

4.6 PUBLIC SAFETY

4.6.1 EXISTING CONDITIONS

This section addresses the following public safety concerns:

- ▶ Landfill gas
- ▶ Fire hazards
- ▶ Vectors (disease-carrying organisms)
- ▶ Airport safety
- ▶ Hazardous wastes
- ▶ Biosolids

The discussions of existing conditions are based on information in the Combined EIR (JSA 1995) and the Joint Technical Document (JTD) (Potrero Hills Landfill Environmental Management Division 2002).

LANDFILL GAS

Gas Generation

Waste decomposition inside a landfill generates carbon dioxide, methane, and small quantities of trace gases that may be odorous or toxic. Gas generation rates are very low during the first several years after wastes are buried. The chemical composition of landfill gas also tends to change with time. Initial gas generation is dominated by carbon dioxide; methane becomes an increasingly dominant component as the decomposition process proceeds. As gas generation proceeds in the buried waste, gas pressure increases. The increasing pressure causes landfill gas to migrate vertically and horizontally through pore spaces and cracks. If not collected and removed, the gas takes the path of least resistance in order to escape the landfill containment system, either by venting to the atmosphere through the top or sides of the landfill or by using pathways through ground surfaces surrounding the fill area.

Accumulated landfill gases can potentially migrate great distances through permeable soils before they vent to the atmosphere. Underground utility or subsurface drainage corridors also can provide migration pathways. In addition, landfill gases can migrate into piping or conduits through couplings or joints. Human health can be endangered through the concentration of gases in a confined space such as a building or residence either on or off of the site. Also, there is a potential explosion hazard if gas concentrations reach combustible levels.

Landfills are required by federal and state regulations to have composite (multi-layered) bottom liners and sideslope liners as part of their gas containment system, they are required to meet impermeability requirements for the final cover that is placed on top of the waste when

the landfill is finally closed, and they must comply with mandated gas collection requirements in order to reduce the potential for landfill gas to escape from the site and endanger the public health.

Landfill Gas Control System

For landfill gas, PHLF falls under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) and the California Integrated Waste Management Board (CIWMB). Gases produced by the decomposition of solid waste are regulated by the BAAQMD under Regulation 8, Rule 34. The landfill is governed by Air Pollution Control Permit No. 31197, issued by the BAAQMD. No waste burning is conducted at the PHLF. In accordance with Title 27, Section 20937, a landfill gas control system has been installed and landfill gas is being burned in an approved flare, which was placed into operation on July 22, 1992 and enlarged in 1998. The levels of emissions from gas flaring are within the limits established by the BAAQMD.

The BAAQMD requires large landfills to develop gas control programs that will result in capture of the gas and either flaring (burning collected gas in a large confined flare) or recovering the gas in an energy generating facility. Condition of Approval 20.11 for the BAAQMD permit requires installation of an active vacuum gas control collection system concurrent with placement of wastes in the landfill. Such a system must be kept in continuous operation except for scheduled outages.

