

4.8 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential risks to human health and safety from hazardous materials, fire hazards, and public health hazards associated with implementation of the proposed project. This section describes the regulatory background and existing environmental conditions at the project site and identifies potential impacts of the proposed project. Potential impacts related to toxic air contaminants are discussed in Section 4.2, "Air Quality," and potential effects related to the release of hazardous materials on water quality, including leachate production and waste discharge, are discussed in Section 4.9, "Hydrology and Water Quality."

No comments pertaining to hazards or hazardous materials were received in response to the Notice of Preparation for the proposed project.

4.8.1 Regulatory Setting

FEDERAL PLANS, POLICIES, AND REGULATIONS

Toxic Substances Control Act/Resource Conservation and Recovery Act/ Hazardous and Solid Waste Act

The primary federal agency regulating the generation, transport, and disposal of hazardous substances is U.S. Environmental Protection Agency (EPA), under the authority of the Federal Toxic Substances Control Act of 1976 (15 U.S. Code [USC] 2605) and the Resource Conservation and Recovery Act (RCRA) of 1976 (42 USC 6901 et seq.). RCRA established an all-encompassing federal regulatory program for hazardous waste that is administered in California by the Department of Toxic Substances Control (DTSC). Under RCRA, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Amendments of 1984, which specifically prohibits the use of certain techniques for the disposal of various hazardous waste. The Federal Emergency Planning and Community Right-to-Know Act of 1986 imposes planning requirements to help protect local communities in the event of accidental release of an extremely hazardous substance.

U.S. Department of Transportation Hazardous Materials Transport Act

The U.S. Department of Transportation, in conjunction with EPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 (49 USC 5101) directs the U.S. Department of Transportation to establish criteria and regulations regarding the safe storage and transportation of hazardous materials. The Code of Federal Regulations (CFR) 49, 171–180, regulates the transportation of hazardous materials, types of material defined as hazardous, and the marking of vehicles transporting hazardous materials.

Occupational Safety and Health Administration

The mission of the Occupational Safety and Health Administration (OSHA) (Title 29 CFR 1910) is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA staff establish and enforce protective standards and reach out to employers and employees through technical assistance and consultation programs.

STATE PLANS, POLICIES, AND REGULATIONS

Solid Waste Facility Operating Standards

Title 14 of the California Code of Regulations (CCR) contains regulations of the California Integrated Waste Management Board (CIWMB) pertaining to nonhazardous waste management in the state. Title 14 establishes

minimum standards for solid waste handling and disposal (Chapter 3) and established guidelines for enforcement of solid waste standards and administration of solid waste facilities permits (Chapter 5).

Landfill Regulations

Title 27 of the CCR contains the regulations of CIWMB and State Water Resources Control Board (SWRCB) pertaining to waste disposal on land. Chapter 3, Subchapter 4 of Title 27 establishes operating criteria for all landfills and disposal sites. Regulations pertaining to public health and safety issues include the following:

- ▶ 20810 – Vector Control: Requires implementation of adequate measures to control or prevent the propagation, harborage, or attraction of flies, rodents, or other vectors and to minimize bird problems at the site.
- ▶ 20870 – Hazardous Wastes: Requires owners or operators of all municipal solid waste landfill units to implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes. This program must include, at a minimum, radon inspections of incoming loads, records of any inspections, training of facility personnel to recognize regulated hazardous wastes and polychlorinated biphenyl (PCB) wastes, and notification of the Local Enforcement Agency, the Director of DTSC, or its delegated agent, and the Regional Water Quality Control Board (RWQCB), if a regulated hazardous waste or PCB waste is discovered at the facility.
- ▶ 20919 – Landfill Gas Controls: Establishes requirements designed to detect and limit the migration of landfill gas (LFG). If monitoring indicates methane gas movement away from the site, the owner is required to construct a gas control system approved by the local enforcement agency, local fire control agency, or CalRecycle within a specific time period. This requirement can be waived by the requiring agency if satisfactory evidence is presented indicating that adjacent properties are safe from hazard or nuisance cause by methane gas movement.
- ▶ 20919.5 – Explosive Gases Controls: This section sets methane concentration limits for facility structures and at the property boundary. Owners or operators of all municipal solid waste landfill units must ensure that the concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit for methane in facility structures and that the concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary. It also establishes monitoring requirements (at minimum, conducted quarterly) and actions to be taken if gas levels exceed the specified limits above, among other provisions.
- ▶ 21810 – Clean-Closure: Allows the operator of a solid waste landfill to submit a closure plan for solid waste landfills that will be closed by removing solid wastes and contaminated soils (clean closure). The purpose of the plan for clean closure is to establish a closure method for a disposal site that will partially or completely remove solid wastes and contaminated soils to provide remediation of a threat to public health and safety, reduce or eliminate the need for postclosure maintenance, and prepare the site for postclosure land uses.

In addition, Title 27, Environmental Protection; Division 2, Solid Waste; Chapter 3, Criteria for All Waste Management Units, Facilities, and Disposal Sites; Subchapter 2, Siting and Design; Article 2, SWRCB Waste Classification and Management regulates the acceptance of sewage sludge at landfill facilities including setting requirements for the percentage of solids present and minimum ratio for solids to liquids. Title 27 also requires landfill facilities accepting sewage sludge to have a leachate collection and removal system.

