

4.5 UTILITIES AND PUBLIC SERVICES

4.5.1 EXISTING CONDITIONS

WATER

The project site is not served by a municipal water supply. Because of the poor groundwater resources in the local area, wells are not a feasible large water supply source. A well with a small production rate has been drilled at the northeast corner of the Public Unloading Area (Exhibit 3-10). A pump and water system at this well supply water for use in the on site toilets, hand washing facilities, and equipment pressure wash system. The water supply from this well is considered nonpotable. A water storage tank is located directly east of the scale house at the landfill entrance (Exhibit 3-10).

The project applicant holds the water rights to the water stored in the relocated stock pond located about 2,000 feet west of the landfill. This pond is available for PHLF use. In 2001, a water line was installed and buried to link an electrical pump located at the stock pond dam with Siltation Control Basin No. 2, which is located at the southwest corner of the landfill. This pump system allows water stored in the relocated stock pond to be pumped to the site for operational uses. Also, during wetter portions of the year, water is available for site uses from the on site siltation control basins.

Other water used on the site for construction activities and site operations is hauled by water tank truck from Suisun and Fairfield. A major source of water is the reclaimed wastewater delivered by tank trailers from the Fairfield-Suisun Wastewater District treatment plant. The project applicant has a dedicated tank at the treatment plant to quickly fill the tank trailers. Water brought in by the trailers is unloaded through a pipe system into storm water ponds that are used to fill the water trucks used on the site. Bottled water is used for drinking water supplies. (Also see Section 4.6, Public Safety, for a discussion of sources of water for fire and dust suppression.)

SEWER

The landfill site is not served by public wastewater infrastructure. On-site sewer lines have been installed from toilets at the landfill office building, scale house, and employee break room that lead to a septic tank and wastewater disposal field. Several portable toilets are available for site personnel and site users. The equipment maintenance pad, which is located directly adjacent to the equipment maintenance building, is equipped with a drainage control system and wastewater treatment system.

In addition to public sanitary sewer uses, leachate is also considered as a potential wastewater flow source for sewer-based disposal. Leachate is liquid that has come in contact with or percolated through waste materials and has extracted or dissolved substances from the waste materials. Leachate pumped from the subdrain sumps installed as part of the waste containment system under the landfilled waste is spread on the landfill surface and

evaporated, spread on the wastes at the active fill area, or pumped into the leachate injection wells or horizontal gas collection lines. Landfill gas condensate is returned to gas wells or the leachate collection system. The condensate from the future Phase I landfill gas recovery program would be returned to the landfill or be evaporated with excess landfill gas by injecting it into the gas flare.

Aboveground fuel storage tanks at the site are located on a concrete slab at the southeast corner of the equipment maintenance building. The storage tanks include a 4,000-gallon diesel tank and a 500-gallon unleaded gasoline tank. Both tanks are double-walled, and are protected from being struck and damaged by bollards installed along the tanks. A third tank that was previously located nearby was taken out of service in February 2002. The lubrication supply and antifreeze tanks also are located in this area. The adjacent concrete slab is used for equipment maintenance. This maintenance facility is equipped with a drainage control system and wastewater treatment system.

ELECTRICITY

Currently, the landfill is not served by the PG&E power grid. The landfill uses on site diesel generators to produce the electricity used for exterior lighting, office needs, equipment maintenance building needs, landfill gas extraction, surface water pumping, and leachate control. An underground on site electrical grid distributes the power to each point of use.

The landfill gas blower system must operate year-round on a 24-hours-per-day, 7-days-per-week schedule. The landfill gas flare uses an electrically operated blower to extract the landfill gas. The blower is operated by a generator that is driven by diesel-fueled engines.

Prior to 1999, the site electricity was produced by burning landfill gas in an internal combustion engine that powered a generator. A standby diesel-powered generator was also available. These units were located midway along the west side of the landfill. In 1998, a second diesel generator was placed into service to meet increased power demand. The second generator was located at the equipment maintenance building. In 2000, two new diesel generators were placed into operation to replace the methane-powered generator, the standby generator, and the generator located at the equipment maintenance building, generating a daily average of 20 to 25 kilowatts.

TELEPHONE

An underground telephone line located on the east side of the Potrero Hills Lane access road provides service to the landfill. As required by Title 27, Section 20570 (Communication Facilities), communication facilities are available to site personnel for quick response to emergencies by the appropriate authorities and emergency services. The landfill office building, scale house, and equipment maintenance building contain telephones and radios, and a public telephone is available outside the landfill office building. Most of the operators carry portable two-way radios with them on the site that can be used to talk with other operators or the landfill office personnel.

SAFETY LIGHTING

The on site power line grid provides electrical service from the flare station generators to the landfill entrance area. Two diesel-powered generators are available. Lights are installed on the landfill office and maintenance garage buildings.

