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.

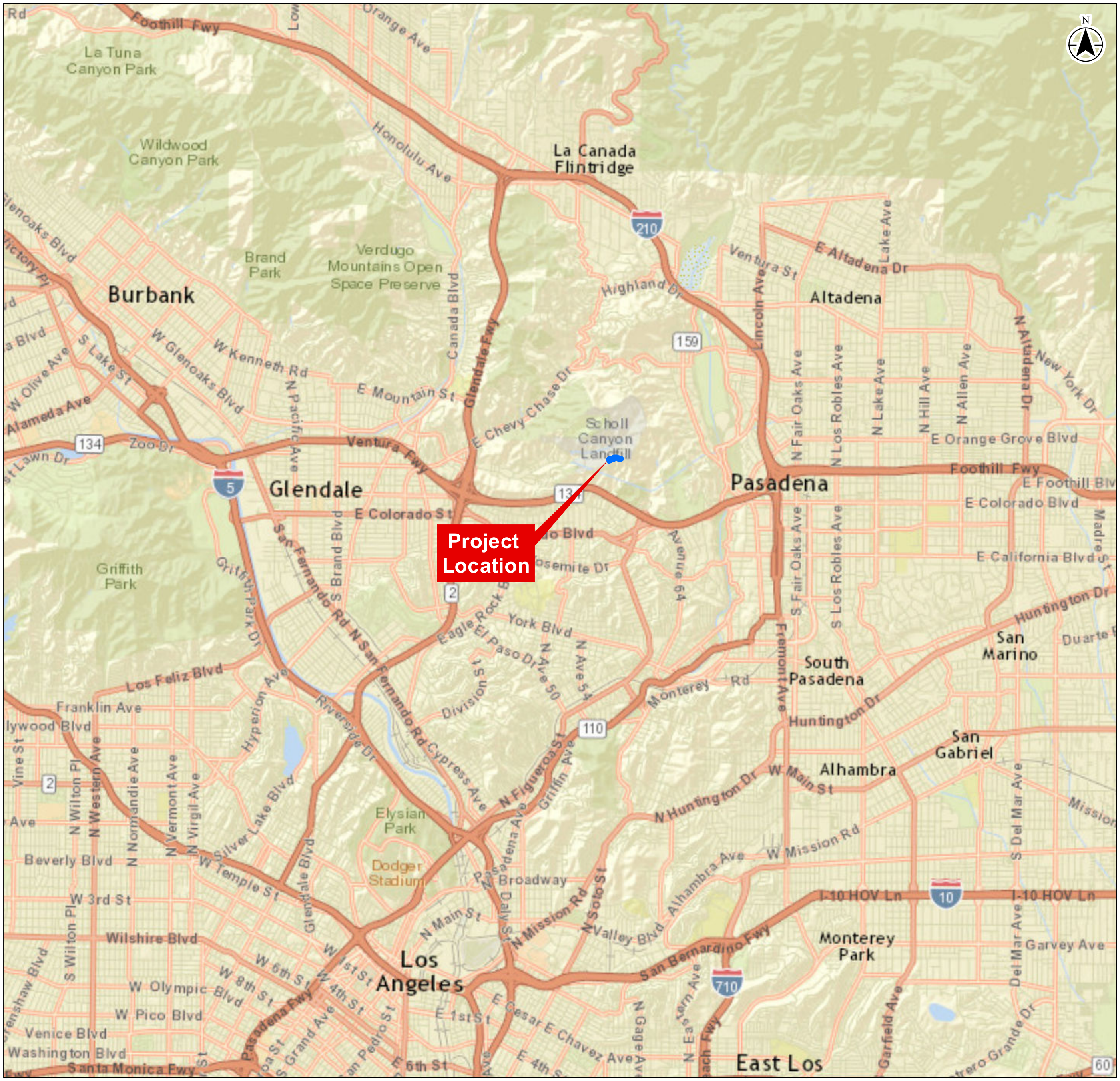
- Small office and small storage building, less than 1,000 square feet each, required for operating and maintaining the Project.