In Solano County, the Solano County Department of Resource Management is the local enforcement agency (LEA). While the County Board of Supervisors initially selects the department that will be the LEA, the department must be certified by CalRecycle.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State hazardous waste management program. It is similar to, but more stringent than, the federal RCRA program. The act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling treatment, storage and disposal facilities; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of

such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The following Program Elements are consolidated under the Unified Program:

- ▶ Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs;
- ▶ Aboveground Petroleum Storage Tanks (Spill Prevention Control and Countermeasures Plan);
- ▶ Hazardous Materials Release Response Plans and Inventory Program (Hazardous Materials Disclosure or “Community-Right-To-Know”), Hazardous Material Plans;
- ▶ California Accidental Release Prevention Program and Risk Management Plan;
- ▶ Underground Storage Tank Program; and
- ▲ Uniform Fire Code Plans, Hazardous Materials Management, and Inventory Requirements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more program elements in coordination with the CUPA.

California Department of Toxic Substances Control

DTSC implements and oversees the Hazardous Waste and Substances Sites (Cortese) List. The Cortese List is used by state agencies, local agencies, and project developers to ensure compliance with CEQA requirements for providing information about the location of hazardous materials release sites. The list is updated at least annually, as required under CEQA, with input from DTSC as well as other state and local government agencies that are required to update and submit hazardous materials release information and updates. Cortese list information is available through DTSC’s EnviroStor website, and via the SWRCB’s Geotracker website.

California Office of Emergency Services

To protect public health and safety and the environment, the California Office of Emergency Services is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) needs to be available to firefighters, public safety officers, and regulatory agencies and needs to be included in business plans to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1–Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2–Hazardous Materials Management (Sections 25531 to 25543.3).

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace in California. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for

employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Hazardous Materials Handling and Transport

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 requires preparation of hazardous materials business plans and disclosure of hazardous materials inventories. A business plan includes an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the state. Local agencies are responsible for administering these regulations.

Several state agencies regulate the transportation and use of hazardous materials to minimize potential risks to public health and safety, including Cal/EPA and the California Emergency Management Agency. The California Highway Patrol and California Department of Transportation enforce regulations specifically related to the transport of hazardous materials. Together, these agencies regulate container types and license hazardous waste haulers for hazardous waste transportation on public roadways.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS AND ORDINANCES

Solano County General Plan

The project site is located within the area covered by the *Solano County General Plan* (Solano County 2008). Hazards are discussed in the Public Health and Safety chapter of the General Plan, which includes the following goals and policies relevant to the proposed project:

- ▶ **Policy HS.P-26:** Minimize the risks associated with transporting, storing, and using hazardous materials through methods that include careful land use planning and coordination with appropriate federal, state, or County agencies.
- ▶ **Policy HS.P-29:** Promote hazardous waste management strategies in this order of priority: source reduction, recycling and reuse, onsite treatment, offsite treatment, and residuals disposal.
- ▶ **Policy HS.P-31:** Encourage regional efforts to implement alternatives to land disposal of untreated hazardous wastes, and participate in inter-jurisdictional agreements that balance the economic efficiencies of siting facilities with the responsibility of each jurisdiction to manage its fair share of hazardous wastes generated within the region.
- ▶ **Policy HS.P-32:** Work to ensure the adequacy of disaster response and coordination in the county and the ability of individuals to survive disasters.
- ▶ **Policy HS.P-33:** Plan and designate evacuation and aid routes. Work to create a comprehensive circulation system that is effective in allowing emergency access to and from all parts of the county and which provides alternative routes during unexpected events such as flooding, fires, or hazardous materials accidents that require evacuation.
- ▶ **Policy HS.P-35:** Encourage full coordination and communication between federal, state, and local agencies regarding disaster planning and preparedness.

Solano County Department of Resources Management, Environmental Health Services

The Solano County Department of Public Health, Division of Environmental Health is certified by the Department of Toxic Substances Control (DTSC) as the Certified Unified Program Agency (CUPA) that administers the following programs:

- ▶ California Accidental Release Program (CalARP): The program aims to prevent the release of regulated substances into the environment.

- ▶ Hazardous Materials and Waste Program: The program enforces laws relevant to hazardous materials and has the following major elements:
 - Hazardous Waste Control Act compliance,
 - Hazardous Materials Business Plan, and
 - Emergency response.

Solano County Emergency Operations Plan

The Emergency Operation Plan (EOP) addresses Solano County's planned response to extraordinary emergency situations associated with natural, technological and human caused emergencies or disasters within or affecting Solano County. This EOP is the principal guide for Solano County's response to, management of, and recovery from real or potential emergencies and disasters occurring within its designated geographic boundaries (Solano County 2017: 10).

4.8.2 Environmental Setting

DEFINITIONS OF TERMS

The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including waste, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases). The term "hazardous material" is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment (California Health and Safety Code Chapter 6.95, Section 25501[o]).

If improperly handled, hazardous materials and wastes can cause public health hazards when released to the soil, groundwater, or air. The four basic exposure pathways through which an individual can be exposed to a chemical agent include: inhalation, ingestion, bodily contact, and injection. Exposure can come as a result of an accidental release during transportation, storage, or handling of hazardous materials. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transportation of soils contaminated by hazardous materials from previous spills or leaks. Hazardous materials may also be present in building materials and released during building demolition activities.