LANDFILL GAS FLARE

Landfill gas is currently combusted in the landfill gas flare. This flare is located approximately 400 feet south of the Public Unloading Area. The flare is of sufficient size to serve for a number of years of landfill operation. Eventually, if the landfill gas is not diverted and used for production of electricity, a second flare will be needed.

EMERGENCY SERVICES

The Solano County Sheriff's Department provides police services to the area. Medic (a private company) provides ambulance services. The site is within the Suisun Fire Protection District. (Fire control and fire services are discussed in Chapter 4.6, Public Safety.)

4.5.2 IMPACTS AND MITIGATION MEASURES

The Phase II Project components would not result in an increased need for emergency medical or police services at the site. Also, the existing telephone service and radio communication links would continue to provide adequate communications for the site. Therefore, no impacts associated with these services would be anticipated and they are not discussed below. The project's effects on fire protection services are discussed in detail in Section 4.6, Public Safety of this document. The existing public services and utilities that would be affected by the Phase II Project components are described below.

THRESHOLDS OF SIGNIFICANCE

Impacts on public services and utilities were considered significant if the project has the potential to affect a service provider's ability to continue to provide a level of service that meets established standards for the project site and the remainder of the designated service area.

Impact
4.5-1

Increased On-site Water Demands. *The existing landfill operations and the Phase II Project would require a supplemental water supply to meet projected water demands. Water is currently hauled to the site to supplement existing groundwater supplies. The proposed project includes the installation of a second groundwater well and water supply pipeline that, when combined with existing water supplies at the site, would reduce the need to haul water to the site. Therefore, **no significant** impacts on water resources would be anticipated.*

The proposed project would increase the demand for water on the site by expanding the landfill operations. Water would be used for dust control, fire suppression, equipment cleaning, sanitary uses (e.g., sinks and toilets), and composting operations. In order to accommodate the water supply demands of the Phase II expansion, the development of a second water supply well is proposed on the north side of the Potrero Hills ridgeline north of

the proposed power plant (Exhibit 3-10). An existing agricultural well at this location has been tested as part of a well development evaluation. The existing well would be retained as a water level monitoring point. An underground pipeline would be constructed leading south from the new well toward the Phase II landfill area where four metal water storage tanks would be installed. The underground pipeline would continue west from the water storage tanks to a point near the site entrance area.

Other water used on the site for construction activities and site operations would continue to be hauled by water tank truck from Suisun and Fairfield. A water supply system would be constructed to provide water under pressure at several hydrants located around the recycling area. Bottled water would continue to be used for drinking water supplies.

The expanded water supply and storage infrastructure, the installation of a second groundwater well, and the continued hauling of water to the site would be expected to meet the water demands associated with the Phase II Project. (See Section 4.6, Public Safety, for a discussion of the sources of water for fire and dust suppression.) Therefore, no significant water supply impacts would be anticipated.

Mitigation Measure 4.5-1 Increased On-site Water Demands

No mitigation measures would be necessary.

Level of Significance after Mitigation

The project impacts on water supply would be considered less than significant.

Impact
4.5-2

Temporary Disruption of Electrical Service. *The construction of a power generation plant would require disruption of electrical service from upsizing existing PG&E power lines. This disruption would be temporary and would **not result in significant** public utility impacts.*

Increasing the size of the landfill would result in increased production of landfill gas. The Phase II Project includes installing landfill gas-fueled power generation equipment in order to convert landfill gas to a usable energy source. The project applicant is considering two methods to convert landfill gas to energy:

- ▶ Installing landfill gas power generation equipment that would convert landfill gas to electricity. This would require upsizing existing PG&E power lines in order to deliver the generated electricity to the PG&E power grid.
- ▶ Creating a smaller power generation facility and adding a fuel production facility for production and distribution of pressurized or liquefied landfill gas.

Both of these options would produce sufficient energy to meet the proposed projects demands while also producing surplus energy for offsite use. (For a detailed description of the proposed methods to convert landfill gas to energy, please see Chapter 3, Project Description of this document.)

LANDFILL GAS-FIRED POWER PLANT OPTIONS

The landfill gas-fired power plant ultimately would produce up to 10 megawatts (Mw) of electricity. This component entails adding engines or turbines as the landfill gas quantity increases. The power plant would occupy approximately 3.5 acres.

The preferred power plant location is north of the Phase II area, near the northern sediment control pond. This location is identified as the preferred option based on its proximity to the existing PG&E power line. Landfill gas from the Phase I and Phase II areas would be piped to this location. Initially, the gas line would run along the north side of landfill Cells 14, 31, 32, and 33 and pass through future Cells 20 and 21 to reach the power plant. Exhibits 3-8 and 3-9 identify the location of the power plant and the interim gas line. The final alignment of the landfill gas line would be along either the northern property line or on top of the finished landfill approximately along the interim alignment.

