedule is summarized as follows according to the industrial discharge in gallons per day (GPD):

DRAFT

CITY OF Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201
(818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

January 7, 1998

Scholl Canyon LFG Limited Partnership
c/o Scholl Canyon Land Fill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

ATTENTION: Gordon L. Deane, President

SUBJECT: Termination of Discharge and Proper Disposal of Flammable Material

Dear Mr. Deane:

On January 5, 1998, two split samples of condensate wastewater from the subject facility were taken and analyzed for ignitability (Flash Point) by two different State certified laboratories. According to the Lab analysis results, one sample exhibited the characteristic of ignitability (Flash Point<140°F) and the other did not. It is our intention at this point to base our decision by relying on the conservative result in order to protect and prevent any potential harm to the environment.

The Glendale Municipal Code (GMC), Article V, Section 13.40.310 prohibits the discharge of flammable materials to the sanitary sewer. Additionally, a material with a Flash Point below 140°F is also classified as being hazardous waste in accordance with California Code of Regulations (CCR) Title 22, Section 66261.21.

You are required to terminate the discharge of wastewater that meets the above criteria to the sanitary sewer, including the collected condensate wastewater in 10,000 gallons storage tanks.

In March and April of 1997, samples of condensate prior to its treatment also exhibited the characteristic of ignitability. In accordance with CCR, Title 22 any process treating waste with this characteristic must be performed under a Tiered Permit issued by this office.

CITY OF GLENDALE CALIFORNIA

PRINTED ON RECYCLED PAPER

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

562 426-9544
FAX 562 427-0805
http://www.scseng.com

SCS ENGINEERS

January 29, 1998
File No. 0196115.04

Mr. David D. Starr
Fire Marshall
City of Glendale Fire Department
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

SUBJECT: TERMINATION OF DISCHARGE ORDER, SCHOLL CANYON LANDFILL GAS LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA

Dear Mr. Starr:

The Scholl Canyon Landfill Gas Limited Partnership (SC-LP) was recently issued a Termination of Discharge Order (TDO, dated January 14, 1998) for violation of its effluent limitations for ignitability (Flash Point), which occurred during discharge batch sampling on January 5, 1998. In addition, according to the January 14, 1998 letter, samples collected in March and April 1997, by the City of Glendale Fire Department (GFD) of condensate prior to its treatment also exhibited the characteristic of ignitability. In accordance with CCR Title 22, the onsite treatment of waste with this characteristic must be performed under a Tiered Permit issued by the GFD.

In accordance with the January 14, 1998 letter, SCS Engineers (SCS) has prepared the proper Tiered Permitting forms and this response to the TDO on behalf of the SC-LP.

CONDENSATE SAMPLING

In October 1997, SCS Engineers was retained by Bernstein, Cushner, and Kimmell, legal counsel for SC-LP, to collect and analyze several samples of landfill gas (LFG) condensate contained in various vessels at the Scholl Canyon LFG compression station. Although the results of this sampling are privileged and confidential, and constitute attorney-client work product, the results of the sampling are being provided to the GFD as requested, with the understanding that the provision of this data is not intended to be and shall not be construed as a waiver of any applicable privilege. A summary of the analytical results is shown on Table 1, Attachment A. Copies of the laboratory reports and chain-of-custody documentation are also enclosed.

As shown in Table 1, the flash point for the vessels analyzed ranged from 85 to 130 degrees Fahrenheit, with pH ranging from 3.06 to 7.57. Based on these results, the condensate in all of the vessels analyzed failed the flash point test for ignitability (flash point $<140°$ Fahrenheit), and is, therefore, an ignitable hazardous waste in accordance with CCR Title 22 and Federal Resource Conservation and Recovery Act (RCRA) regulations.

vid Starr, Fire Marshal

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3. Of special note is the fact that the condensate failed the flash point test in the inlet separator (i.e., prior to passing through the SC-LP compressors); therefore, the condensate is hazardous prior to it being received by SC-LP.

4. As such, the new condensate treatment system currently being installed at the Scholl Canyon LFG compression station must be regulated as a fixed treatment unit (FTU) and requires a permit under the State of California's tiered permitting program, which is administered by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), through the GFD.

cc:

TIERED PERMITTING

The tiered permitting program was created and enacted through the Wright-Polanco-Lempert Hazardous Waste Treatment Permit Reform Act of 1992 (AB 1772), which was codified into the CCR, Title 22, Section 66270.10, et. seq. AB 1772 established five tiers of authorization for the treatment of hazardous waste. Under this permitting structure, the lower three tiers apply to the on-site treatment of hazardous waste, which was also generated on-site. The remaining two tiers deal with off-site treatment of hazardous waste or higher risk on-site treatment.

In order to determine the appropriate tier for the on-site treatment of the hazardous waste generated at the Scholl Canyon LFG compression station, SCS referenced the "1996 Onsite Tiered Permitting Flowchart," published by DTSC, February 15, 1996 (DTSC Flowchart, 1996). Using this flowchart as a guide, the permitting tier which governs on-site hazardous waste treatment at the Scholl Canyon LFG compression stations was identified. This process included the identification of the affected wastestream and treatment technology. Once the permitting tier had been preliminarily determined, the summary criteria for the identified tier was evaluated. This process is detailed in the following sections.

Identification of Wastestream

The hazardous wastestream within the Scholl Canyon LFG compression station is the oil-water mixture that forms as a result of the compression of the LFG which is sent to the compression station from the Scholl Canyon Landfill. This oil-water mixture was what was tested by both SCS and GFD, with resulting flash point test failure.

Identification of Treatment Technology

The new condensate treatment system being built at the Scholl Canyon LFG compression station consists of the in-line phase separation of the oil and water in the condensate via gravity settling and the use of flocculants and demulsifiers.

DATE 29 January, 1998

'teve Zurn, Senior Executive Assistant, Public Works

vid Starr, Fire Marshal

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Preliminary Identification of Permitting Tier

Following the 1996 flowchart guide, for oil mixed with water treated using phase separation, the identified permitting tier is Conditional Exemption for Specified Wastestreams (CESW) (Chart 10b, page 8, DTSC Flowchart, 1996).

4.

Evaluation of CESW Summary Criteria

cc:

According to Appendix I of the 1996 DTSC Flowchart, in order to operate under conditional exemption for a specified wastestream, the treatment operation in question must meet the following criteria:

- Treatment is exempt from a RCRA permit requirement.
- Wastes are generated on the site where they are being treated.
- The wastestream is eligible for conditional exemption as a specified wastestream according to DTSC.
- The treatment process is specified for the specific wastestream being treated.
- The waste is not treated in :
  - Landfills.
  - Surface Impoundments
  - Injection Wells
  - Waste Piles
  - Land Treatment Units
  - Thermal Destruction Units

RCRA Exemption –

There are two reasons that the oil-water mixture generated from the LFG compression process is exempt from a RCRA permit requirement. First, the wastestream that is produced in the LFG compression station is generated in a manufacturing process unit, thereby it is exempted from RCRA classification according to 40 CFR 261.4(c) and CCR Title 22 CCR 66261.4(c).

> *(c) hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, on in a manufacturing process unit or and associated non-waste-treatment-manufacturing unit, is not subject to regulation under this division or to the notification requirements of Health and Safety Code section 25153.6 until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation product or raw materials;*
>
> Title 22, CCR, Section 66261.4

DATE 29 January, 1998

Steve Zurn, Senior Executive Assistant, Public Works

avid Starr, Fire Marshal

This regulation is intended to exempt from regulation wastes that are generated within a manufacturing process – at least until they are removed from that process. This regulation is taken verbatim from a federal regulation codified at 40 CFR 261.4(c). The authors of the federal regulation explained its purpose in a document published in the Federal Register, as 45 Federal Register 72024 (October 30, 1980). To avoid having the RCRA regulations reach so far back into the manufacturing process, the EPA carved out this exemption for wastes that are generated within a manufacturing unit. The rationale for this exemption is that manufacturing units are "designed and operated to hold valuable products or raw materials in storage or transportation or during manufacturing," and are therefore, "capable of holding, and are typically operated to hold, the hazardous wastes which are generated in them until the wastes are purposefully removed." As examples of such operations for which this exemption applies, the EPA identified "distillation columns, flotation units, and discharge trays or screens" as well as "non-waste treatment process units such as cooling towers."

Like examples cited by the EPA, the compressor stations are designed to hold a valuable product during manufacturing (i.e. landfill gas) and are capable of holding waste during the process (i.e. the condensate). In addition, the compressor stations are functionally analogous to the examples cited by the EPA, particularly the distillation columns and cooling towers. Thus, this exemption applies to the compressor stations.

However, even after this material exits from the manufacturing process, it is still exempt from RCRA. This is because the waste generated on-site is treated in wastewater treatment units and is discharged to a publicly owned treatment works (POTW). The definition of a wastewater treatment unit is presented in 40 CFR 260.10 and this exclusion is referenced in 40 CFR 264.1(g)(6) and 40 CFR 270.2.

Wastes Generated On-Site –

As mentioned above, the hazardous waste generated at the Scholl Canyon LFG compression facility is an oil-water mixture formed as a result of the compression of the LFG which is sent through compressors at the LFG compression station. Once the condensate generated in the compressor station exits the compressors, it is piped directly into the on-site treatment facility. Therefore, the waste is treated on-site.

Wastestream Eligibility –

A wastestream is eligible for conditional exemption if it meets the criteria set forth in the California Health and Safety Code (CHSC), Section 25201.5(c). For the oil-water mixture generated by the compressor station, CHSC Section 25201.5(c)(7) applies:

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> *(c) Notwithstanding any other provision of law, a hazardous waste facilities permit or other grant of authorization is not required to conduct the following treatment activities, if the generator treats the following hazardous waste streams using the treatment technology required by this subdivision:*
>
> CHSC, Section 25201.5(c)

> *(7) Except as provided for specific waste streams in Section 25200.3, the generator conducts the separation by gravity of the following, if the activity is conducted in impervious tanks or containers constructed of non-corrosive materials, the activity does not involve the addition of heat or other form of treatment, or the addition of chemicals other than flocculants and demulsifiers, and the activity is managed in compliance with applicable requirements of federal, state, or local agency or treatment works:*
>
> *(a) The settling of solids from waste where the resulting aqueous waste stream is non-hazardous.*
>
> *(b) The separation of oil/water mixtures and separation sludges, if the average oil recovered per month is less than 25 barrels.*
>
> CHSC, Section 25201.5(c)(7)

Once the new treatment system is operational, SC-LP fully expects that that the aqueous waste stream produced from the oil/water separation will be non-hazardous, and that the average oil recovered from the oil/water separation process is less that 25 barrels (1,050 gallons) per month. SC-LP will implement a monitoring and sampling program to confirm this. In addition, the treatment process will be conducted in impervious tanks or containers, and does not involve the addition of heat or other forms of treatment other than flocculants and/or demulsifiers.

Specified Treatment Process –

The treatment process SC-LP has designed for an oil-water mixture is the phase separation of the oil-water mixture using an oil-water separator. This constitutes a specified treatment process that is specific to the wastestream being treated.

Treatment Limitations –

The hazardous waste subject to the CESW will not be treated in any of the facilities or devices referenced above. The aqueous waste stream produced from the oil-water separation will be discharged under an industrial wastewater discharge permit (W-3142), and the waste oil produced from the separation will be sent to an authorized recycling facility.

Mr. Fire Marshal

Notification Submittal

Enclosed as Attachment B, please find a copy of the On-Site Hazardous Waste Treatment Notification form (DTSC form 1772) as well as the Conditionally Exempt – Specified Wastestreams, Unit Specific Notification form (DTSC form 1772B), along with all appropriate attachments with the exception of the facility map and plot plan. This plan has already been submitted to the GFD.

For purposes of DTSC form 1772, Treatment Unit 1 consists of the oil-water separation components of the new condensate treatment system. These components include the Dissolved Air Flotation unit, Oil-Water Separator, Pump-Out, Recycle, Waste Oil, and Sludge Tanks.

Please address any questions or comments related to this submittal to our office.

Sincerely,

Ray Huff, R.E.A.
Project Scientist
SCS ENGINEERS

Attachments

cc: Gordon Deane, Scholl Canyon Landfill Gas Limited Partnership
Ken Kimmell, Bornstein, Cushner, and Kimmell
Pat Sullivan, SCS Engineers
Steve Zurn, City of Glendale Public Works
Jake Amar, City of Glendale Public Works

April 20, 1998

To: Captain Indermill J. Ahern

From: Inspectors, Ahern and Kitchen D. Kitchen

Subject: Scholl Canyon LFG

Per your request here is a list of concerns regarding the new treatment facility for your meeting that is scheduled for today with the third party consultant. Note that this list may not be all inclusive.

SCHOLL CANYON LANDFILL GAS TO ENERGY LIMITED PARTNERSHIP
AREAS OF CONCERN FOR NEW WASTEWATER TREATMENT PLANT

1. Health Effects, (Headaches, skin irritation, corrosive characteristics-burning of skin).
2. Toxicity, (Identification of all constituents that make up this wastestream).
3. Flash Point (Through out the system).
4. Odor Control, (Eliminate all odors downstream of treatment plant).
5. pH, (Continuous monitoring of pH with automatic discharge shutoff and alarm).
6. Oil Removal, (How will waste from oil removal be handled?).
7. Dissolved Sulfides, (Chlorination for this constituent may result in the formation of chloroform. How will this be dealt with ?).
8. Total Toxic Organics, (See Dissolved Sulfides).
9. Sludge Storage and Possible Filter Press Addition, (How will Sludge be stored and disposed of ?). HAZWASTE?
10. Separation and Containment of Incompatible Materials, (How will incompatibles be stored ?).
11. Vents from all Tanks, Containers, Drums and Pressurized Treatment Units, (May off gas Flammable Vapors. How will this be dealt with ?).
12. Spill Prevention Control and Countermeasures Plan, (Shall be Site Specific!).
13. Maintenance and Operational Manuals and Logs, (Copies of manuals to be provided to this office and manuals and logs to be maintained on site.).

SCHEDULE

EMCON staff will review available plans and laboratory results prior to our site visit. It is proposed that the site visit be performed within the first two weeks of May. A detailed proposal will be submitted and a meeting between involved parties will be held within the last two weeks of May. Meanwhile, depending on the availability of revised plans referred to in Item #2, a review of the system will be performed.

Please call me if you have any questions. EMCON Senior Engineer, Stan Strong, will be available to work on this project beginning May 4th. I will make arrangements early next week with EMCON personnel, the Fire Department and Jake Amar to visit Scholl Canyon Landfill.

Sincerely,

Vicki Castle

Vicki Castle
Area Manager

Encl: Letter from City of Glendale - Fire Department
dated January 7, 1998

cc: Vasken Demirjian, Hazardous Materials Supervisor,
City of Glendale
Eric Indermill, Fire Captain, City of Glendale
Stan Strong, EMCON-San Jose

562 426-9544

Z-7

CITY OF **Glendale** CALIFORNIA

(818) 548-4030

Environmental Management Center
780 Flower Street, Glendale, CA 91201

Fire Division
HAZARDOUS
MATERIALS
SECTION

November 16, 1998

CERTIFIED MAIL
Return Receipt Requested

Scholl Canyon LFG Limited Partnership
c/o Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: Untreated Waste Condensate Spill/Unauthorized Release
3001 Scholl Canyon Road

Gentlemen:

On Oct. 21, 1998, at approximately 2:30 p.m. an incident occurred at the waste condensate storage tanks during a transfer of untreated waste condensate (condensate) from the storage tanks to an Asbury Environmental vacuum truck, resulting in the release of approximately 5,000 gallons of condensate. Although, this area is provided with an earthen berm equipped with a plastic liner as secondary containment, an uncontrolled release of condensate did occur by means of a large crack in the earthen berm. It is important to note that there were no SCS Field Services personnel supervising this transferring operation or on site at the time of the incident. Consequently, it was necessary for the operator of the vacuum truck to notify Los Angeles County Sanitation District (LACSD) staff onsite with regards to this incident. LACSD personnel in turn notified Glendale Public Works Engineering about the incident.

This office received a call from Jake Amar at 3:10 pm requesting that Inspector Ahern respond to Scholl Canyon Landfill as a result of this incident. Captain Indermill and Inspector Ahern arrived at the spill location at about 3:35 p.m. and met with Jake Amar, Glendale Public Works and Matt Zuro, Marty Zimlock both of LACSD. LACSD personnel had filled in the crack in the earthen berm to prevent any further release of condensate outside of the secondary containment. At this time there was about 1'-2' of free condensate inside of the secondary containment area, with condensate continuing to drain from one of the 10,000 gallon storage tanks through broken piping. Prior to the arrival of Captain Indermill and Inspector Ahern LACSD personnel closed the valves to isolate the leaking tank.

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Brad Everett of SCS joined the above meeting at about 4:00 p.m. . At this meeting it was agreed that all free liquid would be removed, a deodorized would be put down and a plastic cover put over the spill area to minimize the odor problem for the night. Additionally, that additional cleanup would be done starting early the next morning. i.e. removal of storage tanks (unstable), cleanup of soil . . . etc.

Meeting Oct. 22, 1998, at approximately 3:30 p.m. Scholl Canyon Landfill, SCS Trailer. Greg Ahern and Vasken Demirjian, Glendale Fire, Jake Amar, Public Works Engineering and Ken Ayster of SCS Field Services. At this meeting it was clarified that as a CUPA the Fire Dept. was the responsible regulatory agency for this incident. It was further understood that your contractor, SCS Field Services was to submit a work plan to this office to determine the lateral and vertical extent of contamination that occurred as result of this unauthorized release. Additionally, that a detail letter of explanation as to the cause of the incident must be submitted to this office. It is recommended that all cleanup work be completed prior to the start of the rainy season in order to prevent further migration of contamination.

As of this date no work plan or letter of explanation has been received by this office. It is necessary that a work plan and letter of explanation be submitted to this office by November 30,1998.

Very truly yours,

Gregory P. Ahern, Sr.
Inspector

cc: Jake Amar, P.W. Engineering
Ken Ayster, SCS Field Services
Fire Marshal David Starr
Captain Eric Indermill

562 426-9544

4014 Long Beach Blvd., T Floor
Long Beach, CA 90807

562 492-6222
FAX 562 492-6210

SCS FIELD SERVICES, INC.

September 24, 1998
File Nos. 0789033.01
0794021.04

SENT VIA FAX 9/24/98

FILE

Ms. Vicki Castle
Area Manager
Emcon/OWT
15255 Alton Parkway, Suite 100
Irvine, California 92718
FAX (949) 450-0524

Subject: Condensate Pretreatment System at the Scholl Canyon Landfill Gas Processing Facility, Glendale, California

Dear Ms. Castle:

Confirming our telephone conversation this date, SCS has provided you with all the information requested in your letter dated May 21, 1998. At this time, no additional information is required from SCS. We will await instructions from the City of Glendale if anything further is required.

Should you have any questions, do not hesitate to contact the undersigned.

Very truly yours,

Ken Ayster
Regional Manager
SCS FIELD SERVICES, INC.

KA:vlf
D:\MYDOCS\KEN\SCHOLL\EMCON OWT LETTER

cc: Patrick Sullivan, SCS Engineers
Jake Amar, City of Glendale Public Works Department
David Marques
Gordon Deane, SC-LP
Eric Indermill, Fire Captain, City of Glendale
Vasken Demijian, Hazardous Materials Supervisor, City of Glendale

T-1
T-2
T-3
PUMP STN
O/W SEP
DAF
T-23
T-4
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T-7
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T-21
T-17
GAC
Units
T-18
SAMPLING STATION
P

[Revised 3/24/99]

INVIROTREAT INC.
INNOVATIVE TREATMENT
2501 E. Chapman Ave, Suite 100
Fullerton, CA 92831
(714) 879-1686 / fax (714) 879-1687

SCS FIELD SERVICES
LONG BEACH, CA

CONDENSATE TREATMENT PLANT
RECORD DRAWINGS
MECHANICAL PLAN

SCHOLL CANYON LANDFILL
CITY OF GLENDALE

SCALE: NOT TO SCALE
APP'D BY: KA
CHECKED BY: AL
DRAWN BY: AL

DRAWING No.
M-3

Z-7

CITY OF GLENDALE

INTERDEPARTMENTAL COMMUNICATION

DATE July 29, 1999

TO David Starr, Fire Marshal

FROM Eric Indermill, Captain EST

SUBJECT Scholl Canyon Landfill Gas

As you know the Landfill Gas Recovery plant located at Scholl Canyon has been revamping since early in 1997. The changes at the plant are required to meet Industrial Waste and Hazardous Waste standards for the liquid produced as a byproduct of the gas recovery process. The condensate is produced as the landfill gas is compressed prior to resale back to Glendale Public Service. The Fire Department has been involved in the Industrial and Hazardous Waste areas as well addressing fire and life safety concerns at the facility. The Public Works Division has been very involved because they are part owners of the plant and have additional financial responsibilities associated with the cost of "treating" the landfill gas before and after it is collected. The plant is currently operating under a temporary permit, issued by the Fire Department, pending acceptance of a third party review of the plant.

The plant has been evolving since its start up as the operators have tried several configurations and technologies to meet Federal, State and Local discharge standards for the waste that is dumped to sewers. It has been common for the construction at this site to start before Industrial Waste plan check was completed. That was the case with the most recent improvements. In December of 1998 the plant operators (and our inspectors) collected several samples of the effluent that exceeded the standard for flammability. We also learned from the operators that there had been a flash fire at the facility during 1998. The exact time and circumstances are not known. We decided to let the gas recovery plant operate as is, but the effluent must not be dumped to the sewer until the nature of the effluent and the adequacy and safety of the treatment plant were evaluated by a qualified third party. Public Works was to hire a consultant with appropriate expertise that was acceptable to all parties (Public Works, Gas plant operator, LA Co Sanitation and Fire). OWT-EMCON was selected and in May they provided us with a report. The report addresses the issues we identified but we do not feel it addresses all of them adequately.

The report states that the products being treated and produced by the Gas Recovery plant are variable because of the many factors that affect landfill gas production. EMCON feels that the plant as designed will adequately treat the condensate to meet all applicable standards for discharge to the sewer. They also feel that the condensate should not be considered as a flammable liquid because it consists mostly of water with minor amounts of contaminants.

However some of those contaminants do produce flammable vapors and it is possible for these vapors to collect in the tanks and reach flammable concentrations. Therefore, EMCON recommends that the plant not be designed for handling flammable liquids, and no ignition sources be introduced into the tanks in question.

In our response to the report we required the following:

1. Since procedural, rather than engineering controls are going to be the key to safe operation we would like EMCON to review the Operations and Safety Plans for the facility.
   a. Operations and Safety Plans shall include but not be limited to the following:
      i. Designate individuals responsible for safety, such as Safety director, safety team members, etc.
      ii. Requirements for regular internal safety audits, with documentation kept on the site.
      iii. Training for all employees upon hire, and regular periodic follow-up training for all employees.
      iv. Provisions for training records to be established and maintained on file.
      v. A regular maintenance and calibration schedule shall be established based upon the manufacturers' specifications and recommendations for the pretreatment equipment, ORP and pH probes and combustible gas monitoring equipment.
      vi. Contingency plans to address all potential events at the plant with SOPs to address each event, including routine maintenance procedures, confined space entry procedures, Preventive Maintenance procedures, SOPs for actions to take when any of the various required tests come back with positive abnormal results (including the carbon canister 1000 ppm screening tests, discharge tests, LEL- discharge monitoring, etc.)

   b. EMCON shall verify that the items identified on the General Safety Assessment report dated October 23, 1998 have been corrected.

2. Provide revised piping plans to indicate that the Air Stripper is bypassed and only used as a polishing unit when necessary.

3. As discussed in EMCON's Recommendation 2, page 5, if the carbon canisters are subjected to flows with greater than 1000 ppm of Volatile Organic Compounds (VOCs) there is a possibility of spontaneous combustion in the canisters. The air flow into the carbon canisters shall be tested during the initial phase of system start up to determine the concentration of VOC's entering the canisters. If concentrations above 1,000 ppm are found, that portion of the system will be evaluated by a third party with appropriate expertise, preferably, Dr. Jim Graham, per EMCON's recommendations.

After the August meeting was scheduled, I met with Steve Zurn and Jake Amar of Public Works regarding another matter. They explained that EMCON estimates it will take several weeks to several months and more than $10,000 to perform the kind of safety review we requested. I asked them to investigate alternatives that would meet our intent and be less costly. I have had no further discussions with them, EMCON or the plant operators.

CITY OF Glendale CALIFORNIA

Environmental Management Center • (818) 548-4030
780 Flower Street, Glendale, CA 91201

Fire Division
HAZARDOUS
MATERIALS
SECTION

June 28, 1999

Vicky Castle
EMCON/OWT
15255 Alton Parkway, Suite 100
Irvine, California 92718
FAX (714) 450-0524

Dear Vicky:

This letter is a summary of the key points covered in the phone conference held last week with you, Stan Strong, Jeff Halpert, Greg Ahern and myself to review the engineering report dated May 27, 1999.

The report recommends that land fill gas (LFG) condensate should not be classified as a flammable or combustible liquid although there is a potential for ignitable vapor-air mixtures in spaces above the liquid surface in storage or process tanks. We understand EMCON's position to be that the system design does not need to address the hazards associated with Flammable or Combustible liquids because the condensate will not be able to sustain combustion. However, as Stan stated, the contents of the vapor spaces in the pretreatment system should always be treated as if they could be flammable. This is the reason you feel the equivalency clause (NFPA30, section 1-4.2) is applicable. Our acceptance of the equivalency shall be based on the following items.

1. We understand that, in EMCON's opinion, the system does not present the possibility of a flash fire or explosion during normal operation. However, a flash fire or explosion could occur during improper maintenance of the system components, for example, introducing an ignition source while opening one of the tanks.

2. Since procedural, rather than engineering controls are going to be the key to safe operation we would like EMCON to review the Operations and Safety Plans for the facility.
   a. Operations and Safety Plans shall include but not be limited to the following:
      i. Designate individuals responsible for safety, such as Safety director, safety team members, etc.
      ii. Requirements for regular internal safety audits, with documentation kept on the site.

CITY OF GLENDALE CALIFORNIA

PRINTED ON RECYCLED PAPER.

iii. Training for all employees upon hire, and regular periodic follow-up training for all employees.

iv. Provisions for training records to be established and maintained on file.

v. A regular maintenance and calibration schedule shall be established based upon the manufacturers' specifications and recommendations for the pretreatment equipment, ORP and pH probes and combustible gas monitoring equipment.

vi. Contingency plans to address all potential events at the plant with SOPs to address each event, including routine maintenance procedures, confined space entry procedures, Preventive Maintenance procedures, SOPs for actions to take when any of the various required tests come back with positive abnormal results (including the carbon canister 1000 ppm screening tests, discharge tests, LEL- discharge monitoring, etc.)

b. EMCON shall verify that the items identified on the General Safety Assessment report dated October 23, 1998 have been corrected.

3. Provide revised piping plans to indicate that the Air Stripper is bypassed and only used as a polishing unit when necessary.

4. As discussed in EMCON's Recommendation 2, page 5, if the carbon canisters are subjected to flows with greater than 1000 ppm of Volatile Organic Compounds (VOCs) there is a possibility of spontaneous combustion in the canisters. The air flow into the carbon canisters shall be tested during the initial phase of system start up to determine the concentration of VOC's entering the canisters. If concentrations above 1,000 ppm are found, that portion of the system will be evaluated by a third party with appropriate expertise, preferably, Dr. Jim Graham, per EMCON's recommendations.

It is EMCON's opinion that the plant will, if properly run, "sufficiently treat the raw condensate to such a degree as to render it acceptable under the requirements of the discharge permit." The specific requirements of the Industrial Waste Permit have been presented to, discussed with, SCS, and most of them were provided to EMCON by SCS on May 27, 1998. They are outside of the scope of the review by EMCON, but they must be met prior to granting the permit. See Attachment 1.

LE
MMUNICATION

DATE August 4, 1999

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265.31 - Maintain site to
of hazardous waste

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written Operating

EMCON

1921 Ringwood Avenue • San Jose, California 95131-1721 • **(408) 453-7300** • Fax (408) 437-9526

April 1, 1999
Project 0126-029.001

Mr. Eric Indermill
City of Glendale Fire Department
Environmental Management Center
780 Flower Street
Glendale, California 91201

Re: Engineering Review of Condensate Pretreatment System, Scholl Canyon Landfill Gas Processing Facility, Glendale, California

Dear Mr. Indermill:

On behalf of City of Glendale, Public Works Department, this letter report is presented in response to the request by the City of Glendale Fire Department (GFD) for a third party technical review of the proposed condensate pretreatment system at the Scholl Canyon Landfill. In a plan review dated January 7, 1998, the GFD Fire Prevention Bureau, Permit Services Center delineated some concerns regarding the proposed pretreatment system. This report is intended to provide a review of the proposed design and to address those concerns.

ENGINEERING REVIEW COMMENTS

Origin and Nature of Landfill Gas Condensate

Landfill gas (LFG) condensate is an unwanted but necessary by-product of any LFG collection system. Condensate is collected through traps at low points in the LFG piping, in knockouts upstream of equipment, such as blowers and compressors. Additional condensate is formed and collected downstream of any compression process, which is the case at Scholl Canyon. LFG condensate typically consists of water with a small amount of hydrocarbons and organics such as acetone and methyl ethyl ketone. The condensate at Scholl Canyon also contains a small amount of compressor lubricating oil due to compressor leakage or blowby. LFG condensate typically exhibits a low pH, and has a foul odor. In the past, raw, untreated LFG condensate was typically disposed by reinjection back into the landfill. In recent years, however, regulations have evolved which no longer allow this practice.

Specific Items in Reference 1 (GFD Plan Review Letter)

Item #1

Flash point of the condensate is one of the primary issues associated with the proposed pretreatment system. There are two areas of concern regarding flash point: (1) the design and construction of the condensate pretreatment system must comply with NFPA 30 (2) the discharge permit requires that the flash point of the discharged condensate must not be less than 140^0 F.

NFPA 30 defines various classes of flammable and combustible liquids as follows: A flammable liquid has a closed cup flash point less than 100^0 F with a vapor pressure not more than 40 psia at 100^0 F. A flammable liquid is a Class I liquid. A combustible liquid has a closed cup flash point equal to or greater than 100^0 F. and may be Class II (flash point equal to or greater than 100^0 and less than 140^0), Class IIIA (flash point equal to or greater than 140^0 and less than 200^0), or Class IIIB (flash point equal to or greater than 200^0 F).

For the most part, closed cup flash point tests of the Scholl Canyon LFG condensate have resulted in flash points above 200^0 F. There have been occasions in the past, however, and may be again in the future, when test results have exhibited lower flash points, some as low as $< 100^0$ F. Such test results would therefore, by definition, classify the condensate as a combustible or even flammable liquid, depending on the actual flash point. It is EMCON's recommendation, however, that GFD use its authority as allowed in NFPA 30 1-4.2 to consider the condensate as non-flammable and non-combustible for the following reason: It is the small fractions of dissolved hydrocarbons that cause LFG condensate to sometimes exhibit a low closed cup flash point. The liquid itself will not sustain burning. Such liquids are addressed in NFPA 30 A-1-7.2. This section of the code also names a test for identifying such a liquid, ASTM D 4206 *Standard Test Method for Sustained Burning of Liquid Mixtures Using the Small Scale Open-Cup Apparatus*.