SURROUNDING LAND USES

The Recology Hay Road (RHR) Property is located about 8 miles southeast of the City of Vacaville in Solano County, California. Land uses in the project vicinity consist primarily of agricultural and grazing lands. The nearest rural residence is located approximately 1 mile east. There are no schools within a 0.25-mile radius of the project site. Travis Air Force Base is located approximately four miles to the southwest.

Data on historic and documented releases of hazardous materials in the surrounding area were obtained through internet searches including review of the SWRCB GeoTracker database, the EPA Envirofacts/ EnviroMapper website, and the state Cortese list via the DTSC EnviroStor database. Geotracker database indicates that the nearest cleanup site to RHR Landfill is a formerly used defense site, Travis Air Force Base (AFB) NIKE Battery 10, located approximately 2.5 miles west of the RHR Property. This site is identified as a Hazardous, Toxic, and Radioactive Waste (HTRW) site (T10000011789) and was used by the Department of Defense as an air defense missile battery from 1956 to 1974. The site cleanup status is listed as open for remediation since July 9, 2018 (SWRCB 2018).

LAND USES WITHIN THE PROJECT SITE

The RHR property has been in continuous operation as a landfill since 1964. The property contains a Class II and Class III solid waste disposal facility, as well as adjacent buffer and mitigation areas. Jepson Prairie Organics, a composting facility (SWFP No. 48-AA-0083), is co-located at the RHR Property, owned and operated by Recology, and is located entirely within the footprint of a portion of the future Class II landfill disposal modules. The permitted footprint of the Jepson Prairie Organics facility is 54 acres and is permitted separately.

Geotracker database identifies 24 violations since 2014, 21 enforcement actions since 1998, and 57 inspections since 1992 (SWRCB 2019). Envirostor database identifies compliance evaluation inspections and enforcement actions from 2010 and 2017 related to lack of evidence that employees handling treated wood waste (TWW) have been trained in applicable Cal-OSHA rules, regulations, and orders relating to hazardous waste (DTSC 2019a). The project site is not included in DTSC's list of hazardous waste and substances sites. No open cleanup actions are indicated at the site at this time.

RHR Landfill is not included on the Inventory of Solid Waste Facilities Which Violate State Minimum Standards for solid waste handling and disposal (CalRecycle 2019). State minimum standards regulate the design and operation of solid waste facilities in order to protect public health and safety and the environment.

Existing Waste Classification and Management at RHR Landfill

The RHR Landfill currently accepts non-hazardous solid waste and recyclables, high liquid content waste, designated waste, Asbestos Containing Waste (ACW), TWW, and waste requiring special handling. Each of the waste types accepted for disposal at the site are discussed below (Golder 2018: Section 4 & 7).

Non-Hazardous Solid Waste and Recyclables

The landfill is a regional facility that accepts municipal solid waste (MSW) from Solano County and other northern California jurisdictions. Designated waste may be received from potentially more remote locations, depending on market factors. RHR Landfill recycles the following materials: curbside collected materials, wood, concrete and asphalt, clean and contaminated soil, ash, metals, tires, and dewatered sludge (a.k.a. biosolids).

High Liquid Content Waste

The landfill currently accepts dewatered sewage sludge (a.k.a. biosolids) from publicly-operated treatment plants. The landfill accepts non-hazardous dewatered or water-treatment sludge (a.k.a. biosolids) from these plants on a case-by-case basis. Industrial and food processing plant sludges are accepted and processed at the JPO facility. RHR Landfill currently accepts sludge (a.k.a. biosolids) if the sludge is primary sludge containing at least 20 percent solids if primary sludge or secondary sludge or a mixture of primary and secondary sludge containing at least 15 percent solids. The co-disposal ratio of dry refuse to sludge may not be less than 5:1 by weight unless otherwise approved by the RWQCB, per Title 27 Section 20220. Sludge (a.k.a. biosolids) is also recycled onsite in construction or cover applications. When used as cover, RHR is required to comply with Title 27, Section 20690.

Designated Wastes

Designated waste is considered waste that meets either of the following conditions as defined in the California Water Code section 13173:

- ▶ Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Section 25143 of the Health and Safety Code.
- ▶ Non-hazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.

Designated wastes accepted at RHR include, but are not limited to, contaminated soil, industrial sludge (a.k.a. biosolids), dredge debris, slab/construction/demolition debris, commercial/industrial waste, and glass cullet. Designated wastes are managed, reused, and disposed of as required by Waste Discharge Requirement Order No.

R5-2016- 0056 (see Section 4.9, "Hydrology and Water Quality," for more information related to waste discharge requirements at the site). The actual amount of designated waste received at the site is highly variable, depending on regional remediation activity, development of new industries generating designated wastes, and the regional economy.