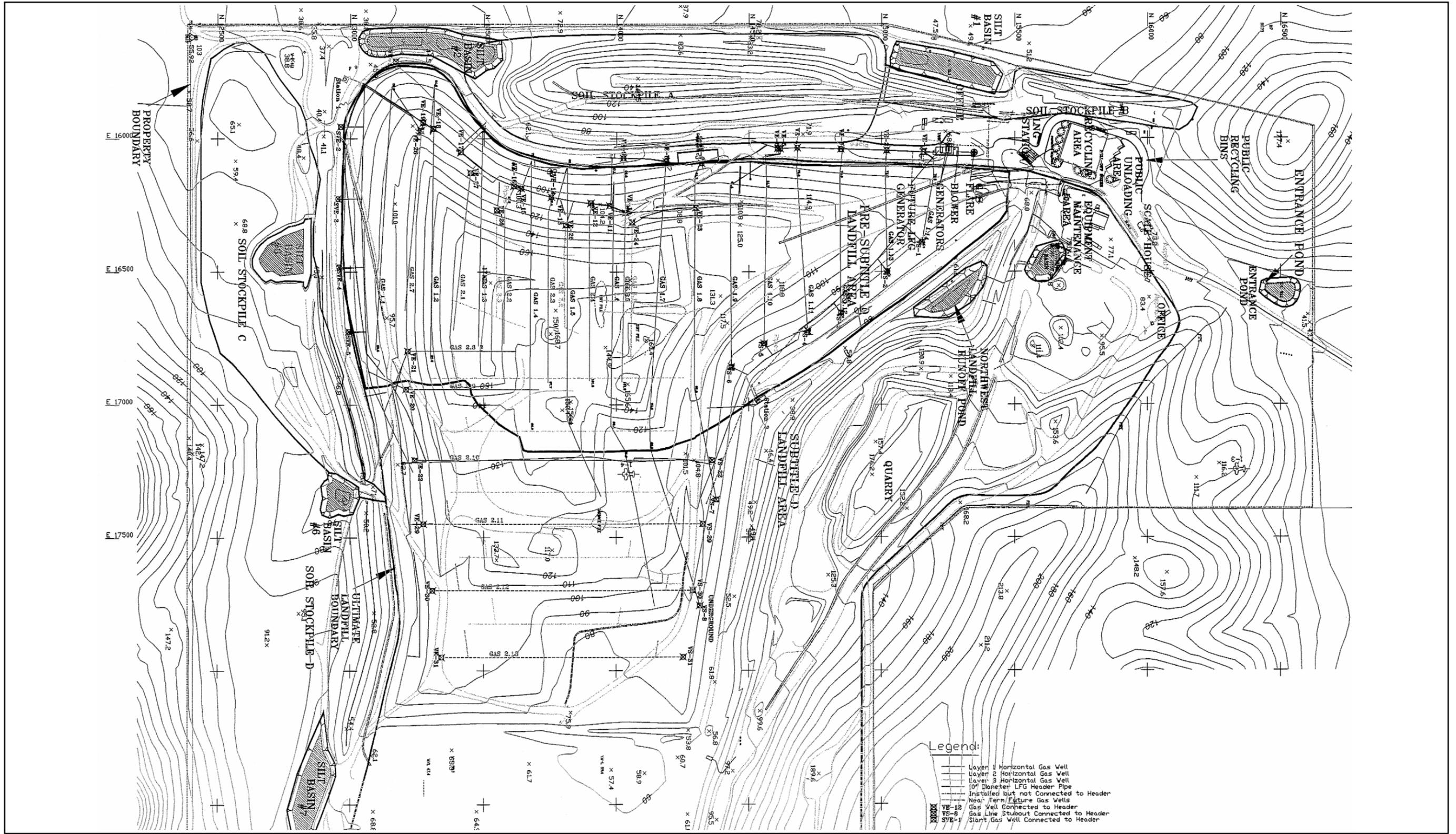
Gas Collection System

As of January 2002, 26 horizontal landfill gas collection pipes totaling 20,200 linear feet have been connected to the landfill gas flare via the gas header pipe (the main gas collection pipe) (Exhibit 4.6-1). These gas collection pipes capture the landfill gas generated from waste placed in the landfill mound. The gas collection system will be progressively extended throughout the entire Phase I landfill mound as the remaining waste cells are developed.

Landfill Gas Monitoring

In accordance with Title 27, Section 20923, a gas monitoring program has been designed and implemented at the landfill. The gas monitoring program includes four gas monitoring wells along the site's southern, western and northern boundaries (Exhibit 3-3). The gas monitoring program was designed to account for the following specific site characteristics and potential gas migration pathways:

- ▶ local soil and rock conditions;
- ▶ hydrogeological conditions at the disposal site;
- ▶ locations of buildings and structures relative to the waste disposal area;



Landfill Gas Control System

Potrero Hills Landfill Expansion Project
 P 2T085.01 04/03

EXHIBIT 4.6-1



- ▶ adjacent land use and inhabitable structures within 1,000 feet of the disposal site property boundary;
- ▶ man-made pathways, such as underground construction; and
- ▶ the nature and age of waste and its potential to generate landfill gas.

The gas monitoring program includes monitoring the structures on the site for landfill gas concentrations. Structures on the site include the equipment maintenance building, the landfill office buildings, the scalehouse, and the breakroom. As the currently permitted landfill is constructed sufficiently near these facilities, monitoring will be required as a part of the structure monitoring program.

FIRE HAZARDS

The site is within the Suisun Fire Protection District (District). Landfill operations personnel maintain coordination with the District. Fire protection measures and clearance zones are required by the District for the landfill. These include a water supply and a minimum 30-foot-wide firebreak with adequate access, approved by the District, to be provided for fire protection around the working area of the landfill. A firebreak is maintained around the Public Unloading Area and all other operating areas. Cattle grazing in areas outside the fenced active use area also reduces the height of grass in the other portions of the site.

The landfill's operational procedures include the consideration of fire control measures when selecting the location and manner of storing waste tires and wood materials, and conducting composting operations. The tires, wood waste stockpiles, and composting locations are located within the area that is plowed for a firebreak. Firefighting techniques in other areas of the landfill are similar to those used for the active landfill. If the fire is small, an attempt is first made to extinguish the fire with water from the water truck. If a larger fire occurs, the burning materials are pushed to the side by a dozer, or the other stockpiled materials are pushed away from the burning area. Alternatively, the burning area is smothered with soil to reduce fire danger. Subsequently, the materials are uncovered and doused with water.

Water hoses are installed at locations near the entrance area, including at the existing well, at the business office and the employee break room, and at the equipment wash pad at the south end of the maintenance shop. Installation of a high-pressure fire hydrant is planned as part of the current operations at the north end of the area currently used for green waste processing and composting operations. Electrical power has been installed at this location and water storage for fire suppression is proposed to be installed nearby in the future.

Water is supplied for dust and fire control from onsite and offsite sources. Onsite sources include the five siltation control basins, the stock watering pond located to the west of the site, the entrance pond, and the temporary water storage pond located west of the active quarry area. The water supply includes three water trucks that are filled from onsite ponds or from a Suisun City fire hydrant. Except during extreme multiple-drought-year periods, the nearby

stock watering pond located to the west can provide an emergency water supply. When full, the onsite ponds can store approximately 25 million gallons. Table 4.6-1 identifies the water storage facilities at PHLF.

Table 4.6-1 Water Storage Facilities at Potrero Hills Landfill		
Storage Unit	Minimum Capacity	Maximum Capacity (gallons)
Water Truck No. 1		4,000
Water Truck No. 2	*	2,400
Water Truck No. 3	*	4,000
Potable water tank	*	10,000
Public Unloading Area storage tank	*	10,000
Siltation Basin No. 1	0	2,900,000
Siltation Basin No. 2	0	1,000,000
Siltation Basin No. 3	0	900,000
Siltation Basin No. 5	0	1,500,000
Siltation Basin No. 6	0	100,000
Siltation Basin No. 7	0	150,000
Northwest landfill runoff pond	0	900,000
Entrance pond	0	100,000
Livestock pond	0	16,200,000
Recycling area silt control basin	0	350,000
* Filled daily as needed. Source: PHLF 2002a		

Ongoing Fire Control Programs

Title 27, Section 20780 (Open Burning and Burning Wastes) requires the site operator to take adequate measures for prompt fire control as required by local fire authorities. The landfill equipment operators have been trained in the methods of handling fires on the active face of the landfill and are in radio contact with the landfill office. Soil or other suitable cover material is stockpiled near the active face of the landfill for fire suppression. The earthen cell structure of the landfill combats the spread of underground fires. Operating equipment is equipped with spark arresters and fire extinguishers; each piece of landfill equipment is equipped with a fire extinguisher.

