

4.6 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential effects of construction and operation of the proposed project related to issues involving environmental contamination and hazardous materials.

4.6.1 Environmental Setting

4.6.1.1 Regulatory Setting

The term *hazardous material* is defined in different ways for different regulatory programs. This EIR uses the definition provided in California Health and Safety Code Section 25501(n) and (o), which defines hazardous material as:

[A]ny material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous wastes, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Because regulations for hazardous materials were developed over time, hazardous materials are regulated by numerous agencies whose jurisdictions and responsibilities sometimes overlap. Federal agencies that regulate hazardous materials include the EPA and the Occupational Safety and Health Administration (Fed/OSHA). At the state level, agencies such as California Occupational Safety and Health Administration (Cal/OSHA) and the Office of Emergency Services govern the use of hazardous materials. State and local agencies often have either parallel or more stringent rules than federal agencies.

Generation, transportation, and disposal of hazardous wastes can be regulated by different agencies. The lead federal agency is the EPA. The Department of Toxic Substances Control (DTSC) has primary state regulatory responsibility but may delegate enforcement authority to local jurisdictions that enter into agreements with the state agency.

Federal Laws and Guidelines

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984. Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act (RCRA). These laws provide for the “cradle to grave” regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed.

The EPA has primary responsibility for implementing the RCRA, but individual states are encouraged to seek authorization to implement some or all RCRA provisions. California received authority to implement the RCRA program in August 1992. The California DTSC is responsible for implementing the RCRA program as well as California’s own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, commonly called the Superfund program, created a national policy and procedures to identify and clean up sites contaminated by releases of hazardous substances. The law was amended in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The EPA has primary responsibility for implementing Superfund regulations, but state agencies may be authorized to take the lead at some cleanup sites. In California, the DTSC is the state's lead agency for the federal Superfund and also enforces the state's own Superfund law. Where groundwater contamination is the primary concern, one of the state's RWQCBs may be the lead agency or a cooperating agency for the cleanup.

State and Local Laws and Regulations

Title 22, California Hazardous Waste Control Law. The DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the California Hazardous Waste Control Law. Both laws impose "cradle to grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment. The DTSC has delegated some of its authority under the Hazardous Waste Control Law to county health departments.

Senate Bill 14, Hazardous Waste Source Reduction and Management Review Act of 1989. Federal amendments to hazardous and solid waste laws made waste minimization a national policy in 1984. Under this congressional action, a Generator's Certification is required on each Uniform Hazardous Waste Manifest to help ensure that each generator of hazardous waste has a program in place to reduce the volume and toxicity of waste generated. Additional regulatory oversight was provided in state legislation, the Hazardous Waste Source Reduction and Management Review Act of 1989 (Senate Bill 14). The goal of this Act is to achieve optimal minimization of the generation of hazardous waste. Most recently, Hazardous Waste Source Reduction and Management Act Modifications (Senate Bill 1726) reduced the reporting threshold, which increased the number and types of generators governed by the Act.

Hazardous Materials Business or Management Plan. Chapter 6.95 of the California Health and Safety Code requires facilities that use, produce, store, or generate hazardous substances or have a change in business inventory to have a Hazardous Materials Management Plan or Business Plan. The plan must disclose the type, quantity, and storage location of materials. The law also requires a site-specific emergency response plan, employee training, and designation of emergency contact personnel.

The Hazardous Materials Management Plan describes hazardous materials storage and handling practices and contains procedures for monitoring storage, performing regular inspections, detecting releases, and testing the detection systems on a regular basis.

Title 8 CCR, California Occupational Safety and Health Act. In California, under the California Occupational Safety and Health Act, Cal/OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. In order for the federal OSHA program to be delegated to the state, Cal/OSHA standards must be at least as stringent as Fed/OSHA standards, and they are generally more stringent. Cal/OSHA hazardous materials regulations include requirements for safety training, availability of safety equipment,

hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which include identifying and labeling hazardous substances, providing employees with Material Safety Data Sheets, and describing employee-training programs. Cal/OSHA regulations would apply to all desalination plant employees.