Although it is recommended that the LFG condensate not be classified as a flammable or combustible liquid, consideration must be given to potential ignitable vapor-air mixtures that may occur in a confined space (such as the volume above the liquid surface in a storage or process tank).

EMCON reviewed the condensate pretreatment system design information in the context of NFPA 30. Three main areas were addressed: tanks, piping, and electrical equipment.

Tanks. Tanks T1, T2, and T3 in the pretreatment system are each 4,000-gallon capacity of HDPE material (Reference 11, Drawing M-1). These tanks have the potential to contain untreated condensate, which may be of a corrosive nature. HDPE is the preferable

engineering choice of material for these tanks. The remaining process tanks appear to be constructed of appropriate materials.

Piping, Valves, and Fittings. PVC is an acceptable engineering choice of materials for piping, valves, and fittings containing LFG condensate.

Electrical Equipment. None of the electrical equipment or components in the pretreatment system are rated for use in classified areas. Upon review of references 7 and 9 and understanding the nature of LFG condensate, it is concluded that classifying the treatment system as a hazardous area is not warranted. Therefore, the existing electrical components are acceptable for use in the system. Note, however, that the potential exists for an ignitable vapor-air mixture to be present in the tank volume above the liquid level. This potential has the highest probability in Tanks T1, T2, T3, and the oil/water separator. Electrical components must never be placed within a tank head space unless such components are rated for use in classified areas.

Item #2.a Flammability Throughout the Process

As discussed above, the LFG condensate should not be classified as a flammable or combustible liquid. A review of the Material Safety Data Sheets for process chemicals attached to Reference 2 reveals no flammable liquids. Therefore handling, processing, treatment, etc. of flammable liquids is not an issue at this time.

Item #2.b. Sulfides Pretreatment

A chlorine injection system is incorporated into the system design for the pretreatment of dissolved sulfides as described in Reference 2, page 2. This is a recognized and accepted process for the removal of dissolved sulfides. Although sufficient operating data was not available for the reviewer to verify the effectiveness of the system for the removal of dissolved sulfides during the initial checkout period, it is anticipated that test results of final effluent will show levels of dissolved sulfides well below that which is allowed by the discharge permit.

Item #2.c. Oil and Grease Extraction, Processing, and Disposal

The system incorporates an oil-water separator to remove floatable oil and grease from the condensate, and a dissolved air floatation (DAF) unit to remove treated oil and grease. These system components are described in Reference 2. page 2. As documented in References 3 and 4, startup trials of the system have demonstrated that initially high concentrations of oil and grease are effectively reduced to levels well below the discharge requirements.

In regard to disposal, Drawing M6 (Reference 5) indicates that oil and grease from the oil-water separator is collected in T-22, which is labeled "Recycled Oil Tank." This implies that collected oil will be recycled. Sludge from the DAF unit is collected in Tank T-21. Drawing M4 indicates that the contents of Tanks T-21 and T-22 are to be hauled off site.

Item #2.d. Odor Elimination

A review of Reference 5 project drawings reveals that the process tanks and vessels are currently vented to atmosphere through a carbon canister. This is an effective means of odor control. (Please refer to the safety concern in item 2, Conclusions and Recommendations, shown below.) The design drawings also indicate that a deodorizer is injected into the final effluent tank prior to final discharge of the treated condensate.

Item #2.e. Secondary Containment

Multiple tanks in a common containment require that the containment volume be the larger of 150% of the largest tank of 10% of the total tank volumes. In addition, additional containment height must be provided to accommodate rainfall from a 24-hour 25-year storm. For this system, 150% of the largest tank volume is the governing factor. Therefore the containment volume must be 150% of 4,000 gallons, or 6,000 gallons plus the rainfall allowance. Drawing M-1, Ref. 11, gives the plan dimensions (31'-0" x 34'-5") and curb height (24") of the concrete containment. This volume is much more than the required containment volume.

Item #2.f. Placarding and Signage

See General Safety Assessment report dated October 23, 1998, attached.

Project Drawings

Initially, EMCON reviewed the project drawings listed in Ref. 6. Comments pertaining to those drawings have been deleted from this report, as the Record Drawings listed in Ref. 11 have replaced the original design drawings

CONCLUSION AND RECOMMENDATIONS

It is EMCON's conclusion that the Scholl Canyon LFG condensate treatment system, properly operated, will sufficiently treat the raw condensate to such degree as to render it

acceptable under the requirements of the discharge permit However, in the interest of safety and regulatory compliance, the following actions are recommended:

1. Take samples of the incoming raw condensate on a monthly basis and have those samples tested for closed cup flash point. If and when any flash point test results are below 200^0 F, then that same or duplicate sample should be tested in accordance with ASTM D 4206 *Standard Test Method for Sustained Burning of Liquid Mixtures Using the Small Scale Open-Cup Apparatus.* Once this test has been performed on low-flash-point condensate to verify that the liquid will not sustain burning, then no further testing of the incoming condensate should be required.

2. There is a concern regarding the possibility of spontaneous combustion in the odor control carbon canister. In the worst case scenario, if an ignitable vapor-air mixture existed in the head space of one or more tanks, combustion in the carbon bed could backflash to the tank(s). It is recommended that a determination be made of the probability of carbon combustion in this application. In order to do so, an analysis should be made of the vapors from the tank vents going to the carbon canister. In general, a concentration of volatile organic compounds (VOCs) at or above 1,000 parts per million would be a cause for concern. Once the vapor analysis results are obtained, if assistance is required in the evaluation of this risk it is suggested that a competent authority be consulted (e.g. Dr. Jim Graham, U.S. Filter/Westates, LA office, 800-659-1771).

3. Provide documentation to verify proper placarding and signage is in place within and around the treatment system. In addition to signage required for health and safety, this should include labeling of all tanks, and contents and flow direction of piping.

Although not required for compliance with NFPA 30 or other codes, the following additional items are recommended:

- Paint PVC piping and components for ultra violet (UV) protection.

REFERENCES

EMCON had available the following reference documents to aid in this review:

1. Plan Review for Industrial Waste Treatment System, Plan Check No. 10339, dated January 7, 1998 by GFD Fire Prevention Bureau, Permit Services Center.

2. "Responses to Action Items . . ." letter dated May 27, 1998, from SCS Engineers (SCS) to EMCON/OWT, with attachments. (GFD was copied for this letter.)

WASTEWATER RECLAMATION
SOLID WASTE MANAGEMENT

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422

CHARLES W. CARRY
Chief Engineer and General Manager

January 14, 1999
File: 31R-104.10

Glendale Fire Department
Hazardous Materials Section
780 Flower Street
Glendale, CA 91201

Gentlemen:

Scholl Canyon Landfill (SCLF)
Hazardous Materials Inventory, Hazardous Material Business Plan

Enclosed please find the annual Hazardous Materials Inventory and the Hazardous Material Business Plan update for SCLF as required by Health and Safety Code §25505.

If you have any questions, please contact the undersigned at extension 2488 at the above listed telephone number.

Very truly yours,

Charles W. Carry
Mischelle Mische

Mischelle Mische
Project Engineer
Solid Waste Management Department

MM:eo

GLENDALE FIRE DEPARTMENT
HAZARDOUS MATERIALS SECTION
780 Flower Street
Glendale CA 91201
(818) 548-4030

BUSINESS EMERGENCY PLAN

TO AVOID PENALTY, THIS FORM MUST BE RETURNED WITHIN TWENTY-ONE (21) DAYS. THE INFORMATION SHOULD BE TYPED OR PRINTED.

PART I: BUSINESS IDENTIFICATION DATA

A. BUSINESS NAME. (DBA): L.A. County Sanitation District (Scholl Canyon LF)

B. BUSINESS ADDRESS: 3001 Scholl Canyon Road
NUMBER STREET

C. MAILING ADDRESS: Glendale, CA 91206
CITY ZIP CODE

D. BUSINESS PHONE: (213)245-9865
AREA

E. BUSINESS OWNER: L.A. County Sanitation Districts
LAST NAME FIRST NAME

F. PRIMARY CONTACT PERSON: Matt Zuro/ Larry Barents
TITLE: Site Engineer/ Site Supervisor

G. NATURE OF YOUR BUSINESS (Describe Briefly): Sanitary Landfill

H. EMERGENCY CONTACT PERSON (After business hours): Barents, Larry
LAST NAME FIRST NAME
(310)866-7731
Site Supervisor
TITLE PHONE #

I. EMERGENCY CONTACT PERSON (Alternate): Cummings, Nick
LAST NAME FIRST NAME
(310)677-2313
Asst. Site Supv.
TITLE PHONE #

F 103 Business Emergency Plan (Revised 9/92)

...E PLAN AND
...BILITIES
...ous materials or waste release to
...vernor's Office of Emergency
...lt in criminal and/or
...who will notify
...FACILITY ALONG
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...T III-EMERGENCY NOTIFICATION

OUTLINE THE STEPS YOUR BUSINESS SHALL TAKE TO MEET THE NOTIFICATION REQUIREMENTS IN THIS SECTION:

Please use additional sheets of paper as necessary.

A. PROCEDURES FOR NOTIFICATION OF AND COORDINATION WITH EMERGENCY AGENCIES:

In case of emergency, the Site Supervisor will act as the emergency coordinator. It will be his responsibility to collect essential information and notify the local Fire Department (or other appropriate agency). The Assistant Site Supervisor, Site Engineer, Supervising Gas Technician, and the site's Hazardous Waste Inspector will assist the Site Supervisor in these duties.

B. PROCEDURES FOR NOTIFICATION AND EVACUATION OF YOUR EMPLOYEES. (List also the type of alarm signals that will be used).

Several District site vehicles are equipped with radio dispatches for message relays. The Site Supervisor's truck is also equipped with an outside intercom, which would be used to notify customers if necessary. However, due to the quantities and type of chemicals, hazards, etc., stored at the site, an evacuation of the facility is not anticipated. Two evacuation routes exist at the site. If the situation calls for, the main office would be used as an emergency meeting locale. Please see the attached map for these locations.

C. PROCEDURES FOR NOTIFICATION AND EVACUATION?

Customers on site would be notified as stated in Part B. Due to the approximate 2 (two) mile radius from all others living and working around the active landfill site, in addition to the quantities and types of chemicals stored at the site, evacuation/notification of the public would not be warranted.

D. THE PUBLIC LIVING OR WORKING AROUND YOUR FACILITY.

This question is answered in Part C above.

E DESCRIBE AND LIST YOUR EMERGENCY MEDICAL PLAN. (List names, address and phone number of doctors, medical facilities and/or hospitals that you will utilize during an emergency

Local Doctor — Verdugo Hill Urgent Care Medical Center, 544 N. Glendale Ave., Glendale, CA 91204 — (818) 241-4331

Local Hospital — Glendale Adventist, 1509 Wilson Terrace, Glendale, CA 91204 — (818) 409-8000\

PART IV: CONTAINMENT AND CLEA

A. LIST EMERGENCY MITIGATION AND CONTAINMENT STEPS THAT YO WILL TAKE IN RESPONSE TO A THREATENED RELEASE OF A HAZARD MATERIAL.

Personnel will immediately isolate the spill area, turn off the appropriate utilities, and notify the local Fire Department or other mandated agency. On site fire extinguishers, absorbent material (Petrolok), landfill equipment (e.g., water trucks, D-9, scrapers) and/or construction of an earth containment berm will be used as required to facilitate the cleanup and mitigation process. No one will be allowed into the spill area without proper protective equipment (e.g., gloves, boots, respirators, etc.). In case of a minor spill, which can safely be stopped by Plant Operation Personnel and does not involve off-site releases, the lead operator on duty will mitigate the hazard in accordance with establish procedures.

B. LIST CLEAN-UP ACTIVITIES THAT YOU WILL CONDUCT IN THE AFTERMATH OF A RELEASE.

A liquid in a bermed area will be pumped into an appropriate holding tank. An absorbed liquid will be cleaned up with the above stated site supplies, transferred to an appropriate holding drum and then to our hazardous waste storage yard. A private licensed hazardous waste hauler will be contacted to properly dispose of the material.

C. LIST ALL OTHER RESOURCES THAT WILL BE ACTIVATED DURING A HAZARDOUS MATERIALS RELEASE. (List name, address and phone numbers of your Hazardous Waste Hauler/Contractor and your Insurance Co.).

Contracted emergency response crews would be called if the situation demanded it. Attached is the name, address, and phone number of our hazardous waste haulers. The Districts are self insured.

Please note that the Districts have a full time hazardous waste inspector at the site. This inspector is trained to identify and handle hazardous waste, and/or use the appropriate resources as required.

PART V: SITE EMERGE

LIST BELOW AND EXPLAIN SPECIAL HAZA
FACILITY RELATED TO HAZARDOUS
reactive, radioactive or acutely
handled or stored):
Scholl Canyon is presently an active landfill
customers and taken to our hazardous
etc. As can be seen in the attached
which was inter
storage

PART V: SITE EMERGENCY FACTORS

A. LIST BELOW AND EXPLAIN SPECIAL HAZARDS THAT EXISTS IN YOUR FACILITY RELATED TO HAZARDOUS MATERIALS. (e.g. explosion, reactive, radioactive or acutely hazardous chemicals that are used, handled or stored):

Scholl Canyon is presently an active landfill site. A small portion of our hazardous material is received through our customers and taken to our hazardous waste area. These materials include paints, old gas, asbestos, insecticides, pesticides, etc. As can be seen in the attached report, Hazardous Waste Incidents Cumulative Report. (This is a list of hazardous waste which was intercepted by the Districts before reaching the active fill. These materials are placed in our hazardous waste storage yard, as shown in the attached diagram. The location of the yard is shown in Exhibit #1. All waste generated and stored in the yard is removed from the landfill within 90 days of being discovered). It is not Scholl Canyon policy to accept these materials, but rather remove these materials from the fill area if found. These materials are removed from the site by one of our hazardous waste haulers.

Other hazardous materials are used to maintain the operation of the landfill. These materials are stored in either the hazardous waste storage yard, equipment yard, or as listed in the hazardous materials inventory sheets.

In addition, landfill gas (LFG) is also present. Landfill gas is a byproduct produced by decomposition of buried waste. The LFG collection system is under vacuum which withdraws the LFG as it is produced. The LFG is either burned in flares on site or compressed at a compression facility and piped 5 miles to the Grayson Power Plant. Scholl Canyon Landfill Gas Limited partnership developed the compression facility and 5 mile pipeline, and bare all responsibility for these two systems. The compression facility is operated by a contractor hired by the city of Glendale. Hence, the hazardous material inventory for the compression facility is not included.

B. LIST BELOW AND IDENTIFY THE EXACT LOCATIONS OF YOUR UTILITY SHUT OFFS. (e.g. power, gas, water etc.).

Site Water Shut Off	-	At pump house below main office. (west side)
Power Shut Off	-	Various locations as shown on Exhibit 1. These locations include; inside main office, at technicians trailer, in the equipment yard at the flaring station, at and near the tub grinder, and in the Scholl Canyon Park.
Gasoline and Diesel Tanks	-	Both tanks have turn-offs at the tanks themselves. The main circuit breaker to these tanks is located in the main office (gasoline), and equipment yard (diesel). Please see the enclosed topo for these locations.

PART VI: EMPLOYEE TRAINING

OUTLINE THE STEPS YOUR BUSINESS SHALL TAKE TO MEET THE TRA
REQUIREMENTS NOTED IN THIS SECTION RELATED TO:

A METHODS FOR SAFE HANDLING OF HAZARDOUS MATERIALS:

All employees handling hazardous materials will be required to wear appropriate equipment (e.g., gloves, boots, suit protection, safety glasses, level C breathing apparatus, field identification kits, etc.) as necessary for the type of hazard.

B. PROCEDURES FOR ASSURANCE OF TRAINING AND MAINTENANCE OF TRAINING RECORDS:

All employees are made aware of all onsite hazards, including the locations and types of hazardous materials. In addition, monthly safety meetings are held with all employees which stress proper safety techniques. This includes, but is not necessarily limited to, safe handling of onsite chemicals, personal protective equipment, safety related incidents, and review of this business plan.

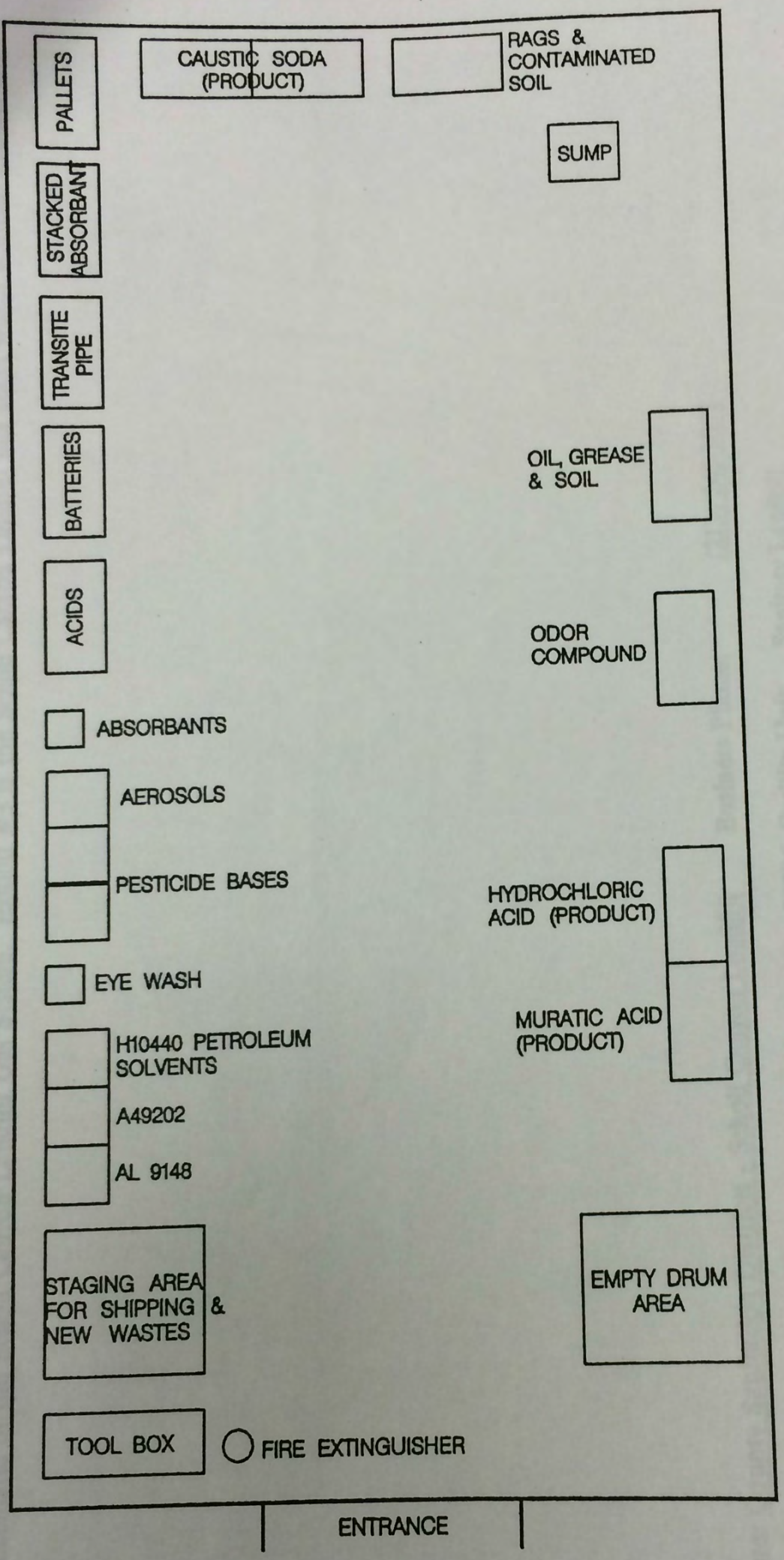
The Districts conduct annual training sessions for all District employees. These classes cover the Districts Emergency Action Plan, Hazardous Communication Plan, Injury and Illness Prevention Program, etc.. A computerized training tracking program is utilized in tracking this training process.

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY, CALIFORNIA

HAZARDOUS WASTE INCIDENTS CUMULATIVE REPORT

Month: 11 Year: 98 Site: SCLF

HAZARDOUS WASTE CATEGORIES	HAZARDOUS WASTE AMOUNT (lbs) LAST 3 MOS	LAST 12 MOS	FROM 1985
CORROSIVES:			
ACIDS	9	34	1,199
BASES	1	16	1,785
PAINT AND RELATED PRODUCTS:			
FLAMMABLE	208	1,048	38,644
NON-FLAMMABLE:			
LATEX	506	1,752	36,578
NON-LATEX	0	0	1,899
AUTOMOTIVE PRODUCTS:			
RECYCLABLE:			
COOLANTS	3	19	255
BATTERIES	450	1,169	13,861
OIL	65	342	12,818
NON-RECYCLABLE:			
OIL	0	0	2,861
OTHER	0	0	108
INSECTICIDES			
HAZARDOUS	22	57	2,676
EXTREMELY HAZARDOUS	1	6	102
VOLATILE LIQUIDS:			
HALOGENATED	12	45	1,612
NON-HALOGENATED	24	205	8,126
OTHER:			
LIQUID	56	132	6,683
NON-LIQUID	0	46	7,761
SPRAY CANS	22	93	1,972
FLUORESCENT TUBES	0	95	105
UNKNOWN:			
LIQUID	0	0	2,426
NON-LIQUID	0	0	96
TOTAL	1,379	5,059	141,567
TOTAL CONFISCATED WASTE:	1,317	4,884	137,253
% OF CONFISCATED WASTE:	95.50%	96.54%	96.95%



SCHOLL CANYON LANDFILL

HAZARDOUS WASTE STORAGE AREA

PART VII: FACILITY LAYOUT MAP

Complete your facility layout map on this page using the attached instructions and sumbols. (See pages f-i)

See Attached TOPO, labeled exhibit #1, for Facility Layout map. Also attached are exhibits Nos. 2 and 3 which contain additional information. Exhibit #2 shows a schematic of the Scholl Canyon Landfill Gas System. Exhibit #3 is the Scholl Canyon Landfill fact sheet which contains general site information.

Business Name: County Sanitation Districts - Scholl Canyon Landfill Business Phone: (213) 245-9865

Business Address: 3001 Scholl Canyon Road, Glendale, CA 91206 Facility Unit: Sanitary Landfill

Principle Business Activity Sanitary Landfill

Layout Map Prepared by: Matt Zuro
(213) 699-7315

Scale 1" - 200'

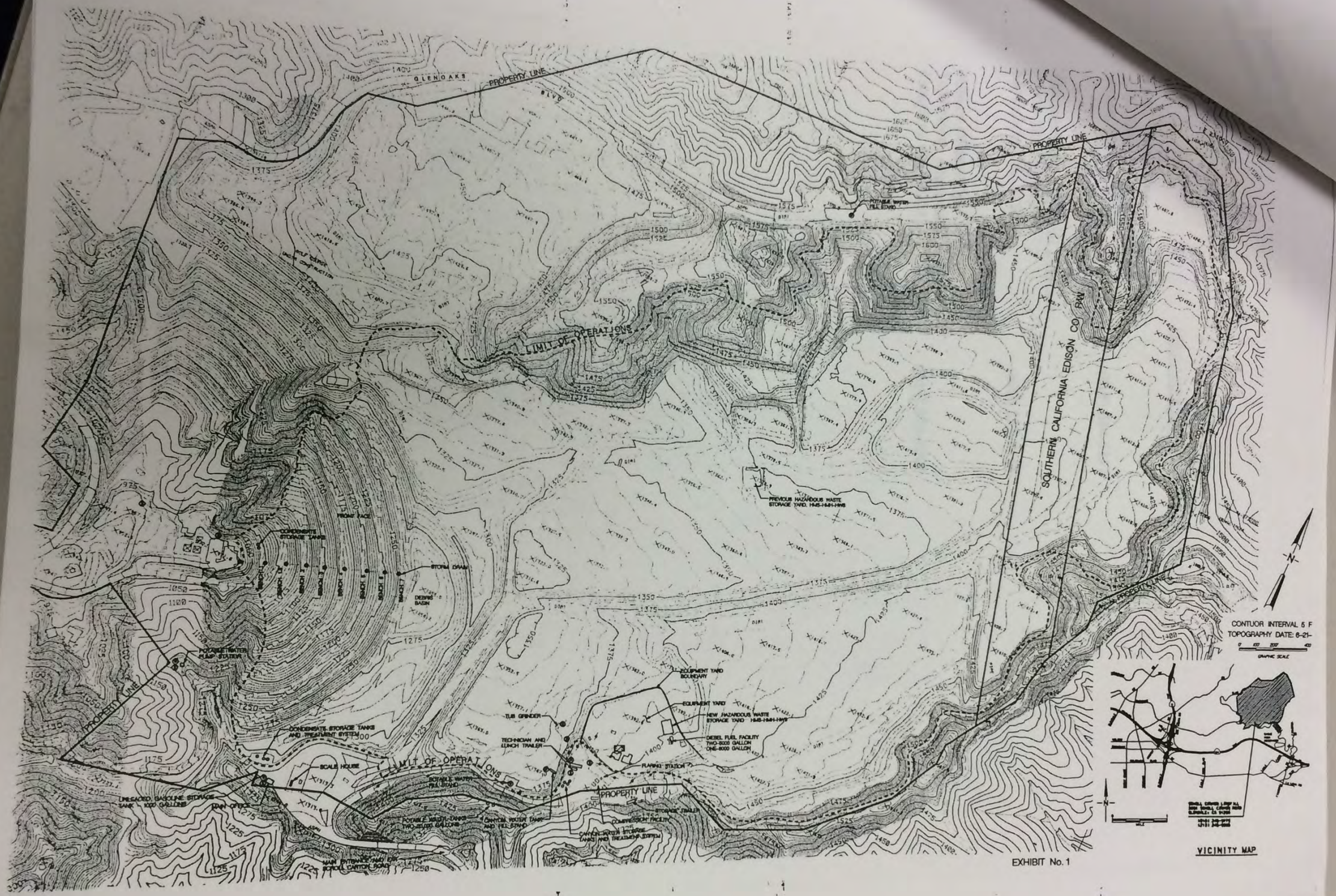

PROPERTY LINE
GLENOAKS
LIMIT OF OPERATIONS
SOUTHERN CALIFORNIA EDISON CO. R/W
PREVIOUS HAZARDOUS WASTE STORAGE YARD. HMS-1-541-HWS
CONDENSATE STORAGE TANKS
STORM DRAIN
DESILTING BASIN
POTABLE WATER PUMP STATION
CONDENSATE STORAGE TANKS AND TREATMENT SYSTEM
SCALE HOUSE
UNLEADED GASOLINE STORAGE TANK 1000 GALLONS
MAIN OFFICE
POTABLE WATER TANKS TWO-50,000 GALLONS
CANYON WATER TANK AND FILL STAND
MAIN ENTRANCE AND ON SCHOOL CANYON ROAD
EQUIPMENT YARD BOUNDARY
EQUIPMENT YARD
TUB GRINDER
NEW HAZARDOUS WASTE STORAGE YARD HMS-1-541-HWS
TECHNICIAN AND LUNCH TRAILER
DIESEL FUEL FACILITY TWO-5000 GALLON ONE-5000 GALLON
PUMPING STATION
STORAGE TRAILER
CONDENSATE STORAGE TANKS AND TREATMENT SYSTEM
CONTOUR INTERVAL 5 F
TOPOGRAPHY DATE: 6-21-
GRAPHIC SCALE
VICINITY MAP

EXHIBIT No. 1

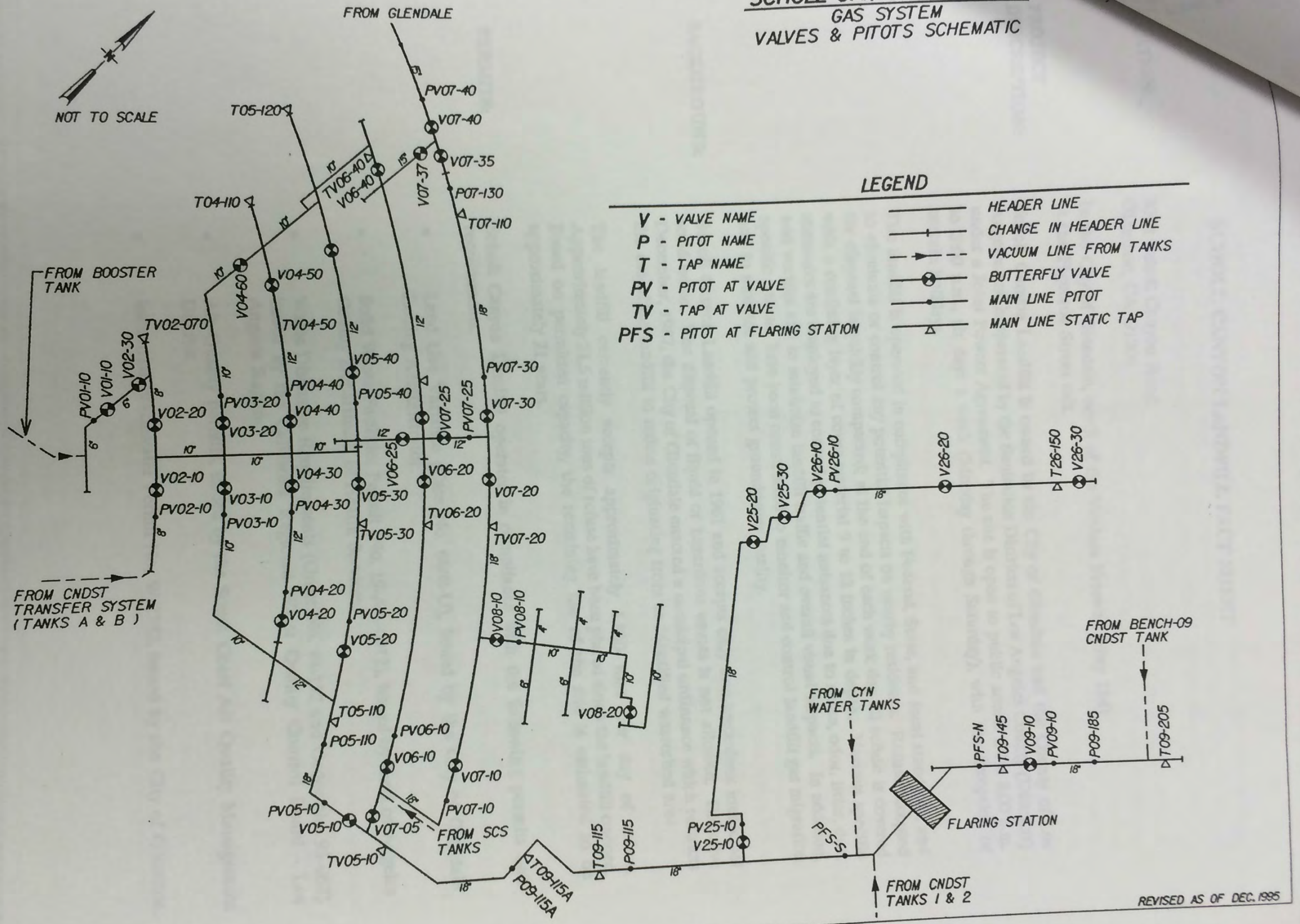
HAZARDOUS WASTE HAULERS

Chem Waste Management (OSCO)
1704 West 1st Street
Azusa, CA 91702 (818) 334-5117

Containerized Chemical Disposal
10680 Silicon Avenue
Montclair, CA 91763 (800) 233-3748

Asbury (Waste Oil)
2100 North Alameda Street
Compton, CA 90222 (213) 321-1392

SCHOLL CANYON LANDFILL
GAS SYSTEM
VALVES & PITOTS SCHEMATIC



LEGEND

V - VALVE NAME			HEADER LINE
P - PITOT NAME			CHANGE IN HEADER LINE
T - TAP NAME			VACUUM LINE FROM TANKS
PV - PITOT AT VALVE			BUTTERFLY VALVE
TV - TAP AT VALVE			MAIN LINE PITOT
PFS - PITOT AT FLARING STATION			MAIN LINE STATIC TAP

REVISED AS OF DEC. 1995

/usr2/tfm/sc/gas/scschem.dgn

EXHIBIT NO.3

SCHOLL CANYON LANDFILL FACT SHEET

LOCATION:

3001 Scholl Canyon Road
Glendale, CA 91206

In the City of Glendale, north of the Ventura Freeway (Hwy 134) at the Figueroa Street exit.

