3.10 Hazards and Hazardous Materials

3.10.1 Introduction

This section describes the existing conditions for hazards and materials at or in the vicinity of the proposed components and evaluates the potential impacts that could result from implementing each of the components, the Project Alternatives, and the No Project Alternative. Mitigation to reduce any impacts to the Project is provided where applicable.

Hazards and hazardous materials include those actions and materials affecting health and safety of the public and the release of hazardous materials into the environment. Hazards discussed in this section include naturally occurring contamination (i.e., oil fields and soil gas), man-made contamination in soil, hazardous waste, and public nuisances (vector problems).

Degradation of the quality of surface water or groundwater by potential hazards is considered in more detail in Section 3.11 – Hydrology and Water Quality. Potential hazards associated with other health hazards are considered in detail in Section 3.4 – Air Quality and Section 3.13 – Noise and Vibration.

3.10.2 Environmental Setting

This section provides an overview of hazards and hazardous materials known to occur within the HSA, specifically as related to each component of the IRP.

3.10.2.1 General Setting

Hazards and hazardous materials will be present in the HSA. In the Los Angeles area, naturally occurring contamination could exist at oil and gas fields, and man-made contamination is a function of the types of land uses and activities in any given area.

Naturally Occurring Contamination

Thirty-five oil fields exist in the Los Angeles area from the south near the Los Angeles Harbor to the northern San Fernando Valley (see Figure 3.10-1). The oil fields near downtown Los Angeles include the Las Cienegas, Los Angeles Downtown, Union Station, and Boyle Heights oil fields. Other naturally occurring oil fields are in the San Fernando Valley, including the northwest portion of the valley in the Horse Meadows and Cascade oil field areas, southwest toward Pacoima, and other smaller areas. Production from the oil fields has been scaled back and some have been abandoned. Today, oil fields still actively producing petroleum include those near Culver City, in the City of Beverly Hills, and at Wilmington Oil Field.

Naturally occurring methane and lesser amounts of hydrogen sulfide could be present in oil field areas. The Defined Methane and Methane Buffer Zones in the City of Los Angeles are areas where the City requires that soil gas be evaluated and mitigated, if needed, to reduce the risk of fire or explosion. These areas are shown in Figure 3.10-2.

Man-Made Contamination

Because the Los Angeles area is heavily urbanized, man-made contamination is likely to exist throughout the HSA. In general, industrial land uses and, to a lesser extent, commercial land uses are associated with such contamination. For instance, contaminated soil and groundwater could be found at gas stations, dry cleaners, or manufacturing facilities. Contamination is typically from gasoline or solvents but could also include metals, such as lead and chromium. Generally, soil and groundwater contamination is not associated with residential land uses; however, lead-based paints, asbestos, and pesticides can be found in residential areas.

Known large-scale contamination also exists in the HSA. The San Fernando Basin underlying the San Fernando Valley is an important source of drinking water for the Los Angeles metropolitan area, and it contains several Superfund sites. EPA has designated four separate Superfund areas in the San Fernando Superfund area: Burbank and North Hollywood, Glendale/Crystal Springs, Verdugo, and Pollock/Los Angeles. The State of California and EPA are directing cleanup of the Superfund areas, and the EPA Superfund program has been instrumental in requiring the assessment and cleanup of contamination.

The primary contaminants of concern in the Superfund areas are trichloroethylene (TCE) and PCE, which are widely used in a variety of industries including metal-plating, machinery degreasing, and dry cleaning. TCE and PCE have been detected in many production wells at levels that are above the federal maximum contaminant level (MCL), 5 parts per billion (ppb).

Figure 3.10-3, adapted from EPA, shows the boundaries of the Superfund sites. Numerous production water wells have been taken offline due to contamination. Cleanup is overseen by EPA and state agencies, including the Regional Board of Los Angeles. Despite cleanup of soil and groundwater at sites, limited residual contamination could exist; however, additional cleanup is not always required by the federal or state government.

Contaminated soils and groundwater could be encountered during the installation of the Proposed Project Alternatives and components. Generally, the lateral and vertical limits of larger-scale soil and groundwater contamination in the HSA are known. The types of contaminants present in soil and groundwater include metals (lead and chromium, for example), hydrocarbons, solvents, and others, including emerging chemicals of concern. Excavations associated with the proposed infrastructure, such as pipes, could be from 15 to 180 feet deep. Some contaminated soil and/or hazardous waste likely would be generated during construction of one or more of the components due to excavation and removal of contaminated soils.

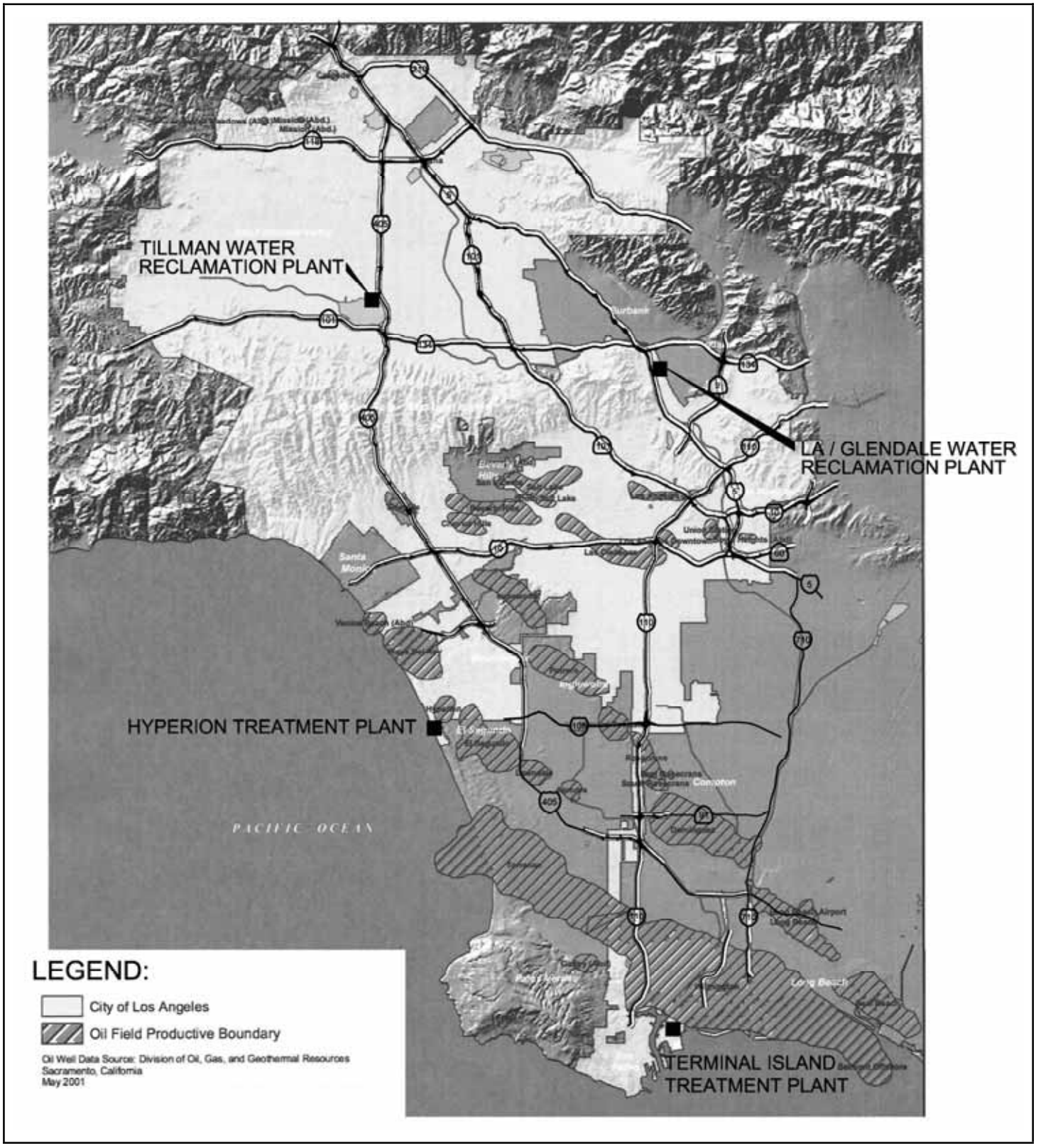

Figure 3.10-1
Administrative Boundaries of Oil Fields in the City of Los Angeles

CH:CDM

Source: City of Los Angeles Bureau of Engineering

N
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Integrated Resources Plan
Environmental Impact Report