Asbestos Containing Waste

ACW is accepted for disposal at RHR. Up to 2,500 tons per month of friable hazardous asbestos may be received at RHR Landfill and disposal is limited to DM-1. Waste containing greater than 1% friable asbestos (ACW) is managed consistent with Section 25143.7 of the Health and Safety Code and Title 14, Section 17897 et. seq. Non-friable asbestos is considered non- hazardous and may be disposed of at the landfill with other MSW, or if inert, may be disposed of in DM-1. The disposal procedure for asbestos, as defined in Title 14, Section 17897, is in compliance with all applicable federal and state laws and regulations and is summarized in the landfill's Asbestos Containing Waste Handling Procedures Manual (Golder 2018: Appendix G). The manual provides a set of working guidelines to ensure safe and proper management of ACW disposal at RHR Landfill and addresses required acceptance policy, operation procedures, employee training, personal protective equipment, employee medical evaluation, hazard communication, contingency plan/emergency response, and applicable regulations.

Treated Wood Waste

TWW may include but is not limited to waste wood that has been treated with chromated copper arsenate, pentachlorophenol, creosote, acid copper chromate, ammoniacal copper arsenate, ammoniacal copper zinc arsenate, or chromated zinc chloride for purposes of protecting the wood against insects, microorganisms, fungi, and other environmental conditions. TWW is accepted at the landfill and disposal is limited to the Class II composite lined modules of LF-3 and LF-4 in accordance with Title 22, Section 67386.11(a). Acceptance of TWW in either the LF-1 or LF-2 disposal modules is prohibited, and TWW cannot be recycled in the green waste processing area of the site, consistent with the handling prohibitions in Title 22 Section 67386.3.

Other Wastes Requiring Special Handling

Other wastes requiring special handling include empty triple-rinsed pesticide containers, large dead animals, agricultural wastes, tires, and ash. Recyclables received at the facility and that are diverted from disposal include but are not limited to metal and white goods, freon-containing appliances, tires, wood debris, and concrete.

Landfill Gas

Decomposition of wastes at the landfill produces gases including methane, which can accumulate and seep out of disposal areas. If methane enters confined spaces such as buildings, it can accumulate to explosive concentrations and present a significant safety hazard. In order to minimize potential risks, the migration of methane gas produced by the anaerobic decomposition of refuse is controlled by the onsite active LFG collection system. The natural, clayey soils of the landfill site and the perimeter liner system containing the waste also serve to control LFG migration. Lateral migration through the liner is minimized because of its resistance to gas flow. In addition, possible negative impacts from gas migration are minimized by the absence of nearby offsite structures and routine quarterly monitoring for the presence of methane inside structures located at the facility. A landfill gas controls operation and maintenance plan dated March 14, 2017 has been implemented at the RHR Landfill and is consistent with Title 27, Section 20921.

LFG at the landfill is regulated by the Yolo Solano Air Quality Management District under the site's Title V permit and by the RWQCB under the site's WDRs. To verify the effectiveness of the LFG management system, each LFG monitoring probe, pan lysimeter, and leak detection sump are monitored for methane, carbon dioxide, oxygen, and organic vapors as specified in the landfill's Monitoring and Reporting Program (MRP) Order No. R5-2016-0056 (Golder 2018: Appendix A). 18 LFG perimeter monitoring probes at 16 locations through the RHR property are monitored to maintain compliance with CalRecycle regulations. The LFG monitoring network was approved by CalRecycle and the Solano County Department of Resource Management, Environmental Health Division.

Vector Control

Rodents, certain birds, and insects are often attracted to wastes at landfill sites and can pose a safety risk. Vector problems are prevented at the landfill by proper site grading to eliminate ponded water (mosquito eating fish have been introduced into the perimeter dewatering ditch) and prompt placement of daily and intermediate cover of waste materials. Parasitic wasps are used to supplement fly mitigation by consuming fly larvae in the compost and biosolids storage and drying areas. A licensed falconer is used to help control the bird population at the site, especially in winter months. A bubble machine may also be utilized to control the bird population around the site, as well as the utilization of other measures or technology as they become available to make the environment undesirable to birds. Vector control for the composting operations is discussed in the Report of Compost Site Information. If vectors become a problem in the biosolids stockpile area, the following management techniques are used at the landfill:

- ▶ Other bulking agents, such as wood chips, compost overscovers or soil can be mixed with high liquid content biosolids in the stockpiling area.
- ▶ During periods of no rain, the biosolids can be spread and dried. This drying process will be facilitated with disking or other turning equipment.

PROXIMITY TO AIRPORTS

Travis Air Force Base

The project site is located 3.3 miles southwest of Travis AFB. According to the Travis AFB Land Use Compatibility Plan (LUCP), the landfill falls within the outer perimeter of the Travis AFB Wildlife Hazard Analysis Boundaries. In addition, the landfill falls within Compatibility Zone C of the LUCP, which includes areas occasionally affected by concentrated numbers of low-altitude aircraft overflights (USAF 2015: Figure 4). Development review under the LUCP is the responsibility of the Solano County Airport Land Use Commission (ALUC). The ALUC establishes policies and guidelines to protect the safety and general welfare of the people in the vicinity of Travis AFB and ensures the safety of air navigation. In order to protect the public health, safety, and general welfare of persons surrounding Travis AFB, the ALUC is intended to guide, control and regulate future land use planning and development; promote compatible and appropriate land uses; and prevent the encroachment of incompatible land uses that would impair the ability of Travis AFB to fulfill its mission.

