

3.4 Hazards

This section describes effects related to hazards from implementation of the proposed Project. The section describes existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts from the construction, operation, and maintenance of the Project. Existing laws and regulations relevant to hazards are described and how they would be applied to the proposed Project. In some cases, compliance with existing laws and regulations would reduce or avoid impacts that might otherwise occur with implementation of the Project.

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following substantive issues related to hazards were raised during scoping and are addressed in this section.

- Ventura County Environmental Health Division (EHD) noted that EHD is the Local Enforcement Agency for all issues concerning non-hazardous solid waste within Ventura County, and along with the Los Angeles Regional Water Quality Control Board and CalRecycle, is a Responsible Agency with respect to this EIR. EHD is concerned about the proposed Project activities at the adjacent closed Bailard, Santa Clara, and Coastal Landfills. Effects at the landfill cover, liner, slope stability, and operation of the landfill gas, leachate, and erosion control systems should be addressed by the EIR.

3.4.1 Environmental Setting

3.4.1.1 Existing Conditions

Seismic Setting and Liquefaction

The proposed Project is located within the seismically active southern California region that is traversed by faults of the Transverse Ranges fault systems. The Transverse Ranges fault system consists primarily of reverse and thrust faults accommodating tectonic compressional stresses in the region. The effects of this deformation include mountain building, basin development, deformation of Quaternary marine terraces, widespread regional uplift, and generation of earthquakes. Active reverse or thrust faults in the Transverse Ranges include blind thrust faults responsible for the 1994 Northridge Earthquake, and the frontal faults responsible for uplift of the Santa Monica, Santa Susana, and Santa Ynez Mountains. The frontal faults include the Malibu Coast, Santa Monica-Hollywood, Santa Susana, and Santa Ynez faults. Several major active and potentially active faults zones of the Transverse Ranges fault system with potential for earthquakes traverse Ventura County in an approximate east-west direction. Two active reverse fault zones and one potentially active thrust fault are located in the Project vicinity, the Ventura-Pitas Point fault zone (2.9 miles north), Simi-Santa Rosa fault zone (5 miles east), and Oak Ridge fault (1.5 miles north), respectively.

The proposed Project will likely be subject to strong ground shaking associated with earthquakes on faults of both the regional and local Transverse Ranges fault systems and the more distant regional faults of the San Andreas fault system. Ground shaking results in seismic waves within the earth which are caused by the sudden release of accumulated stress and kinetic energy during an earthquake. The intensity of the seismic shaking, or ground motion, during an earthquake is dependent on the distance between the Project area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the Project area. Earthquakes occurring on faults

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closest to the Project area would most likely generate the largest ground motion. The intensity of earthquake-induced ground motions can be described using peak site accelerations, represented as a fraction of the acceleration of gravity (g). Data from the United States Geological Survey (USGS) National Seismic Hazard Maps were used to estimate peak ground accelerations within the Project area. The maps used depict peak ground accelerations with a two percent probability of exceedance in 50 years, which corresponds to a return interval of 2,475 years for a maximum considered earthquake. Peak ground accelerations within the Project area range from 1.0 to 1.1g (USGS, 2014), which corresponds to a potential for strong earthquake-induced ground shaking. These strong groundshaking events can induce liquefaction failure in certain cohesionless soils.

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong ground shaking and behave for a short time as a fluid rather than a solid mass. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena include lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects (Youd and Perkins, 1978). A structure that is located within a liquefaction zone may lose support under its foundation, which could cause the structure to tilt or settle into the ground surface and potentially collapse (Ventura County, 2011).