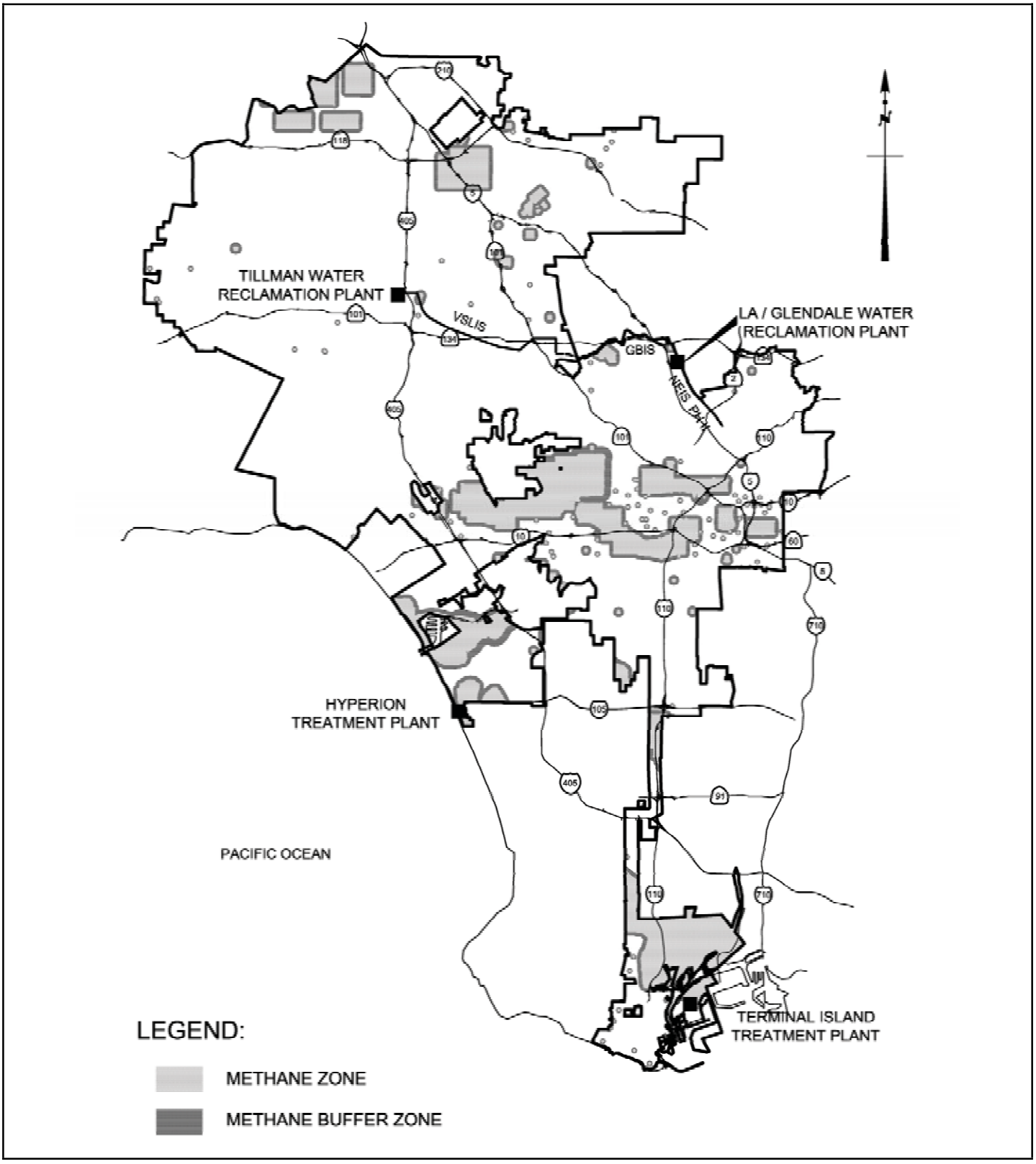

Figure 3.10-2
Methane and Methane Buffer Zones

CH:CDM

Source: City of Los Angeles
Bureau of Engineering

3.10.2.2 Components

Project-Level Components

Hyperion

Hyperion is located at the southwestern edge of the Hyperion Oil Field and within the Hyperion Oil Field methane zone.

Records from the City of Los Angeles Fire Department show that, in 2004, Hyperion stored, used, and/or legally disposed reportable quantities of ferrous chloride, hydrated lime, liquid nitrogen, liquid oxygen, oil, polymer, oxygen, propane, sodium hypochlorite, unleaded fuel, methane, solvent, acetylene, latex paint, adhesive, acids, bases, asbestos, cleansers, defoamant, floor finishers, herbicides, hydraulic oils, kerosene, lacquer thinner, mineral spirits, and soda ash.

In March 2005, Environmental Data Resources (EDR) conducted an environmental database review that helps fulfill requirements of due diligence for the American Society for Testing and Material (ASTM) Standard and for the "All Appropriate Inquiry" ruling by EPA (EDR, 2005a). The review searches selected databases within a specified radius of the property. Some databases cover an area within 0.75-mile of a site, whereas other databases cover an area within 2 miles of the site. Within a 2-mile radius of Hyperion, the following sources exist:

- The RCRAInfo database lists the Scattergood Generating Station, which is located just south of Hyperion. This database includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).
- The State of California Cortese database lists Mercury Services/LAX, which is within 0.75-mile of Hyperion. The Cortese database identifies public drinking-water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks having a reportable release, and all solid waste disposal facilities from which waste is known to migrate.
- The State of California Leaking Underground Storage Tank database lists two properties within 0.75-mile of Hyperion: a school and Mercury Services/LAX. The Leaking Underground Storage Tank database contains an inventory of reported leaking underground storage tanks.
- The State of California database of Spills, Leaks, Investigations, and Cleanup (SLIC) lists two properties within 0.75-mile of Hyperion: a Southern California Edison property and the Southern California Edison El Segundo Generating Station. This database identifies sites where solvents have been released to the soil or groundwater.

- Three properties within 1.25 miles of the site are listed on the Toxic Pits Cleanup Act Sites database—the Scattergood Generating Station, Southern California Edison El Segundo Generating Station (both generating stations are within 0.75-mile of Hyperion), and the Chevron El Segundo Refinery. This database identifies sites suspected of containing hazardous substances where cleanup has not been completed.

Tillman

Tillman is not located in an oil field or a methane zone.

Records from the City of Los Angeles Fire Department show that in 2004 this plant stored or used reportable quantities of acetylene, argon, calcium hypochlorite, cleaning solvent, diesel fuel, engine oil, ferric chloride, gear compound, grease, helium, muriatic acid, oxygen, propane, sodium bisulfate, freon, helium, hexane, hydrogen, and nitrogen. Tillman legally disposed of waste paint, waste oily rags, and oil. Existing treatment processes at Tillman use some materials that could be hazardous, such as sodium hypochlorite (for disinfections through chlorination) and sodium bisulfite (for dechlorination prior to effluent discharge). Both substances come in either a solid or liquid form, and neither poses a safety risk to the public.

In February 2005, an environmental database review was conducted of selected databases within a 2-mile radius of Tillman and found the following (EDR, 2005b):

- Six properties within 0.75-mile of Tillman are on the State of California Cortese database. Five of the six properties on the database are gasoline stations; the other property is the Air National Guard facility located just north of Tillman.
- Four properties within 0.75-mile of the site are on the Leaking Underground Storage Tank database. The four sites are gasoline stations.
- Three properties within 0.75-mile of the site are found on the SLIC database. One the properties is a gasoline station, one is a Department of Defense site, and one is an Air National Guard facility.

LAG

LAG overlies the San Fernando Valley Superfund area, but it is not in an oil field or methane zone.

Records from the City of Los Angeles Fire Department show that in 2004, LAG stored, used, and/or disposed of reportable quantities of motor oil, diesel fuel, kerosene, sodium hypochlorite, and sulfuric acid. Existing treatment processes at LAG use some materials that could be considered hazardous such as sodium hypochlorite (for disinfections through chlorination) and sodium bisulfite (for dechlorination prior to effluent discharge). Both of these substances come in either a solid or liquid form, and neither poses a safety risk to the public.

In June 2004, an environmental database review was conducted for the NEIS II Alignment (EDR, 2004). Selected databases within a 1-mile radius around LAG were searched. The search revealed that 94 sites are listed on 1 or more of the 72 government databases. The report indicates approximately 18 of these 94 sites have soil and/or groundwater contamination.

NEIS II

With the exception of a small area in the north, the NEIS II Alignments would not exist in a methane or methane buffer zone. The alignments would be in the San Fernando Valley Superfund area. Some of the shaft sites could be located in industrial areas that could contain soil and/or groundwater contamination.

The groundwater beneath the eastern alignments has been contaminated by PCE and TCE and is included in the San Fernando Valley Superfund sites. Numerous commercial or industrial facilities would be close to the NEIS II East Alignment, and some of these facilities are known to have localized soil and groundwater contamination. The NEIS II West Alignment would cross a smaller overall amount of contaminated groundwater in the Superfund site. Fewer commercial or industrial facilities are present along the NEIS II West Alignment, where soil or groundwater contamination would be less likely to be encountered.

Based on the data base search, a total of 382 sites are listed on 1 or more of the 72 government databases we identified in the NEIS II Alignment corridors. The report indicates that approximately 70 of these 382 sites have soil and/or groundwater contamination.

GBIS

A methane and methane buffer zone is present on the south side of the Los Angeles River. The GBIS South Alignment would pass through a methane and methane buffer zone from the landfills. Some of the shaft sites could be located in industrial areas that could contain soil and or groundwater contamination.

The groundwater beneath the GBIS alignments has been contaminated by PCE and TCE and is included in the San Fernando Valley Superfund site.

Based on the database search, a total of 89 sites listed on 1 or more of the 72 government databases were identified in the GBIS Alignment corridors. Approximately 44 of these 89 sites have soil and/or groundwater contamination.

Program-Level Components

VSLIS

Only the easternmost portion of the VSLIS Alignment would be within the San Fernando Valley Superfund area; however, the alignment would traverse an urban area that could contain contaminated soils and/or groundwater.

Recycled Water
Generally, the recycled water distribution systems would be installed in the following areas as described below and in the General Setting (Section 3.10.2.1).

Central and Eastern San Fernando Valley. Soils in the San Fernando Valley likely are contaminated from past or existing commercial or industrial uses. Some methane and methane buffer zones exist in the San Fernando Valley. Groundwater could be contaminated in the eastern San Fernando Valley. Generally, the depth of contaminated groundwater would be at lower elevations (deeper) than that of most of the proposed components (see Section 3.11 – Hydrology and Water Quality). The areas of known contamination near Tillman are provided in the Tillman discussion.

Northeast and Downtown Portions of Los Angeles. Oil exploration and production and industrial activity in this area have resulted in areas of contaminated soil. Portions of this area are within methane and methane buffer zones. Some of the older oil-bearing rocks near the downtown area are present at the land surface. The recycled water component would include part of the Los Angeles Narrows where contaminated groundwater from the San Fernando Valley enters the basin.

