

3.10 Hazards and Hazardous Materials

3.10.1 Introduction

This section discusses hazards and hazardous materials in the study area and the potential effects of the types of restoration projects that would be permitted under the Order. (See Section 2.6, *Categories of Restoration Projects in the Order*.)

Environmental hazards and risks could result from the accidental release of hazardous materials through routine transport, use, and disposal; work near airports; interference with emergency responsiveness; and exposure to contaminated soil and/or groundwater. Additional potential hazards are evaluated elsewhere in this PEIR:

- ◆ Flood risk, flood hazards, water quality, and groundwater impacts—see Section 3.11, *Hydrology and Water Quality*.
- ◆ Effects on emergency services in the study area—see Section 3.19, *Utilities and Service Systems and Public Services*.
- ◆ Impacts on existing established transit, roadway, bicycle, and pedestrian facilities—see Section 3.17, *Transportation*.
- ◆ Exposure to direct or indirect risk associated with wildland fires—see Section 3.20, *Wildfire*.

The environmental setting and evaluation of impacts on hazards and hazardous materials is based on a review of existing published documents, including city and county general plans; information regarding example projects similar to those permitted under the Order that may be implemented by other agencies; and other information sources listed in Chapter 8, *References*.

The general plans and their EIRs address the specific hazards of concern for each particular city and county. Because many types of environmental hazards exist, and not all have the potential to be present throughout the state, each city or county has its own hazards and hazardous materials issues. Some of these issues may differ throughout the state, but some counties may share common hazards and hazardous waste issues. Therefore, each city or county will evaluate hazards at a distinct level of detail.

No comments specifically addressing hazards and hazardous materials were received in response to the notice of preparation (NOP). See Appendix B for NOP comment letters.

3.10.2 Environmental Setting

This section describes the existing hazards and hazardous materials in the study area. Because the Order could be implemented statewide, the environmental setting for hazards and hazardous materials covers all nine regional water quality control board (Regional Board) jurisdictions. The extent to which restoration projects permitted under the Order would include any particular action is not yet determined; therefore, this

section presents a generic overview related to hazards and hazardous materials in the study area.

Background and Terminology

Hazardous Materials

Hazardous materials include any hazardous substances, waste, and other substances that in their quantity, concentration, or physical or chemical characteristics pose a significant present or potential threat to human health and safety or to the environment if released into the workplace or the environment (California Health and Safety Code, Section 22501).

Hazardous substances are generally characterized by their chemical and physical properties such as toxicity, ignitability, corrosivity, and reactivity. The State Water Board and Regional Boards have programs that establish water quality objectives to protect the beneficial uses of surface water and groundwater. Existing programs have focused on hazardous substances from landfills, waste disposal sites, fuel storage, and industrial facilities.

Most restoration projects permitted under the Order would involve construction activities. These activities would be specific to each type of project, their location, and other project-specific variables. Materials used for general construction activities could be used for construction of restoration projects; these may include hazardous materials such as fuels, motor oil, solvents, lubricants, and glues. Excavation, dirt moving or removal, or other ground-disturbing activities have the potential to expose buried hazardous materials from prior work done on the site or the adjacent property, or upstream historical contamination sources (e.g., lumber or paper mills, industrial sites, mining sites, or intensive agricultural production going back several decades). Ground disturbing activities could expose contaminated soils created by sediment deposition from prior or current upstream activities.

Because the Order covers the entire state of California, hazardous materials could be present throughout the study area. Contamination and exposure could result from numerous land uses throughout the state such as agricultural, industrial, commercial, landfill development, and military uses. Therefore, the construction and operation of any restoration project permitted under the Order would be governed by federal and state regulations for hazards and hazardous materials, and by county-specific regulations that would comply with the federal and state regulations.

The nine Regional Boards have established ongoing programs, standards, and requirements for water quality to protect surface water and groundwater uses throughout the state. The Regional Boards' boundaries are based on watershed and water quality requirements that are based on watershed climate, topography, geology, and hydrologic differences (State Water Board 2019). Existing programs focus on hazardous substances from landfills, waste disposal sites, fuel storage, and industrial facilities to protect persons and the environment from environmental and health hazards.

Various hazardous materials are present throughout the study area. Typical hazardous materials from industry and other entities range from fuels and solvents to radioactive materials. Numerous fuels, chemicals, and other hazardous materials are also transported via roadways and railways throughout the state. Generally, materials found on construction sites that could be considered hazardous include fuels, motor oil, grease, various lubricants, solvents, soldering equipment, and glues. Furthermore, construction-related excavation may expose hazardous materials buried during prior use of the site or adjacent property.

Because the specific construction-related and operational activities to which the Order would apply are not yet determined, the following analysis discusses general hazardous waste site impacts associated with restoration projects. These include accidental discharge of a reportable quantity of a hazardous material, sewage, or unknown material; concrete sealants and runoff; vehicle fuels and lubricants (e.g., hydraulic fluid, fuel, oil, and grease); and excavation materials, and effects on stockpile, storage, and staging areas.

Disease Vectors

A “disease vector” is a carrier of disease organisms. The vector may be purely mechanical, as when houseflies spread enteric organisms; or it may be biological, wherein the disease organism multiplies or undergoes change within the vector, as when viruses develop in mosquitoes.