4.6.1.2 Identification of Potential Contamination in the Project Area

The plant site is located in an area of commercial land uses. Pipelines would be needed to link the Pelican Way plant site to storage tanks located on hills in the area and to a pumping plant to the north. The pipeline routes are shown on **Figures 1-1a and b**. The pipeline routes would traverse areas hosting a variety of land uses including industrial, commercial, and residential.

Existing and past land use activities can be used as potential indicators of hazardous materials use or contamination. Sites where industrial activities have occurred, both historic and current, may have soil or groundwater contaminated by hazardous substances. Other hazardous material sources include leaking underground tanks in commercial and industrial areas, surface runoff from contaminated sites, and migration of contaminated groundwater plumes into areas that may be excavated by the project.

To determine potentially contaminated sites near the plant site and proposed pipeline routes, an environmental database search was conducted. The federal and state American Society for Testing and Materials standard databases were searched to a distance of 0.25 mile out from the pipeline routes and other project features. Potentially contaminated sites found within 0.25 mile of the project features are summarized in **Table 4.6-1**. The majority of the sites identified are included in the state's Leaking Underground Storage Tank (LUST) list. Detailed site-specific records (e.g., county files) were not reviewed as part of the records search. Some of the sites listed may have already been remediated. In other cases, contamination may be present at the listed site, but the contamination may not be within areas that would specifically be excavated for construction of the pipelines and thus would not affect, or be affected, by the proposed project. Excavated soils would be tested as needed, as described in Section 4.6.2.2 below.

4.6 HAZARDS AND HAZARDOUS MATERIALS

**Table 4.6-1
Potential Contaminated Sites Within 0.25 Mile of Project Features**

Address	Site Name	Cortese	LUST	CERCLIS	CORRACTS	CHMIRS	SWF/LF	WMUDS/ SWAT
High Potential for Subsurface Contamination								
68 Gary Pl.	68 Gary Place	•	•					
80 Medway Rd.	7 Eleven	•	•					
Unknown 4th / Lincoln	Alliance	•	•					
108 Bellam Blvd.	Arco	•	•					
440 3rd St.	Arco Service Station No 02135	•	•					
1005 Northgate Dr.	Art's Auto Care	•	•					
201 Casa Buena Dr.	Bianco Cadillac Inc	•	•					
619 Canal St.	Carrico Property	•	•					
475 3rd St.	Chevron	•	•					
949 Del Presidio Blvd.	Chevron	•	•					
195 Casa Buena Dr.	Corte Madera Investments		•					
718 4th St.	D&S Garage Inc	•	•					
424 Irwin St.	Davis Rents	•	•					
445 Francisco Blvd.	Dexter Toyota	•	•					
930 Del Presidio Blvd.	Exxon	•	•					
4300 Redwood Hwy.	Fairchild Camera & Instruments / Scr-Fairchild-4300 Redwood	•			•			
1637 E. Francisco Blvd.	Federal Express -Sfra		•					
200 Morphew St.	Ghilotti; Barbara Fasken Trust		•					
1011 Anderson St.	Golden Gate Transit	•	•					
Francisco Blvd.	Horst Hanf Landfill/Bayview Pa						•	•
898 Lincoln Ave.	John Irish AMC Jeep	•	•					
475 Francisco Blvd.	John Irish Automotive	•	•					