Compatibility Zone C encompasses additional areas occasionally affected by concentrated numbers of low-altitude aircraft overflights. This Compatibility Zones require land uses to be compatible with Travis AFB noise, visual, physical height, and electrical interference requirements (ALUC 2002). In particular, land uses that may cause the attraction of birds to increase are prohibited.

Aircraft Safety Hazards

Potential safety hazards for aircraft using Travis AFB pertain to the potential to attract birds, which may increase wildlife strikes and the use of lighting, which can be confused with landing zones by aircraft pilots. Potential bird hazards to aircraft using Travis AFB are controlled consistent with Conditional Use Permit (CUP) U-11-09 by the following measures:

- ▶ The size of the working face of the landfill during the wet season (October 15 to April 15) is limited to a maximum of 15,000 square feet (75 feet by 200 feet).
- ▶ The Selected landfill staff is trained on the Bird Gun Launcher Training Program. The use of blank cartridges (e.g. whistlers, screamer siren, and screechers), propane cannons for bird deterrents, and seasonal falconry is also utilized at the facility.

A monitoring program has been established to determine the effectiveness of the bird control program. A wildlife biologist has visited the site to establish the baseline conditions. The wildlife biologist documents results of the program on a quarterly basis and reports are provided to the Solano County Department of Resource Management and to Travis Air Force Base.

Lights from nighttime operations may affect aviation safety if facility lighting are confused with those of the runways at Travis AFB by incoming pilots. Existing Solano County CUP conditions require that all lighting be directed downward and shielded to prevent glare, and lighting may not be colored or placed in a pattern that may mimic an airstrip runway. Due to the proximity of Travis AFB and other smaller municipal and private airfields,

Recology has instituted a light control program at the landfill. As described below, the program requires that lights are used on the site only on the following occasions:

- ▶ At the public drop-off center if it becomes necessary to work after dark to process peak loads of recyclables.
- ▶ If the operator determines that it is necessary to work during the night during base liner preparation work (i.e., during the longer, drier summer days, nighttime), lights may be used for safety and efficiency. During the summer, daytime temperatures in the Central Valley may be too high for efficient Leachate Collection and Removal System (LCRS) placement over geomembrane. Lights may be used for this purpose each summer, from 10 p.m. to sunrise, for 1 to 2 months depending on the size of the portion being prepared that summer. RHR Landfill will have a portable light plant on site for this and other purposes. The operator has obtained a Solano County Airport Land Use Commission (ALUC) approval in 1993 for nighttime activities because the parcel on which the landfill is located is within the Travis AFB land use plan compatibility zone.
- ▶ Site personnel during nighttime operations of the landfill will operate onsite mobile lighting plants. The mobile lighting plants and collection truck vehicle lights will provide sufficient illumination of the landfill disposal areas to safely accommodate the nighttime deliveries of waste, as described above. Because of the site's proximity to Travis Air Force Base, the following special precautions will be taken prior to commencement of nighttime lighting:
 1. All lighting will be shielded and pointed downward to prevent glare from interfering with nighttime operations at Travis.
 2. The placement of light will occur in an irregular pattern, so they do not mimic Travis air strip landing lights.
 3. Travis will be notified prior to commencement of nighttime lighting.

Low energy security lighting (ex., high-pressure sodium lights) is installed for the shop and office facilities.

WILDLAND FIRE HAZARDS

The California Department of Forestry and Fire Protection (CAL FIRE) maintains fire hazard severity zone maps for local and state responsibility areas. These areas are mapped based on fuels, terrain, weather, and other relevant factors. The project site is designated as a moderate fire hazard severity zone (CAL FIRE 2007). The Dixon Fire District is responsible for fire protection at the site (Golder 2018: 7-16).

Fire protection of landfill equipment and vehicles is provided by portable fire extinguishers located in the equipment and vehicles. The office, maintenance facility, and landfill equipment are equipped with fire extinguishers for extinguishing minor fires and for personnel safety. Site personnel are trained periodically by Recology corporate staff in the proper use of fire extinguishers. Landfill equipment and vehicle fire prevention is provided by frequent removal of oil and grease buildup, debris, and dust from under carriages and engine compartments. Primarily landfill personnel using soil cover stockpiles will extinguish any fire occurring on the landfill and, when necessary, a water truck (Golder 2018: 7-15, 7-16).

In addition, the following precautions are taken to reduce the risk of fire at the landfill (Golder 2018: 7-16).

- ▶ Flammable recyclable materials are separated to prevent fire.
- ▶ A ten foot fire break is provided around the perimeter of the active landfill area and areas used for the storage of compostable material, recyclables, and any combustible materials prior to their use.
- ▶ RHR staff is required immediately notify the County Local Enforcement Agency (LEA) if unusual amounts of settlement or venting of smoke occurs.

- ▶ RHR staff is required to report fire incidents to the County LEA within 24 hours of discovery.

In addition, the Emergency Response Plan /Hazardous Materials Business Plan (ERP/HMBP) for the RHR Landfill provides evacuation procedures in response to a fire.

HAZARDOUS MATERIALS TRAINING PLAN

The RHR Hazardous Materials Training Plan (2018a) is used by both the Health and Safety and Environmental Compliance departments of RHR to ensure employee safety and regulatory compliance with regard to hazardous materials. It is also designed to fulfill the Hazardous Materials Business Plan training requirements set forth by Title 19 Section 2732 of the California Code of Regulations. The plan is filed with the Solano County Hazardous Materials Division and is reviewed and amended as necessary. According to the Hazardous Materials Training Plan (2018a), the following training topics are typically taught by qualified Recology personnel.