In California, the West Nile virus, St. Louis encephalitis, and western equine encephalomyelitis are the three most important viral mosquito-borne diseases. The viruses that cause these diseases are maintained in nature through a mosquito-bird-mosquito cycle. Typically, water bodies with poor circulation, continual slow-changing water levels, higher temperatures, and higher organic content produce greater numbers of mosquitoes. Most adult mosquitoes remain close to their point of origin, and their ability to travel is heavily dependent on physical phenomena such as wind. Some mosquitoes feed on mammals and other animal hosts, and others feed on fruits and plant nectars.

County vector control districts provide mosquito and other vector control.

Fire Protection and Hazards

All of the study area is subject to some degree of fire risk. However, certain specific features make some areas more hazardous than others. See Section 3.19, *Utilities and Service Systems and Public Services*, and Section 3.20, *Wildfire*, respectively, for discussions of fire protection impacts and wildfire risk and hazards.

Flooding

For a discussion of flood risk and flood hazards, see Section 3.11, *Hydrology and Water Quality*.

3.10.1 Regulatory Setting

This section discusses federal, state, and regional and local plans, policies, regulations, and laws, and ordinances pertaining to hazards and hazardous materials.

Future permitted restoration projects that would be implemented under the Order may be subject to the laws and regulations listed below, as well as other local or individual restoration projects requirements, depending on the project location.

Federal

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (U.S. Code Title 42, Section 9601 et seq. [42 USC 9601 et seq.]) enacted prohibitions and requirements for closed and abandoned hazardous waste sites. CERCLA also established the liability of persons responsible for releases of hazardous waste at these sites, and created a trust fund to provide for cleanup when no responsible party could be identified. The Superfund Amendments and Reauthorization Act of 1986 amended CERCLA to add new enforcement authorities and governance of hazardous substances. Title III of the Superfund Amendments and Reauthorization Act authorized the Emergency Planning and Community Right-to-Know Act.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) (42 USC 6901 et seq.) was enacted in 1974 as the first step in regulating the potential health and environmental problems associated with disposal of solid hazardous and nonhazardous waste. The Hazardous and Solid Waste Act (1984) amended the RCRA to address gaps in the area of highly toxic wastes. The 1986 RCRA amendments enabled the U.S. Environmental Protection Agency (EPA) to address environmental problems that could result when underground tanks store petroleum and other hazardous substances. RCRA also set forth a framework for management of nonhazardous solid wastes.

RCRA Section 3006 provides EPA with the authority to authorize state hazardous waste programs. Once authorized, the state program operates in lieu of the federal program, although EPA retains enforcement authority even after a state program has been authorized.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 (15 USC 2601 et seq.) regulates and controls harmful chemicals and toxic substances in commercial use. This law gives EPA the ability to track the 75,000 industrial chemicals currently produced in, imported into, and disposed of in the United States, and can require reporting or testing of those that may pose an environmental or human health hazard. Specific chemicals regulated under the Toxic Substances Control Act include polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 USC 136 et seq.) provides for the regulation of pesticide distribution, sale, and use. All pesticides distributed or sold in the United States must be registered (licensed) by EPA. Before EPA may register a pesticide under FIFRA, the proposed proponent must show that, among other things, using the pesticide according to specifications “will not generally cause unreasonable adverse effects on the environment.” FIFRA imposes pesticide labeling requirements; controls when and under what conditions pesticides can be applied, mixed, stored, loaded, or used; specifies when fields can be reentered after application; and identifies when crops can be harvested. Under FIFRA, registrations and product labeling may restrict uses of pesticides. As a part of pesticide registration, EPA classifies the product or some uses of the product as “restricted use” if they may cause unreasonable adverse effects even when used as directed on the product labeling. Restricted-use pesticides are limited to use by certified pesticide applicators.

Clean Air Act

Regulations under the Clean Air Act (Title 40, Part 68 of the Code of Federal Regulations [40 CFR 68]) are designed to prevent accidental releases of hazardous materials. The regulations require facilities storing a threshold quantity or greater of listed regulated substances to develop a risk management plan, including hazard assessments and response programs to prevent accidental releases of listed chemicals. Section 112(r)(5) of the Clean Air Act discusses the regulated substances. These substances are listed in 40 CFR 68.130.

Clean Water Act

The Spill Prevention, Control, and Countermeasure program, established as part of the Clean Water Act, is designed to prevent or contain the discharge or threatened discharge of oil into navigable waters or adjoining shorelines. Under the Clean Water Act, a facility must prepare a written spill prevention, control, and countermeasure plan if the facility stores oil that would pose a threat to navigable waters if released (40 CFR 112). The Spill Prevention, Countermeasure, and Control rule applies if a facility has any of the following:

- ◆ A single aboveground oil storage tank with a capacity greater than 660 gallons
- ◆ Total petroleum storage (including aboveground storage tanks, oil-filled equipment, and drums) greater than 1,320 gallons
- ◆ Underground storage capacity greater than 42,000 gallons

Section 402(p) of the Clean Water Act established the National Pollutant Discharge Elimination System, a framework for regulating contaminants in stormwater discharges.

Oil Pollution Act of 1990

Under the Oil Pollution Act, certain facilities that store and use oil—either onshore or offshore—and that could reasonably be expected to cause substantial harm to the environment must prepare plans to respond to a worst-case discharge of oil and to a

substantial threat of such a discharge to navigable waters. The response plans must be implemented if such a release occurs.

Safe Drinking Water Act

In 1974, the Safe Drinking Water Act was enacted to protect public health by regulating the nation's public drinking water supply. This law authorizes EPA to set national health-based standards to protect against both naturally occurring and human-made contaminants that may be found in drinking water. EPA, state regulatory agencies, and water systems managers work together to make sure that these standards are met.