Fires that originate within the fill are handled by removing all the burning material from the fill and extinguishing it as described above, or by in-situ practices approved by the LEA, in consultation with the fire District. Excavation of burning materials is undertaken with sufficient firefighting equipment present to control any flare-ups that may occur as outside air

reaches the burning materials. The LEA is required to be notified within 24 hours by the landfill operator of any fire.

During 2002, the following fire suppression actions were required at the site.

- ▶ On January 12, 2002, site employees extinguished a hot load on fire.
- ▶ On March 10, 2002, employees extinguished a fire on a compactor tractor.
- ▶ On April 6, 2002, a hot load in garbage was pushed off to the side and covered with dirt.
- ▶ On April 7, 2002, hot spot found in garbage.
- ▶ On May 31, 2002, hot load brought in from a fire put out at transfer station.
- ▶ On July 22, 2002, truck started fire when it became stuck and the tires were spun. Employees extinguished fire.
- ▶ On September 2, 2002, employees extinguished fire in Cell 12.
- ▶ On September 13, 2002, customer's truck caught on fire at wood pile. Employees extinguished fire.
- ▶ On October 16, 2002, employees extinguished fire in garbage in Cell 13.
- ▶ On October 26, 2002, employees extinguished a grass fire at the old Solano Garbage Company landfill.
- ▶ On November 22, 2002, fire in facility tractor was extinguished by employees.

In addition, the adjacent residential neighbor has reported fires at the landfill to the County in the past including a power pole that caught on fire at the site in October 2003 (J. Guidotti, pers. comm., October 2003).

VECTORS

Any organism that is capable of carrying a disease is considered a vector. Vectors commonly associated with municipal landfills include insects, flies and mosquitoes; rats and mice; and birds such as gulls. Landfills can attract and provide shelter, food, and breeding grounds for these undesirable organisms, particularly where refuse and decaying organic matter are exposed. Vectors can spread diseases by carrying decaying waste containing bacteria, viruses, and other organisms offsite or by becoming infected themselves and coming into contact with humans and animals in surrounding areas.

Flies can inhabit and breed at the project site if proper sanitary waste disposal techniques are not used. Fly larvae feed off decaying food waste in individual refuse containers at residences

throughout the county and are regularly brought to the landfill by collection vehicles. Mosquito populations can breed in standing water at the landfill site, such as sedimentation basins and offsite drainage channels.

In October 2002, the adjacent neighbors (Guidotti and Tonneson) complained to PHLF site personnel about large numbers of flies entering their homes. PHLF site personnel obtained samples of the dead flies from the neighbors. Discussions with various staff members revealed that this type of fly had been encountered in homes throughout the Fairfield area during the same period.

PHLF environmental management staff conducted an Internet search and contacted several agencies to obtain additional information, including University of California at Berkeley, Solano County Agricultural Extension Service, and University of California at Davis. The name of the non-biting fly is Ortolidae. This fly normally occurs in the Solano County area. The population peaks in late summer/early fall and congregates near structures, seeking harborage for overwintering. The population declines with the onset of cooler weather in late fall. Based on information obtained from various sources, PHLF staff concluded that neither landfill operations nor composting operations were the source of the flies. On December 2, 2002, PHLF environmental management staff sent a memorandum to the LEA, advising the County of the findings of the fly occurrence investigation.

Rodents are brought to the landfill by collection vehicles and are also attracted to the landfill from surrounding areas by exposed food wastes. Rodents will continue to inhabit and breed at the landfill as long as food waste remains accessible. Gulls are known to regularly scavenge at landfill sites. Gulls are noisy, may spread contaminated food on or near the landfill, and may defecate on nearby properties.

Ongoing Vector Control Programs

State law (14 CCRs Division 7, Chapter 3) requires landfill operators to compact and cover the waste with a layer of soil or new waste to minimize the risks of landfill fires and the introduction of vectors. The state-mandated performance standards for solid waste handling are enforced by the LEA through issuance of a Solid Waste Facilities Permit (SWFP). The LEA inspects the landfill at least once a month to ensure that landfill operations conform with state-mandated performance standards for disposal of solid waste.

AIRPORT SAFETY

Birds, especially gulls, can pose a hazard to air traffic. Large numbers of gulls attracted by food wastes frequent PHLF. Gulls can collide with aircraft and either damage the aircraft or injure passengers.

Based on the location of PHLF approximately 2 miles south of Travis Air Force Base (Travis AFB), birds attracted to the existing landfill pose a hazard to aircraft.