The Project area is located within a mapped liquefaction hazard zone, as determined by the California Geological Survey (CGS, 2002). Groundwater levels are relatively shallow beneath the SCR-3 Project area, ranging from about 10 to 20 feet below ground surface (bgs) (VRSD, 2012; 2013) and the area is underlain by potentially liquefiable unconsolidated river wash and stream terrace deposits (CGS, 2003). Geotechnical borings and cone penetration tests conducted along Reaches 1 through 4 indicate that potentially liquefiable layers exist locally within the alluvium beneath the levees at depths ranging from approximately 17 to 36 feet bgs (Fugro, 2011; Kleinfelder, 2014). Depths of potentially liquefiable alluvial units underlying the proposed Project vary based on the depths to groundwater along the Project, which will vary seasonally. The seismic hazard analyses by Fugro (2011) indicated that liquefaction-related settlement of the levee along Reaches 1, 3, and 4 would be negligible at approximately 1.6 inches or less of vertical settlement and that potential for lateral spreading is low. The Fugro study did not evaluate Reach 2, but conditions are expected to be similar to the other reaches.

Hazardous Waste and Public Health

The proposed SCR-3 levee improvements are located between the Santa Clara River on the north and closed landfills, agricultural lands, a golf course (River Ridge Golf Course), and residential/commercial areas on the south. Three closed landfills (Bailard, Coastal, and Santa Clara landfills) are located on the south side of the river (Figure 2-1). The Bailard Landfill is located near the west end of the Project (Reach 1) where construction of the new levee will require tie-in to the existing landfill embankment (Options 1A and 1B). The remainder of Reach 1 extending to North Victoria Avenue is adjacent to agricultural land where no landfill waste occurs. The Coastal and Santa Clara (formerly El Rio) Landfills are located immediately adjacent to each other east of North Victoria Avenue. Reaches 2 and 3 of the proposed Project parallel the north boundary of the Coastal and Santa Clara Landfills. For Option 1A, construction in Reaches 2 and 3 is generally located on top of the existing levee and would not directly tie in to the existing landfill cover soils and therefore waste material should not be encountered. For Option 1B, tie-

ins to the existing Coastal and Santa Clara Landfills would be required such that waste material may be encountered.

The Bailard Landfill began operation in 1962 by a private owner and was acquired in 1988 by Ventura Regional Sanitation District (VRSD, January 2014). During the final years of operation, the landfill only accepted Class III waste (nonhazardous municipal landfill) and was closed in 1998. A Southern California Edison (SCE) easement passes diagonally across the Bailard Landfill property. The private landfill operator is known to have placed waste within the SCE easement; VRSD did not place waste in the easement (VRSD, 2014). Since 1998, VRSD continues post-closure maintenance and groundwater and landfill gas monitoring and reporting to the APCD and LARWQCB.

The Santa Clara Landfill began operation by the City of Oxnard in the early 1960s and the Coastal Landfill has been operated and managed by VRSD since 1980. After operating as two separate landfills for decades, the landfills were joined in 1989 when the depression between the two was filled with waste with VRSD assuming operation of both. The City of Oxnard owns the Santa Clara landfill property, but the landfill was operated by VRSD for non-hazardous and inert solid waste disposal. The landfills were closed about 1990 and the site has been developed into a municipal golf course, the River Ridge Golf Club, by the City of Oxnard. VRSD monitors and reports groundwater and landfill gas for the two landfills as one waste management unit.

The landfills and proposed Project are underlain by water-bearing sediments within unconsolidated alluvium and floodplain deposits known as the semi-perched or unconfined aquifer. A deeper water-bearing zone known as the Oxnard aquifer is separated from the unconfined aquifer by a 100-foot-thick clay layer referred to as the clay cap.