The Safe Drinking Water Act was amended in 1986 and 1996. The law requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells. EPA protects groundwater sources of drinking water, in part through the Underground Injection Control Program. This program regulates the substances (including hazardous and radioactive substances) that can be injected or placed into the ground above or below a drinking water source.

Prevention of Chemical Accidents

CFR Part 68 sets forth the list of regulated substances and thresholds; the petition process for adding or deleting a substance from this list; the requirements that owners or operators of stationary sources must meet to prevent accidental releases; and the state accidental-release prevention programs approved under Section 112(r) of the Clean Air Act. The California Accidental Release Prevention Program is the state's adaption of this federal regulation. The list of federally regulated flammable substances and their threshold quantities is available from the United States Environmental Protection Agency, <https://www.epa.gov/sites/production/files/2013-11/documents/appendix-a-final.pdf>.

Worker Safety

The U.S. Occupational Safety and Health Administration's Hazard Communication Standard (29 CFR 1910.1200) requires that workers be informed of the hazards associated with the materials they handle. In the workplace, manufacturers must appropriately label containers, material safety data sheets must be available, and employers must properly train workers. Workers at hazardous waste sites must receive specialized training and medical supervision according to the Hazardous Waste Operations and Emergency Response regulations (29 CFR 1910.120).

State

Hazardous Waste Control Law

The Hazardous Waste Control Law empowers the California Department of Toxic Substances Control (DTSC) to administer the state's hazardous waste program and implement the federal program in California. This law includes regulations on underground storage tanks. DTSC manages the regulation and permitting of businesses that handle hazardous materials and waste.

Health and Safety Code Sections 25500 and 25531

Section 25500 of the Health and Safety Code regulates business and area plans related to the inventory, handling, and release or threatened release of hazardous materials. Section 25531 implements the federal regulations under the Clean Air Act for the prevention of accidental releases of regulated substances, with certain state-specific amendments.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, described in Section 3.11.3, *Regulatory Setting*, of Section 3.11, *Hydrology and Water Quality*, requires that the state's waters be maintained at the highest reasonable quality. It authorizes the Regional Board to supervise cleanup efforts at spill sites that have affected groundwater. This law (codified in the Water Code) allows the Regional Boards to impose requirements on specific discharges that are more stringent than the statewide requirements.

In addition, the California Highway Patrol and California Department of Transportation regulate container types and issue licenses to transport hazardous waste on public roads.

California Hazardous Substance Account Act

The California Hazardous Substance Account Act (Health and Safety Code, Division 20, Chapter 6.8), the state's equivalent to CERCLA, was adopted in 1999. This law requires past and present owners and operators to assume liability for the remediation of hazardous waste sites in California. The regulations also provide the following:

- ◆ Response authority for releases of hazardous substances, including spills and hazardous waste disposal sites
- ◆ Compensation for medical expenses and lost wages or business income resulting from injuries caused by exposure to releases of hazardous substances
- ◆ Funds for the State of California to assure payment of its 10 percent share of the costs mandated pursuant to Section 104(c)(3) of CERCLA (42 USC 9604[c][3])

Like the 1996 CERCLA amendments, the California Land Reuse and Revitalization Act of 2004 was enacted to encourage site cleanup (Health and Safety Code Sections 25395.60 to 25395.105). This law encourages the development and redevelopment of urban properties, and provides processes that ensure remediation to protect public health, safety, and the environment. The law also relieves innocent owners, bona fide prospective purchasers, and owners of property adjacent to contaminated sites of the liabilities and responsibilities that should be borne by those who caused or contributed to the contamination.

Section 25356.1 of the Health and Safety Code requires DTSC or the Regional Board to prepare or approve a remedial action plan for any site where hazardous substances were released to the environment if the site is listed as a Superfund site. The Regional Board makes decisions regarding cleanup and abatement goals and objectives for the protection of water quality (see Water Code Section 13307).

Government Code Section 65962.5, Cortese List

The provisions in Section 65962.5 of the California Government Code are commonly referred to as the “Cortese List,” after the legislator who authored and enacted the legislation. The list, or a site’s presence on the list, has bearing on the local permitting process, and on compliance with CEQA. The list is developed with input from the California Department of Public Health, State Water Board, California Department of Resources Recycling and Recovery (CalRecycle), and DTSC.

Hazardous Waste Program

The State of California is authorized to administer a hazardous waste program equivalent to the federal RCRA program. Generation, transportation, treatment, storage, and disposal of characteristic and listed hazardous wastes are regulated under the Health and Safety Code, Sections 25100 to 25250.28.

As part of the regulation of hazardous wastes, Health and Safety Code Sections 25250 through 25250.28 regulate PCBs in used oil and prohibit recycling or reuse of used oil if the oil contains PCBs at a level of 5 parts per million or greater.

California Solid Waste

Solid waste in California is regulated under California Code of Regulations Title 14, Division 7, and Title 27, Division 2. These regulations establish minimum standards for the handling and disposal of solid wastes. Both the State Water Board and CalRecycle have oversight and approval authority over local enforcement agencies that permit and take enforcement action on solid waste management facilities. Public Resources Code Sections 43200–43219, 43020, 43020.1, 43021, 43030, 43101, and 43103 created and govern the local enforcement agencies.