West Los Angeles Area, Upstream from Hyperion. Pipelines for the recycled water component would be located near Hyperion. Due to proximity to the Hyperion Oil Field, any earthwork in this area could be in an area defined by the City of Los Angeles as a methane or methane buffer zone. Soil and groundwater contamination has been documented at sites near Hyperion, such as the Chevron El Segundo Refinery, Scattergood Generating Station, and LAX. The areas of known contamination in the vicinity of Hyperion are provided in the Hyperion discussion.

Harbor Area Upstream from Terminal Island. Oil exploration and production as well as industrial activity in this area have resulted in areas of contaminated soil and are within methane and methane buffer zones. The reclamation of land throughout the area has created other areas founded on artificial fill, such as the area under and around TITP and the Port of Los Angeles, that also could be contaminated. Groundwater contamination also could be present.

Dry Weather Runoff – Low-Flow Diversions
Earthwork for these relatively shallow structures could encounter contaminated soils and groundwater. Soils in the San Fernando Valley likely would be contaminated from past or existing commercial or industrial uses, which could include methane or methane buffer zones. Groundwater also could be contaminated in the eastern San Fernando Valley. The boundaries of contaminated groundwater in the San Fernando Valley Superfund area are well defined. The areas of known contamination near Tillman are provided in the Tillman discussion. The location of pipelines along the coastal area would occur in an urban area that would be expected to include man-made

contamination. In addition, any proposed diversion near Hyperion could occur in the area of the Hyperion Oil Field Methane Zone.

Wet Weather Runoff – Onsite Management
In the eastern San Fernando Valley, capture and percolation would occur at schools, government facilities, parks, open space, vacant lots, and unused alleys. As in any urban area, contamination could exist depending on the current and historical uses at these sites. Generally, contamination would not be as likely in open space or schools but could be more likely at government facilities that store or use hazardous materials (for instance, gasoline). In addition, cisterns would be located at school and government sites throughout the City of Los Angeles. Generally, school sites would not be as likely to contain contamination as would industrial sites. Contamination of soil and groundwater at government properties is not uncommon; therefore, any earthwork at these sites could encounter contaminated soil and possibly contaminated groundwater.

Dry Weather Runoff – Urban Runoff Plants or Treatment Wetlands
As in any urban area, contamination could exist depending on the current and historical uses of the area. Depending on their location, URPs or treatment wetlands could be proposed in areas of existing oil fields and/or methane zones. In addition, naturally occurring oil seeps have occurred in Ballona Creek, and oil could be transported downstream with existing runoff.

Wet Weather Runoff – Urban Runoff Plants
As in any urban area, contamination could exist depending on the current and historical uses of the area. Depending on their location, wet weather URPs could be proposed in areas of existing oil fields and/or methane zones.

Dry Weather Runoff – Smart Irrigation
Although the installation of smart irrigation devices would occur on commercial and industrial properties throughout the City of Los Angeles, where contamination could be found, installation of the irrigation devices would be limited to the uppermost soils of landscaped and/or planter areas. Therefore, the devices would not be anticipated to affect any soil or groundwater contamination.

Wet Weather Runoff – Non-Urban Regional Recharge
Although the location of the pipeline and appurtenant structures have not been determined, some of the soils in the eastern San Fernando Valley, as described under the Recycled Water component, are known to contain contamination from past or present commercial or industrial uses. Groundwater also could be contaminated in the eastern San Fernando Valley.

3.10.3 Environmental Impacts

3.10.3.1 Background

Presented below are brief discussions of the regulatory framework, methodology, and thresholds of significance used to analyze each Alternative.

Regulatory Framework

Federal

Hazardous Waste Regulations. In 1976, Congress enacted the Resource Conservation and Recovery Act (42 United States Code [U.S.C.] Sections 6901-6992K) to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA provides the basic framework for the federal regulation of hazardous waste.

Emergency Planning and Community Right-To-Know. The Emergency Planning and Community Right-To-Know Act of 1986 (42 U.S.C. Sections 11001-11050), also known as SARA Title III, requires businesses and local emergency planning and response agencies to report information about the amounts of materials that businesses use, release, and/or spill. The act also provides the public with information about potential hazards in their communities.

Occupational Safety. Federal occupational safety and health regulations contain provisions with respect to hazardous materials management. The applicable federal law is the Occupational Safety and Health Act (OSHA) of 1970 as amended (29 U.S.C., Sections 651-678; 29 CFR 1910). Federal OSHA requirements are designed to promote worker safety, worker training, and worker right-to-know. OSHA establishes regulatory requirements primarily by promulgating occupational safety and health standards. These standards establish permissible exposure limits (PELs) for a number of air contaminants (29 CFR sec. 1910.1000). These PELs define the amount of hazardous airborne chemicals to which an employee safely could be exposed over specific periods of time. When administrative or engineering controls cannot achieve compliance with PELs, protective equipment or other protective measures must be used.

Employers are required to train a team of employees to applicable federal OSHA-defined (29 CFR 1910.120, Hazardous Waste Operations and Emergency Response [HAZWOPER] Standards) levels to respond to accidental releases of hazardous materials and, as appropriate, to retain on-call contractors to respond to accidental releases of hazardous materials.

State

Hazardous Waste Regulations. RCRA allows individual states to develop their own programs for the regulation of hazardous waste, provided that the state program is at least as stringent as RCRA. The State of California has developed the California Hazardous Waste Control Law (Health and Safety Code sec. 25100 et Seq; 22 CCR sec. 66260.1 et Seq.), which is modeled closely after RCRA. EPA granted final authorization to California for RCRA enforcement on August 1, 1992. These regulations identify standards for the classification, management, transportation, and disposal of hazardous waste.

Emergency Planning and Community Right-To-Know. In California, many of the requirements of SARA Title III overlap with state regulations. The Waters Bill (Assembly Bill 2185; Health and Safety Code sec. 25500 et seq.), adopted

by the California Legislature in 1985, requires that any facility that meets minimum reporting requirements for the use and storage of hazardous materials must initiate emergency response planning, including the development of a Business Emergency Plan (BEP). Basic requirements of hazardous materials planning under the Waters Bill include the development of detailed hazardous materials inventories for all materials used and stored onsite, a program of employee training for hazardous materials release response, and the identification of emergency contacts and response procedures.

In 1996, the federal Accidental Release Prevention (ARP) Program (40 CFR 68) was promulgated. California added certain provisions specific to the state, which created the California Accidental Release Prevention (CalARP) Program. CalARP requires that any owner or operator of a stationary source that has more than a threshold quantity of regulated substances submit a Risk Management Plan (RMP).

CalARP defines three program levels with different requirements depending upon the complexity, accident history, and potential impact of releases of regulated substances. In general, facilities must identify potential receptors and assess the risks to the public from potential releases. The RMP must include an emergency response plan.

Under OSHA, the U.S. Department of Labor, Occupational Safety and Health Administration can delegate its authority to administer the act to states that have developed a state plan with provisions at least as stringent as those provided by OSHA. California is a delegated state for federal OSHA purposes. The CalOSHA program (codified in CCR, Title 8, and in the Labor Code Secs. 6300-6711) is administered and enforced by the Division of Occupational Safety and Health, a unit of the California Department of Industrial Relations.

State Health and Safety Code. Section 2002(j) of the State Health and Safety Code, for the purposes of vector control and prevention, defines a public nuisance. Section 2060 enables the Greater Los Angeles County Vector Control District to abate a public nuisance pursuant to "the person … who controls the diversion, delivery, conveyance, or flow of water shall be responsible for the abatement of a public nuisance that is caused by, or as a result of, that property or the diversion, delivery, conveyance, or control of that water." (County Vector Control District, 2004).

Local

City of Los Angeles Fire Code. Additional requirements pertaining to hazardous materials management are set forth in the City of Los Angeles Fire Code (LAFC). The LAFC regulates the types, configuration, and quantities of hazardous materials that can be managed at a facility. Also, LAFC specifies design standards for the storage and management of hazardous materials.

Citywide emergency response planning and emergency evacuation plans are coordinated by the Emergency Preparedness Department and the Emergency

Operations Board of the City of Los Angeles. These plans are documented in the Emergency Operations Master Plan and Master Plan Procedures and Annexes of the City of Los Angeles. Operational units of the City of Los Angeles (e.g., departments) maintain emergency plans for their operations and facilities within the framework of the Citywide plan. These plans are updated annually or when appropriate due to changed conditions.

City of Los Angeles Municipal Code. In 2004, the City of Los Angeles approved Ordinance No. 175,790 amending Section 91.106.4.1 and Division 71 of Article 1, Chapter IX of the Los Angeles Municipal Code to establish Citywide methane mitigation requirements and to include more current construction standards to control methane intrusion into buildings.

Methodology

Potential hazards and hazardous material issues related to the components and Proposed Project Alternatives generally are encompassed within the following:

- Increasing the risk of injury or death by interfering with emergency response or emergency evacuation plans
- Releasing hazardous materials into the environment through reasonably foreseeable upset and accidents
- Exposing people to public nuisances (e.g., vector problems)

Analyses of potential impacts in methane zones are based on the City of Los Angeles "Methane and Methane Buffer Zones" map (also known as Citywide Methane Ordinance Map A-20960), City of Los Angeles Ordinance Number 175,790, and the City of Los Angeles Building Code, Chapter 71.

Analyses of potential impacts regarding hazardous materials were based on maps and records searches from EDR and EPA.

Other hazardous issues associated with the potential for groundwater contamination are addressed separately in Section 3.11 – Hydrology and Water Quality.