PROJECT DESCRIPTION:

Scholl Canyon Landfill is owned by the City of Glendale and the County of Los Angeles and is operated by the Sanitation Districts of Los Angeles County (Districts) under a Joint Powers Agreement. The site is open to public access from 8:00 a.m. to 5:00 p.m., six days a week (Monday through Saturday), with the exception of certain holidays.

The landfill is operated in compliance with Federal, State, and local standards, and to eliminate or control any potential impacts on nearby residents. Refuse accepted for disposal is quickly compacted; at the end of each work day all refuse is covered with a confining layer of cover material 9 to 12 inches in depth. Various specific measures are employed to control potential nuisances due to noise, odor, litter, dust and vectors and to minimize landfill traffic and overall visual impacts. In addition, specific systems have been constructed to monitor and control landfill gas migration and to monitor and protect groundwater quality.

BACKGROUND:

Scholl Canyon Landfill opened in 1961 and accepts only non-hazardous municipal solid waste. The disposal of liquid or hazardous wastes is not allowed. Effective December, 1987, the City of Glendale enacted a municipal ordinance which restricts the use of the landfill to refuse originating from an identified wasteshed area.

The landfill currently accepts approximately 1,800 tons per day of refuse. Approximately 21.5 million tons of refuse have been placed since the landfill opened. Based on permitted capacity, the remaining life of the site is estimated to be approximately 21 years.

PERMITS:

Scholl Canyon Landfill operates in compliance with the following permits and requirements.

- Land Use Variance (Case No. 6668-U), issued by the City of Glendale Zoning Administrator.
- Solid Waste Facilities Permit (No. 19-AA-0012), issued by the Los Angeles County Department of Health Services.
- Waste Discharge Requirements (Order No. 88-112 and Order No. 93-062) issued by the California Regional Water Quality Control Board - Los Angeles Region.
- Air Quality permits, issued by the South Coast Air Quality Management District.
- Industrial Wastewater Permit No. W-2762, issued by the City of Glendale.

**ECT DESIGN
TURES:**

The Sanitation Districts have installed several sophisticated control systems, which are expanded as necessary, and have implemented several operational programs to eliminate or control possible landfill impacts. These measures include:

- Gas collection and monitoring systems. The natural decomposition of refuse produces a gas composed primarily of equal quantities of carbon dioxide and methane. To prevent migration of gas generated in the landfill and to control odors, the gas is collected through a system of wells and trenches and piped to a central location. The City of Glendale has installed a gas recovery system in the completed northern canyon area of the site and the Districts have installed a gas recovery system on the active landfill. The gas collected in both systems is combined at the active landfill, then processed and piped to the Grayson Power Plant, where it displaces natural gas for power generation. This use of the landfill gas reduces air emissions since the gas would otherwise be flared at the landfill. The flare station at the active landfill is maintained as a backup. To monitor the effectiveness of the gas control systems, subsurface gas monitoring probes have been installed around the perimeter of the site. In addition, surface gas monitoring is conducted across the landfill.

- Groundwater protection system. Two underground barriers have been constructed downgradient of the site to prevent canyon water from contacting groundwater. Barrier water extraction wells have been installed with dedicated pumps on the upgradient side of the barriers where canyon water may become impounded. These wells remove water accumulated on the landfill side of the barriers for treatment. Groundwater monitoring wells have also been installed on the downgradient side of the barriers and around the landfill to sample groundwater quality. Additionally, the design and operation of the landfill allows for the rapid, controlled runoff of rainwater without infiltration into the refuse.

- Landscape irrigation system. Finished slopes of the landfill have been landscaped and irrigation systems have been installed. Additional landscaping and irrigation systems will be installed as landfill operations progress.

- Dust and litter control. Control of dust and litter is carried out on a continuous basis. Water trucks spray the access roads and excavation areas to control dust from truck traffic and landfill operations. Litter is controlled by litter fences and by the daily application of cover material. Sanitation Districts' employees routinely police the area for litter and debris. The Sanitation Districts enacted an ordinance which requires customers using Scholl Canyon Landfill to cover their loads or pay an additional surcharge and be cited. Following three citations for uncovered loads, the customer faces suspension of disposal privileges. This ordinance acts as a deterrent to the littering of roadways leading to the landfill.

- Water conservation measures. Treated canyon water is used for dust control. Reclaimed municipal wastewater will be used for all irrigation system demands and for dust control purposes in the near future.

- Illegally deposited wastes. The Sanitation Districts and the County Health

Department continuously monitor the disposal area for illegally deposited hazardous, toxic, or infectious wastes. The Sanitation Districts have also instituted a load checking program consisting of a random selection of at least five loads each day for a thorough search. If unacceptable wastes are found, they are transferred to appropriate off-site disposal facilities. The hauler whose load contained the waste is charged for the cost of proper disposal, and for repeated violations, faces suspension of disposal privileges. This program acts as a strong deterrent to illegal disposal of wastes at the landfill.

- Resource recovery. The Sanitation Districts have instituted a resource recovery program at the landfill. Dirt and asphalt are accepted free of charge. The dirt is used for daily cover and the asphalt is reused for on-site road construction. Refrigerants are extracted from refrigerators and air-conditioners and the refrigerators and air-conditioners, as well as other large metallic white goods, are removed for salvage. Clean loads of green waste, such as grass and tree trimmings, are accepted at a reduced rate at the landfill. The Sanitation Districts grind the green waste and use it for daily cover, weed abatement, or to produce compost. The green waste recovery program saves valuable landfill capacity and cover soil, and provides an immediate beneficial use for cities implementing separate green waste collection programs.

ULTIMATE USE:

The current Joint Powers Agreement specifies that as landfill operations are completed on each major portion of the site, the City of Glendale will develop the areas for parks, recreational use, or for the implementation of solid waste management alternatives or facilities related to the operation of a sanitary landfill at the site. Landfill operations have been completed in a northern canyon area of the site. The City has developed plans for this fill area which include uses such as a golf course, with tennis courts on solid ground adjacent to the fill area.

Landfills are necessary repositories for municipal solid wastes as our society transitions into a greater degree of recycling and energy recovery methods from solid waste. However, even when we develop other solid waste management methods to the fullest extent, the remaining material will still require disposal on the land.

FOR ADDITIONAL INFORMATION CONTACT:

Sanitation Districts of Los Angeles County
Solid Waste Management Department
1955 Workman Mill Road
P.O. Box 4998 Whittier, CA 90607
(310) 699-7411

Revised Aug 23, 1994 A:\FACT.SCH(LER\loc)

GLENDALE FIRE DIVISION
BUSINESS EMERGENCY PLAN

CERTIFICATION

I, J. Patrick Freemon (Print), certify that the above information will be used to fulfill my business obligations as required by the Hazardous Materials Disclosure Ordinance and that inaccurate or omission of information constitutes perjury under the law. I am aware that if I knowingly submit false information to the Fire Division, my business will be subject to penalties not to exceed $2,000,00 per each day the false information goes uncorrected.

Signature	Field Engineering Supv.	1.13.99
	Title	Date

You are required by law to notify the Glendale Fire Division, Hazardous Material Section, in writing, within **15 days** of any of the following events:

1. Change of business address
2. Change of business ownership
3. Change of business name
4. Cessation of business operation
5. Use or handling of a previously undisclosed hazardous material.
6. A 100% increase in the quantity of a previously disclosed hazardous material.

A COPY OF THE PLAN SHALL BE RETAINED AT YOUR BUSINESS FOR REVIEW BY FIRE DIVISION PERSONNEL

...vironmental Management Center
...ver Street
...le, CA 91201
...) 545-4030

915

City of Glendale
Glendale Fire Department

JAN 1990
Received
Hazardous Materials
Section (HMS)

Hazardous Materials Inventory

Facility:
Name Scholl Canyon Landfill
Address 3001 Scholl Canyon Rd.
City/ZIP Glendale, CA 91206
Phone (213) 245-9865

Owner:
Name County Sanitation Districts
Address 1955 Workman Mill Rd.
City/ZIP Whittier, CA 90607
Phone

Standard Ind. Class Code:

Dun & Bradstreet #:

Important: Please refer to the attached instructions for proper codes.

Product name: Diesel Fuel

Transaction code:

List largest components and percent by weight

1. Diesel	100 %
2.	%
3.	%

Location: Equipment yard

Form	L	Average amount	11,250
Trade secret	NO	Annual estimate	200,000
Units	Gal.	Type code	P
Days at site	365	Container type	02
Use code	19	Container pressure	1
Max amount	18,000	Container temperature	4

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☐ Delayed health

Product name:

Transaction code:

List largest components and percent by weight

1.	%
2.	%
3.	%

Location:

Form		Average amount	
Trade secret		Annual estimate	
Units		Type code	
Days at site		Container type	
Use code		Container pressure	
Max amount		Container temperature	

☐ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☐ Delayed health

Primary Emergency Contact: Larry Barents Phone (310) 866-7731
Secondary Emergency Contact: Matt R. Zuro Phone (818) 858-9846

VII

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Patrick Freemon, Field Engineering Supervisor — 1-13-93
Name and title of owner/operator OR representative — Signature — Date

nmental Management Center
780 Flower Street
Glendale, CA 91201
(818) 548-4030

Continuation Form

Important: Please refer to the attached instructions for proper codes.

Product name: Waste Oil Mixture — Transaction code: R

List components and percent by weight	
or oil	99 %
her: grease, solvents, etc.	1 %
	%

Location: Equipment yard

Form	L	Average amount	440
Trade secret	NO	Annual estimate	4,500
Units	Gal.	Type code	P
Days at site	365	Container type	02
Use code	40	Container pressure	1
Max amount	500	Container temperature	4

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Motor Oil — Transaction code: R

List largest components and percent by weight	
1. Motor oil	100 %
2.	%
3.	%

Location: Equipment yard

Form	L	Average amount	250
Trade secret	NO	Annual estimate	4,500
Units	Gal.	Type code	P
Days at site	365	Container type	02
Use code	26	Container pressure	1
Max amount	500	Container temperature	4

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Gear Lubricant — Transaction code: R

List largest components and percent by weight	
1. Gear lubricant (50 Wt. & 90 wt.)	100 %
2.	%
3.	%

Location: Equipment yard

Form	L	Average amount	100
Trade secret	NO	Annual estimate	1,000
Units	Gal.	Type code	P
Days at site	365	Container type	06
Use code	26	Container pressure	1
Max amount	400	Container temperature	4

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Petroleum Naptha — Transaction code: R

List largest components and percent by weight	
1. Petroleum naphtha - safety clean	100%
2.	%
3.	%

Location: Equipment yard

Form	L	Average amount	40
Trade secret	NO	Annual estimate	480
Units	Gal.	Type code	P
Days at site	365	Container type	11
Use code	08	Container pressure	1
Max amount	40	Container temperature	4

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

onmental Management Center
780 Flower Street
Glendale, CA 91201
(818) 548-4030

Continuation Form

Important: Please refer to the attached instructions for proper codes.

Product name: Transmission Fluid — Transaction code: R

List largest components and percent by weight

	%
	%
	%

Location: Equipment yard

Form	L	Average amount	25
Trade secret		Annual estimate	50
Units	Gal.	Type code	P
Days at site	365	Container type	06
Use code	26	Container pressure	1
Max amount	55	Container temperature	4

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Aerosol Paint — Transaction code: R

List largest components and percent by weight

	%
1.	%
2.	%
3.	%

Location: Storage containers, office building, hazardous waste yard, tech. trailer

Form	L	Average amount	5
Trade secret		Annual estimate	
Units	Lb	Type code	P
Days at site	365	Container type	04
Use code	29	Container pressure	1
Max amount	10	Container temperature	4

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Antifreeze — Transaction code: A

List largest components and percent by weight

	%
1. Antifreeze	%
2.	%
3.	%

Location: Equipment yard

Form	L	Average amount	55
Trade secret		Annual estimate	55
Units	Gal.	Type code	P
Days at site	365	Container type	06
Use code	09	Container pressure	01
Max amount	110	Container temperature	04

☐ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: — Transaction code:

List largest components and percent by weight

	%
1.	%
2.	%
3.	

Location:

Form		Average amount	
Trade secret		Annual estimate	
Units		Type code	
Days at site		Container type	
Use code		Container pressure	
Max amount		Container temperature	

☐ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☐ Delayed health

ental Management Center

780 Flower Street
Glendale, CA 91201
(818) 548-4030

Continuation Form

portant: Please refer to the attached instructions for proper codes.

ame: Mineral Spirits — Transaction code: A

List components and percent by weight	%
al Spirits	%
	%

cation: Equipment yard

Form	L	Average amount	55
Trade secret		Annual estimate	25
Units	Gal.	Type code	P
Days at site	365	Container type	06
Use code	08	Container pressure	01
Max amount	55	Container temperature	04

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Paint — Transaction code:

List largest components and percent by weight	%
1.	%
2.	%
3.	%

Location: Storage containers, office building hazardous waste yard, tech. trailer.

Form	L	Average amount	5
Trade secret		Annual estimate	10
Units	Gal.	Type code	P
Days at site	365	Container type	11
Use code	29	Container pressure	1
Max amount	10	Container temperature	4

☐ Fire ☒ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Freon 12 Dichloro Difluoro Methane — Transaction code:

List largest components and percent by weight	%
1.	%
2.	%
3.	

Location:

Form	G	Average amount	90
Trade secret		Annual estimate	50
Units	Lb.	Type code	P
Days at site	365	Container type	04
Use code	10	Container pressure	2
Max amount	130	Container temperature	4

☐ Fire ☒ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: — Transaction code:

List largest components and percent by weight	%
1.	%
2.	%
3.	

Location:

Form		Average amount	
Trade secret		Annual estimate	
Units		Type code	
Days at site		Container type	
Use code		Container pressure	
Max amount		Container temperature	

☐ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☐ Delayed health

F 102 Haz Mat Inventory (Revised 6/91)

onmental Management Center

780 Flower Street
Glendale, CA 91201
(818) 548-4030

Continuation Form

Important: Please refer to the attached instructions for proper codes.

oduct name: Oil Filters - Used — Transaction code:

t largest components and percent by weight

1.	%
2.	%
3.	%

Location: Equipment yard

Form	S	Average amount	150
Trade secret		Annual estimate	
Units	Lb.	Type code	P
Days at site	365	Container type	06
Use code	40	Container pressure	4
Max amount	300	Container temperature	1

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

√ Product name: Landfill Gas - Methane — Transaction code:

List largest components and percent by weight

1. Methane	50 %
2. Carbon dioxide (CO_2)	40 %
3. Nitrogen; oxygen; argon; etc.	10 %

Location: Collected under vacuum throught site

Form	G	Average amount	7200
Trade secret	NO	Annual estimate	Constant
Units	CFM	Type code	M
Days at site	365	Container type	03
Use code	22	Container pressure	2
Max amount	8600	Container temperature	5

☒ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: P.V.C. Solvent Cement & Primer — Transaction code:

List largest components and percent by weight

1. Tetrahydrofuran	%
2. PVC resin	%
3. Methyl Ethyl Ketone	%

Location: Storage containers

Form	L	Average amount	5
Trade secret		Annual estimate	10
Units	Gal.	Type code	P
Days at site	365	Container type	11
Use code	02	Container pressure	1
Max amount	10	Container temperature	4

☒ Fire ☐ Pressure ☒ Reactivity ☐ Immediate health ☒ Delayed health

Product name: — Transaction code:

List largest components and percent by weight

1.	%
2.	%
3.	%

Location:

Form		Average amount	
Trade secret		Annual estimate	
Units		Type code	
Days at site		Container type	
Use code		Container pressure	
Max amount		Container temperature	

☐ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☐ Delayed health

...nmental Management Center
780 Flower Street
Glendale, CA 91201
(818) 548-4030

Continuation Form

Important: Please refer to the attached instructions for proper codes.

...uct name: Propane — Transaction code: R

...rgest components and percent by weight

	%
2.	%
3.	%

Location: Next to blowers at flaring station

Form	L	Average amount	15
Trade secret		Annual estimate	140
Units	Gas	Type code	P
Days at site	365	Container type	04
Use code	19	Container pressure	2
Max amount	15	Container temperature	4

☒ Fire ☒ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Nitrogen (Compressed Gas) — Transaction code:

List largest components and percent by weight

1. (Used for blank samples and to purge	%
2. air sample bags)	%
3.	%

Location: Between lunch and tech. trailer

Form	G	Average amount	300
Trade secret		Annual estimate	
Units	CFM	Type code	P
Days at site	365	Container type	04
Use code	54	Container pressure	2
Max amount	500	Container temperature	4

☐ Fire ☒ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Hydrogen (Compressed Gas) — Transaction code:

List largest components and percent by weight

1. Hydrogen	%
2. (Fuel for OVA)*	%
3. *OVA = Foxboro Organic Vapor Analyzer	%

Location: Between lunch and tech. trailer

Form	G	Average amount	200
Trade secret		Annual estimate	
Units	CFM	Type code	20
Days at site	365	Container type	04
Use code	19	Container pressure	2
Max amount	200	Container temperature	4

☐ Fire ☒ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Methane (Compressed Gas) — Transaction code:

List largest components and percent by weight

1. Calibration for OVA	%
2.	%
3.	%

Location: Between lunch and tech. library

Form	G	Average amount	400
Trade secret		Annual estimate	
Units	CFM	Type code	P
Days at site	365	Container type	04
Use code	54	Container pressure	2
Max amount	400	Container temperature	4

☐ Fire ☒ Pressure ☐ Reactivity ☒ Immediate health ☒ Delayed health

mental Management Center
780 Flower Street
Glendale, CA 91201
(818) 548-4030

Continuation Form

Important: Please refer to the attached instructions for proper codes.

Product name: 50% Caustic — Transaction code: A

List largest components and percent by weight

	%
1. Sodium hydroxide (used for pH control)	100 %
2.	%
3.	%

Location: Hazardous waste storage yard

Form	L	Average amount	25
Trade secret		Annual estimate	250
Units	Gal.	Type code	P
Days at site	365	Container type	07
Use code	28	Container pressure	1
Max amount	50	Container temperature	4

☐ Fire ☐ Pressure ☒ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Muriatic (Hydrochloric) Acid — Transaction code: A

List largest components and percent by weight

	%
1. Muriatic Acid	%
2.	%
3.	%

Location: Hazardous waste storage yard

Form	L	Average amount	80
Trade secret	NO	Annual estimate	200
Units	Gal.	Type code	P
Days at site	365	Container type	07
Use code	08	Container pressure	01
Max amount	225	Container temperature	04

☐ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Betz - GCP - 187 — Transaction code: A

List largest components and percent by weight

	%
1. Betz - GCP - 187 (it's a blend of	%
2. organic phosphate and polymer)	%
3.	%

Location: Adjacent to canyon water stipper

Form	L	Average amount	110
Trade secret		Annual estimate	660
Units	Gal.	Type code	P
Days at site	365	Container type	06
Use code	08	Container pressure	01
Max amount	220	Container temperature	04

☐ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

Product name: Aquaward Hypochlorite — Transaction code:

List largest components and percent by weight

	%
1. Chlorine tablets	100 %
2.	%
3.	%

Location: Hazardous waste storage yard

Form	S	Average amount	45
Trade secret		Annual estimate	100
Units	Lbs.	Type code	P
Days at site	365	Container type	06
Use code	08	Container pressure	01
Max amount	45	Container temperature	04

☐ Fire ☐ Pressure ☐ Reactivity ☐ Immediate health ☒ Delayed health

GUPA'S of Los Angeles County

Glendale Fire Department
Occupancy Inspection Record

District SP21

DBA Scholl Canyon Landfill **Address** 3001 Scholl Canyon Rd. Glendale, CA 91206

Complete 8/13/1997

Recent Activity

Business Owner

Name Los Angeles Co. Sanitation Add 633 E. Broadway, Rm. 209 Glendale Ca 91206
Wk (818) 24-9779 Ext 818 Fax Pager
Hm 818 548-3945 E Mail Cell

Building Owner

Name City Of Glendale Add Glendale Ca
Wk Ext Fax Pager
Hm E Mail Cell

Manager

Name Add
Wk Ext Fax Pager
Hm E Mail Cell

Emergency Contact I

Mark Dykes Phone 818 243 9779 Cell Pager

Emergency Contact II

Nick Cummings Phone 818 243-9779 Cell Pager

Occupancy and Building Information

Frequency Annual Open Employees Knox Box No Prefire
Duration 105 Minutes Closed Max Occ Current Keys Plan No

Occ Type B Primary Use Hazardous Businesses, Specific Property Use (your Description Of Property)

Occ Sq Ft Build Sq Ft Const Mat Const Type

Year

Stories Up Down

Fire Protection Systems

Permits

	Use & Occupancy

Comments

ANNUAL FIRE INSPECTION

City of Glendale – Unified Program (CUPA) Agency
780 Flower Street, Glendale, CA 91201
BUSINESS OWNER/OPERATOR IDENTIFICATION (Form 2730)

I. IDENTIFICATION

FACILITY ID# 2 1 9 0 0 0 0 0 2 5 7 2 1 — BEGINNING DATE 100 — ENDING DATE 101

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3: SCHOLL CANYON LFG LIMITED PARTNERSHIP — BUSINESS PHONE 102: 818-244-9722

BUSINESS SITE ADDRESS 103: 3001 SCHOLL CANYON RD.

CITY GLENDALE — 104: CA — ZIP CODE 105: 91206

COUNTY LOS ANGELES — 106 — SIC CODE (4 digit #) 107

DUN & BRADSTREET — 108 — TAX ID NUMBER 133a: 95 4449263

BUSINESS OPERATOR NAME — 109 — BUSINESS OPERATOR PHONE 110

II. BUSINESS OWNER

OWNER NAME 111: SCHOLL CANYON LANDFILL GAS CORP. — OWNER PHONE 112: 781-383-3200

OWNER MAILING ADDRESS 113: 13 ELM ST. SUITE 200

CITY 114: COHASSET — STATE 115: MA — ZIP CODE 116: 02025

III. ENVIRONMENTAL CONTACT

CONTACT NAME 117: BRAD EVERETT — CONTACT PHONE 118: 818 244 9722

CONTACT MAILING ADDRESS 119: 516 EAST CORALITE ST.

CITY 120: LONG BEACH — STATE 121: CA — ZIP CODE 122: 90808

IV. EMERGENCY CONTACTS

PRIMARY		SECONDARY	
NAME 123	BRAD EVERETT	NAME 128	TOM STREIT
TITLE 124	Site MANAGER	TITLE 129	
BUSINESS PHONE 125	818 244 9722	BUSINESS PHONE 130	
24-HOUR PHONE 126	562 225 6465	24-HOUR PHONE 131	562 212 1002
PAGER # 127	562 930 8951	PAGER # 132	

V. ADDITIONAL LOCALLY COLLECTED INFORMATION

NUMBER OF EMPLOYEES 133b: 2 — SIZE OF FACILITY (SQ. FT.) 133c

MAILING/ BILLING INFORMATION

ADDRESS 133d	CITY 133e	STATE 133f	ZIP CODE 133g
13 ELM ST. SUITE 200	COHASSET	MA	02025

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE — DATE 134: 11/29/03 — NAME OF DOCUMENT PREPARER 135: KATHLEEN CONCANNON

X A. Robert Russell III

NAME OF SIGNER (print) 136: A. ROBERT RUSSELL III — TITLE OF SIGNER 137: Treasurer, Scholl Canyon Landfill Gas Corp.

Chemical Inventory Summary

N Number	Facility ID	Chemical Name	CAS Number
214-0159	219-000-002572	Waste Activated Carbon	7440440
4214-0159	219-000-002572	Landfill Gas Condensate	
4214-0159	219-000-002572		
4214-0159	219-000-002572		
4214-0159	219-000-002572		
4214-0159	219-000-002572		
4214-0159	219-000-002572	Antifreeze	
4214-0159	219-000-002572	Monoethanolamine	
4214-0159	219-000-002572	Magnetrol Mercury Switches	7439976
4214-0159	219-000-002572	Hasco Stoddard Solvent/Mineral Spirits	
4214-0159	219-000-002572	Chemco Odor Control	
4214-0159	219-000-002572	Suif-Trol	
4214-0159	219-000-002572	Citogo Pacemake GEO 840	
4214-0159	219-000-002572	Matheson Calibration Gas	

Ciba Coagulant (Alcofix 308)
Ciba Zetag 7183
Ciba Flocculant (Percc1 919)

Sodium Hypochlorite (bleach)
Caustic Soda (50%)

GLENDALE FIRE DEPARTMENT
ENVIRONMENTAL MANAGEMENT CENTER (EMC)
780 Flower Street, Glendale, CA

CERTIFICATION STATEMENT:

I, certify that I am the business owner or officially designated representative of the business.

I, certify that the information contained in the hazardous materials inventory most recently submitted to the Glendale Fire Department CUPA, is complete, and up to date.

And, that there has been no significant change in the quantity of hazardous materials reported in the most recently submitted inventory.

And, that no other hazardous materials subject to inventory requirements are being added or handled since the most recent chemical inventory has been submitted.

CERTIFICATION:

BRADLEY EVERETT
Name

11-24-03
Date

PLANT SUPERVISOR/MNGR
Title

e-mail address (optional)

Bradley Everett
Signature

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

FAX 310 427-0805

SCS ENGINEERS

May 27, 1997
File No. 0197007.00, Task 17

Mr. Ed Wheless
Los Angeles County Sanitation Districts
1955 Workman Mill Road
Whittier, California 90601

SUBJECT: LOCATION OF CONDENSATE PRETREATMENT FACILITY, SCHOLL CANYON LANDFILL GAS PROCESSING FACILITY, GLENDALE, CALIFORNIA

Dear Ed:

As you know, the Scholl Canyon Landfill Gas Limited Partnership (SC-LP) is preparing to design and install a condensate pretreatment facility at the Scholl Canyon site. The enclosed drawing details a proposed location for this facility. In general, the new facility will be located on the spot currently occupied by the SCS Field Services (SCS-FS) office trailer. The office trailer will be relocated directly adjacent to the new facility, as shown.

The depicted location was verbally agreed upon by various parties at an April 1997 meeting at the site attended by representatives of:

- SCS Engineers (SCS)
- SCS-FS
- Los Angeles County Sanitation Districts (LACSD)
- City of Glendale Public Works Department
- City of Glendale Fire Department

Prior to initiating any work at the site, SCS, on behalf of the SC-LP, is seeking written agreement from the LACSD as to the proposed location of the facility. As such, we request that an authorized representative of the LACSD sign in the space provided below and on the attached drawing, indicating your approval of the proposed location. Since the SC-LP is under regulatory pressure to install the system as quickly as possible, your expeditious response to this request is needed. Please fax a signed copy to my office at (562) 427-0805 and mail the original signed agreement to my attention at:

SCS Engineers
3711 Long Beach Boulevard
Ninth Floor
Long Beach, California 90807

As agreed upon in our May 14, 1997 meeting, SCS and Maloney Process Inc. (MPI), the design engineer, will submit the actual system plans and specifications to the LACSD for approval prior to initiating construction of the pretreatment system. However, approval of the proposed location is required as soon as possible so that design work can begin.

If we do not hear from your office by June 12, 1997, we will assume that the proposed location is acceptable to the LACSD. Thank you for your assistance. Please contact the undersigned at (562) 426-9544 if you wish to further discuss any of these issues.