Control of Pesticides

Similar to EPA’s FIFRA program, the California Legislature enacted the Food and Agriculture Code to promote and protect the agricultural industry, and to protect public health, safety, and welfare. Sections 11401–14155 of the Food and Agriculture Code regulate pest control operations, application of pesticides, and applicators, and restrict the use of some pesticides.

Water Code

Water Code Division 7, Chapter 5 requires the State Water Board and DTSC to establish policies and procedures for investigating, remediating, and abating the effects of a discharge of a hazardous substance that creates or threatens to create contamination, pollution, or a nuisance. The policies and procedures must be consistent with the policies and procedures established under Health and Safety Code Section 25355.7. The policies and procedures are established in State Water Board Resolution No 92-49.

State Board Resolution No. 92-49

The State Water Board adopted Resolution No. 92-49, Policies and Procedures for Investigation and Cleanup and Abatement of Discharges, under Water Code Section 13304. This resolution establishes policies and detailed procedures for investigating and

remediating discharges (releases) that cause or threaten to cause soil or water pollution or a nuisance when waste or fluid migrates from waste management units. The resolution also requires coordination among other agencies including DTSC, EPA, and local governments.

Certified Unified Program Agencies

The Unified Program (CalEPA 2020) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of multiple environmental and emergency response programs. The California Environmental Protection Agency and other state agencies set the standards for their programs, and local governments implement the standards. These local implementing agencies are called certified unified program agencies. For each county, certified unified program agencies regulate and oversee the following:

- ◆ Hazardous materials business plans
- ◆ California accidental release prevention plans or federal risk management plans
- ◆ The operation of aboveground storage tanks and underground storage tanks
- ◆ Universal waste and hazardous waste generators and handlers
- ◆ On-site treatment of hazardous waste
- ◆ Inspections, permitting, and enforcement
- ◆ Proposition 65 reporting
- ◆ Emergency response

Regional and Local

The study area encompasses all counties and cities throughout California. Each county and city has local regulations and a general plan with unique goals and policies that guide development and encourage the consideration of hazards and hazardous materials. County-specific regulations are implemented in accordance with federal and state regulations.

3.10.2 Impacts and Mitigation Measures

Methods of Analysis

Hazard and hazardous material impacts from the types of restoration projects permitted under the Order are evaluated in terms of how typical construction and operation of project components could impact existing hazards and hazardous materials. However, the precise locations and detailed characteristics of potential future individual restoration projects are not yet determined. Therefore, this hazards and hazardous materials analysis focuses on reasonably foreseeable changes from implementation of the types of projects and actions that might be taken in the future consistent with the level of detail appropriate for a program-level analysis.

Permanent impacts are considered those that would continue through the life of a project as a result of the environmental conditions caused by restoration projects permitted under the Order (e.g., new infrastructure that would require routine

maintenance activities). Temporary impacts are considered those that would be temporary in nature (e.g., construction-related activities).

The approach to assessing hazards and hazardous materials impacts was to identify and review existing environmental studies, data, model results, and other information for projects that are consistent with those identified in Section 2.6, *Categories of Restoration Projects in the Order*, and Section 2.7, *Typical Construction, Operation, and Maintenance Activities and Methods*.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, an impact related to hazards and hazardous materials is considered significant if the types of projects that would be permitted under the Order would do any of the following:

- ◆ Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- ◆ Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- ◆ Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
- ◆ Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment
- ◆ For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area
- ◆ Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (including those located in or near state responsibility areas or land classified as very high Fire Hazard Severity Zones [FHSZ]) or result in inadequate emergency access)
- ◆ Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires

In addition, a significant impact would occur if the types of restoration projects that would be permitted under the Order would:

- ◆ Create vector habitat that would pose a significant public health hazard

The following potential impacts of future restoration projects permitted under the Order are evaluated elsewhere in this PEIR:

- ◆ Potential for increased flood risk and flood hazards—see Section 3.11, *Hydrology and Water Quality*.

- ◆ Potential for an increase in wildfire risk in high fire hazard severity zones and for information state responsibility areas or lands classified as very high FHSZ —see Section 3.20, *Wildfire*.

Impacts and Mitigation Measures

Table 3.10-1 summarizes the impact conclusions presented in this section for easy reference.

As part of the State Water Board or Regional Board’s issuance of a NOA for a restoration project under the Order, compliance with the general protection measures and mitigation measures listed below would be required when applicable to a given project. Not all general protection measures and mitigation measures would apply to all restoration projects. The applicability of the general protection measures and mitigation measures would depend on the individual restoration activities, project location, and the potentially significant impacts of the individual restoration project. Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency.

**Table 3.10-1
Summary of Impact Conclusions—Hazards and Hazardous Materials**

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.10-1: Implementing future restoration projects permitted under the Order could involve the routine transport, use, or disposal of hazardous materials that, if accidentally released, could create a hazard to the public or the environment, or that could be located within one-quarter mile of a school.	LTSG	LTS
3.10-2: Ground-disturbing activities for construction of future restoration projects permitted under the Order could encounter previously unidentified contaminated soil and/or groundwater, potentially exposing construction workers, the public, and the environment to risks associated with hazardous materials.	LTSM	LTS
3.10-3: Future restoration projects permitted under the Order could be implemented within 2 miles of an airport, resulting in a safety hazard.	SU	SU
3.10-4: Implementing future restoration projects permitted under the Order could interfere with emergency response access or with an adopted emergency response or evacuation plan (including those located in or near state responsibility areas or land classified as very high FHSZ) or result in inadequate emergency access.	LTSM	LTS
3.10-5: Implementing future restoration projects permitted under the Order could expose people or structures, either directly or indirectly, to a significant loss, injury, or death due to wildland fires.	LTSM	LTSM
3.10-6: Implementing future restoration projects permitted under the Order could create vector habitat that would pose a significant public health hazard.	LTSM	LTSM

SOURCE: Data compiled by Environmental Science Associates in 2019 and 2020

NOTES: LTS = less than significant; LTSG = less than significant with general protection measures; LTSM = less than significant with mitigation; SU = significant and unavoidable

Impact 3.10-1: Implementing future restoration projects permitted under the Order could involve the routine transport, use, or disposal of hazardous materials that, if accidentally released, could create a hazard to the public or the environment, or that could be located within one-quarter mile of a school.

