

4.8 Hazards and Hazardous Materials

The purpose of this Section is to identify existing hazards and hazardous materials within the Project area, analyze potential hazards and hazardous materials associated with the development of the proposed Project, and identify mitigation measures that would avoid or reduce the significance of any identified impacts. Thresholds of significance for the impact analysis are derived from Appendix G of the 2011 *CEQA Guidelines*.

4.8.1 Environmental Setting

Regional Setting

The Project is located within the Eastern Mojave Desert consisting of a broad region of isolated mountain ranges separated by expanses of predominantly undeveloped desert plains. The valleys in the Mojave Desert are broad and the mountain ranges are widely spaced reaching heights of over 7,000 feet amsl. The region is crisscrossed with roadways and utilities and has historically supported varied hard rock mining ventures, mostly in the mountainous areas, and transportation corridor-related, small outpost communities. Many railroad outposts remain visible. Currently, active salt production occurs on the Bristol, Cadiz, and Danby Dry Lakes. The region has also supported historical military activities including desert training exercises and designated bombing ranges.

Local Setting

The Fenner Valley is located in the northern portion of the Project area. Elevations range from 7,532 feet amsl at the New York Mountains, located at the northernmost end of the Project area at the head of the Fenner Valley, to approximately 900 feet amsl at the Fenner Gap, where the production wells and spreading basins would be located. Generally, the Fenner Valley slopes south to southwest toward the Fenner Gap at the southern end of the valley. At this location, surface water drainage and groundwater flow down from the Fenner Valley and enter the Cadiz Valley to the south. The valley is considered one topographically-closed drainage system because all surface water and groundwater drain to the interior of the overall drainage basin.

Current and historical uses in the Project area include agriculture, aviation, former military use, historical mining activities, and existing natural gas pipelines. There are no residences, industrial facilities, or gasoline service stations within the Project area. Each of these uses, along with fire hazard issues, are discussed below with a focus on issues relative to hazards and hazardous materials.

Agriculture

Since at least 1986, the general Fenner Gap area has been used for agriculture. As previously discussed in Section 4.2, Agriculture and Forestry Resources, Cadiz Inc. currently grows grapes (dried-on-the-vine raisins), lemons, and seasonal row crops on approximately 1,600 acres in and

adjacent to the northern part of the Project area within Sections 21, 27, and 33 of Township 5 North, Range 14 East.

Above ground petroleum storage tanks and pesticide storage facilities in these areas support the Cadiz agricultural operations. The petroleum storage tank nearest to the proposed Project area is a diesel fuel tank located at Well 22, approximately 2-1/2 miles southwest of the proposed Project spreading basins. The tank is protected with a lined basin that provides secondary containment in the event of a leak or spill and prevents diesel fuel from entering the soil.

There are no hazardous materials storage areas in the immediate vicinity of the proposed Project spreading basins. Hazardous materials and pesticides are seldom used in connection with the Cadiz agricultural operations because the desert terrain produces fewer weeds and pests. Pesticide handling and application is performed by trained and certified employees of Cadiz Inc. and is conducted in accordance with Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and Occupational Safety and Health Administration (OSHA) regulations.

Aviation

The nearest public airports are located in Twentynine Palms, approximately 35 miles southwest of the Project and in Needles approximately 50 miles east of the Project. The nearest military airport is the Twentynine Palms Strategic Expeditionary Landing Field located approximately 40 miles west-southwest of the Project. The maximum FAA Notification Surface is within 20,000 feet or 3.79 miles of any point on the runway.¹ The CEQA criteria distance for a public airport is 2 miles. The proposed Project area is located well outside of the referenced distances to these public and military airports.

The privately-owned active Cadiz airstrip consists of a single asphalt airstrip and is located approximately 3 miles southwest of the Fenner Gap area and southwest of the location of the proposed production wells, spreading basins, and associated support infrastructure. The Cadiz airstrip has been operational since April 2002. The privately-owned active Danby airstrip consists of a single dirt airstrip located approximately 6 miles northeast of Fenner Gap and has been operational since June 1984. The largely-abandoned Rice airstrip consists of two non-maintained airstrips of uncertain construction and is located approximately 5 miles southeast of the location where the proposed pipeline is to connect to the CRA. The active Iron Mountain Pumping Plant airstrip consists of a single asphalt airstrip located approximately 6 miles southwest of the ARZC railroad tracks and has been operational since May 1976. The largely-abandoned Amboy airstrip consists of one 4,000 foot and one 2,000 foot non-maintained airstrips of uncertain gravel construction located just northwest of Amboy. None of these private airstrips have fueling or maintenance facilities.

Former Military Use and Existing Hazardous Materials Sites

The Project area is located within an area formerly used for military training. The Department of Defense (DOD) officially began using the area during the 1940s with the acquisition of various

¹ Code of Federal Regulations, *Title 14, CFR Part 77, Subpart B*.

tracts of land totaling tens of thousands of acres. Collectively, these areas were known as the Desert Training Center and, later, the California-Arizona Maneuver Area. The area currently has no military identification or uses. The former CAMA consisted of the Cadiz Lake Air to Ground Gunnery Range and Sonic Bombing Targets 1 through 10. Parts of the Cadiz Valley area were used by the Fourth Air Force stationed at March Field. The area was also used during World War II by General Patton's Armored Divisions for training in desert warfare, which involved the use of live ordnance.