**Table 4.6-1
Potential Contaminated Sites Within 0.25 Mile of Project Features**

Address	Site Name	Cortese	LUST	CERCLIS	CORRACTS	CHMIRS	SWF/LF	WMUDS/ SWAT
2066 Redwood Hwy. 519 4th St.	Marin Car Wash/Larkspur Marin County Garage	•	•					•
	Marin Debris Maggiora and Ghil						•	
1075 Francisco Blvd. E. 595 Francisco Blvd. E.	Marin Dodge Marin Mazda	•	•					
800 Anderson Dr.	Marin Radiator							
1050 Anderson St. 525 Jacoby St.	Marin San Serv Inc Marin Sanitary Service	•	•					
1060 Andersen Dr.	Marin Sanitary Service Transfer						•	
110 Paul Dr. 5 Ashford Ave.	Mariner Distributing/R Fassi Inc Mill Valley Redwood	•	•					
1007 3rd St.	Mission Square Office Bui	•	•					
575 2nd St.	Mobil	•	•					
700 Irwin St.	Mobil	•	•					
981 Francisco Blvd.	Mobil	•	•					
158 Paul Dr.	Monterey Import Company	•	•					
990 Francisco Blvd.	New San Rafael Car Wash	•	•					
3501 Civic Center Dr.	Not Reported	•	•			•		
90 Madera Blvd.	Not Reported	•	•			•		
2350 Kerner Blvd.	Oil Warehouse	•	•					
7 Professional Center P	Pacific Bell	•	•					
131 Mitchell Blvd.	Paragraphics	•						
831 Francisco Blvd. E.	Peter's Alliance	•	•					
1220 Andersen Dr.	PG & E Service Center	•						
540 W Francisco Blvd.	R A B Motors Inc		•					

4.6 HAZARDS AND HAZARDOUS MATERIALS

**Table 4.6-1
Potential Contaminated Sites Within 0.25 Mile of Project Features**

Address	Site Name	Cortese	LUST	CERCLIS	CORRACTS	CHMIRS	SWF/LF	WMUDS/ SWAT
1011 Lincoln Ave.	Redwood Oil Company	•	•					
49 Medway Rd.	Rhodes' Wheel & Brake	•	•					
1615 East Francisco Blvd.	San Quentin Disposal Site / San Quentin Solid Waste District						•	•
790 Lincoln	San Rafael City of Corpor	•	•					
620 2nd St.	Savoy Rain Tunnel	•	•					
834 Irwin St.	Shell	•	•			•		
755 2nd St.	Shell	•	•					
950 Del Presidio Blvd.	Shell	•	•					
715 Francisco Blvd.	Spec Electroplating			•				
14 Baxters	Specification Chromium Co	•						
1261 E. Francisco Blvd.	Sun Iron Works, Inc.		•					
60 Golden Gate Dr.	Treadwell Properties	•	•					
1205 Francisco Blvd. E.	U Haul	•	•					
1125 Lincoln Ave.	Unocal	•	•					
34 Ritter St.	Unocal	•	•					
40 Bellam Blvd.	US Postal Service	•	•					
933 Francisco Blvd. E.	Wagner Property	•	•					
11 Baxters	Western Chrome Plating An	•						
114 Mill St.	Yung Property	•	•					
Low Potential for Subsurface Contamination								
5800 Northgate Mall	Northgate Mall					•		
101 E. Sir Francis Drake	Not Reported					•		
1301 Andersen Dr.	Not Reported					•		
2100 Redwood Hwy.	Not Reported					•		

**Table 4.6-1
Potential Contaminated Sites Within 0.25 Mile of Project Features**

Address	Site Name	Cortese	LUST	CERCLIS	CORRACTS	CHMIRS	SWF/LF	WMUDS/ SWAT
2130 Redwood Hwy.	Not Reported					•		
23 Duffy	Not Reported					•		
260 Merrydale Dr.	Not Reported					•		
31 Duffy Place	Not Reported					•		
402 3rd St.	Not Reported					•		
45 San Clemente Rd.	Not Reported					•		
520 Canal St.	Not Reported					•		
534 Canal St.	Not Reported					•		
565 Jacoby St.	Not Reported					•		
62 Brookdale Ave.	Not Reported					•		
630 East Blithedale Ave.	Not Reported					•		
65 Lovell Ave.	Not Reported					•		
731 East Blithedale Ave.	Not Reported					•		
821 Francisco Blvd. W.	Not Reported					•		
85 Corte Toluca	Not Reported					•		
Alley to the Rear of 71	Not Reported					•		
Creek Behind Irwin St.	Not Reported					•		
Creek Fronting 585 Irwin St.	Not Reported					•		
Fronting 2070 Redwood Hwy.	Not Reported					•		
I 580 E/B Richmond, San	Not Reported					•		
S/B US 101 To E/B I-580	Not Reported					•		
San Rafael Canal, 37 Ha	Not Reported					•		
96 Louise St.	Pacific Bell					•		