Contaminated groundwater and landfill gas are known to occur at the margins of all three landfills (VRSD, 2012; VRSD, 2013a; VRSD, 2013b; VRSD, 2013c; VRSD, 2013d; VRSD, 2014a; VRSD, 2014b; VRSD, 2014c). The Project would include excavating the levee to prepare the foundation for raising the levee in Reaches 1-3 (Option 1A) or Reaches 1 and 3 (Option 1B), along with vegetation removal. Groundwater or landfill gas would not be encountered during these excavation activities near the top of the levee, which is 20 to 40 feet above the groundwater table and about 30 to 100 feet north of the landfill margins. Shallow groundwater and landfill gas may, however, be encountered during construction of the retaining wall in Reach 2 at the landside of the existing levee adjacent to the River Ridge Golf Course maintenance yard (Option 1A). New levee fill placed on the existing levee and adjacent access roads (farm, landfill, and golf course) in Reach 1 and Reach 2 may encroach upon existing buried landfill gas recovery pipelines. Landfill debris was encountered in a geotechnical boring (Kleinfelder, 2014, Boring Log B-16) located about 40 feet west of the proposed retaining wall at a depth of 5 feet. As such, landfill debris is possibly present within the area of the proposed Project activities, and the most likely location for Project construction to encounter landfill debris would be in the area of the retaining wall footing. Deep excavations, primarily the installation of the scour protection sheet piling, are planned for the eastern end of Reach 3. However, no landfill waste, contaminated groundwater, or landfill gas are present at this location. No known landfill waste, contaminated groundwater, or landfill gas occur along Reach 4.

3.4.1.2 Applicable Regulations, Plans, and Standards

Federal

U.S. Environmental Protection Agency (USEPA)

The USEPA was established in 1970 in response to the growing public demand for cleaner water, air and land. The USEPA was established to consolidate in one agency a variety of federal research, monitoring, standard-setting, and enforcement activities to ensure environmental protection. USEPA's mission is to protect human health and to safeguard the natural environment — air, water, and land — upon which life depends. USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, USEPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. The Resource Conservation and Recovery Act of 1976 was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the “cradle to grave” system of regulating hazardous wastes.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (US Code Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enables the revision of the National Contingency Plan. The National Contingency Plan (Title 40, Code of Federal Regulation [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The National Contingency Plan also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Other federal regulations overseen by the USEPA relevant to hazardous materials and environmental contamination include Title 40 CFR Chapter I, Subchapter D – Water Programs and Subchapter I – Solid Wastes. Title 40 CFR Chapter I, Subchapter D Parts 116 and 117 designate hazardous substances under the Federal Water Pollution Control Act and set forth a determination of the reportable quantity for each substance that is designated as hazardous in Title 40 CFR Part 116. Title 40 CFR 117 applies to quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

Occupational Safety and Health Administration (OSHA), U.S. Department of Labor

OSHA's mission is to assure 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 establishes protective standards,

enforces those standards, and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in Title 29 CFR Part 1910.

State

Seismic Hazard Mapping Act

The Seismic Hazards Mapping Act (the Act) of 1990 (Public Resources Code, Chapter 7.8, Division 2, sections 2690–2699) directs the California Department of Conservation, Division of Mines and Geology [now called California Geological Survey (CGS)] to delineate Seismic Hazard Zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones. Although this Project does not include any habitable structures, and would not be subject to requirements of the Seismic Hazard Mapping Act, the Act does provide a source for determining areas where specific seismic hazards may affect the proposed Project.

California Environmental Protection Agency (Cal-EPA)

The Cal-EPA was created in 1991. It centralized California's environmental authority, consolidating the CARB, SWRCB, CalRecycle, Department of Toxic Substances Control (DTSC), Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation under one agency. These agencies were placed within the Cal-EPA "umbrella" to create a cabinet-level advocate for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Its mission is to restore, protect and enhance the environment, and to ensure public health, environmental quality, and economic vitality. The DTSC, CalRecycle, and SWRCB regulate hazardous materials and hazardous waste that have the potential to cause soil, water, and groundwater contamination, and their missions are summarized below.

Department of Toxic Substances Control. The DTSC mission is to restore, protect, and enhance the environment, and to ensure public health, environmental quality, and economic vitality by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

Department of Resources Recycling and Recovery (CalRecycle). The mission of CalRecycle is to protect the public health and safety and the environment through waste prevention, waste diversion, and safe waste processing and disposal.