- ▶ Bloodborne Pathogens
- ▶ Hazard Communication
- ▶ Personal Protective Equipment
- ▶ Confined Space Entry (if applicable)
- ▶ Hazardous Energy Control (Lock out/ Tag out)
- ▶ Fire Extinguishing Training
- ▶ Spill Response
- ▶ Emergency Response Plan Awareness / Evacuation Routes
- ▶ Emergency Notifications
- ▶ Hazardous Materials Storage Procedures
- ▶ Asbestos Awareness /Hazardous Waste Manifests / Respirator Training
- ▶ Spill Prevention Control and Countermeasure Plan
- ▶ Traffic Control / Heat Stress

The following training courses are typically taught by outside contractors.

- ▶ First Aid & CPR
- ▶ 24 Hour HAZWOPER
- ▶ 8 Hour HAZWOPER Refresher
- ▶ 8 Hour D.O.T. HM-181 Hazardous Materials Transportation
- ▶ 8 Hour D.O.T. HM-181 Refresher (Every 3 Years)
- ▶ 8 Hour Load checking

All employees that handle or have potential exposure to hazardous materials have been trained in the contents and procedures outlined in the RHR Hazardous Materials Business Plan (2018a). Refresher training occurs annually, and as needed.

EMERGENCY RESPONSE PLAN / CONTINGENCY PLAN HAZARDOUS MATERIALS BUSINESS PLAN

The RHR Emergency Response Plan/Contingency Plan Hazardous Materials Business Plan (ERP/HMBP) (RHR 2018b) describes processes in which hazardous materials are used, hazardous and other prohibited waste generation, and

emergency response information. Specific detail is provided to address emergency procedures, including evacuation plans, emergency response training, and post-incident reporting/recording. All employees that handle or have potential exposure to hazardous materials have been trained in the contents and procedures outlined in the RHR ERP/HMBP and all employees are trained in the response evacuation procedures (RHR 2018b).

4.8.3 Environmental Impacts and Mitigation Measures

SIGNIFICANCE CRITERIA

Based on Appendix G of the State CEQA Guidelines, the project could have a significant adverse effect related to public health and safety if it would:

- ▶ create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- ▶ 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;
- ▶ emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;
- ▶ 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 create a significant hazard to the public or the environment;
- ▶ result in a safety hazard or excessive noise for people residing or working in the project area for those projects 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;
- ▶ impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- ▲ expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

METHODOLOGY

Methods for the impact analysis provided below included a review of applicable laws, permits, and legal requirements pertaining to public health and safety and hazardous materials, as applicable to the project and the project site. Within this framework, existing onsite chemicals and chemicals usage, hazardous materials, fire potential, and potential for other safety or hazardous conditions were reviewed based on information available from staff of the existing facility, publicly available hazard and hazardous materials information, site/location and cleanup status information, and other available information. The impact analysis considered the potential for changes in the nature or extent of hazardous conditions to occur as a result of project construction and operation, including increased potential for exposure to hazardous materials and hazardous conditions. The potential for hazards and hazardous conditions were reviewed in light of existing hazardous materials management plans and policies, emergency response plans, fire management plans, and applicable regulatory requirements. As noted previously, impacts related to hazardous emissions (i.e., toxic air contaminants) are evaluated in Section 4.2, "Air Quality," and potential effects of hazardous materials on water quality are discussed in Section 4.8, "Hydrology and Water Quality," of this Subsequent Environmental Impact Report (SEIR).

ISSUES NOT DISCUSSED FURTHER

The project site is not located within 0.25 mile of a school. The nearest school to the project site is Scandia Elementary School, which is approximately 6 miles southwest of the site. Therefore, no impact related to schools would occur. This issue is not discussed further in this SEIR.

The proposed project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e. Cortese List) and, as a result, would not create a significant hazard to the public or the environment (DTSC 2019b). Therefore, this issue is not discussed further in this SEIR.

The ERP/HMBP describes processes in which hazardous materials are used, hazardous and other prohibited waste generation, and emergency response information. Specific detail is provided to address emergency procedures, including evacuation plans, emergency response training, and post-incident reporting/recording. Post-project operations would be substantially similar to existing operations and no element of the project would impair implementation of or physically interfere with any adopted emergency plan. Additionally, the project is not expected to generate large amounts of traffic (see Section 4.11, "Traffic and Transportation") and would not involve the modification of existing roadway alignments, such that nearby evacuation routes would be affected. Therefore, project implementation would not interfere with any adopted emergency response plans, and no impact would occur. This issue is not discussed further in this SEIR.