- 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.



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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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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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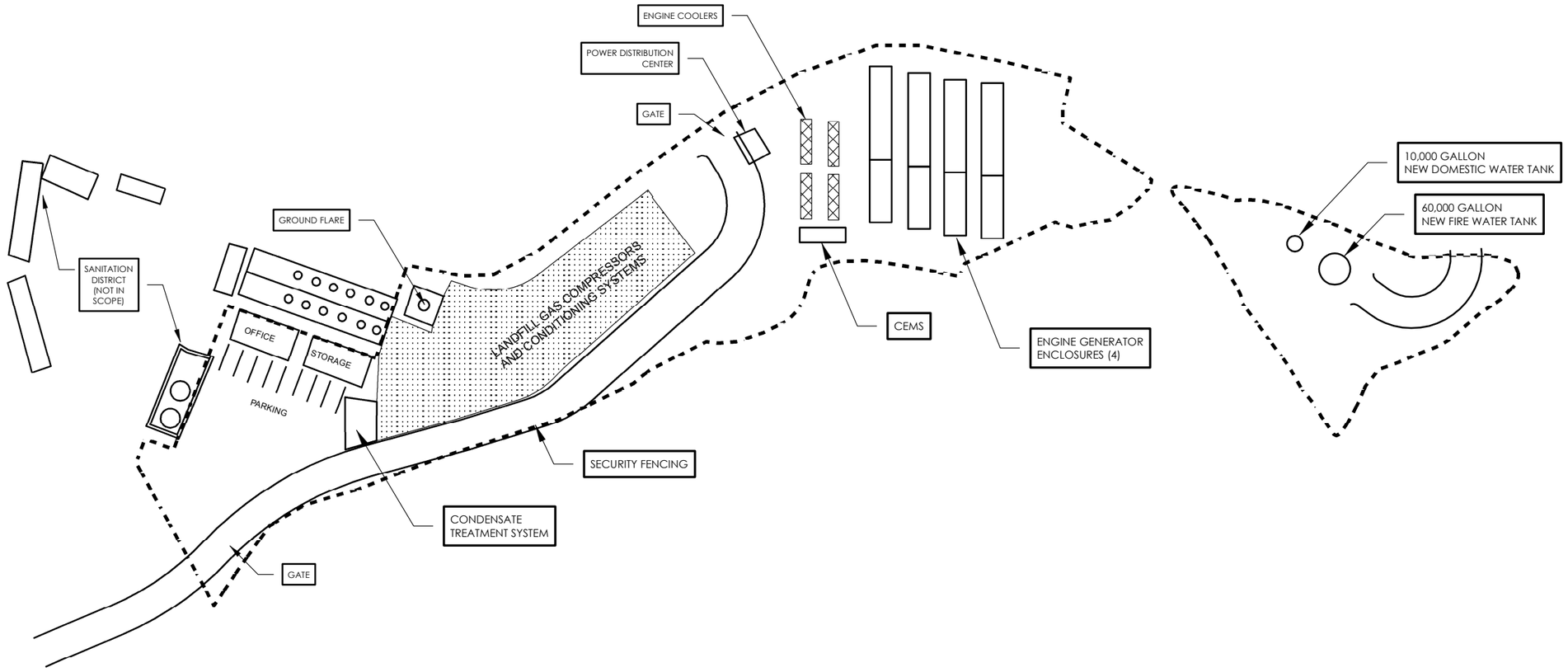
Project Location
Glendale, CA

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
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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.~~ Asphalt will be used by the **Sa**nitation **D**istrict for landfill road base and concrete will be used on the **P**roject site for road base**.** 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

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Project Location
Glendale, CA

Project No.: 2057123300
Prepared by JT on 2017-07-21
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Client/Project
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Biogas Renewable Generation Project
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Figure No.
2.5-1

Title
Project Schedule