For the preferred power plant location, a low-capacity power line would be constructed back to the PHLF maintenance operations and administration area to provide the necessary electrical supply for site operations. This power line would eliminate the need for the diesel-powered generators that currently provide electricity for the site. The location of this line is shown on Exhibit 3-8. Initially, for ease of maintenance, the low-capacity line would be placed in the valley portion (as shown in the exhibit). Ultimately, as the landfilling progresses into landfill Cells 15, 16, 17, 19, and 20, the power line would be relocated to a permanent location along the northern property line.

An alternative power plant site is proposed near the existing gas flare (Exhibit 3-8). The alternative site provides a location for the power plant within the valley formed by the Potrero Hills. The preferred power plant site is located on the north-facing ridgeline outside of the valley. However, the alternative power plant site would require the extension of a high-capacity power line across the length of the site to connect with the existing PG&E power line. The power line alignment would generally follow along the ridgeline of the northern property line (Exhibit 3-8).

If the power generation plant is constructed at either location, the increased capacity of gas-fueled power generation equipment would require upsizing of the existing offsite PG&E power lines. The existing PG&E power line is located near the preferred power plant site. The existing line is not of sufficient voltage or current-carrying capacity to transmit the expected amount of electrical power that would be created from the conversion of landfill gas (up to 10 Mw). Interconnect equipment would be installed and the existing PG&E power line east of the point of connection would be replaced with a higher capacity line. The length of this replacement section is about 1 mile. The existing line continues eastward until it connects with a north-south line at Branscombe Road that leads to the industrial property adjacent to the landfill. The upsizing of the existing offsite PG&E power lines could cause temporary service disruptions for existing PG&E customers. However, these services disruptions are expected to be temporary, if they occur at all, and would not be expected to adversely affect PG&E's service

capabilities. Therefore, no significant electrical service impacts would be anticipated with implementation of the identified power plant options.

PRESSURIZED LIQUEFIED LANDFILL GAS OPTION

Alternatively, the Phase II Project would construct a smaller power generation facility and add a fueling facility for production and distribution of pressurized liquefied landfill gas. The smaller power generation facility would not involve upsizing existing PG&E power lines. Electricity would be provided by the existing electrical generation equipment or by a generator located in the operations area that would be fueled by landfill gas. No impacts on utilities and public services would occur with implementation of the smaller power generation facility and fuel production and distribution facility. (For a detailed discussion of the consistency of the power production facilities with applicable land use policies and their potential effects on visual resources, please see Section 4.1, Land Use, and Section 4.10, Visual Resources, of this document.)

Mitigation Measure 4.5-2 Temporary Disruption of Electrical Service

No mitigation measures would be necessary.

Level of Significance after Mitigation

The project impacts on electrical service would be considered less than significant.

Impact
4.5-3

Increased Wastewater Generation. *Proposed landfill operations associated with the Phase II Project would increase wastewater generation at the site. However, the increased wastewater is proposed to be captured and processed on the site. Therefore, **no significant** wastewater impacts would be anticipated.*

The existing on site septic tank and wastewater disposal field for toilets at the landfill office building, scale house, and employee break room would continue to be used with project implementation. Because landfill personnel would not substantially increase with project implementation, the expansion of these facilities would not be anticipated.

The volume of leachate (a wastewater flow source) generated at the site would increase with project implementation. However, leachate would continue to be pumped from the subdrain sumps and spread on the landfill surface, spread on the wastes at the active fill area, or pumped into the leachate injection wells or horizontal gas collection lines. Landfill gas condensate would continue to be returned to gas wells or the leachate collection system, or be evaporated with excess landfill gas by injecting it into the gas flare. Therefore, no additional wastewater treatment facilities would be necessary for the anticipated increase in leachate generation. (For a more detailed discussion of leachate management associated with landfill expansion, please see Section 4.4, Hydrology and Water Quality, of this document.)

The proposed truck/container washing facility would include a concrete-lined drive-through bay with a wastewater treatment and water recirculation system designed to handle the

overflow and purge water generated from the facility. The truck wash would be constructed near the existing equipment wash pad and would share the same discharge line into the compost basin. The commercial fleet vehicles leaving the landfill would use the truck wash as a means to remove dirt and dust from the truck body and tires. The excess treated water that is not reused in the wash system would be discharged to the recycling area siltation control basin and ultimately would flow to Siltation Control Basin No. 1. Because the proposed truck/container washing facility would include a wastewater treatment and water recirculation system and excess treated water would ultimately be discharged to Siltation Control Basin No. 1, no additional wastewater treatment facilities would be necessary to accommodate the wastewater generated from the proposed truck/container washing facility.

Mitigation Measure 4.5-3 Increased Wastewater Generation

No mitigation measures would be necessary.

Level of Significance after Mitigation

The project impacts on wastewater would be considered less than significant.