Thresholds of Significance

The *Draft L.A. CEQA Thresholds Guide* states that a determination of significance relative to Risk of Upset should be made on a case-by-case basis, considering the following factors (City of Los Angeles, 1998):

- Regulatory framework
- Probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance
- Degree to which the project could require a new, or interfere with an existing, emergency response or evacuation plan, and the severity of the consequences
- Degree to which a project design will reduce the frequency or severity of a potential accidental release or explosion of a hazardous substance

Additionally, the *Draft L.A. CEQA Thresholds Guide* states that a determination of significance relative to Human Health Hazards shall be made on a case-by-case basis, considering the following factors (City of Los Angeles, 1998):

- Regulatory framework for the health hazard
- Probable frequency and severity of consequences to people from exposure to the health hazard
- Degree to which the project design will reduce the frequency of exposure or severity of consequences of exposure to the health hazard

Based on these factors, an Alternative would have a significant impact if it would:

HAZ-1: Substantially interfere with implementation of emergency response plans or emergency evacuation plans, thereby increasing risk of injury or death.

HAZ-2: Create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

HAZ-3: Result in the exposure of people to health hazards or public nuisance.

3.10.3.2 Component Impacts

The analysis in this document assumes that, unless otherwise stated, the Proposed Project would be designed, constructed, and operated following all applicable laws, regulations, ordinances, and formally adopted standards of the City of Los Angeles (e.g., *Los Angeles Municipal Code* and *Bureau of Engineering Standard Plans*). Construction would follow the uniform practices established by the Southern California chapter of the American Public Works Association (e.g., *Standard Specifications for Public Works Construction* and the *Work Area Traffic Control Handbook*) as specifically adapted by the City of Los Angeles (e.g., the City of Los Angeles Department of Public Works *Additions and Amendments to the Standard Specifications for Public Works Construction* [also known as "The Brown Book," formerly Standard Plan S-610]).

Project-Level Component Impacts

Hyperion Expansion to 500 mgd

The City of Los Angeles has developed emergency response plans and emergency evacuation plans for Hyperion. Construction activities temporarily would alter the configuration of the facility. For example, an access gate temporarily could be closed, and access would be shifted to another gate. Substantial interference with implementation of emergency response plans or emergency evacuation plans would be avoided by adhering to the minimum requirements of the Los Angeles Fire Department and CalOSHA as they relate to occupant and employee safety. As part of the operation of the plant, emergency response plans and emergency evacuation plans are reviewed annually (or more frequently when conditions change). These plans, as they relate to the facility, would be reviewed and amended as necessary upon operation of this component.

Construction activities in conjunction with this component would involve work with or near hazardous situations and materials. Examples include demolition-related waste that could contain lead-based paint or asbestos, and the potential for encountering naturally occurring methane gas. Operations at the facility following implementation of this component would involve increased use of hazardous materials.

Compliance with the requirements of CalOSHA and other safety regulations, along with the City of Los Angeles General Conditions and Requirements (such as those regarding safety measures and hazardous substances), during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Compliance with regulations also would prevent any significant hazard to the public or the environment.

Elements of this component that could result in the exposure of people to health hazards are discussed in Section 3.4 – Air Quality.

Hyperion Process Upgrades

The Hyperion Process Upgrades involve the same considerations regarding construction and operation as stated under the component to expand Hyperion to 500 mgd.

Tillman Expansion to 100 mgd

Construction of the Tillman Expansion to 100 mgd temporarily would alter the configuration of the facility. The City of Los Angeles has developed emergency response plans and emergency evacuation plans for the facility. Substantial interference with implementation of emergency response plans or emergency evacuation plans would be avoided by adhering to the minimum requirements of the Los Angeles Fire Department and CalOSHA. As part of the operation of the plant, emergency response plans and emergency evacuation plans would be reviewed and amended as necessary upon operation of this component.

Construction activities in conjunction with this component would involve work with or near hazardous situations and materials. Examples include demolition-related waste that could contain lead-based paint or asbestos. Operations at the facility following implementation of this component also could involve increased use of hazardous materials. The treatment processes at Tillman would be upgraded to MF/RO (see Section 2.2.1.3), which would require lime or caustic soda for pH adjustments. The upgrade to MF/RO would replace the current disinfection process (chlorination/dechlorination) with a UV disinfection system, eliminating the need for sodium hypochlorite and sodium bisulfite. Hydrogen peroxide could be used as part of the disinfection process. Acids, such as sulfuric acid, as well as antiscalents would be used in limited quantities for cleaning.

Expanding Tillman to 100 mgd is expected to result in a decrease in the use of chlorine-based chemicals at Tillman. The storage and handling of other

hazardous chemicals such as caustic soda, hydrogen peroxide, and acids would be designed to prevent exposure to the public in the event of a release. Such design features could include proper storage containers and bermed secondary containment. In addition, chemicals such as lime, caustic soda, acids, hydrogen peroxide, and antiscalents do not readily form a gas upon exposure to the atmosphere. Because proper hazardous materials storage and secondary containment would be incorporated into the treatment plant design, and because of the relatively stable nature of the chemicals, a significant hazard to the public or environment would not be anticipated.

Compliance with the requirements of CalOSHA and other safety regulations along with the General Conditions and Requirements of the City of Los Angeles (such as those regarding safety measures and hazardous substances) during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment. Therefore, construction and operation would include a risk of exposing people or property to health hazards because of an accidental release or explosion of a hazardous substance.

Elements of this component that could result in the exposure of people to health hazards are discussed in Section 3.4 – Air Quality.

Tillman Expansion to 80 mgd

The expansion to 80 mgd would be similar to the Tillman Expansion to 100 mgd. Therefore, the same consideration of factors regarding construction and operation of this component applies.

Tillman Process Upgrades

The construction and operation of this component would be similar to Tillman Expansion to 100 mgd. Therefore, the same consideration of factors regarding construction and operation of this component applies.

Tillman Wastewater Storage

This component would include construction and operation of a buried storage tank outside the eastern boundary of Tillman. Although not within Tillman boundaries, construction activities would be conducted such that substantial interference with the implementation of the emergency response plans or emergency evacuation plans for Tillman would be avoided. As part of the operation, emergency response plans and emergency evacuation plans are reviewed annually (or more frequently when conditions change). These plans, as they relate to the facility, would be reviewed and amended as necessary upon operation of this component.

Construction activities in conjunction with this component would involve work with or near hazardous situations and materials. Examples include working around the excavation for the storage tank. Operations at the facility following implementation of this component also could involve increased use of hazardous materials. However, compliance with the requirements of

CalOSHA and other safety regulations along with the General Conditions and Requirements of the City of Los Angeles (such as those regarding safety measures and hazardous substances) during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment. Therefore, construction and operation would include a risk of exposing people or property to health hazards because of an accidental release or explosion of a hazardous substance.

LAG Expansion to 30 mgd

Similar to the Hyperion Expansion to 500 mgd component, construction of the LAG Expansion to 30 mgd temporarily would alter the configuration of the facility. The City of Los Angeles has developed emergency response plans and emergency evacuation plans for the facility. Substantial interference with implementation of emergency response plans or emergency evacuation plans would be avoided by adhering to the minimum requirements of the Los Angeles Fire Department and CalOSHA. As part of the operation of LAG, emergency response plans and emergency evacuation plans would be reviewed and amended as necessary upon operation of this component.

Construction activities in conjunction with this component would involve work with or near hazardous situations and materials. Examples include demolition-related waste that could contain lead-based paint or asbestos. Operations at the facility following implementation of this component also could involve increased use of hazardous materials. The treatment processes at LAG would be upgraded to MF/RO, which would require lime or caustic soda for pH adjustments. The upgrade to MF/RO would replace the current disinfection process (chlorination/dechlorination) with a UV disinfection system, eliminating the need for sodium hypochlorite and sodium bisulfite. Hydrogen peroxide could be used as part of the disinfection process. Acids, such as sulfuric acid, as well as antiscalents would be used in limited quantities for cleaning. This component would be expected to result in less chlorine-based chemicals at LAG.

The storage and handling of other hazardous chemicals such as caustic soda, hydrogen peroxide, and acids would be designed to prevent exposure to the public in the event of a release. Such design features could include proper storage containers and bermed secondary containment. In addition, chemicals such as lime, caustic soda, acids, hydrogen peroxide, and antiscalents do not readily form a gas upon exposure to the atmosphere. Because proper hazardous materials storage and secondary containment would be incorporated into the treatment plant design, and because of the relatively stable nature of the chemicals, a significant hazard to the public or environment would not be anticipated.

Compliance with the requirements of CalOSHA and other safety regulations along with the General Conditions and Requirements of the City of Los Angeles (such as those regarding safety measures and hazardous

substances) during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment. Therefore, construction and operation would include a risk of exposing people or property to health hazards because of an accidental release or explosion of a hazardous substance.

Elements of this component that could result in the exposure of people to health hazards are discussed in Section 3.4 – Air Quality.

LAG Operational Storage
LAG Operational Storage component is part of the LAG Expansion to 30 mgd component. Therefore, this component would include the same consideration of factors as discussed previously.

NEIS II West Alignment
Construction of NEIS II could result in the temporary interference of emergency response or evacuation plans in the event that construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. However, as discussed in detail in Section 3.15 – Public Services, approved traffic control plans would be used as needed to manage traffic through construction zones, while allowing emergency vehicles and personnel access to the work site.

Construction of shaft sites and excavations deep enough to encounter groundwater (such as tunneling) could require dewatering, which could expose the public or the environment to hazardous materials through handling of contaminated groundwater or by locally affecting the extent or flow of an existing contamination plume. This hazard would be reduced by avoiding contaminated soil and plumes (by going around or tunneling below in bedrock), by testing and treating water produced by dewatering prior to discharge, and by using construction methods that minimize dewatering such as earth-pressure-balance tunneling.