PROJECT IMPACTS AND MITIGATION MEASURES

Impact 4.8-1: Exposure of people and the environment to hazardous materials

Operation of a landfill inherently involves the storage, use, and transport of hazardous materials; however, systems are in place at the RHR facility that are compliant with federal, state, and local laws to allow such handling in a way that is protective of people and the environment. No aspect of the proposed project would substantially change operations such that new or revised systems or procedures would be required. Hazardous materials would continue to be managed with existing controls in place and in accordance with all applicable laws, including Title 27 of the CCR, as it is currently. Implementation of the project would extend the disposal area laterally, deepen and widen an existing onsite borrow pit, allow for friable asbestos disposal within additional areas of the landfill, and allow for an increase in the existing daily peak tonnage limit. However, operations related to the storage, use, and transport of hazardous materials would remain the same as under existing conditions. Thus, the project would operate in accordance with all federal, state, and local regulations pertaining to the use, storage, and transport of hazardous materials. This impact would be **less than significant**.

Implementation of the project would include lateral expansion of the landfill disposal area; deepening and widening of the existing borrow pit, disposal of friable asbestos within additional areas of the landfill, and amending the CUP to increase the peak day limit to 3,400 tons per day (tpd) of MSW with a 7-day-average limit of 3,200 tpd of disposal; and. While the landfill could accept a greater quantity of waste, on a daily basis and throughout its lifetime, no new types of wastes would be accepted and no changes to disposal practices are proposed. All allowable uses would continue to be subject to compliance with federal, state, and local hazardous materials regulations, and would be monitored by the state (e.g., Cal/OSHA and DTSC). Therefore, it is not anticipated that the routine use of materials handled in accordance with these laws and regulations would create a substantial hazard to the public or the environment.

Hazardous materials may be unknowingly accepted through illegal disposal practices. However, waste disposed at the landfill is monitored closely and controlled to minimize the likelihood of this occurring, and the potential for illegal disposal of hazardous materials is not expected to increase with the proposed project. Therefore, potential exposure of people and the environment to hazardous materials as a result of illegal disposal practices is low.

The landfill is permitted for acceptance of non-hazardous solid waste, high-liquid-content waste, wastewater treatment plant sludge, designated waste, asbestos-containing waste, and waste requiring special handling, as defined by the State. These materials are handled and disposed of in accordance with federal, state, and local

regulations. Although the onsite location for friable asbestos disposal would change with project implementation, no modification of the monthly tonnage limit on friable asbestos disposal would occur. Implementation of the proposed project would not result in any changes to the existing list of wastes permitted at the landfill or how they are currently handled and disposed.

Overall, the project would not create a significant hazard to people or the environment through the routine transport use, or disposal of hazardous materials, nor would it create a significant hazard through reasonably foreseeable upset involving the likely release of hazardous materials into the environment because comprehensive regulations and plans are in place, are currently followed for the existing landfill operations, and would continue to be implemented for the proposed project to prevent the release of hazardous materials onsite. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation measures are required.

Impact 4.8-2: Exposure of people and the environment to hazards related to LFG

Expansion of the landfill could result in the production of additional LFG that could expose people or the environment to safety hazards. However, a third LFG flare is proposed as part of this project to ensure a total capacity of 6,000 cubic feet per minute (cfm) at the landfill for safe and adequate control of LFG with landfill expansion. LFG would continue to be monitored at the project site and the LFG collection and the monitoring system would be expanded to accommodate the increased production of LFG. Therefore, this impact would be **less than significant**.

With the proposed landfill expansion and increased volume of waste disposal proposed under the CUP modification, the landfill is anticipated to produce a maximum of 4,651 cfm at 50% methane. To ensure LFG standards established in Title 27 of the CCR would not be exceeded, an additional enclosed LFG flare is proposed as part of this project with a capacity of 45 MM (million) BTU (British thermal unit)/hour (1500 cfm at 50% methane) to ensure a total capacity of 6,000 cfm at the landfill for safe and adequate control of LFG. Through adherence to Title 27 requirements and the addition of an additional LFG flare, the potential for exposure of people or the environment to hazards related to LFG would not be substantial.

Because LFG produced by the RHR Landfill is currently being monitored and remediated, and the proposed project includes the expansion of the existing system to contain LFG migration within the boundaries of the project site and away from existing populations and structures, the generation of additional LFG as a result of the proposed project would not pose an increased hazard to people or the environment. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 4.8-3: Potential hazards associated with vectors

Vector control measures that are currently in place are effective and would continue to be implemented. In addition, there are no proposed expansions of onsite water-related facilities; therefore, the proposed project would not increase the amount of standing water that could attract mosquitoes. Therefore, this impact would be **less than significant**.

Waste materials at landfills have the potential to attract and create habitat for vectors, and standing water, including detention basins and drainages, can provide breeding habitat for mosquitoes. Vectors could pose a substantial hazard if pathogens or other diseases carried by vectors were to infect workers or be transported offsite to persons or animals. The project would laterally expand the landfill into the Triangle area, thereby increasing the potential to attract vectors. However, vector control measures currently implemented at the landfill, as described above in Section 4.8.2, "Environmental Setting," have been effective and would continue to be implemented. These include: daily covering of the active disposal area, parasitic wasps, and properly grading to prevent standing water to reduce the potential for mosquito habitat. Vector control measures would continue to comply with Title 27 of the CCR. As with the existing landfill, the expanded portion of the landfill would be managed to minimize vector habitat. A segment of

an existing drainage ditch in the Triangle area would be realigned as part of the project; however, the project would not result in an increase to the amount of standing water onsite. Therefore, implementation of the project would not substantially increase the potential to attract vectors to the RHR facility.