Title 27, Section 20270 (Locations Restriction: Airport Safety) applies to certain municipal solid waste landfill units that are located within 10,000 feet of any airport runway end used by turbojet aircraft. This section is based on the federal EPA Subtitle D Section 258.10; both State Title 27 and Subtitle D sections do not apply to military airports. The state and federal regulation definitions of “airport” indicate that the regulations apply only to airports available for general public use. Coordination with the Federal Aviation Administration (FAA) is not needed because of FAA’s lack of jurisdiction over Travis AFB. The Phase II area lies between 10,500 and 11,500 feet from the nearest runway end at Travis AFB. For a detailed discussion of the proposed project’s consistency with the policies of the Travis Air Force Base Land Use Compatibility Plan, please see Section 4.1, Land Use of this document.

Current landfill operations are normally conducted during nighttime hours, requiring the use of portable construction lighting units stationed at the active face of the landfill. Night lighting at the site has occurred since 1997. The current Solid Waste Facility Permit limits the number of portable lights used at the site to two. Permanent lighting at the site is limited to the lights installed at the landfill office and maintenance garage buildings. The location of nighttime lighting directly south of the Travis Air Force Base runway is a safety concern due to the potential for pilots to confuse the lights at the landfill for runway lights during periods of inclement weather.

Ongoing Airport Safety Programs

Landfill operations currently include the use of bird deterrent and harassment techniques, such as the use of pyrotechnic scare devices, noise-scaring devices, and falcons to scare away gulls. In addition, the project applicant coordinates with officials at Travis AFB regarding bird control at the site. The project applicant also keeps track of the bird control methods used at the air base to learn of new techniques used there that may be applicable to the landfill operation.

HAZARDOUS WASTES

The types of wastes to be received at PHLF are nonhazardous solid wastes, as classified by the State Water Resources Control Board under Section 20220(a), as described below:

Nonhazardous Solid Wastes means all putrescible and nonputrescible solid, semi-solid and liquid wastes including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes and other discarded waste (whether of solid or semi-solid consistency); provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation of waters of the state (i.e. designated waste).

Special wastes can be accepted on a specific case basis. Depending on the characteristics of the waste, approvals may be needed from the SCDEM, the Regional Water Quality Control Board (RWQCB), or the Bay Area Air Quality Management District (BAAQMD).

Non-toxic or non-hazardous special wastes can be received only if the following conditions are met: (a) if they are permitted through the Land Use Permit/Marsh Development Permit, Solid Waste Facility Permit, and RWQCB waste approval process; (b) if handling/disposal of the materials are within the PHLF interests and business plan; and (c) if they are consistent with the policies of the Solano County Integrated Waste Management Plan.

SCDEM is the initial agency contacted after a request is received for disposal of special wastes. A decision is reached at that time regarding the extent of information to be submitted on the waste type and method of handling at the site. Other applicable regulatory agencies that may need to give approval also are identified at that time.

The CCR Title 27 water quality control regulations adopted by the State Water Resources Control Board and administered by the RWQCB govern the amount of moisture that can be contained in wastes disposed of in the landfill. The landfill is equipped with a leachate control barrier and a leachate removal and collection system. Hence, the site has been authorized by the RWQCB to receive wastewater treatment sludges and other high moisture content wastes on a case-by-case basis.

The BAAQMD is consulted by the project applicant when requests are received from waste generators for special waste disposal that may involve air emissions. It may be necessary to submit an application to the District for an air permit, which indicates the conditions to be met during disposal of such special wastes to avoid release of significant air contaminants.

The landfill's acceptance policies regarding special wastes are described below:

- ▶ **Wastewater treatment plant residues (biosolids).** The public operated treatment works (POTW) treatment plant residue delivered to the landfill includes grit and screenings, mechanically dewatered sludge, and lagoon-dried digested sludge.
- ▶ **Water treatment plant residues.** PHLF receives diatomaceous earth filter residue from drinking water treatment plants. These dry cake materials are delivered as they are seasonally removed from in-plant drying beds.
- ▶ **Agricultural wastes.** The only agricultural wastes received at the site to date are triple-rinsed pesticide containers.
- ▶ **Hazardous wastes.** Disposal of hazardous wastes requires permits issued by the federal Environmental Protection Agency (EPA) and the Cal-EPA Department of Toxic Substances Control (DTSC). No hazardous wastes are allowed to be disposed in the site, other than residues from hazardous waste processes that are no longer toxic and

are specifically approved for disposal at PHLF on a case-by-case basis, or wastes that have been delisted by Cal-EPA and approved for disposal at the landfill.

- ▶ **Infectious wastes (biohazard wastes).** No infectious wastes are allowed to be received at PHLF.
- ▶ **Other medical wastes.** This category of wastes includes non-infectious medical apparatus, dressings, syringes, and personal trash from medical patients. Sources include doctor offices, medical clinics such as dialysis centers, and hospitals. The SCDEM maintains an inspection program to ensure that the medical community is adequately identifying and containerizing these wastes pursuant to Title 22, CCRs. No body parts or body fluids are to be disposed with these wastes.

These materials are disposed of with the other solid wastes and buried daily. These include infectious wastes that have been sterilized using autoclave processing to render them non-infectious. The waste bags contain a heat-sensitive marking that changes color when the bag has been subjected to an adequate heat level designated by the health officials as necessary to achieve sterilization. These wastes are not considered to be infectious.

- ▶ **Asbestos waste.** State regulations regarding friable asbestos type materials are regulated by the DTSC; disposal of this hazardous material at landfills is restricted to placement in separate monofills within the sites. Friable asbestos materials are not accepted at PHLF.
- ▶ **Batteries.** Vehicle batteries are sometimes found in waste loads during the load checking. These batteries are pulled from the wastes and held for subsequent offsite handling. Batteries generated from site equipment are handled in the same manner.
- ▶ **High-moisture content wastes.** As municipal wastewater treatment plants further restrict the types of wastes that can be disposed via the sewer, land disposal of high-moisture wastes is an alternative that has been proposed. Limited disposal alternatives are available for some types of waste because of physical restrictions. An example includes spoiled or off-spec beverages in containers generated through equipment malfunctions during processing of the beverage, shipping damage, inability to meet quality control (importation) standards, or spoilage. Disposal of the liquids to the sewer may be impractical since the containers would need to be opened by hand because drainage under compaction devices is inadequate to process the large volume of liquid wastes generated.