In the event methane, hydrogen sulfide, or contaminated groundwater were encountered during construction, people or property could be exposed to health hazards as a result of an accidental release or explosion. Standard protocols for tunneling through gassy zones include probing ahead with gas sensors and monitoring gas in the tunnel. In the event gas were detected, the gas would be kept at low concentrations so as not to pose an explosion hazard. The type of tunnel-boring machine used in the NEIS Phase I project operated in such a way to reduce groundwater infiltration into the tunnel, although groundwater is present in the mined rock and could enter the tunnel in some instances. Water would be sampled and disposed properly. Worker safety would be protected through health and safety plans (per CalOSHA standards) that address these hazards.

Operation of this component would not involve an increased use of hazardous materials. However, as described in Section 3.9 – Geology and Soils, seismic

hazards exist in southern California. Rupture or severe distortion of the proposed pipeline could occur at the crossing of an active fault. The potential for damage to pipelines would be reduced by design standards.

Elements of this component that could result in the exposure of people to health hazards are discussed in Section 3.4 – Air Quality.

NEIS II East Alignment
The construction and operation factors for the NEIS II East Alignment would be similar as described for the NEIS II West Alignment. One of the primary differences would be that the NEIS II East Alignment would go through sedimentary rock that contains less water and is not within the Superfund area. Subsequently, concerns about contaminated groundwater potentially would be lessened.

GBIS South Alignment
The construction and operation factors for the GBIS South Alignment would be the same as described under the NEIS II West Alignment. Operation of this component would not involve an increased use of hazardous materials. However, as described in Section 3.9 – Geology and Soils, potential seismic hazards exist. Rupture or severe distortion of the proposed pipeline could occur at the crossing of an active fault. The potential for damage to pipelines would be reduced by design standards.

Elements of this component that could result in the exposure of people to health hazards are discussed in Section 3.4 – Air Quality.

GBIS North Alignment
The GBIS North Alignment would include the same considerations of construction and operation factors described in the GBIS South Alignment component.

Program-Level Component Impacts

VSLIS
The construction and operation factors for the VSLIS would be similar to those described for the NEIS II West Alignment.

Recycled Water
Construction of the Recycled Water Distribution System could result in the temporary interference of emergency response or evacuation plans in the event that construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. However, as discussed in detail in Section 3.15 – Public Services, approved traffic control plans would be used as needed to manage traffic through construction zones while allowing emergency vehicles and personnel access to the work site.

During construction, if hazardous materials such as contaminated soils were released into the environment, people or property could be exposed. For instance, if construction of a pipeline goes through oil fields or areas with

known contamination, a project-level Health and Safety Plan and a Sampling and Analysis Plan would be used to protect the public and environment.

Operation of this component would not involve an increased use of hazardous materials. This component would not be expected to include elements that would increase human health hazards or public nuisances.

Construction and operation of the pipelines associated with groundwater recharge was analyzed and approved under the *East Valley Water Reclamation Project Final Environmental Impact Report* (LADWP, 1991).

Dry Weather Runoff – Smart Irrigation
Although the installation and operation of the Smart Irrigation systems would occur on residential, commercial, and industrial properties throughout the City of Los Angeles, these irrigation systems would be limited to landscaped areas and would not be expected to affect emergency plans or expose people, property, or environment to hazards.

Dry Weather Runoff – Low-Flow Diversions
Construction of the Dry Weather Runoff – Low-Flow Diversions option could result in the temporary interference of emergency response or evacuation plans in the event that construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. However, as discussed in detail in Section 3.15 – Public Services, approved traffic control plans would be used as needed to manage traffic through construction zones while allowing emergency vehicles and personnel access to the work site.

During construction, if hazardous materials such as contaminated soils were released into the environment, people or property could be exposed. For instance, construction could occur in oil fields or areas with known contamination. However, a project-level Health and Safety Plan and Sampling and Analysis Plan would be used to protect the public and environment from hazardous conditions.

Operation of this component would not involve an increased use of hazardous materials. This component would not be expected to include elements that would increase human health hazards or public nuisances.

Dry Weather Runoff – Urban Runoff Plants or Treatment Wetlands
Construction of the Dry Weather URPs or Treatment Wetlands could result in the temporary interference of emergency response or evacuation plans in the event that construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. However, traffic control plans would be used as needed to manage traffic through construction zones while allowing emergency vehicles and personnel access to the work site.

During construction, if hazardous materials such as contaminated soils were released into the environment, people or property could be exposed. For

instance, construction could occur in oil fields or areas with known contamination. However, a project-level Health and Safety Plan and Sampling and Analysis Plan would be used to protect the public and environment from hazardous conditions. Operation of this component would not involve an increase in chemicals or hazardous materials.

Treatment wetlands would be configured to include shallow marshes alternating with open pools to supply habitat for fish and other organisms that provide natural biological control of mosquito larvae. In the event that significant concerns were posed regarding vector control, which could affect the wetlands feasibility, a subsurface-flow wetland could be constructed; hence, no surface water would be created to support mosquito populations.

Wet Weather Runoff – Onsite Management
Construction of the Wet Weather Runoff – Onsite Management component could result in the temporary interference of emergency response or evacuation plans. However, approved traffic control plans would be used as needed to manage traffic through construction zones while allowing emergency vehicles and personnel access to the work site.

During construction, if hazardous materials, such as contaminated soils, were released into the environment, people or property could be exposed. For instance, construction could occur in oil fields or in areas with known contamination. However, a project-level Health and Safety Plan and Sampling and Analysis Plan would be used to protect the public and environment from hazardous conditions. Operation of this component would not involve an increased use of hazardous materials.

This component would not be expected to include elements that would increase human health hazards or public nuisance because the onsite management features are belowground (capture and percolation) or closed systems (cisterns).

Wet Weather Runoff – Urban Runoff Plants
Construction of the Wet Weather URPs could result in the temporary interference of emergency response or evacuation plans in the event that construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. However, approved traffic control plans would be used as needed to manage traffic through construction zones while allowing emergency vehicles and personnel access to the work site.

During construction, if hazardous materials, such as contaminated soils, were released into the environment, people or property could be exposed. For instance, construction could occur in oil fields or areas with known contamination. However, a project-level Health and Safety Plan and Sampling and Analysis Plan would be used to protect the public and environment from hazardous conditions.

Operation of this component would not involve an increased use in chemicals or hazardous materials. This component would not be expected to include elements that would increase human health hazards or public nuisances.

Wet Weather Runoff – Non-Urban Regional Recharge

Construction of the Wet Weather Runoff – Non-Urban Regional Recharge component could result in the temporary interference of emergency response or evacuation plans in the event construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. However, approved traffic control plans would be used as needed to manage traffic through construction zones while allowing emergency vehicles and personnel access to the work site.

During construction, if hazardous materials, such as contaminated soils, were released into the environment, people or property could be exposed. For instance, construction of pipelines could occur through oil fields or in areas with known contamination. However, a project-level Health and Safety Plan and Sampling and Analysis Plan would be used to protect the public and environment from hazardous conditions.

Operation of this component would involve an increased use of hazardous materials to operate the facilities. This component would not be expected to include elements that would increase human health hazards or public nuisances.

Summary of Component Impacts

Table 3.10-1 presents a summary of the impacts of the IRP Facilities Plan components related to hazards and hazardous materials.

Table 3.10-1. Hazards Component Impact Summary Table ***Integrated Resources Plan EIR***			
Component	**Significance Threshold**		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
Project-level			
Hyperion Expansion to 500 mgd	Construction and operation would not substantially interfere with the emergency response plans or emergency evacuation plans for the plant.	Construction activities would involve work with or near hazardous materials. Operations at the facility following implementation of the Proposed Alternative could involve increased use of hazardous materials. Compliance with the requirements and other safety regulations during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment.	Construction and operation would not be expected to result in health hazards or public nuisances.
Hyperion Process Upgrades	Construction and operation would not substantially interfere with the emergency response plans or emergency evacuation plans for the plant.	Construction activities would involve work with or near hazardous materials. Operations at the facility could involve increased use of hazardous materials. Compliance with the requirements and other safety regulations during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment.	Construction and operation would not be expected to result in health hazards or public nuisances.

Table 3.10-1. Hazards Component Impact Summary Table ***Integrated Resources Plan EIR***			
Component	**Significance Threshold**		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
Tillman Expansion to 100 mgd	Construction and operation would not substantially interfere with the emergency response plans or emergency evacuation plans for the plant.	Construction activities would involve work with or near hazardous materials. Operations at the facility could involve increased use of hazardous materials. Compliance with the requirements and other safety regulations during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment.	Construction and operation would not be expected to result in health hazards or public nuisances.
Tillman Expansion to 80 mgd	Construction and operation would not substantially interfere with the emergency response plans or emergency evacuation plans for the plant.	Construction activities would involve work with or near hazardous materials. Operations at the facility could involve increased use of hazardous materials. Compliance with the requirements and other safety regulations during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment.	Construction and operation would not be expected to result in health hazards or public nuisances.

Table 3.10-1. Hazards Component Impact Summary Table
Integrated Resources Plan EIR

Component	Significance Threshold		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
Tillman Process Upgrade	Construction and operation would not substantially interfere with the emergency response plans or emergency evacuation plans for the plant.	Construction activities would involve work with or near hazardous materials. Operations at the facility could involve increased use of hazardous materials. Compliance with the requirements and other safety regulations during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment.	Construction and operation would not be expected to result in health hazards or public nuisances.
Tillman Wastewater Storage	Construction and operation would not substantially interfere with the emergency response plans or emergency evacuation plans for the plant.	Construction activities would involve work with or near hazardous materials. Operations at the facility could involve increased use of hazardous materials. Compliance with the requirements and other safety regulations during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment.	Construction and operation would not be expected to result in health hazards or public nuisances.