Sincerely,

Patrick S. Sullivan

Patrick S. Sullivan, R.E.A.
Senior Scientist
SCS ENGINEERS

Attachment

cc: Gordon Deane; Palmer Management
Jim Bier; SCS-FS
Matt Zuro; LACSD
Gerry Maloney; Maloney Process Inc.
Jake Amar; City of Glendale, Public Works Department, Engineering
Steve Zurn; City of Glendale, Public Works Department
Greg Ahern; City of Glendale, Fire Department

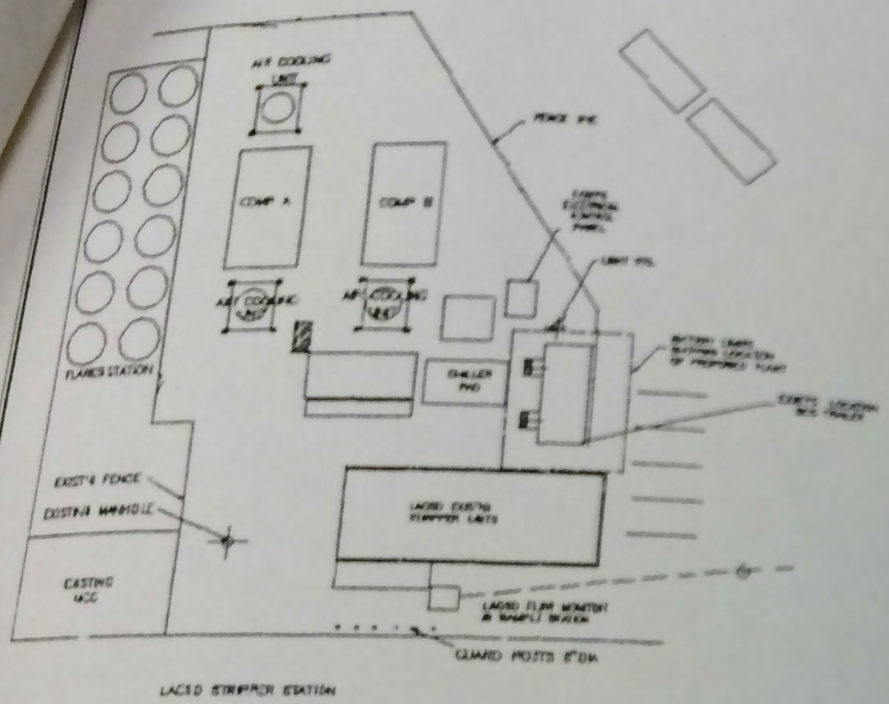
LOS ANGELES COUNTY SANITATION DISTRICTS:

Signature_____

Name:_____

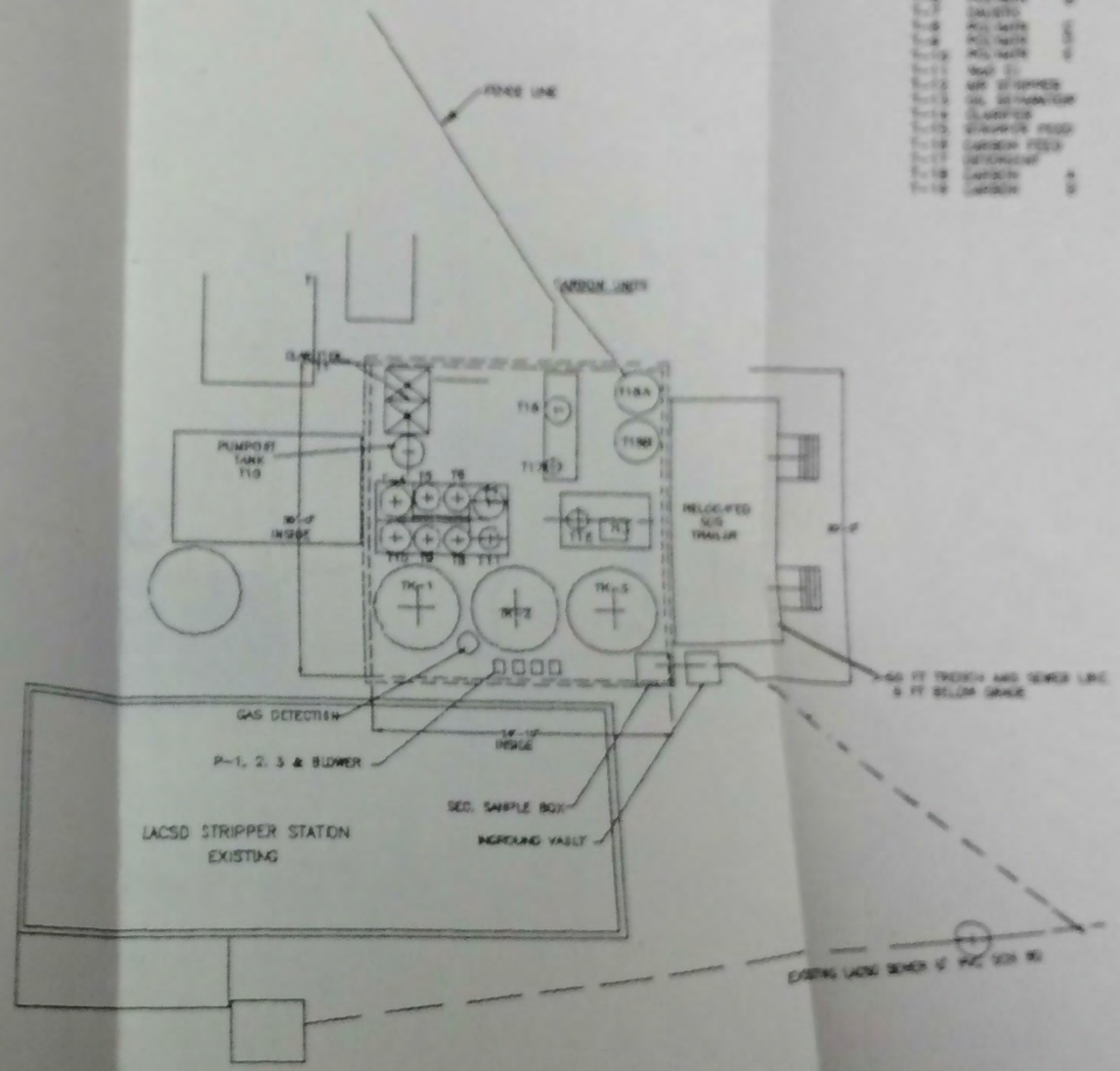
Title:_____

Date:_____



LACSD STRIPPER STATION

EXISTING PLANT
GENERAL PLOT PLAN



PROPOSED PLANT
PLOT PLAN

PLOT PLAN OF AREA

STEEL CANYON LANDFILL

J.O. NO.

DRAWING NO.

S-5

Z-7

CITY OF GLENDALE

INTERDEPARTMENTAL COMMUNICATION

DATE September 10, 1998

TO Jake Amar, P.W. Engineering

FROM David Starr, Fire Marshal

SUBJECT Scholl Canyon Landfill Gas Recovery Project
Wastewater Sampling Requirements Clarification

In your conversation with Captain Indermill today you stated that a full test for all wastewater components is being completed prior to any batch discharge from this facility per our requirements. Unfortunately, there seems to have been a misunderstanding of what wastewater components needed to be tested.

Per our letter dated December 31, 1997, (copy enclosed) which documented the meeting of December 30, 1997, wherein you and Mr. Desi Alvarez of P.W. Engineering, Steve Cooper of S.C.S. Field Services, Captain Indermill and Inspectors Kitchen and Ahern were present. It was agreed at this meeting that the condensate would be batch treated and tested for compliance with local discharge limits for flammability prior to obtaining discharge authorization from this office. Furthermore it was agreed that if a batch analysis failed local limits for flammability then said batch shall be hauled off-site for legal disposal. Additionally, it was agreed that this would be a temporary solution until adequate pretreatment has been provided, full compliance with discharge limits has been achieved and approval granted from this office. Although, it was not discussed in the December 30, 1997 meeting, it was understood that S.C.S. Field Services would continue to test for all discharge requirements quarterly as required per the Industrial Waste Discharge Permit for this facility.

I hope that this letter clarifies the discharge requirements for the Scholl Canyon Landfill Gas Recovery Project at this time. If you have any questions regarding the above subject matter please contact me at ext. 4810. Please contact Captain Indermill at ext. 4030 to coordinate technical assistance from the EMC Staff.

Very truly yours,

David Starr, Fire Marshal

cc: Chris Gray, Asst. Fire Chief
Steve Zurn, Asst. Director of Public Works
Eric Indermill, Fire Prevention Captain

TY OF Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201 • (818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

December 31, 1997

FILE COPY

CERTIFIED MAIL
Return Receipt Requested

Scholl Canyon LFG Limited Partnership
c/o Scholl Canyon Landfill Gas Corporation
13 Elm Street, Suite 200
Cohasset, MA 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
Scholl Canyon Landfill Gas Recovery Project
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice, and does hereby so provide, that the POTW grab sample of condensate wastewater from the subject facility, taken on December 19,1997, was found to have a flash point of 81^{0}Fahrenheit in violation of local prohibitive discharge limits of 140^0 Fahrenheit. Additionally, this sample was found to contain an oil and grease content of 1524 mg/L and a dissolved sulfides content of 4.54 mg/L in violation of their local discharge limits of 600 mg/L and 0.1 mg/L respectfully.

On December 30,1997, your representative at this facility Mr. Steve Cooper of SCS Field Services was advised of the above violations and was instructed to cease discharge of the condensate to the municipal wastewater system. Per our conversation with Mr. Cooper of SCS Field Services, Mr. Jake Amar and Mr. Desi Alvarez of Glendale P.W. it was agreed that the condensate would be batch treated and tested for compliance with local discharge limits for flammability prior to obtaining discharge authorization from this office. Furthermore it was agreed that if a batch analysis failed local limits then said batch shall be hauled off-site for legal disposal. Additionally, it was agreed that this would be a temporary solution until the cause of the violations have been determined, adequate pretreatment has been provided, full compliance with discharge limits has been achieved and approval granted from this office.

It is required that you submit within 20 days of receipt of this notice of violation a detailed letter of explanation as to the cause of the above violations and corrective actions that will be taken to prevent future violations.

If you have any questions regarding the above subject matter you may contact Doug Kitchen or myself at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.
Industrial Waste Inspector

cc: Steve Zurn, P.W.
Jake Amar, P.W.
Ray Huff, SCS
Steve Cooper, SCS

Scholl Canyon LFG
Limited Partnership

c/o Palmer Management Corporation
1309-114th Avenue SE, Suite 101
Bellevue, Washington 98004
Tel: 425/635-1101; Fax: 425/637-0197

August 19, 2002

Mr. Gregory P. Ahern
Environmental Safety Specialist
Environmental Management Center
City of Glendale
780 Flower Street
Glendale, California 91201

Via Facsimile
& Express Mail

Subject: **Detailed Letter of Explanation for Notice of Violation Dated August 5, 2002**
Industrial Waste Permit W-3142 – Received August 12, 2002

Dear Mr. Ahern:

This letter is in response to the Notice of Violation (NOV) described above. Thank you for this opportunity to explain in detail the events which occurred and the response to those events regarding the Scholl Canyon Landfill Gas project quarterly sampling of June 11, 2002.

As is explained in detail in the attached letter from Invirotreat Inc. to us, there appears to be a misunderstanding about the timing of when the samples were taken. The statement in your August 5th letter that "..duplicate sample was taken 5 minutes after the original sample" is clearly incorrect. Please refer to the attached letter.

As was explained in the Invirotreat Inc. letter dated July 9th (also included herein for reference), both the duplicate sample (taken "at the same time" on June 11, 2002) and the re-sampling which occurred on July 3rd at your request were below the TTO limit of 2.0 mg/l at 1.758 mg/l and 0.379 mg/l, respectively. On July 3rd, the Fire Department also took a simultaneous sample and sent the sample to a separate laboratory. We request that you supply Scholl Canyon Landfill Gas Limited Partnership (SCLP) with the results of your separate sampling from July 3rd so that we have as much information as we can about this issue.

Given that the basis for this NOV appears to be a misunderstanding regarding timing, there should have been no NOV issued. We respectfully request that the City of Glendale retract the above referenced NOV.

...y of compliance with all established Federal and Local discharge limits. ... adhere to both the letter and intent of regulations under which we operate. We in- ... continue to operate in the same mode, as we have successfully since 1994.

If you have any questions please feel free to call me at (425) 635-1101. We look forward to hearing from you about this NOV and also to get copies of you sampling results. Thanks.

Sincerely,

David A. Marques
Vice President
Scholl Canyon Landfill Gas Corporation

Attachments

cc: Michael Haney, Battalion Chief, Fire Division
Steve Zurn, Kerry Morford & Jake Amar, Public Works
Brad Everett & Gordon Deane, SCLP
Jeff Bernstein, Bernstein, Cushner & Kimmel

cc: Chris Gray, Asst. Fire Chief
Steve Zurn, Asst. Director of Public Works
...dermill, Fire Prevention Captain

VIROTREAT INC.

INNOVATIVE TREATMENT

August 12, 2002

Mr. David Marques
SCHOLL CANYON LFG LIMITED PARTNERSHIP
1309 114th Avenue SE #101
Bellevue, WA 98004

Subject: NOTICE OF VIOLATION, AUGUST 5, 2002
SCHOLL CANYON LFG CONDENSATE TREATMENT SYSTEM

Dear Mr. Marques:

Reference is made to a Notice of Violation (NOV) from Greg Ahern of the City of Glendale dated August 5, 2002 regarding the Scholl Canyon LFG Condensate Treatment System (CTS). The violation was issued because the sample taken during the April – June, 2002 monitoring period indicated total toxic organics (TTO's) of 3.63 mg/l which is above the 2.0 mg/l limit. The letter stated that the explanation given by Invirotreat Inc., the CTS consultant, in the Quarterly Report (dated July 9, 2002) was "unacceptable since the duplicate sample was taken 5 minutes after the original sample".

I would like to clarify that the duplicate sample was taken at the same time the original sample was obtained from the Secured Sampling Facility (SSF) following EPA sampling protocol. Two VOC vials were collected consecutively during the sampling event: one vial was analyzed in the original report and the other was analyzed as the duplicate sample. The assumption that the duplicate sample was taken 5 minutes after the original sample, as stated by Mr. Ahern, is incorrect, apparently a result of a misunderstanding.

In the Quarterly Monitoring Report we offered possible explanation regarding the TTO exceedance. We also provided an explanation from Western Analytical Laboratory, who conducted the laboratory analysis, regarding the detection limits used during the analysis. On July 16, 2002 Mr. Ahern conducted a re-test of the final effluent indicating low TTO concentration, well below the discharge limits.

I would like to emphasize that the Scholl Canyon Landfill CTS had no prior discharge violations. In fact, Mr. Brad Everett has kept the plant in great working order during the past three years, repeatedly demonstrating acceptable effluent quality for discharge to the City sewer.

2501 E. CHAPMAN AVENUE, SUITE 100 • FULLERTON • CA • 92831 • USA
TEL: (714) 871-1686 • FAX: (714) 871-1687 • WEB SITE: www.invirotreat.com

David Stan[illegible]

cc: Chris Gray, Asst. Fire Chief
Steve Zurn, Asst. Director of Public Works
Eric Indermill, Fire Prevention Captain

As far as actions needed to prevent future violations, I suggest that Scholl Canyon LFG continues to employ the routine operation and maintenance procedures, in accordance with the Process Safety Plan we developed for the facility. Invirotreat will continue to assist the plant staff in process support and oversight to ensure that the effluent discharge limitations are routinely achieved.

If you have any questions, please do not hesitate to call Brad Everett or myself.

Sincerely,

Dr. Alon Lebel
Project Consultant

c: Mr. Greg Ahern, City of Glendale, E.C.M
Mr. Jake Amar, City of Glendale
Mr. Brad Everett, Scholl Canyon LFG

(dm081202- Response to NOV)

Z-7

CITY OF GLENDALE
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INVIROTREAT INC.

ENVIRONMENTAL TREATMENT

July 9, 2002

Mr. Greg Ahern
City of Glendale, E.C.M.
780 E. Flower Street
Glendale, California 91201

SUBJECT: SCHOLL CANYON LANDFILL, CONDENSATE TREATMENT SYSTEM
QUARTERLY MONITORING RESULTS FOR THE PERIOD
APRIL - JUNE 2002
INDUSTRIAL WASTEWATER DISCHARGE PERMIT NO. W-3142

Dear Mr. Ahern:

Invirotreat Inc., on behalf of Palmer Management Partnership/Scholl Canyon, is pleased to submit the results of the quarterly monitoring event conducted on June 11, 2002, at the Scholl Canyon Landfill, Condensate Treatment System (Quarterly period April – June 2002). Samples were taken from the Secured Sampling Facility of the Condensate Treatment System, representing the final discharge point to the City sewer. Sampling and analysis were conducted in accordance with the monitoring requirements of Industrial Wastewater Discharge Permit No. W-3142 for the above facility.

As shown in Table 1 (attached), the results indicate – with the exception of the total toxic organics (TTO's) - compliance with the discharge limitations established by the City of Glendale for this facility. The TTO results during the 6/11/02 monitoring event indicated a total concentration of 3.6 mg/l, which is above the 2 mg/l limit. It should be noted that the granular activated carbon (GAC) vessels, which are responsible for removal of TTO's at the Condensate Treatment System, were serviced a few days prior to the testing event and fresh carbon was deposited in the vessels. Therefore, effective removal of TTO's was anticipated.

We were informed of the elevated TTO results on July 2, 2002. The results reflected high concentrations of volatile organic compounds (VOC's). We immediately requested the laboratory to re-test for VOC's (EPA 8260) using the duplicate vial collected during the sampling event. The re-test results indicated TTO's concentration of 1.7 mg/l, which is below the discharge limit. We also collected on July 3, 2002 a fresh sample from the final effluent for VOC analysis. The results from this sampling event indicated TTO concentration of 0.379 mg/l, which is consistent with historic results.

Based on the results of the retest (6/11/02) sample and the fresh sample (7/3/02), and considering the recent service of the GAC vessels, we are confident that the original results for VOC's were erroneous, perhaps due to laboratory contamination. The proactive approach we took to retest the effluent and the fact that in later analytical results the effluent was in compliance with the discharge limits for TTO's support our conclusion discussed above.

2501 E. CHAPMAN AVENUE • SUITE 100 • FULLERTON• CA • 92831
TEL: (714) 871-1686 • FAX: (714) 871-1687 • WEBSITE: www.invirotreat.com

, April-June 2002
CTP Effluent

The complete analytical laboratory reports, including the additional analytical reports for VOC's are included as Attachment A.

Please address any questions or comments related to this submittal to our office or to the Plant Manager, Mr. Bradley Everett at (818) 244-9722. If you would like to discuss the TTO's results, please feel free to call me (office number: 714 871-1686; mobile phone number: 714 926-7505).

Sincerely,

INVIROTREAT INC.

Al Lebel

Dr. Alon Lebel
Project Consultant

c: Mr. Brad Everett, Scholl Canyon
Mr Dave Marques, Palmer Management
Mr. Jake Amar, City of Glendale

(quarterly monitoring report - 04-06-2002)

TABLE 1: ANALYTICAL DATA SUMMARY
CANYON LANDFILL CONDENSATE TREATMENT PLANT
APRIL - JUNE 2002

PARAMETER	UNITS	TEST RESULTS	DUPLICATE RUN	DISCHARGE LIMITS
Metals				
Arsenic	mg/l	<0.05	-	3
Cadmium	mg/l	<0.01	-	15
Chromonium (Total)	mg/l	<0.01	-	10
Copper	mg/l	<0.01	-	15
Lead	mg/l	<0.05	-	5
Nickel	mg/l	<0.02	-	12
Silver	mg/l	<0.01	-	5
Zinc	mg/l	0.05	-	25
Cyanide (Free)	mg/l	<0.02	-	2
Cyanide (Total)	mg/l	<0.02	-	10
Dissolved Sulfides	mg/l	<0.02	-	0.1
Dispersed Oil & Grease	mg/l	66	-	600
pH	s.u.	8.2	-	5.5 - 11
Chloride	mg/l	1,060	-	na
BOD	mg/l	11,200	-	No Limit
COD	mg/l	21,600	-	No Limit
TSS	mg/l	470	-	No Limit
Flash Point	°F	>200	-	<140
Total Toxic Organics (TTO) [1]	mg/l	3.630	1.758	2
VOC - 8260	mg/l	0.222		
SVOC - 8270	mg/l	0	-	
Pesticides - 8080	mg/l	0	-	

1 retest of VOC on 7/3/02 indicate total TTO of 0.379 mg/l

Z-7

CITY OF GLENDALE

INTERDEPARTMENTAL COMMUNICATION

DATE September 10, 1998

TO Jake Amar, P.W. Engineering

FROM David Starr, Fire Marshal

SUBJECT Scholl Canyon Landfill Gas Recovery Project
Wastewater Sampling Requirements Clarification

In your conversation with Captain Indermill today you stated that a full test for all wastewater components is being completed prior to any batch discharge from this facility per our requirements. Unfortunately, there seems to have been a misunderstanding of what wastewater components needed to be tested.

Per our letter dated December 31, 1997, (copy enclosed) which documented the meeting of December 30, 1997, wherein you and Mr. Desi Alvarez of P.W. Engineering, Steve Cooper of S.C.S. Field Services, Captain Indermill and Inspectors Kitchen and Ahern were present. It was agreed at this meeting that the condensate would be batch treated and tested for compliance with local discharge limits for flammability prior to obtaining discharge authorization from this office. Furthermore it was agreed that if a batch analysis failed local limits for flammability then said batch shall be hauled off-site for legal disposal. Additionally, it was agreed that this would be a temporary solution until adequate pretreatment has been provided, full compliance with discharge limits has been achieved and approval granted from this office. Although, it was not discussed in the December 30, 1997 meeting, it was understood that S.C.S. Field Services would continue to test for all discharge requirements quarterly as required per the Industrial Waste Discharge Permit for this facility.

I hope that this letter clarifies the discharge requirements for the Scholl Canyon Landfill Gas Recovery Project at this time. If you have any questions regarding the above subject matter please contact me at ext. 4810. Please contact Captain Indermill at ext. 4030 to coordinate technical assistance from the EMC Staff.

Very truly yours,

David Starr, Fire Marshal

cc: Chris Gray, Asst. Fire Chief
Steve Zurn, Asst. Director of Public Works
Eric Indermill, Fire Prevention Captain

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
FAX 310 427-0805

SCS ENGINEERS

July 24, 1997
File No. 0196115.00

Mr. Gregory P. Ahern
City of Glendale
Environmental Management Center
780 Flower Street
Glendale, California 91201
OFFICE (818) 548-4030
FAX (818) 549-9777

SUBJECT: NOTICE OF VIOLATION, SCHOLL CANYON LFG LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

Dear Greg:

The Scholl Canyon LFG Limited Partnership (SC-LP) was recently issued a Notice of Violation (NOV, dated July 10, 1997) for violation of its effluent limitation for dissolved oil and grease, which occurred during self monitoring for the second quarter (April through June) 1997. This response to the NOV is provided by SCS Engineers (SCS) on behalf of the SC-LP.

Required re-sampling was conducted on July 2, 1997, and analytical data was reported to the City of Glendale in a letter dated July 11, 1997, as set forth by SC-LP's revised Industrial Waste Discharge Permit (W-3142). During re-sampling, a grab sample was collected from Sampling Point 01. Based on analytical data generated during resampling, Scholl Canyon is in compliance with discharge limitation for oil and grease, as set forth in its Industrial Waste Discharge Permit (W-3142).

Following the May 23, 1997 sampling round, the oil-water separator used in the current pretreatment system was emptied and cleaned. It is believed that an overload of the oil-water separator led to the violation that was reported from the May 23, 1997 sampling event. Therefore, in order to avoid any further oil and grease violations, SC-LP proposes to increase the inspection patrols in the area of the oil-water separator unit, as well as cleaning the unit on an expedited schedule. Further, SC-LP is prepared perform visual inspections during discharge as well as conducting organic vapor monitoring in order to ensure no future violation for total toxic organics or oil and grease. SC-LP feels that these actions will aid in the mitigation of the current oil and grease problems which led to violations in the first and second quarters of 1997.

SC-LP is also currently looking into the possibility of bringing the oil-water separator component of the new pretreatment system on-line prior to the scheduled start-up date of November 1997. SC-LP will apprise the City of Glendale on the feasibility of this option following discussions with the system designers and construction subcontractors.

We are hopeful that this above approach will be acceptable to the City of Glendale. Please address any questions or comments related to this submittal to our office.

CITY OF **Glendale** CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201
(818) 548-4030

Fire Division
HAZARDOUS
MATERIALS
SECTION

July 10, 1997

Scholl Canyon LFG Limited Partnership
13 Elm Street, Suite 200
Cohasset, MA 02025-1828

Attention: Gordon Deane, President

Subject: Notice of Violation
Scholl Canyon LFG Limited Partnership
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice the self-monitoring grab sample of condensate wastewater from the subject facility, taken on May 23,1997, was found to contain an Oil/Grease (O&G) content of 708 mg/L in violation of local discharge limits of 600 mg/L.

Cease and desist immediately from any and all violations of established local limits for discharge to the municipal wastewater system. You are required to submit a detailed letter of explanation as to the cause of the above violation and a description of corrective actions that will be taken to prevent future violations. As a result of recent violations for O&G at your facility this office can not wait for the November start-up date of your new pretreatment system. Consequently, it is necessary that additional pretreatment measures be addressed immediately for O&G. It is necessary that your response be submitted to this office prior to July 28,1997.

It is important to note that continued violations may result in referral to the City Attorney for appropriate action.

If you have any questions you may contact Doug Kitchen or myself at (818)548-4030.

Very truly yours,

Gregory P. Ahern, Sr.

Gregory P. Ahern, Sr.
Industrial Waste Inspector

cc: Ray Huff, SCS
Patrick Sullivan, SCS

CITY OF Glendale CALIFORNIA

Environmental Management Center
780 Flower Street, Glendale, CA 91201
(818) 548-4030

April 28, 1997

Fire Division
HAZARDOUS
MATERIALS
SECTION

CERTIFIED MAIL
Return Receipt Requested

Scholl Canyon Landfill Gas Limited Partnership
672 Jerusalem Road
Cohasset, Massachusetts 02025

Attention: Gordon L. Deane, President

Subject: NOTICE OF VIOLATION
3001 Scholl Canyon Road

Gentlemen:

This letter will serve to provide notice, and does hereby so provide, that the industrial wastewater discharge to the municipal wastewater system from the subject facility has been found to be a public nuisance, in violation of GMC Section 13.40.310(B)(1)(a)(v).

On Wednesday April 23, 1997, Inspectors Ahern and Kitchen responded to the subject facility as a result of an odor complaint in Glenoaks Canyon. SCS Field Staff were advised of the complaint and were informed that all condensate wastewater discharge must immediately cease until adequate pretreatment was provided.

On Friday April 25, 1997, Inspector Kitchen once again responded to the subject facility as a result of additional odor complaints. He found that wastewater was being discharged and that no repairs to the pretreatment system had occurred. Again SCS Field Staff were informed that all condensate wastewater discharge must immediately cease.

CITY OF GLENDALE CALIFORNIA

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ment Center
ndale, CA 91201 • (818) 548-4030

Please cease and desist immediately from any and all violations of established local limits for discharge to the municipal wastewater system. All industrial wastewater from the subject facility shall be hauled off-site for legal disposal until such time that adequate pretreatment has been provided and full compliance with discharge limits has been achieved. A manifest file, which shall be available for inspection at all times, shall be maintained for proof of legal disposal of all hauled wastewater.

Our policy requires that you submit a detailed description of corrective actions that will be taken to prevent future violations. We should receive your response no later than May 15, 1997.

At your option, you may provide the above required pretreatment or permanently haul the condensate wastewater for legal off-site disposal.

If you have any questions regarding this matter, please contact the Industrial Waste Program at (818) 548-4030.

Very truly yours,

David D. Starr
Fire Marshal

cc: Jake Amar, Public Works
Pat Sullivan, SCS Engineers

ORIGINAL

BASELINE MONITORING REPORT

SECTION 1. GENERAL INFORMATION

A. This report is for an *existing sewer connection.*

B. **Company Name:**

Scholl Canyon LFG Limited Partnership
SIC Code: 4953

C. **Business Address:**

13 Elm Street, Suite 200
Cohassett, MA 02025

D. **Location of Site Discharging Wastewater:**

3001 Scholl Canyon Road
Glendale, CA 91206

E. **Person Responsible for Industrial Wastewater Discharge:**

Gordon Deane, President
(617) 383-3200

F. **Number of Employees:**

On-Site: 1 full time, 1 part time (contract personnel)

G. **Operation Schedule:**

24 hours/day, 365 days/year

H. **Variation of Operation:**

The operation of the landfill gas (LFG) processing plant and generation of industrial wastewater is a continuous process. No variation is anticipated. The operation is conducted 7 days per week.

SECTION II. WASTEWATER DISCHARGE

A. **Time and Duration of Industrial Wastewater Discharge to Sewer System:**

- Discharge occurs 24 hours per day, 7 days per week.
- Discharge is continuous and occurs in 1500-gallon increments with pretreatment occurring at a rate of approximately 10 gallons/minute for 150 minutes.

B. **The Following Wastewater Flow Rates to the Sewer System Are Expected to Occur:**

- Maximum daily flow of 6,000 gallons/day
- Five-Minute peak flow rate of 10 gallons/minute
- Annual daily average flow rate of 3,300 gallons/day (averaged quarterly)

C. **Source of Water Received and the Estimated Average Quantity of Wastewater Discharged Daily:**

- The source of the water which becomes wastewater is moisture entrained in the LFG processed through the system. During the compression and refrigeration processes, the moisture is condensed and becomes a liquid waste stream.
- All of the condensate generated becomes wastewater that is discharged to the sewer system, approximately 3,300 gallons/day (average).

SECTION III. RAW MATERIALS AND CHEMICALS

The only raw material used in the manufacturing process is LFG from the Scholl Canyon Landfill. Other chemicals used at the site that may be found in the wastewater discharged from the facility include:

Technical Name	Common Name	Manufacturer's Name
Activated Carbon	Carbon fines	Westates
A105 Oil	Lube Oil	Gibraltar
Pacemaker 840	Compressor Oil	Citgo
Calcium Hypochlorite	Chlorine	Sun Burn
YWO7 Glycerine	Glycerine	Waukesha
Monoethanolamine	Sulfa-Treat	Van Rogers & Waters
02353 Antifreeze/coolant	Antifreeze	Texaco
Weld-On Primer 2711	Weld Preparation Primer	IPS
Weld-On Cement 2711	Weld Sealer	IPS
Cationic Polymer 9069	Wastewater polymer	Aqua-Serv
Sulfuric Acid	Sulfuric acid	Pressure Vessel Service
Coagulant Polymer 9420	Wastewater coagulant	Aqua-Serv
Coagulant 9423	Wastewater coagulant	Aqua-Serv
Anionic Polymer	Wastewater polymer	Aqua-Serv
Sodium Hydroxide	Caustic soda	Pressure Vessel Service
Odor Control	Odor control agent	Chemco

Material Safety Data Sheets (MSDSs) for these materials are attached to this document.

SECTION IV. DESCRIPTION OF OPERATIONS

- In the LFG processing operation, LFG is treated, producing a product gas which is delivered to the City of Glendale power plant. This operation occurs under SIC Code No. 4953.

- In the condensate pretreatment operation, approximately 3,300 gallons/day of condensate is treated and discharged to the sewer system. This operation occurs under SIC Code No. 4953.

SECTION V. NATURE OF POLLUTANTS IN WASTEWATER DISCHARGE

The following pollutants are presented or suspected of being present in the wastewater discharged to the sewer system:

A. Metals and Inorganics

Arsenic, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Silver, and Zinc.

B. **Phenols and Cresols**

Phenol(s)

C. **Monocyclic Aromatics**

Benzene, Chlorobenzene, 1,2-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2,4-Trichlorobenzene, Ethylbenzene, Toluene, and Xylenes

D. **PCBs and Related Compounds**

None anticipated or detected in previous monitoring events.

E. **Ethers**

None anticipated or detected in previous monitoring events.

F. **Nitrosamines and Other Nitrogen-Containing Compounds**

None anticipated or detected in previous monitoring events.

G. **Halogenated Aliphatics**

Chloromethane, Dichloromethane, Trichloromethane, Tetrachloromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Chloroethene, 1,1-Dichloroethene, Trichloroethene, Tetrachloroethene, 1,2-Dichloropropane, and 1,3-Dichloropropane.

H. **Phthalate Esters**

Di-n-octylphthalate and Bis(2-ethylhexyl)phthalate

I. **Polycyclic Aromatic Hydrocarbons**

Styrene and Naphthalene

J. **Pesticides**

None anticipated or detected in previous monitoring events.

K. **Conventional Pollutants**

Biochemical Oxygen Demand (BOD) > 240, Total Suspended Solids (TSS) > 250, oil and grease, and ammonia.