Effects of Project Construction Activities

Construction of future restoration projects permitted under the Order would likely require limited quantities of hazardous materials commonly used during construction activities (e.g., fuels for equipment, oils, hydraulic fluids, solvents, cleaners, sealants, lubricants, and herbicides). The types and quantities of hazardous materials would vary by construction site and type of restoration project. If improperly used, stored, handled, transported, or disposed of, hazardous materials could be accidentally released, which could expose construction workers, the public, and the environment (including soil, groundwater, or surface water) to contamination. Furthermore, during the construction of projects requiring equipment that would use fuel, oil, and/or coolant, accidental spills could occur while equipment is refueled, or equipment could be upset, resulting in the release of fuel, oil, and/or coolant into the surrounding environment.

For example, a school may be present within one-quarter mile of the construction of a floodplain restoration project and project construction activities could result in the accidental release of hazardous materials.

Because the locations of future restoration projects that would be permitted under the Order are not yet determined, it is possible that a project site could be within one-quarter mile of an existing or proposed school. As a result, construction of restoration projects permitted under the Order could expose school occupants and school site users to the effects of accidental spills of hazardous materials. Therefore, this impact would be **potentially significant**.

The Order includes the following general protection measures to reduce this impact (see Appendix E):

- ◆ GPM-6: Work Area and Speed Limits
- ◆ GPM-7: Environmentally Sensitive Areas and/or Wildlife Exclusion
- ◆ GPM-10: Equipment Maintenance and Materials Storage
- ◆ GPM-11: Material Disposal
- ◆ GPM-12: Fugitive Dust Reduction
- ◆ GPM-14: Project Cleanup after Completion
- ◆ WQHM-1: Staging Areas and Stockpiling of Equipment
- ◆ WQHM-2: Storm Water Pollution Prevention Plan
- ◆ WQHM-4: Hazardous Materials Management and Spill Response Plan
- ◆ WQHM-5: In-Water Concrete Use
- ◆ WQHM-6: Accidental Discharge of Hazardous Materials
- ◆ IWW-1: Appropriate In-Water Materials
- ◆ IWW-2: In-Water Vehicle Selection and Work Access
- ◆ IWW-3: In-Water Placement of Materials, Structures, and Operation of Equipment
- ◆ IWW-6: Dewater/Diversion Restrictions

- ◆ IWW-13: Dredging Operations and Dredging Materials Reuse Plan
- ◆ VHDR-6: Herbicide Use

Implementing these general protection measures would reduce the impact on the public or the environment of an accidental release of hazardous materials, or from the location of construction activities within one-quarter mile of a school, to a **less-than-significant** level.

Effects of Constructed Facilities (Natural or Artificial Infrastructure) and Operations and Maintenance of those Facilities

The natural or infrastructure facilities constructed for restoration projects permitted under the Order could require operations and maintenance (O&M) work. Activities that may be required to support successful restoration establishment include conducting mechanical and chemical weed control; installing fencing and signage; adjusting grading or soils composition; and installing and operating monitoring equipment such as groundwater wells, flow gauges, depth gauges, cameras, and stakes. The potential impacts of these activities would be expected to be similar to those discussed above for initial project construction. However, the impacts would be reduced in scope because equipment use for maintenance activities would be expected to be smaller in scale and more spread out over time than during project construction. In addition, the general protection measures listed above would still be implemented once a facility is constructed. Therefore, operational impacts would be **less than significant**.

Impact 3.10-2: Ground-disturbing activities for construction of future restoration projects permitted under the Order could encounter previously unidentified contaminated soil and/or groundwater, potentially exposing construction workers, the public, and the environment to risks associated with hazardous materials.

Effects of Project Construction Activities

Certain restoration projects permitted under the Order would have ground-disturbing construction activities (e.g., stream crossing and fish passage improvements; removal of small dams, tide gates, flood gates, and legacy structures; bioengineered bank stabilization; and restoration and enhancement of off-channel/side-channel habitat). These ground-disturbing activities (e.g., excavation, clearing of the land for preparation of site, grading, cut and fill) could cause the release of previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to hazardous materials.

For example, a restoration project to establish, restore, and enhance tidal, subtidal, and freshwater wetlands could require grading (e.g., excavating breaks in levees, dikes, and/or berms) and plowing or disking for preparation of seed beds. Such project construction may have a potentially significant impact related to hazards to human health from exposure to existing on-site hazardous materials. Off-channel/side-channel restoration projects that reconnect or create side channels, alcoves, oxbows, ponds, off-channels, and floodplains could result in the removal or breaching of levees and dikes and the excavation of channels and pond.

In addition, sediments excavated during dredging activities may contain hazardous materials, which could expose construction workers to health and safety risks. For example, dredged sediments from the San Francisco Bay can be contaminated with a variety of pollutants, such as mercury other metals, polychlorinated biphenyl, Polycyclic aromatic hydrocarbons, and compounds found in pesticides and herbicides (SFEI 2018).