Notes: CERCLIS = Comprehensive Environmental Response, Compensation and Liability Information System; CHMIRS = California Hazardous Material Incident Report System; CORRACTS = Corrective Action Report; LUST = Leaking Underground Storage Tank; SWF/LF = Solid Waste Fill/Landfill; WMUDS/SWAT = Waste Management Unit Database System/Solid Waste Assessment Test

4.6.2 Impacts and Mitigation Measures

4.6.2.1 Standards of Significance

The following standards of significance are based on Appendix G of the CEQA Guidelines. For the purposes of this EIR, an impact is considered significant if the implementation of the proposed project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school;

The project is not within ¼ mile of an existing or proposed school. The nearest school, Bahia Vista Elementary, is approximately 1 mile north of the Pelican Way desalination plant site.

- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to California Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- For a project 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 for people residing or working in the project area;

The project is not within an airport land use plan or within 2 miles of a public airport or public use airport and would not result in safety hazard for people residing or working in the project area. The nearest airfield, a private airstrip in San Rafael, is approximately 5 miles north of the Pelican Way plant site.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.6.2.2 Project Impacts and Mitigation Measures

Impact 4.6-1: The project would result in routine transport, use and storage of hazardous materials through operation, maintenance and support activities, which would not create significant hazards to the public or the environment. Chemicals that would be handled at the facility are typical of those used routinely at water treatment facilities and include coagulant, antiscalant, sodium bisulfate, carbon dioxide,

limestone/calcite, zinc orthophosphate, sodium hypochlorite, ammonia, sodium hydroxide, fluoride, and citric acid.

Significance: Less than significant

Mitigation: No mitigation required

Discussion:

MMWD will implement safety plans, programs, practices, and procedures related to the use, storage, and disposal of hazardous chemical materials required by federal, state, and local laws and regulations.

Hazardous material transport, use, and storage are regulated by numerous federal, state, and local laws and regulations (as described in Section 4.6.1.1), which stipulate minimum standards for storage requirements, transport, and disposal. MMWD must conform to these requirements. Pre-treatment sludge is not considered hazardous and would routinely be disposed of in Redwood Landfill, a Class III landfill facility.

* * *

Impact 4.6-2: Plant operations potentially could result in the accidental spill of hazardous materials transported to or stored on-site.

Significance: Less than significant

Mitigation: No mitigation required

Discussion:

Operation of the desalination plant would involve the use of several chemicals that have the potential to adversely affect human health if they are accidentally spilled or released and subsequently come in to contact with operational personnel or the public. Many of the chemicals to be transported, stored and used during plant operations would have insignificant consequences if spilled. The primary concerns would arise for spills of sulfuric acid, aqueous ammonia, sodium hypochlorite solution, or calcium carbonate. As described in Section 3, waste solids would be produced during the pre-treatment process. The solids analyzed during the pilot testing meet all requirements of California Title 22 for disposal at a Class III landfill as nonhazardous material (Kennedy/Jenks Consultants 2007).

Hazardous material transport, use, and storage are regulated by numerous federal, state, and local laws and regulations, which stipulate minimum standards for storage requirements, spill prevention procedures, emergency response and contingency plans, risk management, and employee training procedures. MMWD must conform to these requirements, including Article 80 of the Uniform Fire Code regarding hazardous materials. Emergency response plans would be submitted to the San Rafael Fire Department and the County Environmental Health Department. Plant design requirements include double containment piping for chemical feed lines, specially treated concrete structures for chemical storage, and monitoring of chemical feed systems. All chemicals used at the plant would be transported on major freeways such as Interstates 80 and 580 and US 101. Transport from the freeway to the Pelican Way plant site would be through a light industrial area. Materials would not be transported through residential areas.