State Water Resources Control Board. The SWRCB mission is to preserve and enhance the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

Department of Toxic Substances Control (DTSC)

DTSC is a department of Cal-EPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code, primarily Division 20, Chapters 6.5 through 10.6, and Title 22 (Social Security), Division 4.5. Other laws that affect

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hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Government Code Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, California Department of Public Health lists of contaminated drinking water wells, sites listed by the SWRCB as having underground storage tank leaks and which have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

California Office of Emergency Services

In order to protect public health and safety and the environment, the California Office of Emergency Services is in charge of 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 the location, type, quantity, and the health risks of hazardous materials handled, used, stored, or disposed of in the State, which could be accidentally released into the environment, needs to be made available to firefighters, health officials, planners, public safety officers, health care providers, regulatory agencies, and other interested parties. The information provided by business and area plans is necessary in order to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of hazardous 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 25500-25520), and Article 2 – Hazardous Materials Management (Sections 25531-25543.3).

Code of California Regulations (CCR) Title 19, Public Safety, Division 2, Office of Emergency Services, Chapter 4 – Hazardous Material Release Reporting, Inventory, And Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for Hazardous Materials Business Plans. These plans shall include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 - 2729.7, (2) emergency response plans and procedures in accordance with Section 2731, and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business shall prepare a Hazardous Materials Business Plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance
- 55 gallons of a liquid
- 200 cubic feet of compressed gas
- hazardous compressed gas in any amount
- hazardous waste in any quantity

California Occupational Safety and Health Administration (Cal-OSHA)

Cal-OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. 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 (Title 8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Title 8 CCR, Chapter 4, Subchapter 7, Group 14 and 15, and Group 16, Articles 107, 109, and 110 sets forth the Permissible Exposure Limit, the exposure, inhalation or dermal permissible exposure limit for numerous chemicals. Included are chemicals, mixture of chemicals, or pathogens for which there is statistically significant evidence, based on at least one study conducted in accordance with established scientific principles, that acute or chronic health effects may occur in exposed employees.

It is the responsibility of Cal-OSHA to ensure compliance with the provisions of the Hazard Communication Standard. California Labor Code Sections 6360 through 6399.7 and Title 8 CCR Sections 5191 and 5194 are intended to ensure that both employers and employees understand how to identify potentially hazardous substances in the workplace, understand the health hazards associated with these chemicals, and follow safe work practices. This is accomplished by preparation of a Hazard Communication Plan.

Office of Environmental Health Hazard Assessment

Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986, was enacted as a ballot initiative in November 1986. Proposition 65 was intended by its authors to protect California citizens and the State's drinking water sources from chemicals known to cause cancer, birth defects, or other reproductive harm, and to inform citizens about exposures to such chemicals. Proposition 65 requires the Governor to publish, at least annually, a list of chemicals known to the State to cause cancer or reproductive toxicity. The Office of Environmental Health Hazard Assessment has established safe harbor levels (levels of exposure that trigger the warning requirement) for some, but not all, listed chemicals. Businesses that cause exposures greater than the safe harbor level must provide Proposition 65 warnings. These safe harbor levels are available in the October 2007 Status Report available at <http://www.oehha.ca.gov/prop65/pdf/October2007StatusRpt.pdf>. If there is no safe harbor level for a chemical, businesses that knowingly expose individuals to that chemical would generally be required to provide a Proposition 65 warning, unless the business could show that risks of cancer or reproductive harm resulting from the exposure would be below levels specified in Proposition 65 and its accompanying regulations.

Local

Ventura County

Ventura County Ordinance Code, Division 4, Chapter 5 (Hazardous Substances), Article 1, (CUPA).

Prior to Project implementation, the VCWPD would consult with the Ventura County Environmental Health Division (EHD) to ensure that concerns related to hazardous waste are fully addressed. This coordination would include obtaining all necessary authorizations from EHD for the purpose of preventing contamination from improper storage, handling, and disposal of hazardous wastes prior to initiating any construction activities on the Project site. Solid waste and potentially hazardous waste encountered at the landfill tie-ins will also be removed, handled and disposed of in accordance with protocols developed prior to construction and approved by EHD.