The DTSC Hazardous Waste and Substances Sites (Cortese) List is a reporting document used by the State, local agencies, and/or project proponents to comply with CEQA requirements in providing information about the location of hazardous materials release sites. The information on the Cortese List is site-specific, and would be used for evaluation of environmental impacts for individual projects. The Cortese List cannot be effectively consulted until the specific location of individual projects and the activities that could disturb known hazardous waste and substances sites are known.

Construction activities from these project types may have potentially significant impacts related to the potential exposure of construction workers, the public, and the environment to existing on-site hazardous materials.

Therefore, this impact would be **potentially significant**.

The general protection measures listed for Impact 3.10-1 would be followed to reduce the impacts of ground-disturbing activities for restoration projects permitted under the Order related to the release or exposure to previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to risks from hazardous materials.

In addition, as part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measures HAZ-1, HAZ-2, and HAZ-3 would be required when applicable to a given project. Implementation of these mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency.

Mitigation Measure HAZ-1: Prepare and Implement a Health and Safety Plan and Provide Qualified Oversight of Fill Removal Related to Earthmoving Activities

The following measures shall be implemented before and during construction of any restoration project permitted under the Order:

- ◆ A health and safety plan for the project shall be developed and implemented. This plan shall clearly notify all workers of the potential to encounter hazardous materials during ground-disturbing work and other construction activities. The plan shall identify proper handling and disposal procedures for contaminants expected to be on-site and shall provide maps and phone numbers for local hospitals and other emergency contacts. Construction workers shall comply with all protocols outlined in the health and safety plan throughout project implementation.

- ◆ Any hazardous materials being stored in the project area and not needed for construction activities shall be removed and disposed of at appropriately permitted locations before construction. A qualified professional (e.g., geologist or engineer) shall oversee fill excavation activities and work in potential project areas that contain abandoned underground storage tanks requiring removal, to properly identify any contaminated soils that may be present. Excavation of underground storage tanks must comply with county ordinances and policies. If contaminated soils are found, Mitigation Measure HAZ-2 shall be implemented.
- ◆ Removal of underground storage tanks associated with the restoration project shall include measures to ensure their safe transport and disposal. Remediation actions, if necessary, shall be defined in consultation with the local Regional Board and implemented during construction.

Mitigation Measure HAZ-2: Notify Appropriate Federal, State, and Local Agencies If Contaminated Soils Are Identified, and Complete Recommended Remediation Activities

The following measures shall be implemented before construction of any restoration project permitted under the Order if contaminated soils are found on the project site:

- ◆ The appropriate federal, state, and local agencies shall be notified if evidence of previously undiscovered soil or groundwater contamination (e.g., stained soil, odorous groundwater) is encountered during construction activities. Any contaminated areas shall be cleaned up in accordance with the recommendations of the Regional Board, DTSC, or other appropriate federal, state, or local regulatory agencies.
- ◆ A site plan shall be prepared for the remediation activities appropriate for the proposed land uses, including excavation and removal of on-site contaminated soils, and needed redistributions of clean fill material on the study area. The plan shall include measures to ensure the safe transport, use, and disposal of contaminated soil and building debris removed from the site. If ground-disturbing activities encounter contaminated groundwater, the construction contractor shall report the contamination to the appropriate agencies, dewater the area, and treat the groundwater to remove the contaminants before discharge into the sanitary sewer system. The construction contractor shall comply with the plan and applicable federal, state, and local laws. The plan shall outline specific procedures for handling and reporting of hazardous materials, and for disposing of hazardous materials removed from the site at an appropriate off-site facility.

Mitigation Measure HAZ-3: Notify Appropriate Federal, State, and Local Agencies If Accidental Discharges of Hazardous Materials

Following an accidental discharge of a reportable quantity of a hazardous material or an unknown material, the appropriate federal, state, and local agencies shall be notified. Any contaminated areas shall be cleaned up in accordance with the recommendations of the Regional Board, DTSC, or other appropriate federal, state, or local regulatory agencies.

Implementing Mitigation Measures HAZ-1, HAZ-2, and HAZ-3 and the applicable general protection measures would reduce the impact related to potential discovery of previously unidentified contaminated soil and/or groundwater to a **less-than-significant** level.

Effects of Constructed Facilities (Natural or Artificial Infrastructure) and Operations and Maintenance of those Facilities

Ground-disturbing activities may occur after restoration projects permitted under the Order have been constructed. Operational activities would involve installing monitoring equipment (e.g., groundwater wells, flow gauges, depth gauges, cameras, stakes, and similar equipment). However, the ground-disturbing activities would be limited and would occur in the same areas as when the facilities were constructed. Therefore, operational activities would not be expected to encounter previously unidentified contaminated soil and/or groundwater that could expose construction workers, the public, and the environment to risks associated with hazardous materials. This impact would be **less than significant**.

Impact 3.10-3: Future restoration projects permitted under the Order could be implemented within 2 miles of an airport, resulting in a safety hazard or excessive noise.