SECTION VI. WASTEWATER PRETREATMENT SYSTEM

A. Type of Pretreatment

Pretreatment is *chemical* and *physical* and will occur in a *continuous mode*.

B. Treatment Technologies

1. Physical/Chemical Treatment

a.	Activated Carbon Adsorption:	Granular
b.	Chemical Oxidation:	Chlorine
c.	Chemical Precipitation:	None
d.	Chemical Reduction:	None
e.	Coagulation and Flocculation:	Synthetic Polyelectrolytes
f.	Distillation:	None
g.	Electrodialysis:	None
h.	Evaporation:	None
I.	Filtration:	None
j.	Floatation:	Dissolved Air (DAF)
k.	Flow Equalization:	Yes
l.	Ion Exchange:	None
m.	Neutralization:	Yes
n.	Oil Separation:	Gravity Separators, Skimmers, and Emulsion Breaking
o.	Resin Adsorption:	None
p.	Reverse Osmosis:	None
q.	Screening:	None
r.	Sedimentation:	None
s.	Stripping:	Air
t.	Solvent Extraction:	None
u.	Ultrafiltration:	None

2. Biological Treatment

None

SECTION VII. ENVIRONMENTAL CONTROL PERMITS AND LICENSES

- South Coast Air Quality Management District (SCAQMD) permit for a LFG treatment facility (No. D 90397)

- SCAQMD permit for a condensate collection, storage, and treatment facility (No. D 93189). Permit is in the process of being modified.

- SCAQMD permit for an air stripper (No. D 11334). The operator status on the permit is currently being transferred from the Los Angeles County Sanitation Districts to the Scholl Canyon LFG Limited Partnership.
- City of Glendale permit for hazardous material usage (No. 700599.00)

SECTION VIII. PROCESS ACTIVITIES

Operation	Status
Aluminum Forming	Not Conducted
Battery Manufacturing	Not Conducted
Coil Coating	Not Conducted
Copper Forming	Not Conducted
Electrical and Electronic Components	Not Conducted
Electroplating	Not Conducted
Iron and Steel	Not Conducted
Inorganic Chemicals Manufacturing	Not Conducted
Leather Tanning and Finishing	Not Conducted
Metal Molding and Casting	Not Conducted
Non-Ferrous Metals Forming	Not Conducted
Metal Finishing	Not Conducted
Non-Ferrous Metals Manufacturing	Not Conducted
Organic Chemicals, Plastics, and Synthetic Fibers	Not Conducted
Petroleum Refining	Not Conducted
Pharmaceutical Manufacturing	Not Conducted
Plastics and Molding	Not Conducted
Porcelain Enameling	Not Conducted
Pulp, Paper, and Paperboard Production	Not Conducted
Steam Electric Power Generation	Not Conducted
Timber Products Processing	Not Conducted
Textile Mills	Not Conducted

SECTION IX. PLANS AND DIAGRAMS

A. **Site Plan**

A site plan for the facility is currently being developed as part of the project to upgrade the condensate pretreatment system. A copy of the site plan will be provided for your review when it is completed.

B. **Floor Plan**

A floor plan for the facility is currently being developed as part of the project to upgrade the condensate pretreatment system. A copy of the floor plan will be provided for your review when it is completed.

C. **Process Unit Design Specification and Schematic Diagram**

A diagram and specification for the LFG processing facility was previously submitted to the City of Glendale Fire Department, Industrial Waste Program. No significant changes have been made to the LFG processing system since the last submittal.

D. **Pretreatment System Design Specification and Schematic Diagram**

A pretreatment system design specification and schematic diagram for the facility is currently being developed as part of the project to upgrade the condensate pretreatment system. Copies of these documents will be provided for your review when they are completed.

E. **Operations and Maintenance Plan**

An operations and maintenance plan for the facility will be developed after installation and start-up of the upgraded pretreatment system. A copy of this document will be provided as soon as it is available.

F. **Contingency Plan for Spills, Overflows, and System Failures**

A contingency plan for the facility was previously submitted to the City of Glendale Fire Department, Industrial Waste Program. This document is currently being updated to reflect changes to the pretreatment system. A copy of the revised contingency plan will be submitted as soon as it is available.

SECTION X. WASTEWATER FLOW MEASUREMENT

Regulated Process (Type)	Daily Average (gal/day)	Daily Maximum (gal/day)	Estimated (E) or Measured (M)
LFG Condensate	3,300	6,000	E

SECTION XI. MEASUREMENT OF POLLUTANTS

A. Sample Type

Both grab and composite samples are collected from the facility's discharge to evaluate compliance with the facility's industrial wastewater discharge permit (W-3142)

B. Frequency of Samples

Samples are collected on a quarterly basis.

C. Time, Date, and Sampling Location

The sampling location is on the discharge from the facility's existing carbon adsorption unit. As part of the facility upgrade, a secured sampling facility (SSF) is being constructed in accordance with City of Glendale requirements. The time and date if samping events vary during each quarter. These times/dates are listed on the Periodic Compliance Reports that are submitted for each quarterly sampling event.

D. Method of Analysis

The analytical methods vary for each regulated pollutant. These methods are listed on the Periodic Compliance Reports and laboratory reports that are submitted for each quarterly sampling event.

E. Comparison of Results with Applicable Pretreatment Standards

This activity is completed for each sampling event and is provided within the Periodic Compliance Reports.

F. Alternative Limits

No alternative limits are proposed for the Scholl Canyon LFG processing facility.

Please note that copies of two recent Periodic Compliance Reports for the facility are attached to this document.

SECTION 1

SECTION 2

SECTION XIII. CERTIFICATION

I have personally examined and am familiar with the the information submitted in this application, and I hereby certify under penalty of law that this information was obtained in accordance with applicable requirements. Moreover, based on my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

* Authorized Representative

Gordon L. Deane

Name (Type or Print)

Signature

President

Title

July 14, 1997

Date

* Authorized Representative shall Mean (a) a principal executive officer of at least the level of vice-president, if the discharger is a corporation; (b) a general partner or proprietor if the discharger is a partnership or proprietorship, respectively; or (c) a duly authorized representative of the individual designated above if such representative is responsible for the overall operation of the facility which contributes wastewater to the Publicly Owned Treatment Works (P.O.T.W.), storm drain, or the waters of the state.

Environmental Consultants

3711 Long Beach Boulevard
Ninth Floor
Long Beach, CA 90807-3315

310 426-9544
FAX 310 427-0805

SCS ENGINEERS

February 10, 1997
File No. 0196115.01

City of Glendale Fire Department
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

Attention: Industrial Waste Program

SUBJECT: ENGINEERING PLAN, MODIFICATIONS TO OIL/WATER SEPARATION APPARATUS, CONDENSATE PRETREATMENT SYSTEM, SCHOLL CANYON LANDFILL GAS RECOVERY FACILITY, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

To Whom It May Concern:

This letter provides an Engineering Plan for modifications to the landfill gas (LFG) condensate pretreatment system at the Scholl Canyon LFG recovery facility. Modifications described herein apply specifically to proposed enhancements to the oil/water separation apparatus.

This document was prepared by SCS Engineers (SCS) on behalf of the Scholl Canyon LFG Limited Partnership (SC-LP) and is intended to meet the "engineering plan" requirements of the facility's industrial wastewater discharge permit (No. W-3142). The process modifications were designed and will be installed by Aqua-Serv Engineers (Aqua-Serv).

PROPOSED MODIFICATIONS TO THE OIL/WATER SEPARATION APPARATUS

General Specifications

LFG condensate generated by the compression station will be directed to a 4,000 gallon tank for equalization and storage prior to treatment. The equalization tank will be equipped with a skimming device that will remove floating oil, if any, to the maximum extent possible. The skimmed oil will flow by gravity into the existing above ground waste oil storage tank.

After equalization, condensate will be pumped through a chemical treatment system to enhance oil/water separation. The chemical treatment process will function to break oil emulsions in the condensate and to facilitate oil flocculation through the following process steps:

- **pH Adjustment #1.** This first pH adjustment step will prepare the condensate for the breaking of oil emulsions. The pH of the condensate will be lowered through in-line injection and mixing of sulfuric acid which will be controlled using a pH meter and controller. The design pH for this process step will be between 4.0 and 5.0; however, start-up testing will determine the final operating pH.

- **Chemical Addition #1.** After pH adjustment, a chemical polymer (Aqua-Serv No. X6201) will be injected into the condensate and mixed using an in-line mixer. This polymer will assist in the breaking of oil emulsions in the condensate.

- **Chemical Addition #2.** The second chemical added to the system is an emulsion breaker (Aqua-Serv No. 9420) which will work in conjunction with X6201 to complete the breaking of oil emulsions.

- **pH Adjustment #2.** This second pH adjustment step will prepare the condensate for oil flocculation and will consist of adding sodium hydroxide to raise the pH of the process stream. The design pH for this process step will be between 9.0 and 10.0; however, start-up testing will determine the final operating pH.

- **Chemical Addition #3.** A chemical coagulant (Aqua-Serv No. 9423) will be injected into the condensate and mixed using an in-line mixer. This chemical is the first of two coagulants that will be added to the system.

- **Chemical Addition #4.** The second chemical coagulant (Aqua-Serv No. 9406) will also be injected into the condensate and mixed using an in-line mixer.

- **Chemical Addition #5.** Following the addition of the two coagulants, a chemical flocculant (No. 9073) will be added to the system and mixed using an in-line mixer. This flocculant will complete the chemical treatment process.

- **Oil/Water Separator.** After chemical treatment, treated condensate will flow into the existing surge tank and oil/water separator for physical separation. The removed oil will flow by gravity into the existing above ground waste oil tank. The treated effluent will flow into the existing effluent storage tank and then will be pumped to the condensate storage tanks at the air stripper station. The remainder of the pretreatment process remains unchanged at this time: air stripping, carbon adsorption, and final discharge.

All process and chemical tanks used in this system will be equipped with adequate secondary containment and will be vented to an existing carbon adsorption system ("vent scrub" unit). Treatment chemicals will be stored in 110- or 165-gallon chemical tanks and injected using automatic chemical metering pumps. With the exception of the chemical flocculant, liquid chemicals will be mixed using in-line, continuous static mixers. The flocculant (9073) is a dry solid chemical and will be mixed, prior to injection, in a 200-gallon chemical tank equipped with an agitator.

Basis of Design

Prior to selecting the above process design for implementation at the site, SCS and SC-LP reviewed two proposed options for oil/water separation at the Scholl Canyon facility. These options were delineated in "design-build" proposals submitted by Maloney Process Inc. (MPI), dated April 1996, and Aqua-Serv, dated July 1996 (revised December 1996). These proposals are provided as attachments to this document.

In addition to the proposals, SCS observed and reviewed treatability tests completed by MPI and Aqua-Serv. Through chemical treatment of the condensate, the two contractors proposed to provide enhanced removal of oil from the condensate. Treatability tests completed by the contractors included laboratory-scale tests on raw condensate samples collected from the Scholl Canyon site. These laboratory tests were intended to mimic the full-scale treatment systems proposed by the contractors.

In both cases, the contractors were able to achieve substantial visible oil/water separation using chemical treatment. However, only Aqua-Serv was able to verify adequate oil removal through laboratory testing. Laboratory results (copies enclosed) for treated condensate samples indicate that MPI was only able to achieve a residual oil and grease level (as measured by EPA Method 413.2) of 418 mg/L. Aqua-Serv was able to achieve a residual oil and grease level of 67.2 mg/L.

Note that oil and grease levels in the raw condensate ranged from 3,000 to 5,000 mg/L. As a second point of reference, the air stripper at the site is rated for effective performance at oil and grease levels less than 100 mg/L.

Since the capital costs associated with each proposal were similar (i.e., approximately $38,000 for MPI and $43,000 for Aqua-Serv), SCS recommended that SC-LP enlist the services of Aqua-Serv on this project due to their demonstrable performance in the treatability studies. As such, a "design-build" contract for completion of modifications was awarded to Aqua-Serv.

System Installation

As indicated above, system installation will be completed by Aqua-Serv. A construction schedule will be provided to your office as soon as it is available. The anticipated start date for construction activities is February 18, 1997.

Throughout the duration of the project, SCS will oversee installation activities and provide construction quality assurance (CQA) on behalf of SC-LP. System start-up, periodic maintenance, and operator training will be provided by Aqua-Serv with assistance provided by SCS. SCS will also be developing an operations and maintenance (O&M) manual for use by operator personnel.

System Drawings and Specifications

As previously mentioned, a copy of the revised Aqua-Serv proposal (December 1996) is included for your files. This proposal contains the following attachments that will serve as the necessary design drawings and specifications for the system:

- **Attachment A.** Chemical dosages and costs based on a maximum design capacity of 4,000 gallon per day (gpd), excluding sulfuric acid and sodium hydroxide.

- **Attachment B.** Equipment listing and cost estimate for all necessary system components.

- **Attachment C.** Facility plot plan, showing the proposed location of the system modifications and additional equipment to be installed at the site. Note that the 20,000-gallon *Baker* tank has been taken out of service and removed from the facility.

- **Attachment D.** Process flow diagram, depicting all process steps, as described above.

We are hopeful that these drawings are sufficient to meet your needs at this time. Please note that SCS and/or SC-LP are not intending to produce "as-built" drawings after construction of the proposed modifications.

CLOSING

The above modifications have been implemented to minimize many of the existing system problems that have been caused by excess oil in the waste stream. It is our belief that with the removal of oil from the system: (1) the current odor problem will be rectified, (2) the air stripper will operate properly, and (3) the carbon adsorption unit will be unnecessary or used only as a polishing unit.

If you have any questions regarding this submittal, please do not hesitate to contact me or Julio Nuno at (310) 426-9544.

Sincerely,

Patrick S. Sullivan

Patrick S. Sullivan, R.E.A.
Senior Project Scientist
SCS ENGINEERS

Attachments

cc: Jim Bier; SCS Field Services (w/o attachments)
Gordon Deane and Don Dargie; Palmer Management (w/o attachments)
John Kubis; Aqua-Serv (w/o attachments)

Long Beach, CA 90807-3315

SCS ENGINEERS

June 10, 1997
File No. 0196007.00, Task 17

Mr. Greg Ahern
City of Glendale Fire Department
Environmental Management Center
Hazardous Materials Section
780 Flower Street
Glendale, California 91201

SUBJECT: PROJECT TIME TABLE, UPGRADE TO CONDENSATE PRETREATMENT SYSTEM, SCHOLL CANYON LFG LIMITED PARTNERSHIP, 3001 SCHOLL CANYON ROAD, GLENDALE, CALIFORNIA (W-3142)

Dear Greg:

The enclosed letter details a response to your letter of May 5, 1997 to the Scholl Canyon Landfill Gas (LFG) Limited Partnership (SC-LP), regarding the condensate pretreatment system at the Scholl Canyon LFG processing facility. This response letter was prepared by SCS Engineers (SCS) on behalf of the SC-LP.

Your May 5, 1997 letter indicates that SC-LP failed to apply for renewal of its industrial wastewater discharge permit (W-3142) within 90 days of the expiration date (May 23, 1997) as required by the permit. The reason for this oversight was that SC-LP was anticipating receipt of a permit renewal application in the mail and did not. We apologize for the oversight.

As requested in your letter, SC-LP recently filed for a 90-day temporary industrial wastewater permit (IWP), which we assume has been granted. By our estimation, the 90-day temporary permit will expire on August 23, 1997. As indicated in our recent conversation, SC-LP will not be issued a formal permit renewal until modifications to the pretreatment system are complete. Therefore, by July 23, 1997 (30 days prior to the expiration of the temporary permit), SC-LP will file for a second temporary 90-day permit, which will allow us to operate through November 23, 1997. As shown in the enclosed project schedule, the modifications to the pretreatment system will be completed by November 1, 1997.

By October 23, 1997 (30 days prior to the expiration of the second temporary permit), SC-LP will be required to apply for a formal permit renewal, which, as we understand it, will entail preparation and submittal of a Baseline Monitoring Report (BMR) and tiered permitting documentation. If there is any additional documentation that must be completed for formal permit renewal, please forward a copy to SCS, who will be completing this work on behalf of SC-LP.

Finally, your May 5, 1997 letter requires that SC-LP submit a project time table, detailing specific milestones related to the upgrade of the condensate system. The proposed time table is presented below:

Item/Activity	Completion Date
Completion of design plans and specifications and submittal to various reviewing agencies	July 3, 1997
Submittal of Baseline Monitoring Report (BMR)	July 15, 1997
Submittal of application for second temporary 90-day industrial wastewater permit	July 23, 1997
Construction of concrete slab and berm	August 1, 1997
Completion of concrete cure	September 1, 1997
Application of epoxy lining for concrete	September 5, 1997
Installation of system components	October 3, 1997
Submittal of application for formal permit renewal	October 23, 1997
Completion of start-up and system testing	October 31, 1997

We assume that this schedule will be acceptable to your office. Please note that a construction contract to complete the pretreatment system upgrades was recently awarded to Maloney Process Inc. (MPI). The project is currently underway. If you have any questions regarding this submittal, please do not hesitate to contact the undersigned or Jim Bier of SCS Field Services.

Sincerely,

Patrick S. Sullivan, R.E.A.
Senior Project Scientist
SCS ENGINEERS

cc: Jim Bier; SCS Field Services
Gordon Deane; SC-LP
Gerry Maloney; MPI
Steve Zurn; City of Glendale, Public Works
Jake Amar; City of Glendale, Public Works
John Kubis; Aqua-Serv
Karl Cornell; Tekadi Corporation

Appendix G
INTERVIEW FORMS

Appendix G PRE-DEMOLITION ASBESTOS AND LEAD-BASED PAINT SURVEY

Stantec Consulting Services Inc.
290 Conejo Ridge Avenue, Thousand Oaks CA 91361-4971

December 18, 2015

Attention: Ms. Christine A. Godinez
City of Glendale
Principal Assistant City Attorney
613 East Broadway, Suite 220
Glendale, California 91206

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Biogas Renewable Generation Project
7721 N Figueroa Street, Los Angeles, CA 90041
Stantec Project no.: 2057123300

Dear Ms. Godinez:

Stantec Consulting Services Inc. (Stantec) appreciates the opportunity to provide you with the following pre-demolition asbestos-containing materials (ACM) and lead-based paint (LBP) survey report. The survey was performed at the Scholl Canyon Landfill (herein referred to as the "Property") on September 14, 2015. The Property consists of a gas gathering system, blowers, flares, gas coolers, pre-coolers, compressors, after-coolers, gas condensate collection system, air compressors, a tool shed, and an office trailer (excluded from survey). The purpose of this survey was to evaluate the equipment at the Property for the presence of ACMs and LBP that would require special handling and/or disposal in accordance with applicable federal, state, and local regulations. This report provides the survey's findings and recommendations.

BACKGROUND

At the request of the City of Glendale , Stantec performed a pre-demolition ACM and LBP survey in support of demolition that may occur at the Property. The scope of work included sampling and analysis of suspect building materials at the Property. The survey was limited to the existing gas recovery facilities at Scholl Canyon Landfill.

PROJECT PERSONNEL

The survey was performed by Mr. Jason Stagno, Senior Scientist and State of California, Division of Occupational Safety and Health (DOSH) Certified Asbestos Consultant (CAC #12-4949) and State of California, Department of Public Health (CDPH) Lead Related Construction Inspector/Risk Assessor (LRCIA #19068).

SUSPECT ASBESTOS-CONTAINING MATERIALS

Asbestos is a potential health hazard capable of causing respiratory system fibrosis and various forms of systemic cancers. Its condition, handling and disposal are regulated by federal, state, and local agencies. Materials that contain asbestos generally do not pose a health threat unless the asbestos fibers are disturbed by renovation, construction or demolition, and may then become airborne and inhaled. If the Property buildings are not going to be demolished, then written notification to employees, tenants, contractors, or purchasers of the Property in regards to the presence and location of ACMs and asbestos-containing construction materials (ACCMs) is required pursuant to the California Health and Safety Code 25915.

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Biogas Renewable Generation Project
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

In California, asbestos exposure in construction is regulated when construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof contain asbestos [§1529 (a)(1)(C)]. For the purpose of this report, materials with any detectable concentration of asbestos are considered positive.

The EPA defines a homogeneous area as a surfacing material, thermal system insulation, or miscellaneous material that is uniform in color and texture. The use or application of the homogeneous area is also used to identify suspect ACMs. The EPA and DOSH define ACM as any material that contains more than one percent (by weight) of asbestos (>1%). Only one sample from a homogeneous area with an asbestos concentration >1% is required to collectively identify that material as an ACM. The EPA additionally categorizes ACM as follows:

- Category I nonfriable ACM - asbestos containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1% asbestos as determined using the PLM method.
- Category II nonfriable ACM - any material, excluding Category I nonfriable ACM, containing more than 1% asbestos as determined using the PLM method that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- Regulated asbestos-containing material (RACM) - (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

In California, potential asbestos exposure in construction is regulated when construction, alteration, repair, maintenance, renovation or demolition of structures, substrates, or portions thereof contain asbestos [8 CCR §1529 (a)(1)(C)]. Additionally, in California, materials containing greater than one-tenth of one percent (>0.1%) asbestos by weight are regulated as ACCMs.

Sampling and Analysis

Stantec conducted a pre-demolition survey of the Property in an effort to identify suspect ACMs in general accordance with the AHERA sampling guidelines as outlined in 40 CFR Part 763. The location, condition, friability, and the potential for suspect ACMs to be potentially disturbed were assessed and documented. Bulk samples of readily accessible suspect ACMs were collected. Consistent with building demolition and renovation regulatory requirements, building material sampling was conducted regardless of the age and/or condition of the structures. A total of 31 samples were collected from 15 homogeneous areas at the Property. The samples were analyzed by Polarized Light Microscopy (PLM) in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R93/116, July 1993). Analysis was performed by EMSL Analytical, Inc. located in Cinnaminson, New Jersey. This laboratory is participating in the Environmental Laboratory Accreditation Program (ELAP), the National Institute of Standards and Testing (NIST), and the National Voluntary Laboratory Accreditation Program (NVLAP). The laboratory is also accredited by the American Industrial Hygiene Association (AIHA). A summary of the laboratory analytical results are included in the table below. Table 1 in the Findings section provides more information regarding the suspect materials collected and analyzed. Laboratory analytical results and

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Biogas Renewable Generation Project
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

bulk sample logs are provided in Attachment A; sample location map is provided in Attachment B; certifications are provided in Attachment C; and a photographic log is provided in Appendix D.

Findings

Table 1 below provides a summary of the suspect materials identified and sampled at the Property during this survey. The table includes the DOSH definition and the EPA category, as applicable.

Table 1 – Asbestos Bulk Sample Results

Sample No.	Homogeneous Area	Location of Material	Condition	Asbestos Content	Quantity Estimate	DOSH Definition	EPA Category
01A 01B 01C	Gasket, Black, Approximately 24" Diameter, Associated with Condensate Tanks	Condensate Treatment Area	Good	ND	6 LF	NA	NA
02A	Gasket, Black, Approximately 8" Diameter, Associated with Condensate Tanks	Condensate Treatment Area	Good	ND	2 LF	NA	NA
03A	Sealant, Gray, Associated with Condensate Tower	Condensate Treatment Area	Good	ND	<3 LF	NA	NA
04A	Sealant, Red, Associated with Poly Tank	Condensate Treatment Area	Good	ND	3,000 SF	NA	NA
05A	Tape/Fabric, Orange, Associated with Repaired Pipes at Motor	Condensate Treatment Area	Good	ND	<6 LF	NA	NA
06A 06B 06C	Sealant, Tan, Associated with Treatment Equipment	Condensate Treatment Area	Damaged	ND	20 LF	NA	NA
07A 07B 07C	Insulation, Green/Yellow, Associated with Aluminum Pipe Wrap	Condensate Processing Facility	Good	ND	500 SF	NA	NA
08A 08B 08C	Sealant, Gray, Associated with Aluminum Pipe Wrap	Condensate Processing Facility, Gas Compressors	Good	ND	50 LF	NA	NA

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Biogas Renewable Generation Project
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

Table 1 – Asbestos Bulk Sample Results (continued)

Sample No.	Homogeneous Area	Location of Material	Condition	Asbestos Content	Quantity Estimate	DOSH Definition	EPA Category
09A 09B 09C	Insulation, Black	Scrubber Skid	Damaged	ND	50 SF	NA	NA
10A 10B 10C	Wrap/Tape, Black, Associated with Connections and Piping	Scrubber Skid	Damaged	ND	80 LF	NA	NA
11A	Wrap, White/Black, Associated with Gauge Fittings	Scrubber Skid	Good	ND	<3 LF	NA	NA
12A 12B 12C	Wrap, Gray, Associated with Aluminum Pipe Wrap	Gas Compressors	Damaged	ND	50 SF	NA	NA
13A	Sleeve, Beige, Fabric Associated with Valves	Gas Compressors	Good	ND	<3 LF	NA	NA
14A 14B 14C	Asphaltic Roofing, Tan, Shingle	Tool Shed	Good	ND	150 SF	NA	NA
15A	Gasket, Black, Approximately 81" Diameter, Associated with Condensate Processing Equipment	Condensate Processing Facility	Good	ND	3 LF	NA	NA

Notes and Abbreviations:
ND = Non-detect
LF = Linear feet
SF = Square feet
NA = Not applicable

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Biogas Renewable Generation Project
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

LEAD-BASED PAINT

The State of California, Title 17, Division 1, and Chapter 8 (herein referred to as "Title 17") pertains to all public and residential buildings in California and is enforced by the CDPH. Pursuant to Title 17 and EPA regulations, lead-based paint is defined as paint or other surface coatings containing an amount of lead equal to or greater than one milligram per square centimeter (1.0 mg/cm^2) or more than half of one percent [>0.5% or 5,000 parts per million(ppm)] by weight. Title 17 also defines a lead hazard as deteriorated lead-based paint, disturbing lead-based paint or presumed lead-based paint without containment, or any other nuisances which may result in persistent or quantifiable lead exposure. Additionally, worker exposure to materials containing lead during construction work is regulated by the Federal OSHA [29 CFR 1926.62(a)] and the DOSH [8 CCR §1532.1(a)]. These regulations require worker protection during construction "...where lead or materials containing lead are present."

Lead is a potential health hazard. Its condition, handling and disposal are regulated by federal, state, and local agencies. Lead in paint generally does not pose a health threat unless the material is disturbed or sufficiently deteriorated to produce dust, which may become airborne and inhaled or ingested. Contractors working in the facility should be informed of the type and the location of lead-containing materials. Applicable Federal and DOSH regulations may apply depending on the work being performed.

Sampling and Analysis

Stantec assessed the condition of painted surfaces at the Property in general accordance with Chapter 5 of the United States, Housing and Urban Development (HUD) guidelines. Paint that is in fair and/or poor condition presents the highest risk for lead exposure. Samples of paint observed to be in fair and/or poor condition, as well as intact paint were collected from building components as a part of this survey. The definitions of paint condition are dependent on the location of the paint and component involved. Table 2 below illustrates how HUD categorizes paint condition under various circumstances.

Table 2 – HUD Categories of Paint Film Quality

	Total Area of Deteriorated Paint		
Type of Building Component	Intact	Fair	Poor
Exterior components with large surface areas.	Entire Surface is Intact	Less than or equal to 10 square feet.	More than 10 square feet
Interior components with large surface areas (walls, ceilings, floors, doors).	Entire Surface is Intact	Less than or equal to 2 square feet.	More than 2 square feet.
Interior and exterior components with small surface areas (window sills, baseboards, soffits, trim)	Entire Surface is Intact	Less than or equal to 10 percent of the total surface area of the component.	More than 10 percent of the total surface area of the component.

Paint chip samples were collected by removing the material using hand tools to extract representative pieces. A hard sided container was used to contain the samples of suspect material. A unique sample number was assigned to each sample.

Five bulk paint-chip samples were collected and analyzed by Flame Atomic Absorption Spectrometry following the EPA SW 846-7000B/7420 analytical protocol. The samples were submitted to EMSL Analytical, Inc. in Cinnaminson, New Jersey. This laboratory is accredited by the American Industrial Hygiene Association

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Biogas Renewable Generation Project
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(AIHA Lab ID 100194) under the Environmental Lead Laboratory Accreditation Program (ELLAP) as well as the CDPH Environmental Lab Accreditation Program (ELAP No. 2492) for bulk paint chip analysis. Please note, worker exposure to materials containing lead during construction related activities is regulated by the Code of Federal Regulations (CFR) Occupational Safety and Health Administration (OSHA) regulation [29 CFR 1926.62(a)] and the California Code of Regulations (CCR) DOSH regulation [8 CCR §1532.1(a)]. The Federal OSHA and the DOSH regulations require worker protection during construction "where lead containing coatings or paint is present".

Laboratory analytical results and bulk sample logs are provided in Attachment A and a sample location map is provided in Attachment B. The CDPH Lead Hazard Evaluation Report form No. 8552 was submitted to the CDPH, as required, and a copy of this form is included in Attachment E.

Findings

Table 3 below provides a summary of the paint identified and sampled at the Property during this survey.

Table 3 – Lead Paint Analytical Results

Sample Number	Sample Location	Paint Color	Substrate Material	Paint Condition	Estimated Quantity	Lead Content
P1	Secondary Containment at Condensate Treatment Area	Yellow	Concrete	Poor	200 SF	<0.026% by weight
P2	Processing Equipment at Condensate Processing Facility	Beige	Metal	Fair	5,000 SF	<0.010% by weight
P3	Small Compressor	Gray	Metal	Poor	25 SF	0.097% by weight
P4	Compressor Control Panel	Light Blue	Metal	Poor	50 SF	<0.011% by weight
P5	Condensate Tank	White	Metal	Fair	100 SF	<0.018% by weight

Notes and Abbreviations:
SF = Square Feet

RECOMMENDATIONS

Asbestos-Containing Materials

Based on the findings of this survey, no asbestos-containing materials were identified. No additional assessment/survey appears warranted at this time. It should be noted however that the asbestos survey was limited to accessible materials only and did not include underground utilities. Historically, certain concealed materials may be present within equipment (e.g. electrical wire wrapping, insulation materials, etc.) that contain asbestos, and some underground utility piping has been known to contain asbestos (e.g., Transite pipe). If demolition of the Property includes removal of on-site portions of underground utilities (storm drains, sewer, domestic water laterals, etc.), evaluation of the asbestos content of these components must be performed prior to the removal process. Suspect materials identified in these locations are assumed positive for asbestos until sampling and analysis indicates otherwise. If during the course of a renovation/demolition project suspect ACMs are discovered that are not included within this report, those materials are to be assumed positive for asbestos unless additional sampling, analysis and/or assessment indicates otherwise.

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Biogas Renewable Generation Project
7721 N Figueroa Street, Los Angeles, CA
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Lead-Based Paint

None of the paint sampled meets the definition of LBP. However, the gray paint associated with the small compressor contains concentrations of lead that would require compliance with applicable portions of OSHA 29 CFR 1926.62 (Lead – Safety and Health Regulations for Construction) and DOSH 8 CCR Section 1532.1 (Lead in Construction Standard).