General Plan Goals and Policies. Construction and operation of the proposed Project is subject to goals and policies contained within the Ventura County General Plan. Goals and policies 2.1.1 and 2.1.2 apply to liquefaction, hazardous waste, and public health hazards for this Project. Goal and policy 2.4.1 and 2.4.2, respectively, apply specifically to liquefaction-related hazards. (Ventura County, 2015)

Goal 2.1.1. 1. Identify all major hazards and other physical constraints to development in Ventura County, and convey this information to all appropriate parties.

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2. Protect public health, safety and general welfare from identified hazards and potential disasters.

3. Shield public and private property and essential facilities from identified hazards and potential disasters.

4. Minimize loss of life, injury, damage to structures, and economic and social dislocations resulting from identified hazards and potential disasters.

Policy 2.1.2. 1. Applicants for land use and development permits shall provide all necessary information relative to identified hazards that may affect or be affected by their proposed project. Applicants shall also specify how they intend to mitigate identified hazards.

2. All geologic and soil engineering reports submitted with land use and development permit applications, including recommendations for measures to eliminate or mitigate possible hazards, shall be signed by qualified personnel registered and certified by the State in the appropriate discipline, such as Professional Engineers and/or Certified Engineering Geologists.

3. Essential facilities, special occupancy structures and hazardous materials storage facilities shall be designed and constructed to resist forces generated by earthquakes, gravity, precipitation, fire and winds.

4. Develop, maintain and enhance mutual training and aid agreements with other public agencies, and cooperatively plan to prevent and respond to regional emergencies.

Goal 2.4.1. Minimize the risk of loss of life, injury, collapse of habitable structures, and economic and social dislocations resulting from liquefaction.

Policy 2.4.2. Prior to the issuance of building or grading permits for essential facilities, special occupancy structures, two-story single family residences, or hazardous materials storage facilities located within areas prone to liquefaction, a geotechnical report that includes a seismic analysis and evaluation of liquefaction in accordance with the State of California Guidelines shall be prepared in order to assess the liquefaction potential and provide recommendations for mitigation.

3.4.2 Environmental Impacts and Mitigation Measures

This section describes the hazard impacts that would be caused by implementation of the SCR-3 Project, including the proposed Project and alternatives. The following discussion addresses potential environmental impacts associated with construction and operation of the Project.

3.4.2.1 Criteria for Determining Impact Significance

The Initial Study prepared for the SCR-3 Project concluded that the Project would not result in significant impacts related to fault rupture, seismic ground shaking, seiche and tsunami hazards, landslides and mudflows, expansive soils, subsidence, hydraulic hazards, fire hazards, aviation hazards, hazardous materials, daytime glare, or greenhouse gases. For explanations of why impacts related to these hazards either would not occur or would not be significant, see the Initial Study in Appendix A.

Based on the Initial Study, potential hazards associated with implementation of the Project that could result in significant impacts include effects related to liquefaction (triggered by seismic events),

hazardous waste (from possibly encountering waste materials buried in the Coastal and Santa Clara landfills), and public health (associated with potential release of landfill gas during excavation). Significance criteria for assessing impacts related to these hazards are presented below.

Liquefaction

According to the Ventura County Initial Study Assessment Guidelines, the threshold criteria for determining whether a proposed project will expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving liquefaction, is whether it is located within a Seismic Hazards Zone (Ventura County, 2011). The State of California Seismic Hazard Zones Maps are to be utilized for all determinations for liquefaction potential. Projects located in mapped zones of required investigation for liquefaction must be evaluated for liquefaction potential in accordance with the requirements of the State of California Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117, dated 1997 (Ventura County, 2011).