Effects of Project Construction Activities, Constructed Facilities (Natural or Artificial Infrastructure), and Operations and Maintenance of those Facilities

Construction of restoration projects, constructed facilities (natural or artificial infrastructure), and operations and maintenance of those facilities permitted by the Order could be located within 2 miles of an airport. Projects within 2 miles of an airport have the potential to create a safety hazard for construction workers, people in the surrounding area, and airport operations as a result of the reflection of light, glare, noise or other distractions associated with construction activities. Construction would generally occur during daylight hours; however, in rare cases, some activities, expedited projects, and projects where the construction schedule is nearing the flood season may require continuous daytime and nighttime work. Because the exact locations of projects that would be permitted by the Order are not yet determined, it is possible that some projects could be constructed within 2 miles of an airport.

Constructed facilities (e.g., restoration projects to expand floodplains) could attract waterfowl or alter migration patterns or the local movement patterns of birds, thus presenting risks to aircraft by altering avian pathways and putting them within airport flight paths.

Routine O&M activities for restoration projects permitted under the Order could occur within 2 miles of an airport. Such activities (e.g., use of lights for a constructed fish screen) could produce light, glare, noise or other distractions; however, the light, glare, and noise would most likely be minimal and would conform to the requirements of the local airport land use plan. (See Section 3.2, *Aesthetics*, and Section 3.14, *Noise*, for further information on potential noise, light and glare impacts.)

The level of significance of a potential impact of a restoration project permitted under the Order would depend, in large part, on its proximity to an airport land use plan or on

whether it would be within 2 miles of a public or private airport. The necessary factors to identify airport safety risks include the location of the project relative to an airport. Because the potential would exist for restoration projects to create safety hazards by placing people at construction sites near airports, and to result in increased collisions between aircraft and wildlife near an airport or airport land use plan, this impact would be **potentially significant**.

To reduce the impacts of restoration projects permitted under the Order that would be located within 2 miles of a public or private airport, the Order includes the following general protection measure (see Appendix E):

- ◆ GPM-4: Construction Hours

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measure HAZ-4 would be required when applicable to a given project. Implementation of this mitigation measure would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency.

Mitigation Measure HAZ-4: Establish Airport Operation Area Buffer Zones

Restoration projects permitted under the Order shall avoid creating hazardous wildlife attractants within a distance of 10,000 feet of a designated Airport Operations Area.

Hazardous wildlife attractants generally refer to large tracts of open, undeveloped land that provide added margins of safety and noise mitigation. These areas, constructed or natural (e.g., poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter, disposal operations, wastewater treatment plants, agricultural or aquaculture activities, surface mining, or wetlands), can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape.

Mitigation Measure HAZ-4 would be implemented to reduce the impacts of restoration projects permitted under the Order. However, because the extent and locations of future restoration projects are yet to be determined, it is not possible to conclude that the mitigation measure, or equally effective mitigation measures, would reduce significant impacts to a less-than-significant level in all cases. Therefore, this impact would be **significant and unavoidable**.

Impact 3.10-4: Implementing future restoration projects permitted under the Order could interfere with emergency response access or with an adopted emergency response or evacuation plan (including those located in or near state responsibility areas or land classified as very high FHSZ) or result in inadequate emergency access.

Effects of Project Construction Activities

Future restoration projects permitted under the Order could be located in areas where their construction could physically interfere with adopted emergency response plans or

evacuation plans, or result in inadequate emergency access. Projects often use heavy equipment, the operation of which may temporarily disrupt existing transportation and circulation patterns in the project area. Impacts could include direct disruption of traffic flows and street operations. For example, street closures or lane blockages could reduce the number of travel lanes and require rerouting of traffic. Traffic levels could increase during transportation and relocation of construction materials. As a result, construction activities for future restoration projects permitted under the Order could temporarily increase emergency response times, interfere with adopted emergency response or evacuation plans, or result in inadequate emergency access. Some waterside restoration projects permitted under the Order may use barges to transport construction materials, workers, and equipment, which would reduce impacts on water-related response times.

Because the locations of restoration projects that would be permitted under the Order are yet to be determined, impacts related to emergency response or evacuation plans, or inadequate emergency access would be **potentially significant**. The Order does not include any general protection measures applicable to this impact.

As part of the State Water Board or Regional Board' issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measure HAZ-5 would be required when applicable to a given project. Implementation of this mitigation measure would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency.

Mitigation Measure HAZ-5: Coordinate with Applicable Federal, State, and Local Agencies and Districts

Before construction, project proponents implementing restoration projects permitted under the Order shall coordinate with the appropriate federal, state, and local government agencies, districts, and emergency response agencies regarding the timing of construction projects that would occur near the project sites. Specific measures to mitigate potentially significant impacts shall be determined during the interagency coordination, and shall include measures to achieve the following performance standards:

- ◆ Reduce potential traffic impacts so that no more than 30 trucks per hour will be added to any road (e.g., by scheduling construction truck trips and designating alternate haul routes to disperse truck trips).
- ◆ Reduce potential traffic safety impacts (e.g., by employing flaggers to manage traffic flow at conflict locations).
- ◆ Provide outreach and community noticing (e.g., via the web, utility bill inserts, and other methods) for locations where multiple projects will create construction traffic simultaneously.

The level of significance of a potential impact of a restoration project permitted under the Order related to interference with emergency response access or adopted emergency response or evacuation plans would depend, in large part, on the project's size and proximity to a populated area. Construction-related interference with

emergency response, evacuation plans, and adopted emergency response would be temporary. In addition to Mitigation Measure HAZ-5, other feasible, equally effective mitigation measures are available, such as maintaining alternative property access; providing advance notification to local police, fire, and emergency service providers of the timing, location, and duration of activities that could affect emergency vehicle movement; and installing traffic control devices to maintain safe driving conditions. Implementing Mitigation Measure HAZ-5, or equally effective mitigation measures, would reduce impacts on emergency response access or adopted emergency response and evacuation plans to a **less-than-significant** level.