These types of disposal events are sporadic and involve relatively minimal volumes of liquids placed in the landfill. It is PHLF policy to schedule these disposals during the dry weather season to allow evaporation to occur. If during unusual circumstances the disposal must take place during the wet season, the materials are landfilled after the approval of all responsible agencies is received.

- ▶ Other miscellaneous special wastes that may be acceptable for disposal at PHLF under the current SWFP include:
 - Site cleanup wastes (e.g., mine tailings [soil]) if determined insignificant as a potential hazard or if handled and disposed of in a manner that is consistent with the hazardous waste management regulations.
 - Hydrocarbon-contaminated soil (soil that results from the mitigation of leaking underground fuel tanks). Tests for concentrations of heavy metals must indicate levels below those allowable for disposal in a Subtitle D landfill cell.
 - Other contaminated soils if the material has been proven to not have elevated levels of heavy metals or organics constituents.
 - Non-hazardous residues from pollution control and process systems at industrial and commercial establishments.
 - Treated auto shredder waste (material remaining after the metallic components of cars have been mechanically extracted from the shredded vehicles). This waste must be treated to chemically fix the lead content prior to its disposal at PHLF.
 - Miscellaneous special wastes and designated wastes. Requests for disposal of miscellaneous special wastes that are reviewed by SCDEM and wastes that the RWQCB approves as below the threshold limits for hazardous wastes.
 - Items containing freon are unloaded in a designated area; an air conditioning system contractor visits the site about twice monthly and extracts the freon gas from the cooling units.
 - Cathode ray tubes (CRTs) are not accepted at PHLF; if CRTs are found in waste checks, they are removed and stored until they are hauled offsite for processing and recycling.
 - Animal carcasses are accepted only on a prior-arranged appointment basis and are disposed of according to a specified protocol.
 - Ash from fires or a combustion unit must be proven to not have elevated levels of heavy metals (in excess of the levels acceptable for PHLF under the Subtitle D regulations).

Ongoing Hazardous Materials Screening Programs

PHLF has instituted a Load Checking Program to develop statistics on the frequency and quantity of significant household toxic wastes that are being disposed of at the site, and to determine whether hazardous wastes from commercial accounts have been erroneously or

unlawfully deposited in waste loads. This program is in accordance with the Waste Discharge Requirements (WDRs) and SWFP (Specification r.), regarding the periodic checking for hazardous wastes. A sign is posted at the landfill entrance area, indicating that disposal of hazardous wastes is not allowed.

A Hazardous Materials Management Permit Application and Plan has been submitted to the SCDEM Environmental Health Division. The Plan identifies hazardous materials that are on the site and the contingency actions that would be taken in the event of an accident, spill, or other emergency. Typical onsite materials include diesel fuel, engine oil, cleaning solvent, and antifreeze.

Health and Safety Program

PHLF has an established health and safety program. The safety program is reviewed annually and revised as necessary. Each employee receives training at sessions held several times annually.

The PHLF training program is conducted by consultants and the environmental management division personnel and involves industrial hygiene, safety procedures, equipment operation, fire control, and the site development plan. The safety training involves recognition of safety hazards, manner of handling special wastes, and use of safety gear.

A Senate Bill 198 Safety Program has been developed and implemented with regular training sessions. This program also provides for scheduled periodic inspections of the work place to identify any unsafe work practices.

BIOSOLIDS

Treatment of municipal wastewater typically generates two waste streams: a liquid component and a solid or semisolid component. The liquid component, commonly referred to as effluent, usually is discharged to surface waters or percolation ponds or is used as irrigation water on some types of land. The solid or semisolid component, commonly referred to as sewage sludge, is treated to varying degrees and is typically incinerated, stored in drying beds or ponds, disposed of in landfills, or reused as a soil amendment on some types of land (JSA, June 1999).

Biosolids derived from the treatment of sewage sludge consist of a complex mixture of organic and inorganic compounds of biological and mineral origin removed from wastewater during primary, secondary, and tertiary sewage treatment. Properly treated biosolids meeting the pathogen-reduction and vector-control requirements of the EPA Part 503 regulations can still contain microorganisms that include bacterial, viral, protozoan, fungal, and helminth pathogens of potential concern to human and animal health. The concern over any particular pathogen that may be present in biosolids is related to its ability to infect a host and cause disease. This ability depends on a wide variety of environmental factors (e.g., ability to survive wastewater treatment, longevity in the environment) and host-specific factors (sanitary habits, overall health, and any immune system impairments). The pathogens can survive days

(bacteria), months (viruses), or years (helminth eggs), depending on environmental conditions (JSA, June 1999).

Years of study and review by health scientists from a wide variety of disciplines went into the development of the EPA's Part 503 regulations. Subsequent to the adoption of these regulations, studies have continued to evaluate the potential impacts on public health from biosolids management practices. To date, there have been no reported incidences of human disease that is directly related to biosolids land application operations (JSA, June 1999).