Table 3.10-1. Hazards Component Impact Summary Table ***Integrated Resources Plan EIR***			
Component	**Significance Threshold**		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
LAG Expansion to 30 mgd	Construction and operation would not substantially interfere with the emergency response plans or emergency evacuation plans for the plant.	Construction activities would involve work with or near hazardous materials. Operations at the facility could involve increased use of hazardous materials. Compliance with the requirements and other safety regulations during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment.	Construction and operation would not be expected to result in health hazards or public nuisances.
LAG Oper. Storage	Construction and operation would not substantially interfere with the emergency response plans or emergency evacuation plans for the plant.	Construction activities would involve work with or near hazardous materials. Operations at the facility following implementation of the proposed alternative could involve increased use of hazardous materials. Compliance with the requirements and other safety regulations during construction and operation would prevent any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and would prevent any significant hazard to the public or the environment.	Construction and operation would not be expected to result in health hazards or public nuisances.

Table 3.10-1. Hazards Component Impact Summary Table ***Integrated Resources Plan EIR***			
Component	**Significance Threshold**		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
NEIS II West Alignment	Construction of the NEIS II West Alignment could result in the temporary interference of emergency response plans in the event construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. Approved traffic control plans would be used as needed to divert traffic away from construction zones while allowing emergency vehicles and personnel to access the work site.	Construction of shaft sites and excavations deep enough to encounter groundwater (such as tunneling) could require dewatering, which could expose the public or the environment to hazardous materials through handling of contaminated groundwater or by locally affecting the extent or flow of an existing contamination plume. This hazard could be reduced by avoiding contaminated soil and plumes (by going around or tunneling below in bedrock), by testing and treating water produced by dewatering prior to discharge, and by using construction methods that minimize dewatering such as earth-pressure balance tunneling. Leakage of the sewer as a result of pipe damage following an earthquake cannot be ruled out; however, the pipe would be designed to withstand seismic forces. Additionally, the City of Los Angeles routinely inspects sewers following indications of damage. Any damage to the NEIS II sewer would be repaired.	As it relates to vector problems (especially mosquitoes), construction and operation would not be expected to affect public nuisance.

Table 3.10-1. Hazards Component Impact Summary Table
Integrated Resources Plan EIR

Component	Significance Threshold		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
NEIS II East Alignment	Construction of the NEIS II East Alignment could result in the temporary interference of emergency response plans in the event construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. Approved traffic control plans would be used as needed to divert traffic away from construction zones while allowing emergency vehicles and personnel to access the work site.	Construction of shaft sites and excavations deep enough to encounter groundwater (such as tunneling) could require dewatering, which could expose the public or the environment to hazardous materials through handling of contaminated groundwater or by locally affecting the extent or flow of an existing contamination plume. This hazard could be reduced by avoiding contaminated soil and plumes (by going around or tunneling below in bedrock), by testing and treating water produced by dewatering prior to discharge, and by using construction methods that minimize dewatering such as earth-pressure balance tunneling. Leakage of the sewer as a result of pipe damage following an earthquake cannot be ruled out; however, the pipe would be designed to withstand seismic forces. Additionally, the City of Los Angeles routinely inspects sewers following indications of damage. Any damage to the NEIS II sewer would be repaired.	As it relates to vector problems (especially mosquitoes), construction and operation would not be expected to affect public nuisance.

Table 3.10-1. Hazards Component Impact Summary Table ***Integrated Resources Plan EIR***			
Component	**Significance Threshold**		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
GBIS South Alignment	Construction of the GBIS South Alignment could result in the temporary interference of emergency response plans in the event construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. Approved traffic control plans would be used as needed to divert traffic away from construction zones while allowing emergency vehicles and personnel to access the work site.	Construction of shaft sites and excavations deep enough to encounter groundwater (such as tunneling) could require dewatering, which could expose the public or the environment to hazardous materials through handling of contaminated groundwater or by locally affecting the extent or flow of an existing contamination plume. This hazard could be reduced by avoiding contaminated soil and plumes (by going around or tunneling below in bedrock), by testing and treating water produced by dewatering prior to discharge, and by using construction methods that minimize dewatering such as earth-pressure balance tunneling. Leakage of the sewer as a result of pipe damage following an earthquake cannot be ruled out; however, the pipe would be designed to withstand seismic forces. Additionally, the City of Los Angeles routinely inspects sewers following indications of damage. Any damage to the GBIS sewer would be repaired.	Construction and operation would not be expected to result in health hazards or public nuisances.

Table 3.10-1. Hazards Component Impact Summary Table
Integrated Resources Plan EIR

Component	Significance Threshold		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
GBIS North Alignment	Construction could result in the temporary interference of emergency response plans in the event construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. Approved traffic control plans would be used as needed to divert traffic away from construction zones while allowing emergency vehicles and personnel to access the work site.	Construction of shaft sites and excavations deep enough to encounter groundwater (such as tunneling) could require dewatering which could expose the public or the environment to hazardous materials through handling of contaminated groundwater or by locally affecting the extent or flow of an existing contamination plume. This hazard could be reduced by avoiding contaminated soil and plumes (by going around or tunneling below in bedrock), by testing and treating water produced by dewatering prior to discharge, and by using construction methods that minimize dewatering such as earth-pressure balance tunneling. Leakage of the sewer as a result of pipe damage following an earthquake cannot be ruled out; however, the pipe would be designed to withstand seismic forces. Additionally, the City of Los Angeles routinely inspects sewers following indications of damage. Any damage to the GBIS sewer would be repaired.	Construction and operation would not be expected to result in health hazards or public nuisances.

Table 3.10-1. Hazards Component Impact Summary Table ***Integrated Resources Plan EIR***			
Component	**Significance Threshold**		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
Program-Level			
VSLIS	Construction of the VSLIS alignment could result in the temporary interference of emergency response plans in the event construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. Approved traffic control plans would be used as needed to divert traffic away from construction zones while allowing emergency vehicles and personnel to access the work site.	Construction of shaft sites and excavations deep enough to encounter groundwater (such as tunneling) could require dewatering which could expose the public or the environment to hazardous materials through handling of contaminated groundwater or by locally affecting the extent or flow of an existing contamination plume. This hazard could be reduced by avoiding contaminated soil and plumes (by going around or tunneling below in bedrock), by testing and treating water produced by dewatering prior to discharge, and by using construction methods that minimize dewatering such as earth-pressure balance tunneling. Leakage of the sewer as a result of pipe damage following an earthquake cannot be ruled out; however, the pipe would be designed to withstand seismic forces. Additionally, the City of Los Angeles routinely inspects sewers following indications of damage. Any damage to the VSLIS sewer would be repaired.	As it relates to vector problems (especially mosquitoes), construction and operation would not be expected to affect public nuisance.

Table 3.10-1. Hazards Component Impact Summary Table
Integrated Resources Plan EIR

Component	Significance Threshold		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
Recycled Water Distribution	Construction of the recycled water distribution could result in the temporary interference of emergency response plans in the event that construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area. Approved traffic control plans would be used as needed to divert traffic away from construction zones while allowing for emergency vehicles and personnel access to the work site.	During construction, if hazardous materials, such as contaminated soils, are released into the environment, people or property could be exposed. For instance, if construction of pipelines goes through oil fields or areas with known contamination, a project-level Health and Safety Plan and Sampling and Analysis Plan will be use to protect the public and environment.	Construction and operation would not be expected to result in health hazards or public nuisances.
DWR – Smart Irrigation	Work would take place primarily in landscaped areas and would not affect emergency response plans.	As no earthwork is anticipated, no affect on contaminated soils is anticipated.	Construction and operation would not be expected to result in health hazards or public nuisances.
DWR – LF Divisions	Construction of the dry weather runoff-low-flow diversions option could result in the temporary interference of emergency response or evacuation plans in the event construction equipment, road closures, and traffic backups interfere with emergency vehicles traveling through the construction area.	During construction, if hazardous materials, such as contaminated soils, were released into the environment, people or property could be exposed. For instance, construction could occur in oil fields or areas with known contamination. However, project-level health and safety plans and sampling and analysis plans will be use to protect the public and environment from hazardous conditions.	Construction and operation would not be expected to result in health hazards or public nuisances.

Table 3.10-1. Hazards Component Impact Summary Table ***Integrated Resources Plan EIR***			
Component	**Significance Threshold**		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
DWR – URP or TW	Construction could result in the temporary interference of emergency response or evacuation plans in the event construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area.	During construction, if hazardous materials, such as contaminated soils, were released into the environment, people or property could be exposed. For instance, construction could occur in oil fields or areas with known contamination. However, project-level Health and Safety Plans and Sampling and Analysis Plans would be used to protect the public and environment from hazardous conditions.	As it relates to vector problems (especially mosquitoes), construction and operation of URPs would not be expected to affect public nuisance. Once constructed, treatment wetlands would include areas that could support mosquito populations.
WWR – Onsite Management	Construction could result in the temporary interference of emergency response or evacuation plans.	During construction, if hazardous materials, such as contaminated soils, were released into the environment, people or property could be exposed. For instance, construction could occur in oil fields or areas with known contamination. However, project-level Health and Safety Plans and Sampling and Analysis Plans would be used to protect the public and environment from hazardous conditions.	Construction and operation would not be expected to result in health hazards or public nuisances.
WWR – Urban Treatment Plants	Construction could result in the temporary interference of emergency response or evacuation plans in the event construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area.	During construction, if hazardous materials, such as contaminated soils, were released into the environment, people or property could be exposed. For instance, construction could occur in oil fields or areas with known contamination. However, project-level Health and Safety Plans and Sampling and Analysis Plans would be used to protect the public and environment from hazardous conditions.	Construction and operation would not be expected to result in health hazards or public nuisances.