Hazardous Waste

“Hazardous wastes” include the following (Ventura County, 2011):

- A waste, or combination of wastes, which because of quantity, concentration, physical or chemical characteristics, may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or may pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of, or otherwise managed.
- A waste that meets any of the criteria for the identification of a hazardous waste adopted by the State Department of Toxic Substances Control pursuant to Division 20, Chapter 6.5 of the California Health and Safety code.

According to the Ventura County Initial Study Assessment Guidelines, the storage, handling, and disposal of potentially hazardous waste shall be in conformance with the requirements set forth in the following regulations (Ventura County, 2011):

- California Code of Regulations (CCR), Title 22, Division 4.5.
- California Health and Safety Code, Division 20, Chapter 6.5.
- Ventura County Ordinance Code, Division 4, Chapter 5 (Hazardous Substances), Article 1, (CUPA).

The above State Legislation and local ordinances have been enacted for the purpose of preventing contamination from improper storage, handling, or disposal of hazardous wastes. It is also the intent of these regulations to establish procedures so that the generators of hazardous wastes will be encouraged to employ reduction technology and destruction of their hazardous wastes prior to disposal.

Public Health

The issue of public health entails human health-related issues such as, but not limited to, landfill gas, contaminated groundwater, vectors, bioaerosols and other pathogens or environmental factors that may pose a substantial present or potential hazard to public health.

According to the Ventura County Initial Study Assessment Guidelines, significance must be determined on a case-by-case basis and is related to project type, location, and other environmental factors.

3.4.2.2 Direct and Indirect Impacts

Liquefaction

Impact HAZ-1: The Project may be subject to liquefaction-related damage.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

Option 1B includes raising the levees along Reaches 1 and 3, filling in a swale in the golf course along Reach 2, and constructing a flood wall and flood gate along Reach 4. The new and existing engineered levee fill would not be susceptible to liquefaction; however, the alluvial sediments underlying the engineered levee fill for Reaches 1 and 3 and the floodwall for Reach 4 may be susceptible to liquefaction due to their unconsolidated nature and the local shallow ground water levels (Fugro, 2011). Although Fugro estimates that liquefaction-related lateral spreading and settlement would likely be minimal, these displacements could result in portions of the levee not meeting FEMA height requirements after an earthquake or in damage to the Reach 4 floodwalls due to foundation tilting or settlement, which could allow flood waters to overtop or breach the levees or floodwalls.

Placement of the new levee fill would be consistent with USACE requirements and the Ventura County Flood Control District Design Manual (more relevant to the construction of flood control facilities than the County of Ventura Building Code Requirements). Additionally, although the proposed Project does not involve the construction or modification of any habitable structures, it does include construction of floodwalls and a flood gate in Reach 4 that could be susceptible to damage from liquefaction-related phenomena. Construction of the Reach 4 floodwall and flood gate would also follow Ventura County Flood Control District Design Manual Requirements. Additionally, VCWPD has committed to post-seismic event reconstruction of affected levee slopes and embankments to address lateral spread and/or slope deformation in Reaches 1 and 3 and to post-seismic event reconstruction or repair of affected wall segments in Reach 4.

Compliance with the USACE requirements and Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the Project. Therefore, the impacts would not be significant (Class III).

Option 1A – Full Levee System with Reach 4 Floodwall

Option A is similar to Option B except that along Reach 2 the levee would be raised instead of filling in the swale within the golf course and a retaining wall would be constructed on the landside of Reach 2 adjacent to the River Ridge Golf Course maintenance yard. The potential for liquefaction would remain the same as Reach 2 is underlain by the same potentially liquefiable alluvial sediments as Reaches 1, 3, and 4 (Kleinfelder, 2014). However, the potential exposure of people and structures to adverse effects would be minimally increased as there is now the potential for any of the three levees (singly or in combination) to be affected by liquefaction-induced lateral spreading and/or settlement, and for damage to the retaining wall adjacent to the maintenance yard. This would result in a slight increase in the potential for adverse effects to people or structures.