4.6.2 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The following criteria were used to evaluate the significance of public safety impacts resulting from the proposed project. Public safety impacts were considered significant if implementation of the proposed project would:

- ▶ Create a potential public health hazard.
- ▶ Involve the use, production, or disposal of materials that pose a hazard to human, animal, or plant populations in the project area.
- ▶ Create a risk of explosion or release of hazardous substance in the event of an accident or upset.
- ▶ Pose a threat to public health and safety or the environment through release of emissions or risk of upset.

Impact
4.6-1

Public Health Hazards Associated with Expanded Landfill Gas Generation.

*Project implementation would increase the volume and duration of landfill gas generation, which could increase the potential risk of fire or explosion. Also, the proposed landfill-gas powered generation facility or the fuel production facility could increase the potential risk of fire or explosion. Therefore, **significant** public health impacts would be anticipated.*

Landfill Gas Migration Hazards

Implementing the Phase II Project would increase the volume and duration of landfill gas generation by extending the footprint and active life of the landfill. Because of the physical location of the landfill, the local geological and hydrogeological conditions, final landfill contours, and distance from any potentially affected areas, public health hazards associated with methane migration off the site are negligible. The landfill is located in a remote valley separated from the few adjacent occupied residences by substantial distances.

The nearest offsite property boundary to the currently placed wastes is located more than 500 feet west of the landfill. The nearest structure in this direction is at Rush Ranch near the Suisun Marsh, over 2 miles away. The nearest structure to the east is 4,000 feet away. To the

northeast, the nearest residences are 2,400 feet from the current edge of the filled area. Ultimately, the landfill boundary would be approximately 1,600 feet from the nearest residence. The immediately adjacent land is used solely for cattle grazing. No irrigated or specialized crops are grown within the Potrero Hills valley or within 5 miles of the site.

The landfill gas control system installed at the site would be expanded to control the increased landfill gas generated by the Phase II expansion. This expansion would include extending horizontal landfill gas collection pipes into the Phase II cells and later installation of vertical wells. The gas header pipes that extend along the northern and southern portion of the Phase I landfill would be extended to the east and would serve the north-to-south horizontal collection pipes installed in the Phase II cells.

In addition, the extension of the landfill base liner system into the Phase II expansion would, when coupled with the gas control system, provide additional landfill gas migration control. The base liner system contains the landfill gas within the waste mound where it can be captured by the landfill gas control system.

Risk of Fire, Explosion or Asphyxiation Hazards from Landfill Gas Generation

The methane component of the landfill gas is of greatest concern with respect to the potential for occurrence of fire, gas explosions in confined spaces or asphyxiation for building occupants.

The landfill gas collection system substantially reduces emissions of methane gas, lessening the potential risk of fire or asphyxiation. Continued implementation of the existing landfill gas migration control and monitoring system, and compliance with methane gas concentration limits also reduces the risk of explosion or fire at the site. However, the potential risk of a fire, explosion or asphyxiation hazards associated with the increased generation of landfill gas anticipated with project implementation would be considered a significant impact.

Power Generation Facility Hazards

Once the landfill gas is captured, it must be disposed of or used. The Phase II Project includes two options for use of the increased landfill gas: a power generation facility to convert landfill gas into electricity, or a smaller power generation facility and adding a fuel production facility for production and distribution of pressurized or liquefied landfill gas.

Landfill-Gas Powered Electrical Generation Facility

The project proposes the development of a generation facility to convert landfill gas into electricity. This 10-Megawatt facility is proposed to replace existing diesel-powered generators that currently generate approximately 0.3 Megawatts of electricity. The generation facility would be sited north of the landfill expansion area and would require upsizing of the existing PG&E power line. The proposed power plant location is north of the Phase II area, near the northern sedimentation basin. Landfill gas from 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. The gas line would be realigned as these landfill cells are filled.

The use of landfill gas to operate a power generation facility could increase the risks of fire or explosion hazards at the site. These hazards are associated with the transport of the gas to the power facility, the gas combustion process, and the electrical connections necessary to transfer the generated energy to its intended use. This impact would be considered significant.

Power Generation and Fuel Production and Distribution Facilities

Alternatively, a smaller power generation facility would be constructed and a fuel production and distribution facility would be added for production and distribution of pressurized or 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.

The gas would be stored temporarily for fueling a fleet of trucks or for transport to an industrial customer by tank trucks. The initial capacity of the gas processing system would be 5,000 gallons per day. Onsite storage would allow 20,000 gallons to be contained in the permanent tanks. The quantity of landfill gas to be handled annually would be up to 500 million standard cubic feet, and up to 2 million gallons of liquefied landfill gas may be produced per year.

The gas processing facility would be located near the existing landfill gas flare. The processing system is comprised of metal frame structures that enclose or support heavy gauge steel, double-walled pressure tanks or steel piping and processing equipment.

The onsite landfill gas collection network currently delivers the gas to the flare, where it is combusted as permitted by the BAAQMD. The supply for the landfill gas processing system would be connected to the pipeline delivering the gas to the flare. Gas not processed by the processing system would be flared.

At the landfill gas processing operation area, an apron and driveway would be provided to allow access by the vehicles that haul liquid landfill gas. Trucks removing the liquefied landfill gas would proceed to the side of the processing area. After being loaded, they would leave the landfill using the normal haul roads.

The operation of a fuel production and distribution facility for the production and distribution of pressurized or liquefied landfill gas near the landfill entrance would increase the risks of fire or explosion hazards at the site. These hazards are associated with the transport of the gas to the power facility, the liquefied landfill gas production process, and the vehicle fueling process. Accidents could happen in any of these three processes due to the concentrated landfill

operational activities that occur in the area of the facility that could result in an explosion or fire. This impact would be considered significant.