Table 3.10-1. Hazards Component Impact Summary Table ***Integrated Resources Plan EIR***			
Component	**Significance Threshold**		
	Emergency Plans	**Release of Hazards**	**Public Nuisance**
WWR – Non-Urban Recharge	Construction could result in the temporary interference of emergency response or evacuation plans in the event construction equipment, road closures, or traffic backups interfere with emergency vehicles traveling through the construction area.	During construction, if hazardous materials, such as contaminated soils, were released into the environment, people or property could be exposed. For instance, construction could occur in oil fields or areas with known contamination. However, project-level Health and Safety Plans and Sampling and Analysis Plans would be used to protect the public and environment from hazardous conditions.	Construction and operation would not be expected to result in health hazards or public nuisances.

3.10.3.3 Alternative Impacts

Alternative 1

Alternative 1 components are described in Section 2.3.4.

Impact HAZ-1

Potential primary and secondary impacts resulting from Alternative 1 to emergency response or evacuation plans are discussed below.

Primary Impacts. The primary impact would be at wastewater treatment plants if their emergency response plans were affected negatively by the construction. Construction at the treatment plants would be conducted so it would not interfere substantially with the emergency response plans of the plants.

In addition, construction of project-level and program-level components would result in temporary lane closures or limited access of emergency response services. However, construction would be short-term and traffic work plans and standard specifications/requirements for public works construction would be in place to maintain emergency access at all times; therefore, impacts during construction would be less than significant.

Existing emergency response and evacuation plans would be reviewed and modified, as necessary, to accommodate the new or amended plant processes. Operation of pipelines associated with NEIS II, GBIS, VSLIS, recycled water distribution, and non-urban recharge, as well as most program-level structures (low-flow diversions and onsite management components) would be below grade and, therefore, would not affect emergency response or evacuation plans. In addition, aboveground elements, such as URPs, pump stations, and storage tanks associated with recycled water distribution, would be confined to parcels that would not be anticipated to affect existing, or require new, plans.

Secondary Impacts. No secondary impacts would occur.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Impact HAZ-2

Potential primary and secondary impacts resulting from Alternative 1 to the reasonably foreseeable upset and accidental release of hazardous materials are discussed below.

Primary Impacts. The primary impact would be at any site where construction, demolition, or earthwork could encounter contaminated soil, groundwater, or construction- and demolition-derived waste such as lead-based paint or asbestos, that potentially could expose people and the environment to construction-derived waste that contains hazardous materials. Hazardous materials removed from job sites would be required to be safely packaged, such as in sealed drums and covered bins, to protect people and the

environment from exposure the material. Following a project-level Health and Safety Plan and Sampling and Analysis Plan, the OSHA guidelines would protect workers and the environment from exposure to hazardous materials.

Secondary Impacts. No secondary impacts would occur.

Mitigation. No mitigation is required.

Impacts after Mitigation. No mitigation is required.

Impact HAZ-3
Potential primary and secondary impacts resulting from Alternative 1 to result in the exposure of people to health hazards or public nuisance are discussed below.

Primary Impacts. As it relates to vector problems (in particular, mosquitoes), construction and operation of Alternative 1 would not include treatment wetlands; therefore, this alternative would not be expected to affect public nuisance.

Secondary Impacts. None of the components under Alternative 1 would result in vector problems, which, in turn, could result in secondary effects. Consequently, significant secondary impacts to public nuisance would not occur.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Alternative 2

Alternative 2 components are described in Section 2.3.5.

Impact HAZ-1
Potential primary and secondary impacts resulting from Alternative 2 to emergency response or evacuation plans are discussed below.

Primary Impacts. In addition to the primary impacts as described in Alternative 1, Alternative 2 would include dry weather runoff treatment wetlands. Similar to Alternative 1, construction of Alternative 2 would have a less-than-significant impact to emergency response or evacuation plans. As with Alternative 1, during operation of Alternative 2, no impact would be anticipated to occur.

Secondary Impacts. Comparable to Alternative 1, a secondary impact regarding NEIS II, GBIS, VSLIS, and the program-level components would be to emergency response disruptions. See Section 3.15 – Public Services for details.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Impact HAZ-2
Potential primary and secondary impacts resulting from Alternative 2 to the reasonably foreseeable upset and accidental release of hazardous materials are discussed below.

Primary Impacts. In addition to the primary impacts as described in Alternative 1, Alternative 2 would include Dry Weather Runoff – Treatment Wetlands. As with Alternative 1, if hazardous materials such as contaminated soils are discovered during construction, people or property could be exposed. For instance, construction could occur in oil fields or in areas with known contamination. However, project-level health and safety plans and sampling and analysis plans would be used to protect the public and environment from hazardous conditions. Operation of this Alternative would not involve an increase in chemicals or hazardous materials.

Secondary Impacts. Comparable to Alternative 1, a secondary impact potentially could occur if the proposed sewers were to leak and discharge sewage to the groundwater basin. As detailed in Section 3.9 – Geology and Soils, the sewer lines would be designed to accommodate ground displacement at faults and to withstand seismic shaking. This would lower the risk of sewer breakage. Potential for accidental release of sewage into groundwater is discussed in Section 3.11 – Hydrology and Water Quality.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Impact HAZ-3
Potential primary and secondary impacts of Alternative 2 that result in the exposure of people to health hazards or public nuisance are discussed below.

Primary Impacts. In addition to the primary impacts as described in Alternative 1, Alternative 2 would include Dry Weather Runoff – Treatment Wetlands. As it relates to vector problems (especially mosquitoes), construction of treatment wetlands would not affect vector control; however, once constructed, treatment wetlands could include areas that could support mosquito populations. Treatment wetlands could be configured to include shallow marshes alternating with open pools to supply habitat for fish and other organisms that provide natural biological control of mosquito larvae. Therefore, operation of Alternative 2 could create significant vector problems (especially mosquitoes).

Secondary Impacts. None of the components under Alternative 2 would result in vector problems, which, in turn, could result in secondary effects. Consequently, significant secondary impacts to public nuisance would not occur.

Mitigation. HAZ-MM-1. To minimize vector issues, surface treatment wetlands will be constructed and operated such as not to cause vector (public nuisance) problems, particularly mosquitoes, as defined in the State Health

and Safety Code. Such measures could include, but not be limited to, subsurface treatment wetlands or preparation and implementation of a vector control plan (in coordination with the Vector Control District).

Impacts after Mitigation. No impact is anticipated after mitigation.

Alternative 3

Alternative 3 components are described in Section 2.3.6.

Impact HAZ-1

Potential primary and secondary impacts resulting from Alternative 3 to emergency response or evacuation plans are discussed below.

Primary Impacts. Similar to Alternative 1, construction of Alternative 3 would have a less-than-significant impact on emergency response or evacuation plans. As with Alternative 1, during operation of Alternative 3, no impact would be anticipated to occur.

Secondary Impacts. Comparable to Alternative 1, a secondary impact regarding NEIS II, GBIS, VSLIS, and the program-level components would be to emergency response disruptions. See Section 3.15 – Public Services for details.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Impact HAZ-2

Potential primary and secondary impacts resulting from Alternative 3 to the reasonably foreseeable upset and accidental release of hazardous materials are discussed below.

Primary Impacts. As with Alternative 1, if hazardous materials such as contaminated soils were discovered during construction, people or property could be exposed. For instance, construction could occur in oil fields or in areas with known contamination. However, project-level health and safety plans and sampling and analysis plans would be used to protect the public and environment from hazardous conditions. Operation of this Alternative would not involve an increase in chemicals or hazardous materials.

Secondary Impacts. Comparable to Alternative 1, a secondary impact potentially could occur if the proposed sewers were to leak and discharge sewage to the groundwater basin. As detailed in Section 3.9 – Geology and Soils, the sewer lines would be designed to accommodate ground displacement at faults and also to withstand seismic shaking. This would lower the risk of sewer line breakage. Potential for accidental release into groundwater is discussed in Section 3.11 – Hydrology and Water Quality.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Impact HAZ-3
Potential primary and secondary impacts resulting from Alternative 3 to the exposure of people to health hazards or public nuisance are discussed below.

Primary Impacts. Similar to Alternative 1, construction and operation of Alternative 3 would not include treatment wetlands; therefore, this alternative would not be expected to cause a health hazard or public nuisance.

Secondary Impacts. None of the components under Alternative 3 would result in vector problems, which, in turn, could result in secondary effects. Consequently, significant secondary impacts to public nuisance would not occur.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Alternative 4

Alternative 4 components are described in Section 2.3.7.

Impact HAZ-1
Potential primary and secondary impacts resulting from Alternative 4 to emergency response or evacuation plans are discussed below.

Primary Impacts. In addition to the primary impacts as described under Alternative 1, Alternative 4 includes Dry Weather Runoff – Treatment Wetlands, similar to Alternative 2. As with Alternative 1, construction of Alternative 4 would have a less-than-significant impact on emergency response or evacuation plans. As with Alternative 1, during operation of Alternative 4, no impacts would be anticipated to occur.

Secondary Impacts. Comparable to Alternative 1, a secondary impact regarding NEIS II, GBIS, VSLIS, and the program-level components would be to emergency response disruptions. See Section 3.15 – Public Services for details.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Impact HAZ-2
Potential primary and secondary impacts resulting from Alternative 4 to the reasonably foreseeable upset and accidental release of hazardous materials are discussed below.