The chemicals proposed for use in the desalination plant would not pose a risk to the general public if a spill occurred on-site during normal use. Accidental spills of sulfuric acid, aqueous

4.6 HAZARDS AND HAZARDOUS MATERIALS

ammonia, sodium hypochlorite solution, or calcium carbonate would not result in a cloud of harmful vapors off-site. The chemicals have been chosen with public safety in mind. For example, sodium hypochlorite solution would be used for disinfection instead of chlorine, which eliminates the risk of a harmful cloud of chlorine gas in the event of an accident. None of the chemicals proposed for use are flammable. MMWD would follow all applicable OSHA health and safety regulations with respect to materials handling and worker hazardous materials training.

The probability of an accidental spill and release to the environment of hazardous materials is considered minor with implementation of the safety requirements.

* * *

Impact 4.6-3: Excavation of soils for construction of project features (e.g., underground pipelines) could potentially cause health hazards to construction workers and the public should contamination be encountered.

Significance: Potentially significant

Mitigation 4.6-3: During all project excavation activities at all sites, the contractor will inspect the exposed soil for visual evidence of contamination, particularly near the sites identified during the database search (**Table 4.6-1**). If visual contamination indicators are observed during excavation or grading activities, all work will stop and an investigation will be designed and performed to verify the presence and extent of contamination at the site. Results will be reviewed and approved by the appropriate County's Environmental Health Division or DTSC prior to construction. The investigation will include collecting samples for laboratory analysis and quantifying contaminant levels within the proposed excavation and surface disturbance areas. Subsurface investigation will determine the appropriate worker protection and the hazardous material handling and disposal procedures appropriate for the subject site. Areas with contaminated soil and groundwater determined to be hazardous waste will be removed by personnel who have been trained through the OSHA-recommended 40-hour safety program (29 Code of Federal Regulations 1910.120) with an approved plan for groundwater extractions, soil excavation, control of contaminant releases to the air, and off-site transport or on-site treatment. A health and safety plan, prepared by a qualified and approved industrial hygienist, will be used to protect the general public and all workers in the construction area.

In addition, any soils that must be excavated and removed for off-site disposal will be tested to determine if the soil is contaminated and if special handling is required.

Residual Significance: Less than significant

Discussion:

Construction near sites that are potentially contaminated increases the risk that workers and the public may be exposed to hazardous materials during excavation and soil handling during project construction.

Subsurface migration of mobile contaminants within groundwater may provide a conduit to project excavation areas. Shallow groundwater may be encountered at excavations near waterbodies such as unlined canals and drainage ditches. In areas where the water table is below the planned excavation depth of the proposed and alternative routes, contaminated groundwater is not expected to impact construction.

In addition to the specific sites identified in the environmental databases (**Table 4.6-1**), it is possible that other sites could be discovered during construction of the proposed pipelines. Soil contamination may be encountered during trench excavation in places where no recorded sites are currently designated or identified. Off-site migration of contamination, unauthorized dumping, or historic, unreported hazardous materials spills may adversely impact the soil in industrial and commercial land use areas.

Investigation and remediation of any contamination discovered would result in long-term benefit to the community. Any remediation that would result from project implementation would reduce public health risks associated with contamination at a site, and would reduce the potential for workers and the public from encountering such materials in the event of future excavation at the site. Removal of toxic materials would also reduce the potential local source for groundwater contamination, which would also be a long-term benefit.

Implementation of Mitigation 4.6-3 would reduce this impact to less than significant.

* * *

Impact 4.6-4: Certain project components would be in areas potentially subject to wildland fires.

Significance: Less than significant

Mitigation: No mitigation required

Discussion:

The desalination plant site is not in an area subject to wildland fires. The tank sites are located in grassland and wooded habitats that could potentially be subject to wildland fires. Areas surrounding the tanks would be kept clear of vegetation. If a fire were to occur in the area around one of the water tanks, it would be unlikely that the structure would be physically damaged.