Compliance with the USACE requirements and Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would result in less-than-significant impacts (Class III).

Hazardous Waste

Impact HAZ-2: Hazardous waste may be encountered at landfill tie-ins and retaining wall footing excavation.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

Levee improvements in Reach 1 of the Project would require a landfill tie-in at the northeast corner of the Bailard Landfill and the northwest corner of the Coastal Landfill. Raising the levee in Reach 3 would require a landfill tie-in at the northeast corner of the Santa Clara Landfill. Excavation of the existing landfill cover soils to prepare for the tie-in may encounter landfill waste and landfill gas. Waste debris may be contaminated and would require sampling and laboratory testing to determine proper handling and disposal requirements. A release of landfill gas could expose workers during excavation or conditioning of the landfill cover soils. The placement of fill over the existing landfill cap within the Golf Course swale fill component of Option 1B is not anticipated to encounter landfill waste or landfill gas.

Encountering contaminated landfill waste or landfill gas during grading at the landfill tie-ins would result in an adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Option 1A – Full Levee System with Reach 4 Floodwall

Landfill debris, landfill gas, and contaminated groundwater may be present at the Bailard Landfill tie-in and the retaining wall component planned for Reach 2 on the landside of the levee adjacent to the River Ridge Golf Course maintenance yard. The Coastal and Santa Clara landfills are unlined and contaminated groundwater and landfill gas are known to occur at the landfill perimeter. Landfill waste was encountered in a geotechnical boring drilled (Kleinfelder, 2014) approximately 40 feet west of the maintenance yard.

Encountering landfill, landfill gas, or contaminated groundwater in the footing excavation of the retaining wall would result in an adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Mitigation Measures

HAZ-2 Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater. Prior to construction, develop and implement a landfill waste and landfill gas testing plan. The plan shall outline the procedures to conduct an investigation at each levee-landfill tie-in (Bailard, Coastal, and Santa Clara landfills) and along the proposed retaining wall north of the golf course maintenance building, depending on whether Option 1A or 1B is selected. Generally, the plan and investigation shall determine if landfill waste or landfill gas will be encountered to the planned depths of excavation and soil conditioning for the proposed tie-in. The plan shall also include procedures to sample waste debris and conduct laboratory testing to identify any hazardous waste contamination. The plan shall include a landfill gas testing program to collect vapor samples from the planned depth of soil disturbance and conduct gas measurements for methane and vinyl chloride.

Public Health

Impact HAZ-3: Existing gas recovery pipelines in the work areas could result in public health effects to workers and possibly the public if a line is damaged during construction.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

Landfill gas recovery pipelines carry landfill gas to the VRSD Flare Station as well as the former cogeneration facility located at the current golf course maintenance yard. Gas pipelines are buried and above ground and may be active or inactive (particularly near the former cogeneration facility). Damaging or rupturing a pipeline containing landfill gas could occur during grading for the Reach 1 landfill tie-ins. Placing new levee fill over an existing gas pipeline may impede future maintenance of the pipeline. Gas recovery wells are not located in the Option 1B work areas, including the golf course swale fill area, and would not be affected by the proposed Project.

Existing gas recovery pipelines in the work areas could result in a public health impact to workers and possibly the public if the line was damaged during construction. Covering and increasing the burial depth of the pipelines may impact future access for maintenance or repair. Damaging or burying existing landfill gas recovery pipelines would result in an adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Option 1A – Full Levee System with Reach 4 Floodwall

Option 1A levee system improvements include construction of a retaining wall on the north side of the golf course maintenance building and adjacent to existing access roads. Gas recovery pipelines terminated at the former cogeneration facility that was located at the current golf course maintenance yard. Although these gas pipelines may not be active, other active lines currently transport gas to the VRSD Flare located 800 feet to the west. Consequently, the presence of buried and above-ground gas pipelines, condensate lines, and sumps may occur in the Option 1A work areas.