Primary Impacts. In addition to the primary impacts as described in Alternative 1, Alternative 4 would include dry weather runoff treatment wetlands. As with Alternative 1, if hazardous materials such as contaminated soils were discovered during construction, people or property could be exposed. For instance, construction could occur in oil fields or in areas with known contamination. However, a project-level Health and Safety Plan and Sampling and Analysis Plan would be used to protect the public and

environment from hazardous conditions. Operation of this Alternative would not involve an increase in chemicals or hazardous materials.

Secondary Impacts. Comparable to Alternative 1, a secondary impact potentially could occur if the proposed sewers were to leak and discharge sewage to the groundwater basin. As detailed in Section 3.9 – Geology and Soils, the sewer lines would be designed to accommodate ground displacement at faults and also to withstand seismic shaking. This would lower the risk of sewer breakage. Potential for accidental release into groundwater is discussed in Section 3.11 – Hydrology and Water Quality.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Impact HAZ-3
Potential primary and secondary impacts resulting from Alternative 4 to result in the exposure of people to health hazards or public nuisance are discussed below.

Primary Impacts. In addition to the primary impacts described in Alternative 1, Alternative 4, like Alternative 2, includes Dry Weather Runoff – Treatment Wetlands. As it relates to vector problems (especially mosquitoes), construction of treatment wetlands would not result in vector-related health concerns; however, once constructed, treatment wetlands could include areas that could support mosquito populations. Treatment wetlands could be configured to include shallow marshes alternating with open pools to supply habitat for fish and other organisms that provide natural biological control of mosquito larvae. Therefore, operation of Alternative 4 could create significant vector concerns (especially mosquitoes).

Secondary Impacts. None of the components under Alternative 2 would result in vector problems, which, in turn, could result in secondary effects. Consequently, significant secondary impacts to public nuisance would not occur.

Mitigation. The mitigation measure (HAZ-MM-1) under Alternative 2 is the same for Alternative 4.

Impacts after Mitigation. No impact is anticipated.

No Project Alternative

The No Project Alternative, for purposes of this EIR, consists of no action. Under this Alternative, integrated improvements to the wastewater treatment and collection system, recycled water system, or runoff system, would not occur. However, individual wastewater, recycled water, or runoff projects likely would be necessary to meet regulatory requirements and future demands. Such individual projects would be designed and constructed as the needs arise rather than being planned in a systemwide integrated manner. In this case, each individual project would be subject to its own environmental clearance in the future.

Impact HAZ-1
Potential primary and secondary impacts resulting from the No Project Alternative to emergency response or evacuation plans are discussed below.

Primary Impacts. Under the No Project Alternative, no interference with emergency response plans or emergency evacuation plans (thereby increasing risk of injury or death) would take place because none of the proposed integrated wastewater, recycled water, or runoff improvements throughout the City of Los Angeles would be constructed. Biosolids would continue to be generated at Hyperion and sent to the Green Acres Farm in Kern County for land application under the existing contract. The planning, design, and implementation of wastewater, recycled water, and runoff improvements would continue to be pursued on an individual project basis by the various departments and bureaus of the City of Los Angeles as demand requires and resources become available.

In the long term, however, various wastewater, recycled water, and runoff projects would be necessary to protect public health and safety or to meet regulatory requirements, as defined in the objectives for the IRP (see Section 1.3). In the absence of an integrated resources planning process for the City of Los Angeles wastewater system, projects likely would continue to be implemented individually. The individual projects, however, would be constructed at unknown future dates and would not benefit from incremental consideration of various trigger mechanisms (discussed in Sections 2.4.1, 2.4.2, and 2.4.3) for maximizing efficiencies based on objectives of the IRP.

Secondary Impacts. The No Project Alternative does not include components that would result in physical changes to the environment, which, in turn, could have secondary impacts to emergency response or evacuation plans. Consequently, significant secondary impacts would not occur.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Impact HAZ-2
Potential primary and secondary impacts resulting from the No Project Alternative to the reasonably foreseeable upset and accidental release of hazardous materials are discussed below.

Primary Impacts. Under the No Project Alternative, no encounter or potential release of hazardous materials would occur because none of the proposed integrated wastewater, recycled water, or runoff improvements throughout the City of Los Angeles would be constructed. Biosolids would continue to be generated at Hyperion and sent to the Green Acres Farm in Kern County for land application. The planning, design, and implementation of wastewater, recycled water, and runoff improvements would continue to be pursued on an individual project basis by the various departments and bureaus of the City of Los Angeles as demand requires and resources become available.

In the long term, however, various wastewater, recycled water, and runoff projects would be necessary to protect public health and safety or to meet regulatory requirements, as defined in the objectives for the IRP (see Section 1.3). In the absence of an integrated resources planning process for the City of Los Angeles wastewater system, projects likely would be implemented individually. The individual projects, however, would be constructed at unknown future dates and would not benefit from incremental consideration of various trigger mechanisms (discussed in Sections 2.4.1, 2.4.2, and 2.4.3) for maximizing efficiencies based on objectives of the IRP.

Secondary Impacts. The No Project Alternative does not include components that would result in physical changes to the environment, which, in turn, could have secondary impacts to discovery or release of hazardous materials. Consequently, significant secondary impacts would not occur.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

Impact HAZ-3
Potential primary and secondary impacts resulting from the No Project Alternative to result in the exposure of people to health hazards or public nuisance are discussed below.

Primary Impacts. Under the No Project Alternative, no impacts would occur to public nuisance because none of the proposed integrated wastewater, recycled water, or runoff improvements throughout the City of Los Angeles would be constructed. Biosolids would continue to be generated at Hyperion and sent to the Green Acres Farm in Kern County for land application. The planning, design, and implementation of wastewater, recycled water, and runoff improvements would continue to be pursued on an individual project basis by the various departments and bureaus of the City of Los Angeles as demand requires and resources become available.

In the long term, however, various wastewater, recycled water, and runoff projects would be necessary to protect public health and safety or to meet regulatory requirements. In the absence of an integrated resources planning process for the City of Los Angeles wastewater system, projects likely would be implemented individually. The individual projects, however, would be constructed at unknown future dates and would not benefit from incremental consideration of various trigger mechanisms (discussed in Sections 2.4.1, 2.4.2, and 2.4.3) for maximizing efficiencies based on objectives of the IRP.

Secondary Impacts. The No Project Alternative does not include components that would result in physical changes to the environment, which, in turn, could have secondary impacts to public nuisance. Consequently, significant secondary impacts would not occur.

Mitigation. No mitigation is required.

Impacts after Mitigation. No impact is anticipated.

3.10.3.4 Cumulative Impacts

Neither construction nor operation of the Proposed Project Alternatives would result in significant impacts to the provision of emergency services or emergency response. Construction of the related projects could affect the provision of emergency response services or interfere with emergency response plans; however, standard practices implemented during construction would minimize the potential for substantial impacts to such services. These measures will include traffic control plans and detours that are approved by the City of Los Angeles Department of Transportation, as well as coordination with emergency service providers. Because standard coordination and traffic management efforts would occur for construction of the selected Project Alternative, as well as for the related projects, neither cumulatively considerable impacts nor significant cumulative impacts to the provision or emergency response services or to emergency response plans would occur.

Construction activities for the Proposed Project Alternatives would use small amounts of hazardous materials or could encounter contaminated soil or groundwater. Construction of the related projects could also involve small amounts of hazardous materials and could encounter contaminated soil or groundwater. Hazardous materials handling for the Proposed Project Alternatives and related projects would be managed in accordance with all applicable laws and regulations, and also would be subject to BMPs. As a consequence, significant cumulative impacts related to the use of hazardous material during construction would not occur. In addition, contaminated soil or groundwater that is encountered during construction is subject to federal, state, and local laws and requirements related to its handling, storage, transportation, and disposal. Operation of the treatment and reclamation plants could require use of additional chemicals. However, the storage, use, and disposal of such materials also are subject to federal, state, and local laws. These requirements would minimize the potential for accidental releases during all phases of handling. As a consequence, significant cumulative impacts related to the accidental release of hazardous substances would not occur.

During demolition activities for the components of the Proposed Project Alternatives and for related projects, a potential exists for health hazards related to exposure of demolition wastes that could contain lead-based paint or asbestos. However, compliance with the General Conditions and Requirements of the City of Los Angeles (which apply to construction activities), SCAQMD requirements, and CalOSHA safety regulations would ensure that such health hazards are minimized. Construction of the sewer alignments under the Proposed Project Alternatives could result in health hazards related to potential gassy soil conditions (from methane or hydrogen sulfide). Other related projects also could encounter such conditions. However, compliance with tunneling requirements from the Department of Conservation and implementation of CalOSHA safety regulations will minimize potential hazards. Due to compliance with applicable laws, regulations, and requirements, implementation of the Proposed Project Alternatives would not result in significant cumulative impacts related to health hazards.

Alternatives 2 and 4 could implement treatment wetlands as part of the strategy to manage dry weather urban runoff. A potential exists for the treatment wetlands to

serve as breeding grounds for mosquitoes, which could result in public health hazards or nuisances. Some related plans or projects (such as the Los Angeles River Revitalization Master Plan, Rio de Los Angeles State Park, and Los Angeles State Historic Park) also could implement natural habitats or wetlands, which could harbor mosquitoes. However, vector control mitigation would be required for treatment wetlands under Alternatives 2 and 4 and also would be required for other applicable related projects. The vector control plans would be developed in consultation with and approved by the applicable Vector Control District. The vector control plans could include vector control features such as design modifications, operational parameters, monitoring, biological and chemical mosquito control, and subsequent phased mosquito control measures. Preparation and implementation of the vector control plans for either Alternative 2 or 4 in conjunction with other related projects are expected to keep potential cumulative public health hazards and nuisances to less-than-significant levels.