LIMITATIONS

Reasonable efforts have been made by Stantec personnel to locate, sample, and/or identify suspect ACMs and LBPs associated with the Property. Onsite trailers were excluded from this survey. For any facility the existence of unique or concealed materials and debris is a possibility. In addition, sampling and laboratory analysis constraints typically hinder the investigation. Stantec does not warrant, guarantee or profess to have the ability to locate or identify all hazardous materials in a facility. The survey is limited in nature, as only full demolition of the Property will reveal all concealed conditions. Stantec cannot warrant the effectiveness or damage thereof, at any of the patches or temporary repairs performed at sampling locations. This report is intended for use in planning based on the agreed upon scope of work. This report is not intended to be a bidding document. Quantities of materials identified are estimates only and would need to be verified. If during the course of a renovation/demolition project suspect ACMs or LBPs are discovered that are not included within this report, those materials should be treated accordingly until additional sampling, analysis and/or assessment can be performed.

Additionally, the passage of time may result in a change in the environmental characteristics at the Property. This report does not warrant against future operations or conditions that could affect the recommendations made. The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during Stantec's survey of the Property and test results provided by EMSL. These observations are time dependent, are subject to changing site conditions, and revisions to federal, state, and local regulations. Reliance on this letter report by Third Parties (i.e., other than the City of Glendale) shall be at the Third Party's sole risk.

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Biogas Renewable Generation Project
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

If you have any questions regarding this report or require further clarification, please do not hesitate to contact the Stantec personnel identified below.

Respectfully submitted,

STANTEC CONSULTING SERVICES INC.

Prepared and Approved by:

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Attachments:
A: Laboratory Analytical Results and Bulk Sample Logs
B: Sample Location Map
C: Personnel Certifications and Laboratory Accreditations
D: Photographic Log
E: CDPH Form 8552

c. Dorine Martirosian, Senior Assistant City Attorney, City of Glendale

December 18, 2015
Ms. Godinez
Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Scholl Canyon Landfill Gas Plant
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

Attachment A
Laboratory Analytical Results and Bulk Sample Logs

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Fax:	
Received:	09/16/15 12:50 PM
Analysis Date:	9/16/2015
Collected:	9/14/2015

Project: **2057123300 / Scholl Canyon Landfill, 7721 North Figueroa St., Los Angeles CA 90041 / Task M800-5S- ENV-5G**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
01A *041527953-0001*	Metal White Condensate Tank- N - Gasket- Black- 24" Diameter a/w Condensate Tank	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 01			
01B *041527953-0002*	Metal White Condensate Tank- N - Gasket- Black- 24" Diameter a/w Condensate Tank	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 01			
01C *041527953-0003*	Metal White Condensate Tank- S - Gasket- Black- 24" Diameter a/w Condensate Tank	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 01			
02A *041527953-0004*	White Metal Condensate Tank- N - Gasket- Black- 8' Diameter a/w Condensate Tanks	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 02			

Analyst(s)

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William Bradford (18)

Benjamin Ellis, Laboratory Manager
or other approved signatory

Initial report from 09/17/2015 08:01:27

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
03A *041527953-0005*	Condensate Tower - Sealant- Gray- a/w Condensate Tower	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 03			
04A *041527953-0006*	Condensate Treatment - Sealant- Red- a/w Poly Tank in Condensate Treatment	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 04			
05A *041527953-0007*	Motor - Tape/ Cloth- Orange- a/w Repaired Pipes @ Motors	Orange Fibrous Homogeneous	80% Glass	20% Non-fibrous (other)	**None Detected**
		HA: 05			
06A *041527953-0008*	Treatment Equipment - Sealant- Tan- a/w Treatment Equipment	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 06			
06B *041527953-0009*	Treatment Equipment - Sealant- Tan- a/w Treatment Equipment	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 06			

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
06C *041527953-0010*	Treatment Equipment - Sealant- Tan- a/w Treatment Equipment	Tan Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
			HA: 06				
07A *041527953-0011*	Condensate Processing - Insulation- Green/Yellow- a/w Aluminum Pipe Wrap	Yellow/Green Non-Fibrous Homogeneous	95%	Min. Wool	5%	Non-fibrous (other)	**None Detected**
			HA: 07				
07B *041527953-0012*	Condensate Processing - Insulation- Green/Yellow- a/w Aluminum Pipe Wrap	Yellow/Green Non-Fibrous Homogeneous	95%	Min. Wool	5%	Non-fibrous (other)	**None Detected**
			HA: 07				
07C *041527953-0013*	Condensate Processing - Insulation- Green/Yellow- a/w Aluminum Pipe Wrap	Yellow/Green Non-Fibrous Homogeneous	80%	Min. Wool	20%	Non-fibrous (other)	**None Detected**
			HA: 07				

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Project: **2057123300 / Scholl Canyon Landfill, 7721 North Figueroa St., Los Angeles CA 90041 / Task M800-5S- ENV-5G**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
08A *041527953-0014*	Condensate Processing - Sealant- Gray- a/w Aluminum Pipe Wrap	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 08			
08B *041527953-0015*	Condensate Processing - Sealant- Gray- a/w Aluminum Pipe Wrap	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 08			
08C *041527953-0016*	Condensate Processing - Sealant- Gray- a/w Aluminum Pipe Wrap	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 08			
09A *041527953-0017*	Scrubber Skid - Insulation- Black- a/w Scrubber Skid	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 09			
09B *041527953-0018*	Scrubber Skid - Insulation- Black- a/w Scrubber Skid	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 09			
09C *041527953-0019*	Scrubber Skid - Insulation- Black- a/w Scrubber Skid	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 09			

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
10A *041527953-0020*	Scrubber Skid - Wrap/Tape- Black- a/w Electrical Connections & Piping	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 10			
10B *041527953-0021*	Scrubber Skid - Wrap/Tape- Black- a/w Electrical Connections & Piping	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 10			
10C *041527953-0022*	Scrubber Skid - Wrap/Tape- Black- a/w Electrical Connections & Piping	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 10			
11A *041527953-0023*	Scrubber Skid- West - Wrap- White/Black- a/w Gage Fittings	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
		HA: 11			
12A *041527953-0024*	Compressor- N - Wrap- Gray- a/w Aluminum Pipe Wrap	Gray Fibrous Homogeneous	99% Glass	1% Non-fibrous (other)	**None Detected**
		HA: 12			

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
12B *041527953-0025*	Compressor- N - Wrap- Gray- a/w Aluminum Pipe Wrap	Gray Fibrous Homogeneous	99%	Glass	1%	Non-fibrous (other)	**None Detected**
			HA: 12				
12C *041527953-0026*	Compressor- N - Wrap- Gray- a/w Aluminum Pipe Wrap	Gray Fibrous Homogeneous	99%	Glass	1%	Non-fibrous (other)	**None Detected**
			HA: 12				
13A *041527953-0027*	South Compressor - Sleeve- Beige- Fabric a/w Valves	Beige Fibrous Homogeneous	30%	Synthetic	70%	Non-fibrous (other)	**None Detected**
			HA: 13				
14A-Shingle *041527953-0028*	Roof- South - Roofing- Tan- Asphalt Shingle	Black Fibrous Homogeneous	10%	Glass	90%	Non-fibrous (other)	**None Detected**
			HA: 14				
14A-Tar Paper *041527953-0028A*	Roof- South - Roofing- Tan- Asphalt Shingle	Black Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
			HA: 14				
14B-Shingle *041527953-0029*	Roof- North - Roofing- Tan- Asphalt Shingle	Black Fibrous Homogeneous	10%	Glass	90%	Non-fibrous (other)	**None Detected**
			HA: 14				

Analyst(s)

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Analysis Date:	9/16/2015
Collected:	9/14/2015

Project: **2057123300 / Scholl Canyon Landfill, 7721 North Figueroa St., Los Angeles CA 90041 / Task M800-5S- ENV-5G**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**		**% Type**
14B-Tar Paper *041527953-0029A*	Roof- North - Roofing- Tan- Asphalt Shingle	Black Fibrous Homogeneous	40%	Cellulose	60%	Non-fibrous (other)	**None Detected**
			HA: 14				
14C-Shingle *041527953-0030*	Roof- East - Roofing- Tan- Asphalt Shingle	Tan/Black Fibrous Homogeneous	10%	Glass	90%	Non-fibrous (other)	**None Detected**
			HA: 14				
15A *041527953-0031*	Condensate Equipment - Gasket- Black- 48' Diameter a/w Condensate Equipment	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
			HA: 15				

Analyst(s)

Benjamin Verghese (15)
William Bradford (18)

Benjamin Ellis, Laboratory Manager
or other approved signatory

Initial report from 09/17/2015 08:01:27

THIS IS THE LAST PAGE OF THE REPORT.

EMSL Analytical, Inc.
200 Route 130 North

Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(Lab Use Only)*: 041527953

Company : Stantec Consulting Services Inc	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 290 Conejo Ridge Avenue	
City: Thousand Oaks **State/Province:** CA	**Zip/Postal Code:** 91361 **Country:** United States
Report To (Name): Jason Stagno	**Telephone #:** Cell# 805-630-8648
Email Address: jason.stagno@stantec.com	**Fax #:** **Purchase Order:**
Project Name/Number: 2057123300	**Please Provide Results:** ☐ Fax ☑ Email ☐ Mail
U.S. State Samples Taken: CA	**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ■ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

**For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PLM - Bulk (reporting limit)	TEM – Bulk
■ PLM EPA 600/R-93/116 (<1%)	☐ TEM EPA NOB – EPA 600/R-93/116 Section 2.5.5.1
☐ PLM EPA NOB (<1%)	☐ NY ELAP Method 198.4 (TEM)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2
☐ NIOSH 9002 (<1%)	☐ TEM Qualitative via Filtration Prep Technique
☐ NY ELAP Method 198.1 (friable in NY)	☐ TEM Qualitative via Drop Mount Prep Technique
☐ NY ELAP Method 198.6 NOB (non-friable-NY)	**Other**
☐ OSHA ID-191 Modified	☐
☐ Standard Addition Method	

☐ **Check For Positive Stop – Clearly Identify Homogenous Group** **Date Sampled:** 9/14/15

Samplers Name: J. Stagno **Samplers Signature:**

Sample #	HA #	Sample Location	Material Description
		See attached logs	

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2015 SEP 16 P 12:52

Client Sample # (s): 01A - 15A **Total # of Samples:** 31

Relinquished (Client): **Date:** 9/14/15 **Time:** 1610

Received (Lab): BB Email **Date:** 9-16-15 **Time:** 1850P

Comments/Special Instructions:

32

Page 1 of 1 pages

041527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project
Project #: 2057123300 Task #: M800-5S Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	01
Material Type:	Gasket
Color:	Black
Description:	~ 24" Diameter, Associated with Condensate tanks
Estimated Total Qty.:	6 LF

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Condensate Treatment	6 LF	G

SAMPLES

Sample #	Sample Location
01A	Metal Wh.te Condensate Tank-N
01B	-N
01C	-S
D	
E	
F	
G	

Notes:

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Relinquished By: [signature] Date: 9/14/15

Received By: Date:

041527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project M800-5S
Project #: 2057123300 Task #: Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	02
Material Type:	Gasket
Color:	Black
Description:	~8" Diameter, Associated with Condensate tanks
Estimated Total Qty.:	2 LF

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Condensate Treatment	2 LF	G

SAMPLES

Sample #	Sample Location
02 A	White Metal Condensate Tank N
B	
C	
D	
E	
F	
G	

2015 SEP 16 P 2:52

Notes:

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

041527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project
Project #: 2057123300 Task #: M800-5S Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	03
Material Type:	Sealant
Color:	Gray
Description:	Associated with Condensate Tower
Estimated Total Qty.:	< 3 LF

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Condensate Tower	< 3 LF	G

SAMPLES

Sample #	Sample Location
03 A	Condensate tower
B	
C	
D	
E	
F	
G	

2015 SEP 16 P 12:52
SOUTH COAST AQMD
CHINATOWN, CA

Notes:

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

041527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

Project Name: Scholl Canyon Landfill Power Project
Project #: 2057123300 Task #: M800-5S Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	04
Material Type:	Sealant
Color:	Red
Description:	Associated with Poly tank in Condensate treatment
Estimated Total Qty.:	∠ 2 LF

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Condensate treatment	∠2LF	G

SAMPLES

Sample #	Sample Location
04 A	Condensate Treatment
B	
C	
D	
E	
F	
G	

Notes:

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

Relinquished By: _____ Date: 9/14/15

Received By: _____ Date: _____

041527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project
Site Name: Scholl Canyon Landfill
Date: 9/14/15
Project #: 2057123300
Task #: M800-5S Env-5G
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	OS
Material Type:	Tape/cloth
Color:	Orange
Description:	Associated with Repaired Pipes at Motors
Estimated Total Qty.:	∠6 SF

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Condensate Treatment	∠6 SF	G

SAMPLES

Sample #	Sample Location
OS A	Motor
B	
C	
D	
E	
F	
G	

2015 SEP 16 P 12:52

Notes:

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

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Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project M800-5S
Project #: 2057123300 Task #: Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	06
Material Type:	Sealant
Color:	Tan
Description:	Associated with Treatment Equipment
Estimated Total Qty.:	20 LF

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Condensate Treatment	20 LF	D

SAMPLES

Sample #	Sample Location
06 A	Treatment Equipment
06 B	↓
06 C	
D	
E	
F	
G	

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RECEIVED
CLERK'S OFFICE

Notes:

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

041527953

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Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project
Project #: 2057123300 Task #: M800-5S Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	07
Material Type:	Insulation
Color:	Green/Yellow
Description:	Associated with aluminum pipe wrap
Estimated Total Qty.:	500 SF

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	(Low)	Med	High
Vibration:	Low	Med	(High)
Air Movement:	Low	(Med)	High

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Aluminum Pipe	500 SF	G

SAMPLES

Sample #	Sample Location
07 A	Condensate Processing
07 B	
07 C	
D	
E	
F	
G	

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Notes:

Relinquished By: _____ Date: 9/14/15

Received By: _____ Date: _____

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Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project M800-5S
Site Name: Scholl Canyon Landfill
Date: 9/14/15
Project #: 2057123300 Task #: Env-5G
Site Address: 7721 North Figueroa Street
Inspector: J. Stagno
: Los Angeles, CA 90041
S. Edblad

MATERIAL

HA#	08
Material Type:	Sealant
Color:	Gray
Description:	Associated With Alumina Pipe Wrap
Estimated Total Qty.:	50 LF

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Condensate Processing	25 LF	G
Ext	Gas Compressors	25 LF	G

SAMPLES

Sample #	Sample Location
08A	Condensate Processing
08 B	↓
08 C	
D	
E	
F	
G	

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CLERK/MINUTE...

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

Notes:

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

041527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project
Project #: 2057123300 Task #: M800-5S Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	9
Material Type:	Insulation
Color:	Black
Description:	Associated with Scrubber Skid
Estimated Total Qty.:	50SF

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Scrubber Skid	50 SF	(D)

SAMPLES

Sample #	Sample Location
09 A	Scrubber Skid
09 B	↓
09 C	
D	
E	
F	
G	

2015 SEP 16 P 12:52

Notes:

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

041527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project
Site Name: Scholl Canyon Landfill
Date: 9/14/15
Project #: 2057123300
Task #: M800-5S Env-5G
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	10
Material Type:	Wrap/Tape
Color:	Black
Description:	Associated with Electrical connections and Piping
Estimated Total Qty.:	80 LF

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Scrubber Skid	80 LF	D

SAMPLES

Sample #	Sample Location
10A	Scrubber Skid
10 B	↓
10 C	↓
D	
E	
F	
G	

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CLERK/BOARD OF SUPERVISORS

Notes:

Relinquished By: _____ Date: 9/14/15
Received By: _____ Date: _____

041527953

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Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project M800-5S
Project #: 2057123300 Task #: Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	11
Material Type:	Wrap
Color:	White / Black
Description:	Associated with Gage Fitting
Estimated Total Qty.:	< 3 LF

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Scrubber skid	< 3 LF	G

SAMPLES

Sample #	Sample Location
11 A	Scrubber skid - West
B	
C	
D	
E	
F	
G	

2015 SEP 16 P 12:52

Notes:

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

041527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project
M800-5S
Project #: 2057123300 Task #: Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	12
Material Type:	Wrap
Color:	Gray
Description:	Associated with Aluminum Pipe Wrap
Estimated Total Qty.:	50 SF

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Gas compressors	50SF	D

SAMPLES

Sample #	Sample Location
12 A	Compressor-N
12 B	
12 C	
D	
E	
F	
G	

2015 SEP 16 P 12:52

EMSL CINNAMINSON, NJ

Notes:

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

041527953

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Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project M800-5S
Site Name: Scholl Canyon Landfill
Date: 9/14/15
Project #: 2057123300
Task #: Env-5G
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	13
Material Type:	Sleeve
Color:	Beige
Description:	~~Cloth~~ Fabric, Associated with Valves
Estimated Total Qty.:	< 3SF

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	Med	(High)
Air Movement:	Low	Med	(High)

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Gas Compressors	< 3SF	G

SAMPLES

Sample #	Sample Location
13 A	South Compressors
B	
C	
D	
E	
F	
G	

2015 SEP 15 P 12:52

Notes:

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

0415527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 0415527953

Project Name: Scholl Canyon Landfill Power Project
Site Name: Scholl Canyon Landfill
Date: 9/14/15

Project #: 2057123300 Task #: M800-5S Env-5G
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041
Inspector: J. Stagno
S. Edblad

:

MATERIAL

HA#	14
Material Type:	Roofing
Color:	Tan
Description:	Asphalt Shingle
Estimated Total Qty.:	150 SF

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Roof	Tool Shed	150 SF	G

SAMPLES

Sample #	Sample Location
14 A	Roof - South
14 B	Roof - North
14 C	Roof - East
D	
E	
F	
G	

2015 SEP 16 P 12:52
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BAQMD
CLEARWATER, FL

Notes:

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	(Low)	Med	High
Air Movement:	Low	Med	(High)

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

041527953

Stantec

Asbestos Bulk Sample Log

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 041527953

Project Name: Scholl Canyon Landfill Power Project M800-5S
Project #: 2057123300 Task #: Env-5G
:

Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street
Los Angeles, CA 90041

Date: 9/14/15
Inspector: J. Stagno
S. Edblad

MATERIAL

HA#	15
Material Type:	Gasket
Color:	Black
Description:	~18" Diameter Associated with Condersate Equipment
Estimated Total Qty.:	@36 LF

HAZARD ASSESSMENT

Friable:	Yes		(No)
Contact by Maintenance:	Low	Med	(High)
Vibration:	Low	(Med)	High
Air Movement:	Low	Med	(High)

MATERIAL LOCATIONS

Floor #	Location	Quantity Estimate	Cond.
Ext	Condersate Processing	@36 LF	G

SAMPLES

Sample #	Sample Location
15 A	Condersate Equipment
B	
C	
D	
E	
F	
G	

2015 SEP 16 P 12:52
CINNAMINSON, NJ
EMSL
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Notes:

Relinquished By: _____ Date: 9/14/15 Received By: _____ Date: _____

Page 15 of 15

Page 16 of 16

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 786-5974
http://www.EMSL.com cinnaminsonleadlab@emsl.com

EMSL Order:	201510948
CustomerID:	32SCOE63
CustomerPO:	
ProjectID:	

Attn: **Jason Stagno**
Stantec Consulting Services Inc
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Phone: (805) 230-1266
Fax:
Received: 09/16/15 12:50 PM
Collected: 9/14/2015

Project: **2057123300, Task # M800-5S Env-5G / Scholl Canyon Landfill Power Project**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
P1	*201510948-0001*	9/14/2015	9/17/2015	<0.026 % wt
	Site: Condensate Treatment Area Secondary Containment			
P2	*201510948-0002*	9/14/2015	9/17/2015	<0.010 % wt
	Site: Condensate Processing Area Equipment			
P4	*201510948-0004*	9/14/2015	9/17/2015	<0.011 % wt
	Site: Compressor Area			
P5	*201510948-0005*	9/14/2015	9/17/2015	<0.018 % wt
	Site: Condensate Treatment Area Tank			

Julie Smith - Laboratory Director
NJ-NELAP Accredited:03036
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA-LAP, unless specifically indicated otherwise.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, AIHA-LAP, LLC ELLAP 100194, A2LA 2845.01

Initial report from 09/19/2015 08:11:16

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 786-5974
http://www.EMSL.com cinnaminsonleadlab@emsl.com

EMSL Order:	201512364
CustomerID:	32SCOE63
CustomerPO:	
ProjectID:	

Attn: **Jason Stagno**
Stantec Consulting Services Inc
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Phone:	(805) 230-1266
Fax:	
Received:	10/23/15 9:50 AM
Collected:	

Project: **2057123300**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
P3	*201512364-0001*		10/26/2015	0.097 % wt
	Site: Small Compressor Desc: Metal / Poor / Gray			

Julie Smith - Laboratory Director
NJ-NELAP Accredited:03036
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements established by the AIHA-LAP, unless specifically indicated otherwise.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, AIHA-LAP, LLC ELLAP 100194, A2LA 2845.01

Initial report from 10/27/2015 09:27:43

OrderID: 201512364
OrderID: 201510948

201512364

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Lead (Pb) Chain of Custody

EMSL Order ID *(Lab Use Only)*: ~~201510948~~ C.O 10/23/15

Company: Stantec Consulting Services Inc		**EMSL-Bill to:** ☐ Different ☑ Same If Bill to is Different note instructions in Comments**	
Street: 290 Conejo Ridge Avenue		*Third Party Billing requires written authorization from third party*	
City: Thousand Oaks	**State/Province:** CA	**Zip/Postal Code:** 91361	**Country:** United States
Report To (Name): Jason Stagno		**Telephone #:** Cell# 805-630-8648	
Email Address: jason.stagno@stantec.com		**Fax #:**	**Purchase Order:**
Project Name/Number: 2057123300		**Please Provide Results:** ☐ FAX ☑ E-mail ☐ Mail	
U.S. State Samples Taken: CA		**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt	

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ■ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

**Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide*

Matrix	Method	Instrument	Reporting Limit	Check
Chips ■ % by wt. ☐ mg/cm² ☐ ppm	SW846-7000B	Flame Atomic Absorption	0.01%	☐
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	☐
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	☐
	NIOSH 7300 modified	ICP-AES/ICP-MS	0.5 µg/filter	☐
Wipe* ASTM ☐ non ASTM ☐ *If no box is checked, non-ASTM Wipe is assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	☐
	SW846-6010B or C	ICP-AES	1.0 µg/wipe	☐
	SW846-7000B/7010	Graphite Furnace AA	0.075 µg/wipe	☐
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1131/SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	SW846-7010	Graphite Furnace AA	0.3 mg/kg (ppm)	☐
	SW846-6010B or C	ICP-AES	2 mg/kg (ppm)	☐
Wastewater Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.7	ICP-AES	0.020 mg/L (ppm)	☐
Drinking Water Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-AES	12 µg/filter	☐
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	☐
Other:				☐

Name of Sampler: J. Stagno **Signature of Sampler:**

Sample #	Location	Volume/Area	Date/Time Sampled
	See attached log		

Client Sample #'s P1 - P5 **Total # of Samples:** 5

Relinquished (Client):		**Date:**	9/14/15	**Time:**	1610
Received (Lab):	BBeatty FEDEX	**Date:**	9-16-15	**Time:**	1250

Comments:

Rock Ridge 10/23/15 950 Am FF

Page 1 of 1 pages

201512364

Stantec

Paint Chip Sample Log

~~201510948~~ C.O 10/23/15

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361
Tel: (805) 230-1266
Fax: (805) 230-1277

OrderID: 201510948

Project Name: Scholl Canyon Landfill Power Project
Project #: 2057123300 Task #: Env-5G M800-5S
:
Site Name: Scholl Canyon Landfill
Site Address: 7721 North Figueroa Street, Los Angeles, CA 90041
Date: 9/14/15
Inspector: J. Stagno, S. Edblad

Sample Number	Room	Component	Substrate	Sample Location*	Quantity Estimate	Notes/Condition/ Paint Color
1. P1	Ext	Secondary Containment	Concrete	Condensate Treatment Area Secondary Containment	200 SF	Poor / Yellow
2. P2	Ext	Processing Equip.	Metal	Condensate Processing Area Equipment	5,000 SF	Fair / Beige
3.* P3	Ext	Compressor	Metal	Small Compressor	25 SF	Poor / Gray
4. P4	Ext	Compressor Control Panel	Metal	Compressor Area	50 SF	Poor / Light Blue
5. P5	Ext	Condensate Tank	Metal	Condensate Treatment Area Tank	100 SF	Fair / White

* - Include sample dimensions if trying to achieve mg/cm².

Relinquished By: [signature] Date: 9/14/15
Relinquished By: Date:
Received By: Lmy Date: 9/16/15 1250
Received By: Date:

P3 is insufficient (0.03g) cannot analyze sample to requires 0.05g - emailed client 9/18/15, C.O.

*received additional sample for P3 10/23/15, C.O.

Page 1 of 1

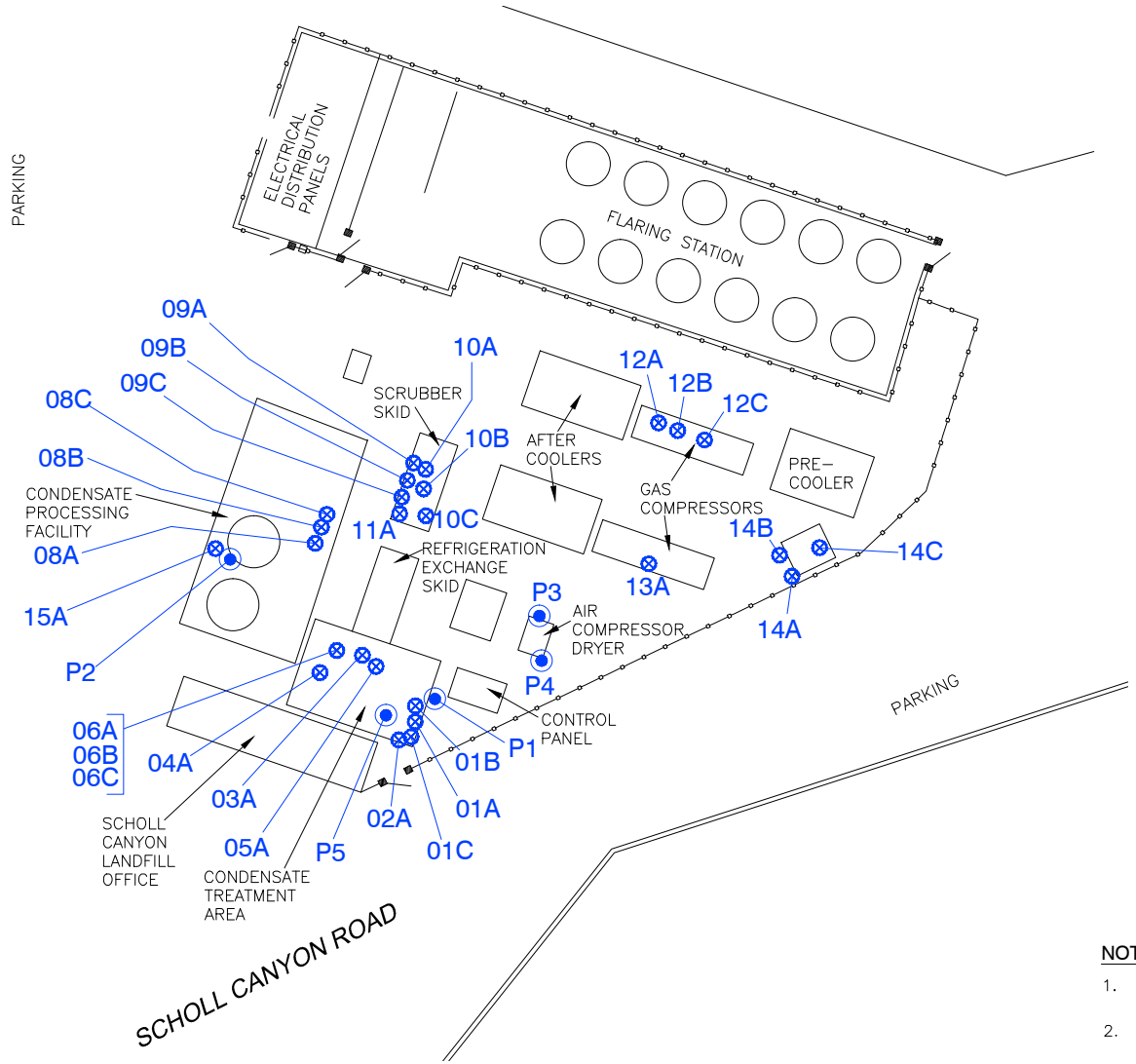
Page 3 Of 3

Page 2 Of 2

OrderID: 201512364

December 18, 2015
Ms. Godinez
Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Scholl Canyon Landfill Gas Plant
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

Attachment B
Sample Location Map



N

Legend

01A ⊗ NON ASBESTOS-CONTAINING SAMPLE LOCATION

P1 ◉ PAINT CHIP SAMPLE LOCATION

Note

SAMPLES COLLECTED ON SEPTEMBER 14, 2015.

0 40 80

APPROXIMATE SCALE IN FEET

NOTES:

1. MAP REFERENCE; GOOGLE EARTH PROFESSIONAL AERIAL IMAGE, 2015.
2. COORDINATE SYSTEM; NAD 83 CALIFORNIA STATE PLANES, ZONE V (FT.).

ORIGINAL SHEET - ANSI A

November, 2015
2057123300

Stantec

9179 Aero Drive
San Diego, CA 92123
www.stantec.com

Client/Project
Scholl Canyon Landfill Power Project
7721 N Figueroa Street
Los Angeles, CA 90041

Figure No.
1

Title
SAMPLE LOCATION MAP

December 18, 2015
Ms. Godinez
Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Scholl Canyon Landfill Gas Plant
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

Attachment C
Personnel Certifications and Laboratory Accreditations

STATE OF CALIFORNIA
Edmund G. Brown, Jr. *Governor*

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
Asbestos Unit
2424 Arden Way, Suite 495
Sacramento, CA 95825-2417
(916) 574-2993 Office (916) 483-0572 Fax
http://www.dir.ca.gov/dirdatabases.html actu@dir.ca.gov

209214949C **368**

November 09, 2015

Jason J Stagno

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please contact our office at the above address, fax number or email; of any changes in your contact/mailing information within 15 days of the change.

Sincerely,

Jeff Ferrell
Senior Safety Engineer

Attachment: Certification Card

cc: File

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

Jason J Stagno
Name

Certification No. **12-4949**

Expires on **11/14/16**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Renewal – Card Attached (Revised 10/24/2012)

State of California Department of Public Health

Lead-Related Construction Certificate

Certificate Type: Inspector/Assessor

Expiration Date: 07/31/2016

Jason J. Stagno

ID #: 19068

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101048-0

EMSL Analytical, Inc.