Mitigation Measure 4.6-1 Public Health Hazards Associated with Expanded Landfill Gas Generation

The landfill gas monitoring and control program shall be expanded as the Phase I and II landfill mound expands, as required by CCR Title 27, Sections 20923 and 20937, in order to control landfill gas generation at the site.

The existing structure monitoring program shall continue with implementation of the Phase II Project. The structure monitoring program shall identifying enclosed spaces on, within, or adjacent to the landfill that will be required to be identified in a specific listing included in updates of the Joint Technical Document and the Landfill Closure Plan. Enclosed spaces include the equipment maintenance building, scalehouse, breakroom, and landfill office building. As the landfill is constructed sufficiently near these facilities, monitoring shall be implemented as part of the structure monitoring program.

The design and operation of the power production facilities shall comply with applicable county building permit requirements and applicable fire code and industrial process equipment standards. In addition, the facility shall comply with BAAQMD permit requirements. The processing system and storage tanks shall be located a sufficient distance from the landfill gas flare to comply with applicable fire protection codes.

Level of Significance after Mitigation

With implementation of the identified mitigation measures, potential health hazards associated with expanded landfill gas generation would be considered less than significant.

Impact 4.6-2 **Public Health Hazards Associated with Expanded Composting.** *The expanded composting operations could increase the risk of fire at the site. This impact would be considered **significant**.*

The proposed expanded composting operation could increase the risk of fire at the landfill if the moisture content of the compost piles is not maintained during the hot and windy summer weather. Fires can result from spontaneous combustion within the interior of the active windrows if they become too dry and too deep. This would be considered a significant impact. (Please see Section 4.10, Air Quality for a discussion of odor impacts associated with composting operations.)

Mitigation Measure 4.6-2 Public Health Hazards Associated with Expanded Composting

The project applicant shall comply with the state-mandated performance standards (CCR Title 14) regarding the operation of the expanded composting facility. These standards include regular turning of the compost windrows (twice weekly), minimizing the depth of the piles, and continually monitoring the water content and pile temperature.

Level of Significance after Mitigation

With implementation of the identified mitigation measure, potential fire hazards associated with expanded composting operations would be considered less than significant.

Impact
4.6-3

Potential Attraction and Breeding of Vectors That Could Spread Disease. *The increased capacity of the landfill would attract additional vectors such as flies, rodents and birds that could spread infectious diseases to humans. This impact would be considered significant.*

The increased waste stream associated with the proposed project would result in an increase in the amount of fly larvae and rodents brought to the site by collection vehicles and subsequent increases in the amount of flies and rodents present at the landfill. Increased landfill loading would result in continued attraction of gulls to the landfill. Vectors can spread diseases by carrying decaying waste containing bacteria, viruses, and other organisms offsite or by becoming infected themselves and coming into contact with humans and animals in surrounding areas. The project's potential to attract additional vectors to the site would be considered a significant impact.

Mitigation Measure 4.6-3 Potential Attraction and Breeding of Vectors That Could Spread Disease

Consistent with CCR Title 27, Section 20810, the project applicant shall take adequate steps to control or prevent the propagation, harborage or attraction of flies, rodents or other vectors and to the minimize bird problems. In addition, the project applicant shall comply with any enforcement actions identified by the Local Enforcement Agency to control vectors, including implementing more frequent compaction of waste and installation of cover soils, as well as implementation of a licensed exterminator program. The project applicant shall also be required to coordinate with officials at Travis Air Force Base regarding effective bird control methods to be used at the site. This includes the continued use of bird deterrent and harassment techniques, such as the use of pyrotechnic scare devices, noise-scaring devices, and falcons to scare away gulls. An expanded bird control program shall be implemented if gulls become a nuisance, as determined through consultation with Travis Air Force Base staff and the LEA. If mosquitoes become a problem in the onsite sedimentation ponds, as determined by the LEA, the local mosquito abatement district shall be contacted to implement appropriate control measures.

Level of Significance after Mitigation

With implementation of the identified mitigation measure, potential vector impacts would be considered less than significant.

Impact
4.6-4

Potential Bird Strikes with Airplanes from Travis AFB. *With implementation of the Phase II Project, birds would continue to be attracted to the site. The potential for increase bird strikes with airplanes from Travis Air Force Base would be considered a **significant** air traffic hazard.*

Birds, especially gulls, can pose a hazard to air traffic. Large numbers of gulls attracted by food wastes frequent PHLF. Gulls can collide with aircraft and either damage the aircraft or injure passengers. With implementation of the proposed project, the working face of the landfill would be located closer to the Travis Air Force Base runways than with the currently permitted landfill. This could increase the potential for bird strikes, which would increase safety hazards for planes using Travis Air Force Base. This potential increase in safety hazards for planes would be considered a significant impact.

Implementation of the Phase II Project would not conflict with the requirements of Title 27, Section 20270 (Locations Restriction: Airport Safety) or EPA Subtitle D Section 258.10 because neither of these regulations apply to military airports. The state and federal definition of “airport” in these regulations indicates that they apply only to airports available for general public use. For a detailed discussion of the proposed project’s consistency with the policies of the Travis Air Force Base Land Use Compatibility Plan, please see Section 4.1, Land Use of this document.

Mitigation Measure 4.6-4 Potential Bird Strikes with Airplanes from Travis AFB

The project applicant shall implement Mitigation Measure 4.6-3 identified above.

Level of Significance after Mitigation

With implementation of the identified mitigation measure, potential impacts associated with bird strikes with airplanes would be considered less than significant.