Because the proposed project would not result in an increase in vector habitat and the landfill would continue to be managed to minimize the potential for vectors, this impact would be **less than significant**.

Mitigation Measures

No mitigation measures are necessary.

Impact 4.8-4: Potential hazards associated with proximity to airports

The RHR Landfill is located approximately four miles northeast of the landfill and within the Travis AFB Land Use Compatibility Plan Zones C and B2. Potential safety hazards for aircraft using Travis AFB pertain to the landfill's potential to attract birds, which may increase wildlife strikes, and the use of lighting, which can be confused with landing zones by aircraft pilots. No new sources of fixed lighting are proposed and portable lighting to be used onsite would be consistent with the landfill's light control program and limited to base liner preparation work, as needed, during construction of the landfill expansion area and. The landfill maintains a bird control program and facility lighting standards, both of which minimize potential adverse hazards on aircraft. This impact would be **less than significant**.

As noted above, the RHR Landfill is located within the Travis AFB Land Use Compatibility Plan Zones C and B2 and is required to implement programs at the landfill address potential hazards related to the potential for bird strikes and lighting. Any changes to the landfill require an assessment of the potential for increased risk of wildlife strikes as a result of continued aircraft operations at Travis AFB.

In April 2018, a Wildlife Hazard Analysis report was prepared by SWCA Environmental Consultants (2018) to determine whether the proposed project would potentially create new or exacerbate existing wildlife hazards to aircraft in the area. The landfill's existing bird control program is monitored and documented quarterly to ensure that it effectively reduces the potential for bird strikes associated with Travis AFB. Based on existing strike data, less than 5% of the documented bird strikes at Travis AFB have been attributed to species that routinely forage at the landfill. The 2018 Wildlife Hazard Analysis determined that the proposed project would modify existing wildlife attractants (i.e., extend landfill within Triangle area and relocation of drainage ditch segment) but would not add new wildlife attractants to the landfill. Because the landfill's existing bird control program would be extended to the proposed project elements and would not result in a larger active landfill face or increase foraging opportunities for wildlife, it is unlikely that project implementation would create new wildlife hazards for Travis AFB aircraft (SWCA 2018: 12-13).

In addition to the potential for bird strikes to create safety issues at Travis AFB, lights from nighttime landfill operations may affect aviation safety if facility lighting is confused with those of the runways at Travis AFB by incoming pilots. As described in Section 4.8.2, "Environmental Setting," the landfill's existing light control program allows for fixed and portable lighting units to illuminate portions of the site during nighttime operations. The landfill's light control program limits onsite lighting considerably and is consistent with Policy RS.P-36 of the Solano County General Plan (2008: p. RS-37). No new sources of fixed lighting are proposed. The landfill's existing light control program allows portable nighttime lighting for specific occasions. During construction of the landfill expansion area, use of portable nighttime lighting may be needed on occasion for base liner preparation work and would be consistent with the landfill's existing lighting program, thereby minimizing potential hazards on aircrafts related to lighting.

Because existing bird control programs and lighting standards would continue to be implemented during construction and operation of the proposed project, aircraft safety hazards would be minimized and this impact would be **less than significant**.

Mitigation Measures

No mitigation measures are necessary.

Impact 4.8-5: Increased potential for wildland fires

The project site is located in an area classified as a moderate fire hazard severity zone. However, extensive fire control measures are currently, and would continue to be, implemented at the project site to reduce the potential risk for fires. Thus, this impact would be **less than significant**.

Operations at landfills have the potential to result in fires through inadvertent disposal of hot loads or combustion of composting materials. If not controlled, fires could spread to nearby properties. The project site is not located in or near state responsibility areas (Solano 2008: HS-49) but is located in an area classified as a moderate fire hazard severity zone (CAL FIRE 2007). However, as described above, extensive fire control measures are implemented onsite as part of the ongoing operations of the landfill and have been effective at minimizing fire risks. These measures include fire extinguishers located in landfill vehicles and facilities, frequent removal of oil and grease buildup, debris, and dust from under carriages and engine compartments of landfill vehicles and equipment, use of soil cover stockpiles or a water truck to extinguish any fire occurring on the landfill, maintaining fire breaks around the property, and separation of flammable recyclable materials (Golder 2018: 7-15, 7-16). Recology also maintains and implements an emergency response plan that includes procedures and requirements for responding to potential fires, including facility fires and wildfires at the project site. Lateral expansion of the disposal area and other onsite changes to the CUP would not increase the potential for fires to occur because existing fire suppression and prevention measures would continue to be implemented and the landfill would remain under the responsibility of the Dixon Fire District. Therefore, implementation of the project would not substantially increase the risk for wildland fires at the RHR facility or in the surrounding area. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are necessary.

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FILE CONTENTS

4.8 Hazards and Hazardous Materials 4.8-1

APPENDICES

EXHIBITS

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TABLES

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Acronyms/Abbreviations

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Citations

- Green = matched
Aqua = missing
Pink = no citation in text

- ALUC 2002
CAL FIRE 2007
CalRecycle 2019
DTSC 2019a
DTSC 2019b
Golder 2018
RHR 2018b
RHR 2018a
Solano County 2008
Solano County 2017
SWCA 2018
SWRCB 2018
SWRCB 2019
USAF 2015

References

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