Existing gas recovery pipelines in the work areas could result in a public health impact to workers and possibly the public if the line was damaged during construction. Covering and increasing the burial depth of the pipelines may impact future access for maintenance or repair. Damaging or burying existing landfill gas recovery pipelines would result in an adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Mitigation Measures

HAZ-3 **Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines.** Prior to construction, the Project design should coordinate with VRSD to identify and locate all landfill gas recovery wells, pipelines, condensate lines and sumps, and groundwater monitoring wells near the Project limits and ground disturbance areas. Based on the location of gas pipelines, a plan shall be developed to protect the pipelines in place or relocate them prior to construction. Active pipelines to be relocated will require additional coordination with VRSD to stop the gas flow, evacuate the line, and create the necessary connections to install the replacement pipeline. Inactive pipelines in the work areas shall be tested for residual gas or evacuated prior to removal or abandonment in place.

3.4.2.3 Cumulative Impacts

Introduction

The geographic extent of cumulative analysis for liquefaction is limited to the area immediately underlying and adjacent to the Project site and Project components. This area is considered sufficient to capture potential cumulative effects to liquefaction because primary impacts from geologic conditions and geologic hazards such as liquefaction occur at specific locales and are unaffected by activities not acting on them directly and any impacts of the proposed Project would be site specific.

The geographic extent for the analysis of cumulative impacts related to hazardous waste would include the Project site and other local and regional sites that would dispose of waste at a common locality. It is unlikely that sites a great distance from the Project site would dispose of their hazardous waste at a local or regional disposal site.

The geographic extent for the analysis of cumulative impacts related to public health would include the Project site and the neighboring former landfills. These geographic limits are appropriate to consider the potential cumulative impacts as past landfill use of a property at or adjacent to the Project site is the most significant factor in evaluating the potential for adverse public health effects due to landfill gases.

Project Contribution to Cumulative Impacts

Liquefaction hazards and the potential effects of liquefaction-related damage would affect each project individually and they would comprise an impact of the geologic environment on individual projects and would therefore not introduce cumulatively considerable impacts.

Projects in the vicinity that would generate significant quantities of hazardous waste requiring treatment or disposal that when combined with hazardous waste from the proposed Project would exceed the capacity of regional hazardous waste facilities would result in a cumulatively considerable impact. Nearby projects, including the Village (a.k.a. Wagon Wheel) development project and the Bailard Landfill Gas Project, and the proposed Project are not anticipated to generate large quantities of hazardous materials requiring disposal or treatment and therefore would not introduce a cumulatively considerable impact.

Cumulative public health impacts related to the proposed Project and the Bailard Landfill Gas Project would be significant if both projects simultaneously resulted in an accidental release of landfill gas during construction; however, the likelihood of such a double-jeopardy condition occurring would be minimal. No cumulative impacts would occur following construction.

3.4.2.4 Impact Significance Summary

Table 3.4-1, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.4-1 also indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project's contributions to hazards impacts during construction and O&M were determined not to be cumulatively considerable.

3.4
Hazards

Table 3.4-1. Summary of Hazards Impacts and Mitigation Measures		
Impacts	Mitigation Measures	Significance Conclusion
Impact HAZ-1: The Project may be subject to liquefaction-related damage.	No mitigation measures are required.	Class III
Impact HAZ-2: Hazardous waste may be encountered at landfill tie-ins and retaining wall footing excavation.	HAZ-2: Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater.	Class II
Impact HAZ-3: Existing gas recovery pipelines in the work areas could result in public health effects to workers and possibly the public if a line is damaged during construction.	HAZ-3: Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines.	Class II

Class I: Significant impact; cannot be mitigated to a level that is not significant. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: Significant impact; can be mitigated to a level that is not significant. A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR/EIS.

Class III: Adverse; less than significant. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: Beneficial impact. A Class IV impact represents a beneficial effect that would result from project implementation.