Cinnaminson, NJ

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2015-06-02 through 2016-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
Mr. Ben Ellis
Phone: 800-220-3675 Fax: 856-786-5973
Email: bellis@emsl.com
http://www.emsl.com

ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 101048-0**

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA 600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

Code	*Description*
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

For the National Voluntary Laboratory Accreditation Program

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Laboratory ID: 100194

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: 09/01/2016
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: 09/01/2016
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: 09/01/2016
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Gerald R Schultz

Gerald Schultz, CIH
Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 14: 03/26/2014

Date Issued: 10/31/2014

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077

Laboratory ID: **100194**
Issue Date: 10/31/2014

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air analysis is not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 01/18/1995

Field of Testing (FoT)	Method	Method Description *(for internal methods only)*
Paint	EPA SW-846 3050B	
	EPA SW-846 7000B	
Soil	EPA SW-846 3050B	
	EPA SW-846 7000B	
Settled Dust by Wipe	EPA SW-846 3050B	
	EPA SW-846 7000B	
Airborne Dust	NIOSH 7082	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

Interim

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL ACCREDITATION

Is hereby granted to

EMSL Analytical Inc.

200 Route 130 North

Cinnaminson, NJ 08077

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site inspection, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **1877**

Expiration Date: **3/31/2016**

Effective Date: **4/1/2015**

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing

EMSL Analytical Inc.

200 Route 130 North
Cinnaminson, NJ 08077
Phone: (800) 220-3675

Certificate No.: 1877
Renew Date: 3/31/2016
INTERIM

Field of Testing: 102 - Inorganic Chemistry of Drinking Water

102.030	001	Bromide	EPA 300.0
102.030	003	Chloride	EPA 300.0
102.030	005	Fluoride	EPA 300.0
102.030	006	Nitrate	EPA 300.0
102.030	007	Nitrite	EPA 300.0
102.030	008	Phosphate, Ortho	EPA 300.0
102.030	010	Sulfate	EPA 300.0
102.100	001	Alkalinity	SM2320B
102.130	001	Conductivity	SM2510B
102.140	001	Total Dissolved Solids	SM2540C
102.163	001	Chlorine, Free and Total	SM4500-Cl G
102.190	001	Cyanide, Total	SM4500-CN E
102.192	001	Cyanide, amenable	SM4500-CN G
102.270	001	Surfactants	SM5540C
102.520	001	Calcium	EPA 200.7
102.520	002	Magnesium	EPA 200.7
102.520	003	Potassium	EPA 200.7
102.520	004	Silica	EPA 200.7
102.520	005	Sodium	EPA 200.7
102.520	006	Hardness (calculation)	EPA 200.7

Field of Testing: 103 - Toxic Chemical Elements of Drinking Water

103.030	001	Mercury	SM3112B
103.060	001	Aluminum	SM3120B
103.060	003	Barium	SM3120B
103.060	007	Chromium	SM3120B
103.060	009	Iron	SM3120B
103.060	011	Manganese	SM3120B
103.060	015	Silver	SM3120B
103.060	017	Zinc	SM3120B
103.130	007	Chromium	EPA 200.7
103.130	008	Copper	EPA 200.7
103.130	009	Iron	EPA 200.7
103.130	011	Manganese	EPA 200.7
103.130	015	Silver	EPA 200.7
103.130	017	Zinc	EPA 200.7
103.140	001	Aluminum	EPA 200.8
103.140	002	Antimony	EPA 200.8
103.140	003	Arsenic	EPA 200.8

As of 6/26/2015 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

103.140	004	Barium	EPA 200.8
103.140	005	Beryllium	EPA 200.8
103.140	006	Cadmium	EPA 200.8
103.140	007	Chromium	EPA 200.8
103.140	008	Copper	EPA 200.8
103.140	009	Lead	EPA 200.8
103.140	010	Manganese	EPA 200.8
103.140	012	Nickel	EPA 200.8
103.140	013	Selenium	EPA 200.8
103.140	014	Silver	EPA 200.8
103.140	015	Thallium	EPA 200.8
103.140	016	Zinc	EPA 200.8
103.150	009	Lead	EPA 200.9
103.160	001	Mercury	EPA 245.1
103.300	001	Asbestos	EPA 100.1
103.301	001	Asbestos	EPA 100.2

Field of Testing: 104 - Volatile Organic Chemistry of Drinking Water

104.040	000	Volatile Organic Compounds	EPA 524.2
104.040	001	Benzene	EPA 524.2
104.040	007	n-Butylbenzene	EPA 524.2
104.040	008	sec-Butylbenzene	EPA 524.2
104.040	009	tert-Butylbenzene	EPA 524.2
104.040	010	Carbon Tetrachloride	EPA 524.2
104.040	011	Chlorobenzene	EPA 524.2
104.040	015	2-Chlorotoluene	EPA 524.2
104.040	016	4-Chlorotoluene	EPA 524.2
104.040	019	1,3-Dichlorobenzene	EPA 524.2
104.040	020	1,2-Dichlorobenzene	EPA 524.2
104.040	021	1,4-Dichlorobenzene	EPA 524.2
104.040	022	Dichlorodifluoromethane	EPA 524.2
104.040	023	1,1-Dichloroethane	EPA 524.2
104.040	024	1,2-Dichloroethane	EPA 524.2
104.040	025	1,1-Dichloroethene	EPA 524.2
104.040	026	cis-1,2-Dichloroethene	EPA 524.2
104.040	027	trans-1,2-Dichloroethene	EPA 524.2
104.040	028	Dichloromethane	EPA 524.2
104.040	029	1,2-Dichloropropane	EPA 524.2
104.040	033	cis-1,3-Dichloropropene	EPA 524.2
104.040	034	trans-1,3-Dichloropropene	EPA 524.2
104.040	035	Ethylbenzene	EPA 524.2
104.040	037	Isopropylbenzene	EPA 524.2
104.040	039	Naphthalene	EPA 524.2
104.040	041	N-propylbenzene	EPA 524.2
104.040	042	Styrene	EPA 524.2
104.040	044	1,1,2,2-Tetrachloroethane	EPA 524.2
104.040	045	Tetrachloroethene	EPA 524.2
104.040	046	Toluene	EPA 524.2

104.040	048	1,2,4-Trichlorobenzene	EPA 524.2
104.040	049	1,1,1-Trichloroethane	EPA 524.2
104.040	050	1,1,2-Trichloroethane	EPA 524.2
104.040	051	Trichloroethene	EPA 524.2
104.040	052	Trichlorofluoromethane	EPA 524.2
104.040	054	1,2,4-Trimethylbenzene	EPA 524.2
104.040	055	1,3,5-Trimethylbenzene	EPA 524.2
104.040	056	Vinyl Chloride	EPA 524.2
104.040	057	Xylenes, Total	EPA 524.2
104.045	001	Bromodichloromethane	EPA 524.2
104.045	002	Bromoform	EPA 524.2
104.045	003	Chloroform	EPA 524.2
104.045	004	Dibromochloromethane	EPA 524.2
104.045	005	Trihalomethanes	EPA 524.2
104.050	002	Methyl tert-butyl Ether (MTBE)	EPA 524.2
104.050	007	tert-Butyl Alcohol (TBA)	EPA 524.2
104.050	008	Carbon Disulfide	EPA 524.2
104.050	009	Methyl Isobutyl Ketone	EPA 524.2

Field of Testing: 109 - Toxic Chemical Elements of Wastewater

109.010	001	Aluminum	EPA 200.7
109.010	002	Antimony	EPA 200.7
109.010	003	Arsenic	EPA 200.7
109.010	004	Barium	EPA 200.7
109.010	005	Beryllium	EPA 200.7
109.010	007	Cadmium	EPA 200.7
109.010	009	Chromium	EPA 200.7
109.010	010	Cobalt	EPA 200.7
109.010	011	Copper	EPA 200.7
109.010	012	Iron	EPA 200.7
109.010	013	Lead	EPA 200.7
109.010	015	Manganese	EPA 200.7
109.010	016	Molybdenum	EPA 200.7
109.010	017	Nickel	EPA 200.7
109.010	019	Selenium	EPA 200.7
109.010	021	Silver	EPA 200.7
109.010	023	Thallium	EPA 200.7
109.010	024	Tin	EPA 200.7
109.010	026	Vanadium	EPA 200.7
109.010	027	Zinc	EPA 200.7
109.020	001	Aluminum	EPA 200.8
109.020	002	Antimony	EPA 200.8
109.020	003	Arsenic	EPA 200.8
109.020	004	Barium	EPA 200.8
109.020	005	Beryllium	EPA 200.8
109.020	006	Cadmium	EPA 200.8
109.020	007	Chromium	EPA 200.8
109.020	008	Cobalt	EPA 200.8

109.020	009	Copper	EPA 200.8
109.020	010	Lead	EPA 200.8
109.020	011	Manganese	EPA 200.8
109.020	012	Molybdenum	EPA 200.8
109.020	013	Nickel	EPA 200.8
109.020	014	Selenium	EPA 200.8
109.020	015	Silver	EPA 200.8
109.020	016	Thallium	EPA 200.8
109.020	017	Vanadium	EPA 200.8
109.020	018	Zinc	EPA 200.8
109.020	021	Iron	EPA 200.8
109.020	022	Tin	EPA 200.8
109.020	023	Titanium	EPA 200.8
109.025	010	Lead	EPA 200.9
109.190	001	Mercury	EPA 245.1
109.370	007	Gold	SM3111B
109.370	010	Lead	SM3111B
109.370	014	Palladium	SM3111B
109.370	015	Platinum	SM3111B
109.400	001	Mercury	SM3112B
109.430	001	Aluminum	SM3120B
109.430	002	Antimony	SM3120B
109.430	005	Beryllium	SM3120B
109.430	007	Cadmium	SM3120B
109.430	009	Chromium	SM3120B
109.430	010	Cobalt	SM3120B
109.430	011	Copper	SM3120B
109.430	012	Iron	SM3120B
109.430	013	Lead	SM3120B
109.430	015	Manganese	SM3120B
109.430	016	Molybdenum	SM3120B
109.430	017	Nickel	SM3120B
109.430	019	Selenium	SM3120B
109.430	021	Silver	SM3120B
109.430	024	Vanadium	SM3120B
109.430	025	Zinc	SM3120B
109.811	001	Chromium (VI)	SM3500-Cr D (18th/19th)

Field of Testing: 114 - Inorganic Chemistry of Hazardous Waste

114.010	001	Antimony	EPA 6010B
114.010	002	Arsenic	EPA 6010B
114.010	003	Barium	EPA 6010B
114.010	004	Beryllium	EPA 6010B
114.010	005	Cadmium	EPA 6010B
114.010	006	Chromium	EPA 6010B
114.010	007	Cobalt	EPA 6010B
114.010	008	Copper	EPA 6010B
114.010	009	Lead	EPA 6010B

As of 6/26/2015 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

114.010	010	Molybdenum	EPA 6010B
114.010	011	Nickel	EPA 6010B
114.010	012	Selenium	EPA 6010B
114.010	013	Silver	EPA 6010B
114.010	014	Thallium	EPA 6010B
114.010	015	Vanadium	EPA 6010B
114.010	016	Zinc	EPA 6010B
114.020	001	Antimony	EPA 6020
114.020	002	Arsenic	EPA 6020
114.020	003	Barium	EPA 6020
114.020	004	Beryllium	EPA 6020
114.020	005	Cadmium	EPA 6020
114.020	006	Chromium	EPA 6020
114.020	007	Cobalt	EPA 6020
114.020	008	Copper	EPA 6020
114.020	009	Lead	EPA 6020
114.020	010	Molybdenum	EPA 6020
114.020	011	Nickel	EPA 6020
114.020	012	Selenium	EPA 6020
114.020	013	Silver	EPA 6020
114.020	014	Thallium	EPA 6020
114.020	015	Vanadium	EPA 6020
114.020	016	Zinc	EPA 6020
114.103	001	Chromium (VI)	EPA 7196A
114.130	001	Lead	EPA 7420
114.131	001	Lead	EPA 7421
114.140	001	Mercury	EPA 7470A
114.141	001	Mercury	EPA 7471A
Field of Testing: 115 - Extraction Test of Hazardous Waste			
115.020	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311
115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appendix II
Field of Testing: 116 - Volatile Organic Chemistry of Hazardous Waste			
116.010	000	EDB and DBCP	EPA 8011
116.020	030	Nonhalogenated Volatiles	EPA 8015B
116.020	031	Ethanol and Methanol	EPA 8015B
116.030	001	Gasoline-range Organics	EPA 8015B
116.080	000	Volatile Organic Compounds	EPA 8260B
116.080	120	Oxygenates	EPA 8260B
Field of Testing: 117 - Semi-volatile Organic Chemistry of Hazardous Waste			
117.010	001	Diesel-range Total Petroleum Hydrocarbons	EPA 8015B
117.110	000	Extractable Organics	EPA 8270C
117.210	000	Pesticides & PCBs	EPA 8081A
117.220	000	PCBs	EPA 8082
117.250	000	Chlorinated Herbicides	EPA 8151A
Field of Testing: 121 - Bulk Asbestos Analysis of Hazardous Waste			
121.010	001	Bulk Asbestos	EPA 600/M4-82-020

As of 6/26/2015 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

As of 6/26/2015 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

December 18, 2015
Ms. Godinez
Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Scholl Canyon Landfill Gas Plant
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

Attachment D
Photographic Log

December 18, 2015
Ms. Godinez

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Scholl Canyon Landfill Gas Plant
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

PHOTO No. 1, September 14, 2015

View of tanks at condensate treatment area.
PHOTO No. 2, September 14, 2015

View of refrigeration exchange skid.

December 18, 2015
Ms. Godinez

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Scholl Canyon Landfill Gas Plant
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

PHOTO No. 3, September 14, 2015

View of scrubber skid.
PHOTO No. 4, September 14, 2015

View of north gas compressor.

December 18, 2015
Ms. Godinez

Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Scholl Canyon Landfill Gas Plant
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

PHOTO No. 5, September 14, 2015

View of air compressors.
PHOTO No. 6, September 14, 2015

View of air compressor panel.

December 18, 2015
Ms. Godinez
Reference: Pre-Demolition Asbestos and Lead-Based Paint Survey
Scholl Canyon Landfill Gas Plant
7721 N Figueroa Street, Los Angeles, CA
Stantec Project no.: 2057123300

Attachment E
CDPH Form 8552

State of California—Health and Human Services Agency

California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation September 14, 2015

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☐ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☑ Other (specify) Paint Chip Samples

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
7721 N Figueroa Street	Los Angeles	Los Angeles	90014

Construction date (year) of structure	Type of structure	Children living in structure?
Unknown	☐ Multi-unit building ☐ School or daycare ☐ Single family dwelling ☑ Other Landfill Gas Processing & Treatm	☐ Yes ☑ No ☐ Don't Know

Section 4 — Owner of Structure (if business/agency, list contact person)

Name	Telephone number
City of Glendale Water & Power	(818) 548-3300

Address [number, street, apartment (if applicable)]	City	State	Zip Code
141 N Glendale Avenue	Glendale	California	91206

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☑ No lead-based paint detected ☐ Intact lead-based paint detected ☐ Deteriorated lead-based paint detected

☐ No lead hazards detected ☐ Lead-contaminated dust found ☐ Lead-contaminated soil found ☐ Other

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
Jason Stagno	(805) 719-9392

Address [number, street, apartment (if applicable)]	City	State	Zip Code
290 Conejo Ridge Avenue	Thousand Oaks	California	91361

CDPH certification number	Signature	Date
19068		12/14/15

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

Appendix H NOISE MODELING AND DATA COLLECTION SHEETS

Biogas Renewable Generation Project - Source Information Summary

PWL Summary - 4 x Jenbacher J620 GS-16

Source	LEVELS AT OCTAVE BAND CENTER FREQUENCIES (Hz) / PWL (dB re 1 pW)									dBA	dBC	Comments, Data Origin
	31.5	63	125	250	500	1000	2000	4000	8000			
Generator Enclosure Walls (4 off)	117	116	116	105	97	96	91	92	94	**104**	**120**	Based on vendor data and enclosure with composite STC rating of 23 and NRC rating 0.85
Generator Enclosure Roof (4 off)	113	112	113	102	93	92	88	89	90	**101**	**116**	Based on vendor data and enclosure with composite STC rating of 23 and NRC rating 0.86
Generator Cooler Inlet (4 off)	107	111	108	105	102	98	93	90	87	**104**	**114**	Estimated for noise rating of 85 dBA @ 1 m
Generator Cooler Discharge (4 off)	107	110	106	103	99	95	90	86	83	**101**	**113**	Estimated for noise rating of 85 dBA @ 1 m
Engine Exhaust, 90 deg (4 off)	108	109	111	91	94	94	87	78	59	**99**	**114**	Estimated from vendor data with Hapco Supercritical Grade muffler
Engine Exhaust Muffler Case (4 off)	104	103	104	86	92	95	90	82	64	**98**	**108**	Estimated for Hapco Supercritical Grade muffler shell
Existing Landfill Vacuum Blower (2 off)	102	104	106	108	103	99	97	92	87	**105**	**112**	Estimated for 150-hp motor and 5.5" WG static pressure (90 dBA @ 1 m)
Flare Blower	104	108	105	106	99	96	93	88	80	**102**	**112**	Estimated for noise rating of 85 dBA @ 1 m
Stage 1 Landfill Gas Blower (2 off)	96	97	98	102	103	105	106	101	95	**110**	**111**	Estimated for 150-hp electrically driven, unenclosed screw or lobe compressor, noise rating: 78 dBA @ 50 feet
Stage 2 Landfill Gas Blower (2 off)	96	97	98	102	103	105	106	101	95	**110**	**111**	Estimated for 150-hp electrically driven, unenclosed screw or lobe compressor, noise rating: 78 dBA @ 50 feet
Stage 1 Blower Cooler	104	108	104	101	98	94	89	86	83	**100**	**111**	Estimated for noise rating of 85 dBA @ 1 m
Stage 2 Blower Cooler	107	111	107	104	101	97	92	89	86	**103**	**114**	Estimated from noise rating of 85 dBA @ 1 m
Chiller - Viter VSG-2101	99	105	105	121	114	105	98	91	85	**115**	**122**	Estimated based on field measurements of similar chiller, prorated for power, noise rating: 83 dBA @ 50 feet
Chiller Cooler	111	114	113	108	105	105	99	96	91	**109**	**118**	Estimated for noise rating of 85 dBA @ 1 m

Biogas Renewable Generation Project - Jenbacher Contour Plot

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon LA County
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10·21·15
Stantec Technician:	S. Roberts

Location and Description of Measurement (Receptor Location):

Receptor #1: 5471 Mount Helena Ave, LA, CA 90041
Home South of 134 Fwy. on Dead End Street

Approximate Distance from Receptor:

2,389' South of Project Site

Time Measurement Began:	1052 DAY		**Time Measurement Ended:**	1107	
Data Stored as Recorded #?:	1				
Leq:	54.0	dBA	**L90:**	51.5	dBA
MaxP:	89.0	dBC	**L75:**	—	dBA
MinL:	49.1	dBA	**L50:**	53.5	dBA
MaxL:	59.9	dBA	**L25:**	—	dBA
SEL:	83.7	dBA	**L10:**	55.5	dBA
LVN:	—	dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Sunny, Slight breeze, 79°F

Description/sources of ambient noise:

Freeway noise, birds,

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon LA
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10.21.15
Stantec Technician:	S Roberts / K Posekian

Location and Description of Measurement (Receptor Location):

Receptor 1: 5471 Mount Helena Ave, LA 90041
Home South of 134 fwy on Dead End St.

Approximate Distance from Receptor:

2,389' South of Project Site

Time Measurement Began:	22:22 NITE		**Time Measurement Ended:**	2237	
Data Stored as Recorded #?:	7				
Leq:	56.8	dBA	**L90:**	52.5	dBA
MaxP:	92.2	dBC	**L75:**	—	dBA
MinL:	50.5	dBA	**L50:**	55.0	dBA
MaxL:	73.5	dBA	**L25:**	—	dBA
SEL:	86.6	dBA	**L10:**	58.0	dBA
LVN:	—	dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Clear 66°F

Description/sources of ambient noise:

Freeway, local traffic, crickets, stream

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon — LA County
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10.21.15
Stantec Technician:	S. Roberts

Location and Description of Measurement (Receptor Location):

Receptor #2: 1233 Cedaredge Ave, LA, CA 90041. Home on the corner of Cedaedge Ave and Blue Hill just South of the 134 fwy

Approximate Distance from Receptor:

3,033' South of project site

Time Measurement Began:	1114 DAY		**Time Measurement Ended:**	1129	
Data Stored as Recorded #?:	2				
Leq:	65.2	dBA	**L90:**	62.0	dBA
MaxP:	94.1	dBC	**L75:**	—	dBA
MinL:	60.1	dBA	**L50:**	64.5	dBA
MaxL:	75.0	dBA	**L25:**	—	dBA
SEL:	94.9	dBA	**L10:**	67.0	dBA
LVN:	—	dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Sunny, Slight breeze 79°F

Description/sources of ambient noise:

Freeway noise,

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon LA COUNTY
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10·21·15
Stantec Technician:	S. Roberts / K. Posekian

Location and Description of Measurement (Receptor Location):

Receptor #2: 1233 Cedaredge Ave, LA, CA. 90041. Home on the corner of Cedaredge Ave & Blue Hill
Just South of the 134 Fwy.

Approximate Distance from Receptor:

3,033' South of Project Site.

Time Measurement Began:	2243 NITE		**Time Measurement Ended:**	2258	
Data Stored as Recorded #?:	8				
Leq:	64.3	dBA	**L90:**	61.5	dBA
MaxP:	92.5	dBC	**L75:**		dBA
MinL:	59.3	dBA	**L50:**	64.0	dBA
MaxL:	69.0	dBA	**L25:**		dBA
SEL:	94.1	dBA	**L10:**	66.0	dBA
LVN:		dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Clear; 66°F

Description/sources of ambient noise:

Local Traffic, Freeway Noise; Crickets

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon Pasadena
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10-21-15
Stantec Technician:	S. Roberts

Location and Description of Measurement (Receptor Location):

Receptor 3: corner of Patircan & LaMirada

Approximate Distance from Receptor:

2,970 North East of Project Site

Time Measurement Began:	1145 DAY		**Time Measurement Ended:**	1202	
Data Stored as Recorded #?:	3				
Leq:	54.5	dBA	**L90:**	44.0	dBA
MaxP:	93.4	dBC	**L75:**	—	dBA
MinL:	41.5	dBA	**L50:**	48.5	dBA
MaxL:	67.1	dBA	**L25:**	—	dBA
SEL:	84.2	dBA	**L10:**	59.0	dBA
LVN:		dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Sunny, Slight Breeze 78°F

Description/sources of ambient noise:

Freeway, local traffic, trucks hauling in & out of land fill const. noise, i.e. hand tools, grinder, hammer, etc. (building house)

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon Pasadena
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10·21·15
Stantec Technician:	S. Roberts / K. Poskian

Location and Description of Measurement (Receptor Location):

Receptor 3: Corner of Patizan & La Mirada

Approximate Distance from Receptor:

2,970 North east of ~~Property~~ project site.

Time Measurement Began:	2315 NITE	**Time Measurement Ended:**	2330		
Data Stored as Recorded #?:	9				
Leq:	47.8	dBA	**L90:**	43.0	dBA
MaxP:	85.8	dBC	**L75:**	—	dBA
MinL:	41.9	dBA	**L50:**	44.0	dBA
MaxL:	64.6	dBA	**L25:**	—	dBA
SEL:	77.5	dBA	**L10:**	45.5	dBA
LVN:		dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Clear; 66°F

Description/sources of ambient noise:

Freeway Traffic; Local Traffic; Crickets; Water Fountain; Helicopter.

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon Pasadena
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10.21.15
Stantec Technician:	S. Roberts

Location and Description of Measurement (Receptor Location):

Receptor 4: 1600 Glen Oaks Blvd, Pasadena, CA 91105

Approximate Distance from Receptor:

2,607' Northeast of Project Site

Time Measurement Began:	1219 DAY		**Time Measurement Ended:**	1234	
Data Stored as Recorded #?:	4				
Leq:	37.1	dBA	**L90:**	34.0	dBA
MaxP:	80.0	dBC	**L75:**	—	dBA
MinL:	32.8	dBA	**L50:**	36.0	dBA
MaxL:	47.0	dBA	**L25:**	—	dBA
SEL:	66.6	dBA	**L10:**	39.0	dBA
LVN:	—	dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Sunny, Slight Breeze 81°F

Description/sources of ambient noise:

Freeway in the distance, birds, frogs

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon Pasadena
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10.21.15
Stantec Technician:	S. Roberts / K. Posekian

Location and Description of Measurement (Receptor Location):

Receptor 4: 1600 Glen Oaks Blvd, Pasadena, CA. 91105

Approximate Distance from Receptor:

2,687' Northeast of Project Site.

Time Measurement Began:	2342 NITE		**Time Measurement Ended:**	2357	
Data Stored as Recorded #?:	10				
Leq:	47.1	dBA	**L90:**	37.0	dBA
MaxP:	94.6	dBC	**L75:**		dBA
MinL:	36.3	dBA	**L50:**	38.5	dBA
MaxL:	67.2	dBA	**L25:**		dBA
SEL:	76.9	dBA	**L10:**	40.8	dBA
LVN:		dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Clear; 66°F;

Description/sources of ambient noise:

Freeway Traffic; Local Traffic; Crickets

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon Glendale
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10.21.15
Stantec Technician:	S. Roberts

Location and Description of Measurement (Receptor Location):

Receptor 5: corner of Figueroa & Marengo Dr., Glendale @ Deadend

Approximate Distance from Receptor:

4,271' North of project site

Time Measurement Began:	13.15 DAY		**Time Measurement Ended:**	1330	
Data Stored as Recorded #?:	5				
Leq:	43.4	dBA	**L90:**	30.5	dBA
MaxP:	86.2	dBC	**L75:**	—	dBA
MinL:	29.1	dBA	**L50:**	34.0	dBA
MaxL:	62.8	dBA	**L25:**	—	dBA
SEL:	73.1	dBA	**L10:**	45.0	dBA
LVN:		dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Sunny, slight breeze 81°F

Description/sources of ambient noise:

quiet neighborhood, helo circling the area. Local traffic

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon Glendale
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10.22.15
Stantec Technician:	S. Roberts / K. PoseKian

Location and Description of Measurement (Receptor Location):

Receptor 5: Corner of Figueroa & Marengo Dr., Glendale, CA. @ Deadend

Approximate Distance from Receptor:

4,271' North of Project site.

Time Measurement Began:	2420	NITE **Time Measurement Ended:**	2435		
Data Stored as Recorded #?:	11				
Leq:	39.1	dBA	**L90:**	36.5	dBA
MaxP:	68.1	dBC	**L75:**		dBA
MinL:	35.1	dBA	**L50:**	38.5	dBA
MaxL:	46.4	dBA	**L25:**		dBA
SEL:	68.9	dBA	**L10:**	40.5	dBA
LVN:		dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Clear; 66°F

Description/sources of ambient noise:

Local Traffic; Crickets; Train.

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon Glendale
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10.21.15
Stantec Technician:	S. Roberts

Location and Description of Measurement (Receptor Location):

Receptor 6: 2840 Glencoaks Canyon Rd, Glendale 91206 next to Park and down hill from Scholl cyn Golf + tennis club and athetic fields.

Approximate Distance from Receptor:

2,281' West of the Project Site

Time Measurement Began:	1417 DAY		**Time Measurement Ended:**	1432	
Data Stored as Recorded #?:	6				
Leq:	46.4	dBA	**L90:**	37.5	dBA
MaxP:	85.4	dBC	**L75:**	—	dBA
MinL:	35.4	dBA	**L50:**	42.5	dBA
MaxL:	63.6	dBA	**L25:**	—	dBA
SEL:	76.0	dBA	**L10:**	48.5	dBA
LVN:	—	dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Sunny. Slight Breeze, 82°F

Description/sources of ambient noise:

birds, heavy trucks/equipment in distance

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name:	Scholl Canyon Glendale
Project Number:	2057123300
Noise Meter Make and Type:	Bruell & Kjaer Model 2236
Microphone:	Bruel & Kjaer 1/2" Free-field Microphone
Acoustical Calibrator:	Bruel & Kjaer Model 4231
Date of Measurement:	10.22.15
Stantec Technician:	S. Roberts / K. Poseklan

Location and Description of Measurement (Receptor Location):

Receptor 6: 2840 Glenoaks Canyon Rd; Glendale 91206. Next to Park & Downhill from Scholl Gyn Golf and Tennis Club and athletic fields

Approximate Distance from Receptor:

2,281' West of Project Site.