Impact
4.6-5

Expansion of Night Lighting. *The proposed project would remove restrictions on the number of lights used for night lighting of disposal operations and would extend the use of night lighting to accommodate 24-hour operations. The increase in facility lighting could be disorienting for pilots landing at Travis Air Force Base during nighttime hours. Therefore, the increase in night lighting at the site would be considered a **significant** impact.*

Current landfill operations are normally conducted during nighttime hours, requiring the use of portable construction lighting units stationed at the active face of the landfill. Night lighting at the site has occurred since 1997. The current Solid Waste Facility Permit limits the number of portable lights used at the site to two. The proposed project would remove this restriction. Night lighting would be used at the active face of the landfill and at other operations that require light (such as composting).

Due to the project site’s location directly south of Travis Air Force Base, the addition of new night lighting at the landfill could be disorienting for pilots landing at the Base during

nighttime hours, potentially resulting in a flight safety risk. This potential safety risk associated with nighttime lighting would be considered significant.

Mitigation Measure 4.6-5 Expansion of Night Lighting

To ensure that the proposed increased nighttime lighting does not interfere with operations at Travis Air Force Base, lights used during nighttime landfill operations will be placed in an irregular pattern in order not to appear to be a runway. The project applicant shall notify Travis Air Force Base prior to any change in the way lighting is used for nighttime operations.

Level of Significance after Mitigation

With implementation of the identified mitigation measure, potential night lighting impacts would be considered less than significant.

Impact
4.6-6

Potential Human Exposure to Hazardous Wastes. *The increased waste stream associated with the proposed project could result in an increase in the amount of hazardous waste illegally deposited into the landfill. However, continued implementation of the existing load checking program would ensure that this impact remains **less than significant**.*

The proposed project would increase the amount of waste processed at the site by applying tonnage limits only to materials buried in the landfill, although vehicle limits would remain unchanged. The increased waste stream associated with the proposed project could result in an increase in the amount of hazardous waste illegally deposited into the landfill within loads of general mixed waste loads. However, any increase in the amount of hazardous materials within the landfill is expected to be minimal and would not create a public health hazard because: 1) the landfill would retain its no-acceptance policy regarding hazardous wastes, 2) continued implementation of the existing load checking program greatly reduces the changes that hazardous waste would be deposited into the landfill without detection, and 3) a large portion of waste entering the landfill would be sorted and inspected at transfer stations and materials recovery facilities prior to its arrival at the landfill. In addition, the existing employee health and safety program would continue to be utilized to educate and direct employees on proper methods for handling hazardous waste and safely responding to emergencies, thereby further minimizing the risk of human exposure to hazardous waste in the landfill. For these reasons, any potential impact to human health or potential risk of upset resulting from possible illegal or accidental disposal of hazardous waste is expected to be less than significant.

Mitigation Measure 4.6-6 Potential Human Exposure to Hazardous Wastes

No mitigation measures would be necessary.

Level of Significance after Mitigation

Potential impacts associated with human exposure to hazardous wastes would be considered less than significant.

Impact
4.6-7

Potential Human Exposure to Biosolids. *The Phase II Project includes adding biosolids and food waste to the composting operation and adding new methods to handle sludge. These operational changes could expose site employees and the public to potential hazards associated with biosolids. Although the probability for exposure to pathogens in biosolids is low for site employees and the public, the potential for exposure would be considered a **significant** public health impact.*

The Phase II Project would add biosolids to the composting operation as an additional feedstock material that can be composted. Additional food wastes would also be composted. The amount of these materials could total to 100 tons per day (averaged over a 7 day period).

Biosolids materials are currently delivered to the landfill by wastewater treatment plant sludge-hauling trailer trucks. With implementation of the proposed project, these materials would in most cases be either unloaded near the active landfill face, if they are to be monofilled or if they are to be used for ADC, or they would be placed into a stockpile at a separate receiving and unloading area that would be specifically established for biosolids. The public would be excluded from this biosolids receiving area. The water runoff from this separate receiving area and from the composting area would be directed to a siltation control basin and the collected water would be used in the composting operation. If the biosolids are to be used on the landfill slopes as soil conditioner, they would be removed from the stockpile and placed into landfill dump trucks. The biosolids to be land applied and spread on the unused landfill footprint area would be delivered directly to those locations by wastewater treatment plant sludge-hauling vehicles. The biosolids to be stored in seasonal ponds for solar drying would be delivered directly to the ponds by wastewater treatment plant sludge-hauling vehicles. Adding biosolids to the composting operation and adding new methods to handle sludge could expose site employees and the public to potential hazards associated with biosolids including the presence of pathogens. Although the probability for exposure to pathogens in biosolids is low for site employees and the public, the potential for exposure would be considered a significant public health impact.

Mitigation Measure 4.6-7 Potential Human Exposure to Biosolids

For biosolids composting operations, the project applicant shall comply with CCR Title 14, Division 7, Chapter 5, as enforced by the Local Enforcement Agency and the California Integrated Waste Management Board. This includes submitting a permit application under the California Integrated Waste Management Board's tiered permitting program and complying with all of the requirements of the permit. For the land application of biosolids, the project applicant shall comply with EPA regulations identified under Standards for the Use or Disposal of Sewage Sludge (Title 40 Code of Federal Regulations [CFR] Part 503, known as the Part 503 regulations) and California State Water Resources Control Board General Order for

General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities in California.

Level of Significance after Mitigation

With implementation of the identified mitigation measure, potential impacts associated with the potential human exposure to biosolids would be considered less than significant.