Effects of Constructed Facilities (Natural or Artificial Infrastructure) and Operations and Maintenance of those Facilities

Routine O&M of constructed facilities (whether natural or infrastructure) is not anticipated to interfere with emergency response access or adopted emergency response or evacuation plans. Furthermore, project proponents implementing the Order would comply with all federal, state, and local regulations and policies to help reduce impacts related to emergency response access and adopted emergency response or evacuation plans. Therefore, this impact would be **less than significant**.

Impact 3.10-5: Implementing future restoration projects permitted under the Order could expose people or structures, either directly or indirectly, to a significant loss, injury, or death due to wildland fires.

Effects of Project Construction Activities, Constructed Facilities (Natural or Artificial Infrastructure), and Operations and Maintenance of those Facilities

Construction of restoration projects, constructed facilities, (natural or artificial infrastructure), and operations and maintenance of those facilities permitted under the Order could be constructed and operated in areas where their construction and operation could pose a threat to people and structures because of wildfires. The study area involves the entire state of California; therefore, restoration projects could be located in areas with moderate to high fire risk areas, or in areas where vegetation is present. Construction equipment and vehicles could come into contact with vegetated areas, potentially igniting dry vegetation by accidental discharge of sparks, resulting in fire.

Restoration projects permitted under the Order could be located in areas where their operation could pose a threat to people or structures because of wildland fires. Because the locations of future restoration projects permitted under the Order are yet to be determined, it is possible that facilities could be constructed in areas where vegetation is present in or near infrastructure, equipment, and O&M vehicles. As a result, the potential exists for dry vegetation to accidentally ignite, causing a fire. This impact would be **potentially significant**. The Order does not include any general protection measures applicable to this impact.

As part of the State Water Board or Regional Board' issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measure FIRE-1 would be required when applicable to a given project. Implementation of this mitigation measure would be

the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency.

Mitigation Measure FIRE-1: Develop and Implement a Fire Prevention Plan

See Section 3.20.4, *Impacts and Mitigation Measures*, in Section 3.20, *Wildfire*.

Implementing Mitigation Measure FIRE-1 would reduce the impact of exposure to wildland fires to a **less-than-significant** level.

Impact 3.10-6: Implementing future restoration projects permitted under the Order could create vector habitat that would pose a significant public health hazard.

Effects of Project Construction Activities, Constructed Facilities (Natural or Artificial Infrastructure), and Operations and Maintenance of those Facilities

Construction of restoration projects, constructed facilities (natural or artificial infrastructure), and operations and maintenance of those facilities permitted under the Order could create new vector habitat that would pose a significant public health hazard. Mosquitoes require standing water to complete their growth cycles, and any body of standing water that remains undisturbed for multiple days represents a potential mosquito breeding site.

Also, while major construction activities would typically be implemented during the dry season (May through October) some construction activities might be required during the wet season (November through April). Construction sites typically use best management practices to control the stormwater leaving a site. However, stagnant water could be present in these areas, creating potential mosquito habitat. For example, standing water could remain on-site after a storm until it evaporates, potentially remaining for multiple days and helping to create mosquito habitat.

The potential for vector-related public health hazards (mosquitoes) could continue during ongoing operation of future restoration projects that result in new areas of standing water. Mosquitoes require standing water to complete their growth cycles, and any body of standing water that remains undisturbed for multiple days creates a potential mosquito breeding site. For example, restoration projects permitted under the Order could involve the setting back of a levee, off-stream storage ponds, etc., that could create new areas of standing water that would support mosquito habitat.

Construction-related and operational activities for restoration projects permitted under the Order could result in vector habitat that would pose a significant public health hazard. However, the specific locations and scale of potential future permitted restoration projects are yet to be determined. Therefore, the risk associated with the creation of vector habitat cannot be determined. The factors necessary to identify specific impacts include the project's design and footprint, the duration of construction, and the type and precise locations of the activities and facilities themselves.

Because the potential exists for the construction and operation of restoration projects to create vector habitat that could pose a significant public health hazard, this impact

would be **potentially significant**. The Order does not include any general protection measures applicable to this impact.

As part of the State Water Board or Regional Board' issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measure HAZ-6 would be required when applicable to a given project. Implementation of this mitigation measure would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency.

Mitigation Measure HAZ-6: Prepare and Implement a Vector Management Plan

The following measures shall be implemented by restoration projects permitted under the Order to prevent public health hazards posed by vector habitat as applicable (e.g. restoration projects that result in standing water and are located near populated areas):

- ◆ Freshwater habitat management shall include management of water control structures, vegetation management, mosquito predator management, drainage improvements, and other best management practices. The agency implementing the restoration project shall coordinate with the California Department of Fish and Wildlife and local mosquito and vector control agencies regarding these strategies and specific techniques to help minimize mosquito production.
- ◆ Permanent ponds shall be maintained to increase the diversity of waterfowl yet decrease the introduction of vectors through constant circulation of water, vegetation control, and periodic draining of ponds.
- ◆ The project shall avoid ponding in tidal marsh habitat or in areas within the waterside of setback levees. Restoration projects shall be designed with methods to reduce mosquito breeding.

Implementing Mitigation Measure HAZ-6 would reduce the impact related to public health hazards from new vector habitat to a **less-than-significant** level.