Time Measurement Began:	2453 NITE		**Time Measurement Ended:**	0108	
Data Stored as Recorded #?:	12				
Leq:	46.5	dBA	**L90:**	44.5	dBA
MaxP:	75.0	dBC	**L75:**	—	dBA
MinL:	43.5	dBA	**L50:**	45.5	dBA
MaxL:	53.5	dBA	**L25:**	—	dBA
SEL:	76.1	dBA	**L10:**	47.5	dBA
LVN:	—	dBA			

Description of meteorological conditions (weather, wind, temperature, etc.):

Clear

Description/sources of ambient noise:

Crickets; Dog Barking;

Appendix I TRAFFIC ANALYSIS

I.1 TRAFFIC ANALYSIS EXHIBIT 1

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	DJL
Agency/Co.	STANTEC
Date Performed	4/18/2016
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	SR 134 WB RAMPS/FIGUEROA ST
Jurisdiction	CITY OF LOS ANGELES
Analysis Year	EXISTING (2016)

Project ID 2057123300

East/West Street: SR 134 WB RAMPS | North/South Street: FIGUEROA ST

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	261	0	21
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	29	743	5	7	0
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			L	R	T	R	L	T
PHF			0.92	0.92	0.92	0.92	0.92	0.92
Flow Rate (veh/h)			283	22	31	807	5	7
% Heavy Vehicles			4	4	4	4	4	4
No. Lanes	0		2		2		2	
Geometry Group			1		5		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns			1.0	0.0	0.0	0.0	1.0	0.0
Prop. Right-Turns			0.0	1.0	0.0	1.0	0.0	0.0
Prop. Heavy Vehicle			0.0	0.0	0.0	0.0	0.0	0.0
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.3	-0.5	0.1	-0.6	0.6	0.1

Departure Headway and Service Time

hd, initial value (s)			3.20	3.20	3.20	3.20	3.20	3.20
x, initial			0.25	0.02	0.03	0.72	0.00	0.01
hd, final value (s)			6.00	5.21	5.55	4.84	6.94	6.43
x, final value			0.47	0.03	0.05	1.09	0.01	0.01
Move-up time, m (s)			2.0		2.3		2.3	
Service Time, t_s (s)			4.0	3.2	3.2	2.5	4.6	4.1

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)			533	272	281	807	255	257
Delay (s/veh)			14.24	8.38	8.53	79.19	9.71	9.21
LOS			B	A	A	F	A	A
Approach: Delay (s/veh)			13.81		76.57		9.42	
LOS			B		F		A	
Intersection Delay (s/veh)	59.30							
Intersection LOS	F							

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	DJL
Agency/Co.	STANTEC
Date Performed	4/18/2016
Analysis Time Period	PM PEAK HOUR

Site Information

Intersection	SR 134 WB RAMPS/FIGUEROA ST
Jurisdiction	CITY OF LOS ANGELES
Analysis Year	EXISTING (2016)

Project ID 2057123300

East/West Street: SR 134 WB RAMPS | North/South Street: FIGUEROA ST

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	275	0	11
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	13	504	18	20	0
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			L	R	T	R	L	T
PHF			0.92	0.92	0.92	0.92	0.92	0.92
Flow Rate (veh/h)			298	11	14	547	19	21
% Heavy Vehicles			4	4	4	4	4	4
No. Lanes	0		2		2		2	
Geometry Group			1		5		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns			1.0	0.0	0.0	0.0	1.0	0.0
Prop. Right-Turns			0.0	1.0	0.0	1.0	0.0	0.0
Prop. Heavy Vehicle			0.0	0.0	0.0	0.0	0.0	0.0
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.3	-0.5	0.1	-0.6	0.6	0.1

Departure Headway and Service Time

hd, initial value (s)			3.20	3.20	3.20	3.20	3.20	3.20
x, initial			0.26	0.01	0.01	0.49	0.02	0.02
hd, final value (s)			5.60	4.81	5.55	4.85	6.64	6.14
x, final value			0.46	0.01	0.02	0.74	0.04	0.04
Move-up time, m (s)			2.0		2.3		2.3	
Service Time, t_s (s)			3.6	2.8	3.3	2.5	4.3	3.8

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)			548	261	264	731	269	271
Delay (s/veh)			13.36	7.88	8.37	19.81	9.59	9.07
LOS			B	A	A	C	A	A
Approach: Delay (s/veh)			13.17		19.52		9.31	
LOS			B		C		A	
Intersection Delay (s/veh)	16.91							
Intersection LOS	C							

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	DJL
Agency/Co.	STANTEC
Date Performed	4/18/2016
Analysis Time Period	AM PEAK HOUR

Site Information

Intersection	SR 134 WB RAMPS/FIGUEROA ST
Jurisdiction	CITY OF LOS ANGELES
Analysis Year	EXISTING + PROJECT CONDITIONS

Project ID 2057123300

East/West Street: SR 134 WB RAMPS | North/South Street: FIGUEROA ST

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	261	0	40
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	52	743	5	7	0
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			L	R	T	R	L	T
PHF			0.92	0.92	0.92	0.92	0.92	0.92
Flow Rate (veh/h)			283	43	56	807	5	7
% Heavy Vehicles			4	4	4	4	4	4
No. Lanes	0		2		2		2	
Geometry Group			1		5		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns			1.0	0.0	0.0	0.0	1.0	0.0
Prop. Right-Turns			0.0	1.0	0.0	1.0	0.0	0.0
Prop. Heavy Vehicle			0.0	0.0	0.0	0.0	0.0	0.0
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.3	-0.5	0.1	-0.6	0.6	0.1

Departure Headway and Service Time

hd, initial value (s)			3.20	3.20	3.20	3.20	3.20	3.20
x, initial			0.25	0.04	0.05	0.72	0.00	0.01
hd, final value (s)			6.00	5.21	5.59	4.89	7.01	6.51
x, final value			0.47	0.06	0.09	1.10	0.01	0.01
Move-up time, m (s)			2.0		2.3		2.3	
Service Time, t_s (s)			4.0	3.2	3.3	2.6	4.7	4.2

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)			533	293	306	807	255	257
Delay (s/veh)			14.24	8.55	8.82	82.62	9.78	9.29
LOS			B	A	A	F	A	A
Approach: Delay (s/veh)			13.49		77.83		9.49	
LOS			B		F		A	
Intersection Delay (s/veh)	59.68							
Intersection LOS	F							

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	DJL
Agency/Co.	STANTEC
Date Performed	4/18/2016
Analysis Time Period	PM PEAK HOUR

Site Information

Intersection	SR 134 WB RAMPS/FIGUEROA ST
Jurisdiction	CITY OF LOS ANGELES
Analysis Year	EXISTING + PROJECT CONDITIONS

Project ID 2057123300

East/West Street: SR 134 WB RAMPS

North/South Street: FIGUEROA ST

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	0	0	275	0	11
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	0	13	504	37	43	0
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration			L	R	T	R	L	T
PHF			0.92	0.92	0.92	0.92	0.92	0.92
Flow Rate (veh/h)			298	11	14	547	40	46
% Heavy Vehicles			4	4	4	4	4	4
No. Lanes	0		2		2		2	
Geometry Group			1		5		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns			1.0	0.0	0.0	0.0	1.0	0.0
Prop. Right-Turns			0.0	1.0	0.0	1.0	0.0	0.0
Prop. Heavy Vehicle			0.0	0.0	0.0	0.0	0.0	0.0
hLT-adj			0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj			-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.3	-0.5	0.1	-0.6	0.6	0.1

Departure Headway and Service Time

hd, initial value (s)			3.20	3.20	3.20	3.20	3.20	3.20
x, initial			0.26	0.01	0.01	0.49	0.04	0.04
hd, final value (s)			5.74	4.95	5.64	4.94	6.69	6.18
x, final value			0.48	0.02	0.02	0.75	0.07	0.08
Move-up time, m (s)			2.0		2.3		2.3	
Service Time, t_s (s)			3.7	2.9	3.3	2.6	4.4	3.9

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)			548	261	264	718	290	296
Delay (s/veh)			13.83	8.02	8.47	20.91	9.92	9.41
LOS			B	A	A	C	A	A
Approach: Delay (s/veh)			13.63		20.60		9.65	
LOS			B		C		A	
Intersection Delay (s/veh)	17.36							
Intersection LOS	C							

LADOT Bureau of Planning and Land Use Development

Critical Movement Analysis using Circular 212 Method

INTERSECTION:		2010, COUNT			2016, EXISTING				2016, WITH PROJECT				2016, WITH TRAFFIC MITIGATION			
S.R. 134 EB Ramps & N. Figueroa St		Signal System*:	1		*Signal System: 1: Standard Signal 2: ATSAC 3: ATSAC with ATCS		Signal System*:	1	Project:	Scholl Canyon IS MND				Signal System*:	1	
		Phases:	2				Phases:	2						Phases:	2	
		N-S Opposed:	N				N-S Opposed:	N		In	Out	Total		N-S Opposed:	N	
Analysis Date:	6/6/2016	E-W Opposed:	N				E-W Opposed:	N	AM	42	0	42		E-W Opposed:	N	
		RTOR reduction:	0%		+ 0.0%		RTOR reduction:	0%	PM	0	42	42		RTOR reduction:	0%	
AM Peak:	7:30 AM	Counts Volume	Lanes	Lane Volume	Ambient Growth	+ Related	= Total Volume	Lanes	Lane Volume	+ Project	Total Volume	Lanes	Lane Volume	Adjusted	Total Volume	Lanes	Lane Volume
Northbound	Left	0	0	0	0		0	0	0		0	0	0		0	0	0
	Left-Thru		0	0				0	0			0	0			0	0
	Thru	696	1	**696**	0		696	1	**696**	4	700	1	**700**		700	1	**700**
	Thru-Right		0	0				0	0			0	0			0	0
	Right	524	1	524	0		524	1	524		524	1	524		524	1	524
	Left-Thru-Rt		0	0				0	0			0	0			0	0
Southbound	Left	57	1	**57**	0		57	1	**57**		57	1	**57**		57	1	**57**
	Left-Thru		0	0				0	0			0	0			0	0
	Thru	276	2	138	0		276	2	138		276	2	138		276	2	138
	Thru-Right		0	0				0	0			0	0			0	0
	Right	0	0	0	0		0	0	0		0	0	0		0	0	0
	Left-Thru-Rt		0	0				0	0			0	0			0	0
Eastbound	Left	0		0	0		0	0	0		0	0	0		0	0	0
	Left-Thru		0	0				0	0			0	0			0	0
	Thru	0	0	0	0		0	0	0		0	0	0		0	0	0
	Thru-Right		0	0				0	0			0	0			0	0
	Right	0	0	0	0		0	0	0		0	0	0		0	0	0
	Left-Thru-Rt		0	0				0	0			0	0			0	0
Westbound	Left	557	1	**306**	0		557	1	**306**		557	1	306		557	1	306
	Left-Thru		0	0				0	0			0	0			0	0
	Thru	0	0	0	0		0	0	0		0	0	0		0	0	0
	Thru-Right		0	0				0	0			0	0			0	0
	Right	47	0	0	0		47	0	0	19	66	0	0		66	0	0
	Left-Thru-Rt		1	298				1	298			1	**317**			1	**317**
Critical Volumes:		North-South:		753			North-South:		753		North-South:		757		North-South:		757
		East-West:		306			East-West:		306		East-West:		317		East-West:		317
		Total:		1059			Total:		1059		Total:		1074		Total:		1074
Volume/capacity (*v/c*) ratio:				0.706					0.706				0.716				0.716
v/c less ATSAC adjustment:				0.706					0.706				0.716				0.716
Level of Service (LOS):				**C**					**C**				**C**				**C**

PROJECT IMPACT

Change in *v/c* due to project: 0.010 *v/c* after mitigation: 0.010

Significantly impacted? NO Fully mitigated? N/A

Filename: Z:\work other BC's, or no WO number\2057123300_Scholl Canyon\LOS\LOS Calculator 3 3_new.xls

Developed 2005-2006 by Ken Aitchison

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	557	47	696	524	57	276
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1900	1827	1827	1827	1827
Adj Flow Rate, veh/h	653	0	757	570	62	300
Adj No. of Lanes	2	1	1	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	0	4	4	4	4
Cap, veh/h	916	425	1029	875	259	1956
Arrive On Green	0.26	0.00	0.56	0.56	0.56	0.56
Sat Flow, veh/h	3480	1615	1827	1553	403	3563
Grp Volume(v), veh/h	653	0	757	570	62	300
Grp Sat Flow(s),veh/h/ln	1740	1615	1827	1553	403	1736
Q Serve(g_s), s	7.9	0.0	14.3	11.7	6.2	1.9
Cycle Q Clear(g_c), s	7.9	0.0	14.3	11.7	20.5	1.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	916	425	1029	875	259	1956
V/C Ratio(X)	0.71	0.00	0.74	0.65	0.24	0.15
Avail Cap(c_a), veh/h	1960	910	1029	875	259	1956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	7.5	7.0	15.2	4.8
Incr Delay (d2), s/veh	1.0	0.0	4.7	3.8	2.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	8.3	5.8	0.8	1.0
LnGrp Delay(d),s/veh	16.5	0.0	12.2	10.7	17.3	5.0
LnGrp LOS	B		B	B	B	A
Approach Vol, veh/h	653		1327			362
Approach Delay, s/veh	16.5		11.6			7.1
Approach LOS	B		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		30.0				30.0		16.2
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		26.0				26.0		26.0
Max Q Clear Time (g_c+I1), s		16.3				22.5		9.9
Green Ext Time (p_c), s		6.7				2.8		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	702	73	613	345	44	465
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1900	1827	1827	1827	1827
Adj Flow Rate, veh/h	837	0	666	375	48	505
Adj No. of Lanes	2	1	1	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	0	4	4	4	4
Cap, veh/h	1043	484	1010	858	289	1919
Arrive On Green	0.30	0.00	0.55	0.55	0.55	0.55
Sat Flow, veh/h	3480	1615	1827	1553	529	3563
Grp Volume(v), veh/h	837	0	666	375	48	505
Grp Sat Flow(s),veh/h/ln	1740	1615	1827	1553	529	1736
Q Serve(g_s), s	12.0	0.0	13.9	7.7	3.8	4.1
Cycle Q Clear(g_c), s	12.0	0.0	13.9	7.7	17.7	4.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1043	484	1010	858	289	1919
V/C Ratio(X)	0.80	0.00	0.66	0.44	0.17	0.26
Avail Cap(c_a), veh/h	1411	655	1010	858	289	1919
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	0.0	8.5	7.2	14.8	6.4
Incr Delay (d2), s/veh	2.5	0.0	3.4	1.6	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	7.8	3.6	0.6	2.1
LnGrp Delay(d),s/veh	20.0	0.0	11.9	8.8	16.0	6.7
LnGrp LOS	B		B	A	B	A
Approach Vol, veh/h	837		1041			553
Approach Delay, s/veh	20.0		10.8			7.5
Approach LOS	B		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		34.0				34.0		20.3
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		30.0				30.0		22.0
Max Q Clear Time (g_c+I1), s		15.9				19.7		14.0
Green Ext Time (p_c), s		8.3				6.6		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.2
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	557	66	700	524	57	276
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1900	1827	1827	1827	1827
Adj Flow Rate, veh/h	672	0	761	570	62	300
Adj No. of Lanes	2	1	1	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	0	4	4	4	4
Cap, veh/h	935	434	1021	868	253	1941
Arrive On Green	0.27	0.00	0.56	0.56	0.56	0.56
Sat Flow, veh/h	3480	1615	1827	1553	402	3563
Grp Volume(v), veh/h	672	0	761	570	62	300
Grp Sat Flow(s),veh/h/ln	1740	1615	1827	1553	402	1736
Q Serve(g_s), s	8.1	0.0	14.6	11.9	6.4	1.9
Cycle Q Clear(g_c), s	8.1	0.0	14.6	11.9	21.0	1.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	935	434	1021	868	253	1941
V/C Ratio(X)	0.72	0.00	0.74	0.66	0.25	0.15
Avail Cap(c_a), veh/h	1946	903	1021	868	253	1941
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	7.7	7.1	15.7	4.9
Incr Delay (d2), s/veh	1.1	0.0	4.9	3.9	2.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	8.6	5.8	0.9	1.0
LnGrp Delay(d),s/veh	16.5	0.0	12.7	11.0	18.0	5.1
LnGrp LOS	B		B	B	B	A
Approach Vol, veh/h	672		1331			362
Approach Delay, s/veh	16.5		12.0			7.3
Approach LOS	B		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		30.0				30.0		16.5
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		26.0				26.0		26.0
Max Q Clear Time (g_c+I1), s		16.6				23.0		10.1
Green Ext Time (p_c), s		6.5				2.4		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	702	73	613	345	63	469
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1900	1827	1827	1827	1827
Adj Flow Rate, veh/h	837	0	666	375	68	510
Adj No. of Lanes	2	1	1	1	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	0	4	4	4	4
Cap, veh/h	1043	484	1010	858	289	1919
Arrive On Green	0.30	0.00	0.55	0.55	0.55	0.55
Sat Flow, veh/h	3480	1615	1827	1553	529	3563
Grp Volume(v), veh/h	837	0	666	375	68	510
Grp Sat Flow(s),veh/h/ln	1740	1615	1827	1553	529	1736
Q Serve(g_s), s	12.0	0.0	13.9	7.7	5.6	4.2
Cycle Q Clear(g_c), s	12.0	0.0	13.9	7.7	19.6	4.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1043	484	1010	858	289	1919
V/C Ratio(X)	0.80	0.00	0.66	0.44	0.23	0.27
Avail Cap(c_a), veh/h	1411	655	1010	858	289	1919
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	0.0	8.5	7.2	15.4	6.4
Incr Delay (d2), s/veh	2.5	0.0	3.4	1.6	1.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	7.8	3.6	1.0	2.1
LnGrp Delay(d),s/veh	20.0	0.0	11.9	8.8	17.3	6.7
LnGrp LOS	B		B	A	B	A
Approach Vol, veh/h	837		1041			578
Approach Delay, s/veh	20.0		10.8			8.0
Approach LOS	B		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		34.0				34.0		20.3
Change Period (Y+Rc), s		4.0				4.0		4.0
Max Green Setting (Gmax), s		30.0				30.0		22.0
Max Q Clear Time (g_c+I1), s		15.9				21.6		14.0
Green Ext Time (p_c), s		8.5				5.8		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

LADOT Bureau of Planning and Land Use Development

Critical Movement Analysis using Circular 212 Method

INTERSECTION:		2010, COUNT			2016, EXISTING				2016, WITH PROJECT				2016, WITH TRAFFIC MITIGATION			
S.R. 134 EB Ramps & N. Figueroa St		Signal System*:	1		*Signal System: 1: Standard Signal 2: ATSAC 3: ATSAC with ATCS	Signal System*:	1		Project: Scholl Canyon IS MND					Signal System*:	1	
		Phases:	2			Phases:	2							Phases:	2	
		N-S Opposed:	N			N-S Opposed:	N			In	Out	Total		N-S Opposed:	N	
Analysis Date:	6/6/2016	E-W Opposed:	N			E-W Opposed:	N		AM	42	0	42		E-W Opposed:	N	
		RTOR reduction:	0%		+ 0.0%	RTOR reduction:	0%		PM	0	42	42		RTOR reduction:	0%	
PM Peak:	4:45 PM	Counts Volume	Lanes	Lane Volume	Ambient Growth	+ Related Projects	= Total Volume	Lanes	Lane Volume	Project Volume	Total Volume	Lanes	Lane Volume	d Volume	Total Volume	Lanes	Lane Volume
Northbound	Left	0	0	0	0		0	0	0		0	0	0		0	0	0
	Left-Thru		0	0				0	0			0	0			0	0
	Thru	613	1	**613**	0		613	1	**613**		613	1	**613**		613	1	**613**
	Thru-Right		0	0				0	0			0	0			0	0
	Right	345	1	345	0		345	1	345		345	1	345		345	1	345
	Left-Thru-Rt		0	0				0	0			0	0			0	0
Southbound	Left	44	1	**44**	0		44	1	**44**	19	63	1	**63**		63	1	**63**
	Left-Thru		0	0				0	0			0	0			0	0
	Thru	465	2	233	0		465	2	233	4	469	2	235		469	2	235
	Thru-Right		0	0				0	0			0	0			0	0
	Right	0	0	0	0		0	0	0		0	0	0		0	0	0
	Left-Thru-Rt		0	0				0	0			0	0			0	0
Eastbound	Left	0	0	0	0		0	0	0		0	0	0		0	0	0
	Left-Thru		0	0				0	0			0	0			0	0
	Thru	0	0	0	0		0	0	0		0	0	0		0	0	0
	Thru-Right		0	0				0	0			0	0			0	0
	Right	0	0	0	0		0	0	0		0	0	0		0	0	0
	Left-Thru-Rt		0	0				0	0			0	0			0	0
Westbound	Left	702	1	386	0		702	1	386		702	1	386		702	1	386
	Left-Thru		0	0				0	0			0	0			0	0
	Thru	0	0	0	0		0	0	0		0	0	0		0	0	0
	Thru-Right		0	0				0	0			0	0			0	0
	Right	73	0	0	0		73	0	0		73	0	0		73	0	0
	Left-Thru-Rt		1	**389**				1	**389**			1	**389**			1	**389**
Critical Volumes:		North-South:		657			North-South:		657		North-South:		676		North-South:		676
		East-West:		389			East-West:		389		East-West:		389		East-West:		389
		Total:		1046			Total:		1046		Total:		1065		Total:		1065
Volume/capacity (*v/c*) ratio:				0.697					0.697				0.710				0.710
v/c less ATSAC adjustment:				0.697					0.697				0.710				0.710
Level of Service (LOS):				**B**					**B**				**C**				**C**

PROJECT IMPACT

Change in *v/c* due to project: 0.013 *v/c* after mitigation: 0.013

Significantly impacted? NO Fully mitigated? N/A

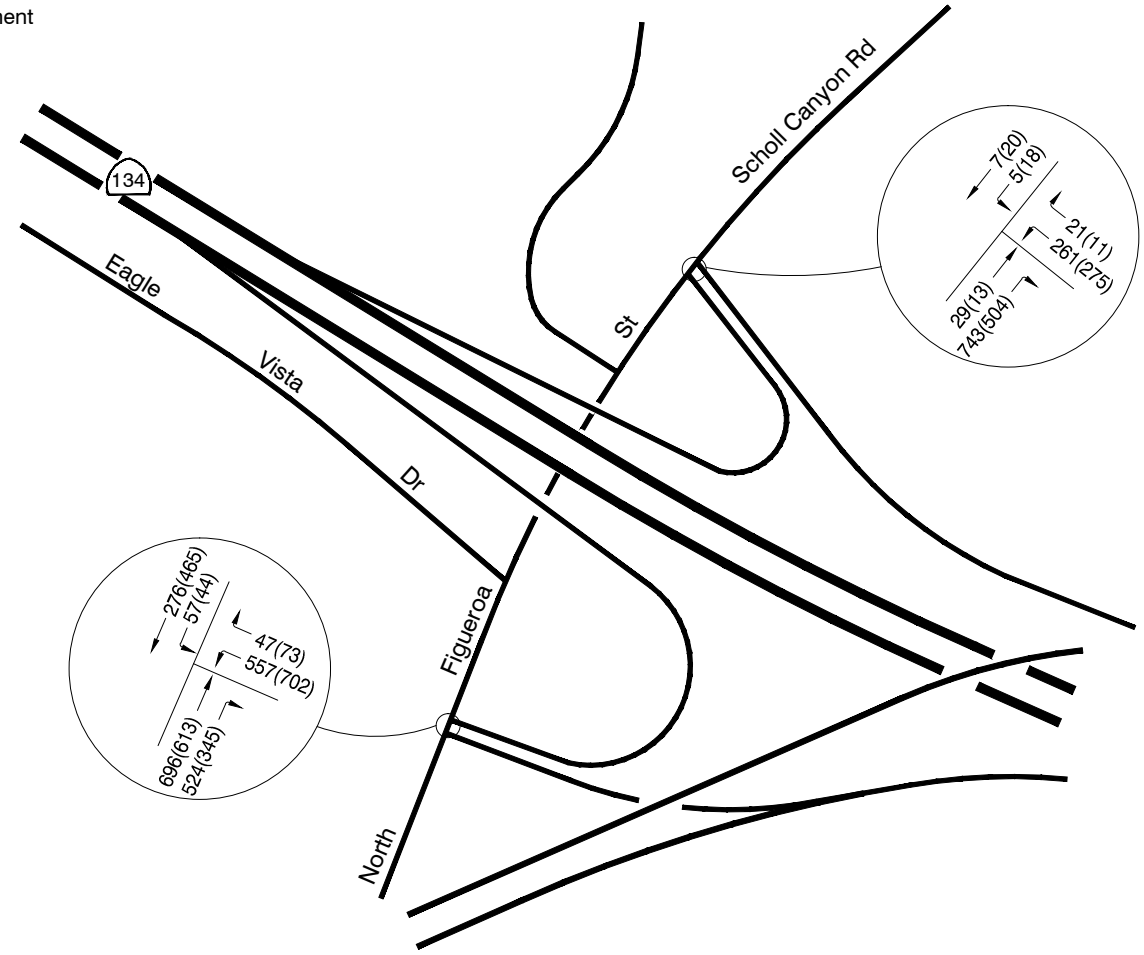
Filename: Z:\work other BC's, or no WO number\2057123300_Scholl Canyon\LOS\LOS Calculator 3 3_new.xls

Developed 2005-2006 by Ken Aitchison

LEGEND

XX(XX) - AM(PM) Peak Hour Volume

- Traffic Movement



N.T.S.

Stantec

111 East Victoria Street, Santa Barbara, CA 93101
Phone: (805) 963-9532 Fax: (805) 966-9801

EXHIBIT 1

EXISTING AM AND PM PEAK HOUR VOLUMES

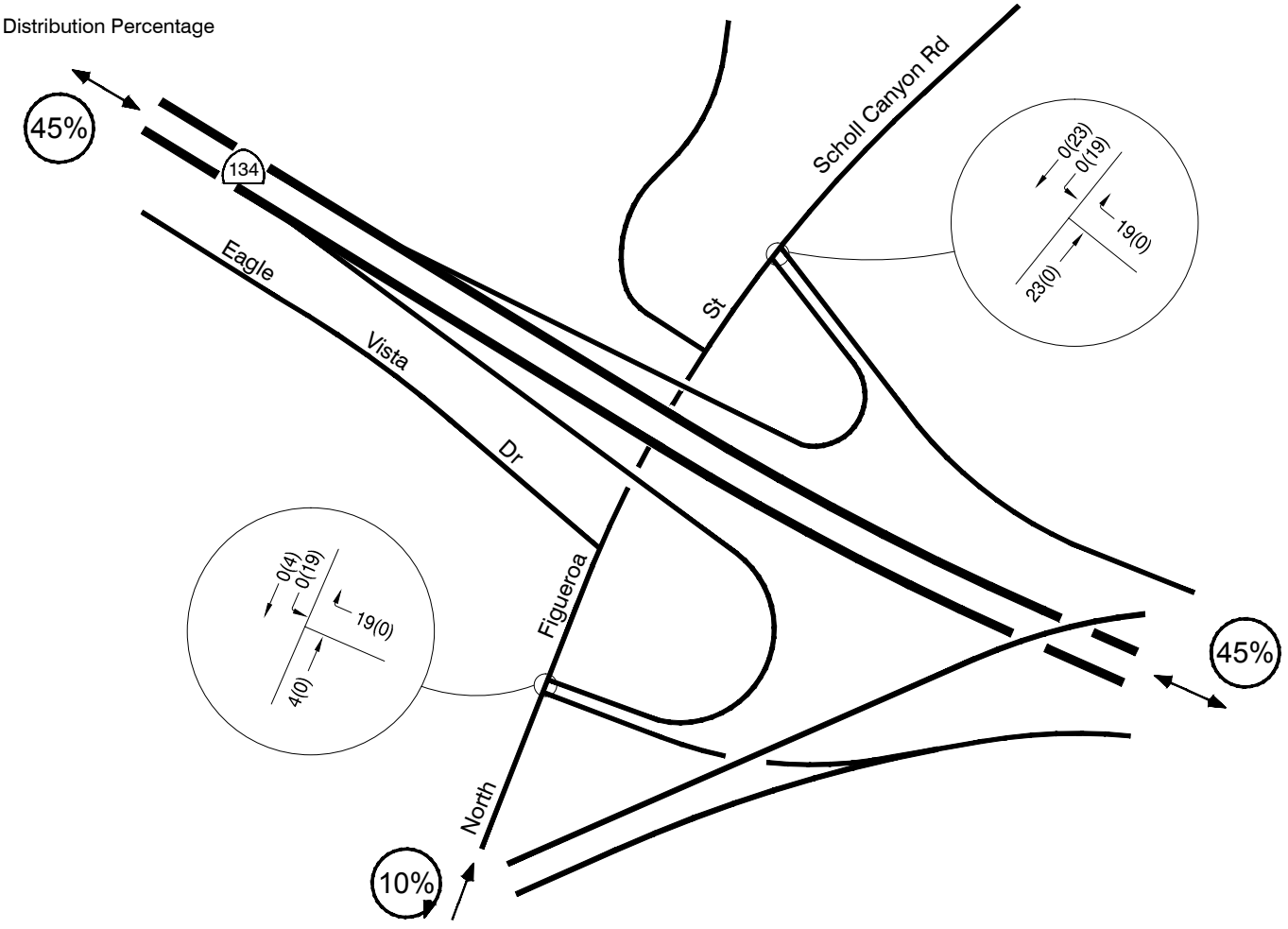
I.2 TRAFFIC ANALYSIS EXHIBIT 2

LEGEND

XX(XX) - AM(PM) Peak Hour Volume

- Traffic Movement

25% - Trip Distribution Percentage



N.T.S.

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EXHIBIT 2

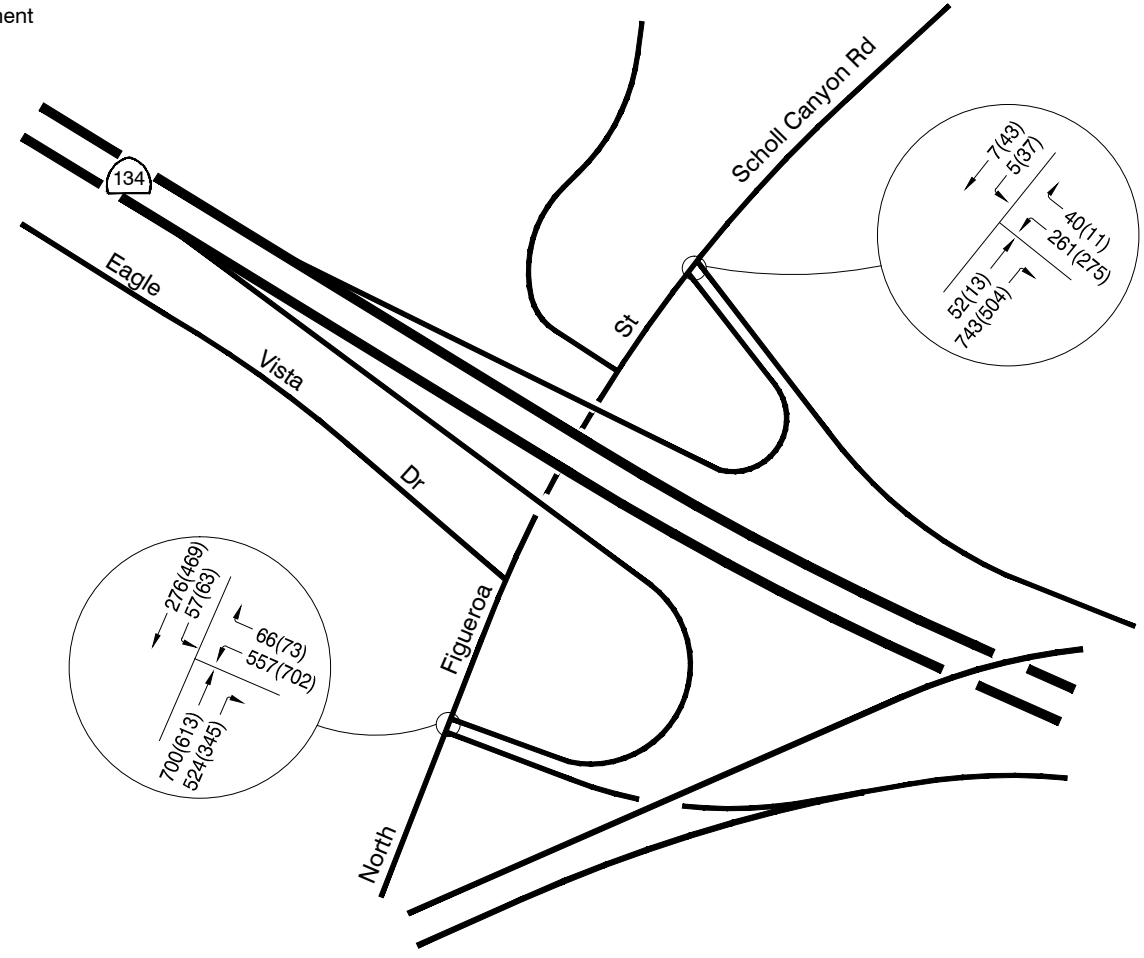
PROJECT AM AND PM PEAK HOUR VOLUMES

I.3 TRAFFIC ANALYSIS EXHIBIT 3

LEGEND

XX(XX) - AM(PM) Peak Hour Volume

- Traffic Movement



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N.T.S.

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EXHIBIT 3

EXISTING + PROJECT
AM AND PM PEAK HOUR VOLUMES