A regulatory database search of existing sites with hazards or hazardous materials within and immediately adjacent to the Project footprint was conducted for the purpose of this analysis. The database search included a search of the Department of Toxic Substances Control² and State Water Resources Control Board³ environmental website databases for sites with documented use, storage, or release of hazardous materials or petroleum products. The databases identified two former military sites in or near the Project area that are under active investigations for the presence of unexploded ordnance. The locations of the two sites are summarized below. The eastern portions of the former Cadiz Lake Sonic Target No. 5 are located at the westernmost portion of the proposed wellfield area where three production wells are proposed just inside or adjacent to the border of the former target area. The southeast corner of the former Cadiz Lake Sonic Target No. 9 is located at the optional proposed Equalization Storage Reservoir at the southernmost end of the proposed water conveyance pipeline. Both of these areas are former live ordnance target zones.

Cadiz Lake Sonic Target No. 5

A site inspection was conducted for the U.S. Army Corps of Engineers (USACE) at the former Cadiz Lake Sonic Target No. 5. The results were documented in a report dated September 2009 and summarized below.⁴

The Department of Defense acquired 2,560 acres from the Department of the Interior in accordance with a real estate directive dated July 3, 1946. It is likely that the DOD began using the site as early as 1942. The site was used by the Fourth Air Force stationed at March Field, California. It is believed that the site was used by General Patton's Armored Divisions for training in desert warfare in preparation for Operation Torch (the Allied invasion of North Africa during World War II). Some of this training may have involved the use of live ordnance. No known DOD improvements to the site have been documented. The site was declared surplus in 1948.

The September 2009 site investigation at the former Cadiz Lake Sonic Target No. 5 was performed to verify the site location and to evaluate evidence for the presence of munitions,

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- 2 Department of Toxic Substances Control, *EnviroStor Database Results for Napa*, http://www.envirostor.dtsc.ca.gov/public/map.asp?global_id=&x=-119.1357421875&y=37.82280243352756&zl=5&ms=640,480&mt=m&findaddress=True&city=NAPA&zip=&county=&federal_superfund=true&state_response=true&voluntary_cleanup=true&school_cleanup=true&corrective_action=true&permit_site=true&permit_and_ca_site=true, accessed April 2011.
 - 3 State Water Resources Control Board, *GeoTracker Database*, <http://www.geotracker.swrcb.ca.gov/map/>, accessed April 2011.
 - 4 U.S. Army Corps of Engineers, *Final Site Inspection Report, Former Cadiz Lake Sonic Target No. 5, San Bernardino County, California*, September 2009, pages ES-1 to ES-3.

explosives of concern, and munitions debris at the former site. To accomplish this objective, qualitative reconnaissance and munitions constituents sampling were performed at the site. The site investigation identified the following issues:

- The site visit team found no munitions or explosives of concern. The team did find debris from M38A2 100-pound practice bombs, M1A1 spotting charges, .50-caliber cartridge casings, a link from two .50-caliber rounds, and numerous expended blank .308 cartridges.
- The munitions debris found during the site visit would have the potential to harm humans if they are contacted and are still functional. In addition, munitions debris found by the site visit team indicate the potential for other types of munitions debris at the site.

The report recommended conducting a remedial investigation/feasibility study to determine the need to further define the nature and extent of unexploded ordnance (UXO) at this site. The report did not recommend a removal action at this time based on the remote location of the site.

Cadiz Lake Sonic Target No. 9

A site inspection was conducted for the USACE at the former Cadiz Lake Sonic Target No. 9. The results were documented in a report dated September 2009 and summarized below.⁵

The former Cadiz Lake Sonic Target No. 9 site was acquired by the DOD in 1946 and was used by March Field for bombing practice between 1946 and 1948. The former site also lies within the former CAMA which was used during World War II between April 1942 and April 1944 to train soldiers and mechanized infantry in desert combat and survival techniques, to aid in the development of improved desert equipment, and to refine training techniques. Based on debris found, the site was determined to have been used for maneuvers and training as part of CAMA.

The September 2009 site investigation at the former Cadiz Lake Sonic Target No. 9 was performed to verify the site location and to evaluate evidence for the presence of munitions, explosives of concern, and munitions debris at the former site. To accomplish this objective, qualitative reconnaissance and munitions constituents sampling were performed at the site. The site investigation identified the following issues:

- The site visit team identified an intact M1 Tank projectile. The item was ultimately disposed of by the explosive ordnance disposal division from the Twentynine Palms U.S. Marine Corps Base.
- The munitions debris found during the site visit would have the potential to harm human receptors if they are contacted and are still functional. In addition, munitions debris found by the site visit team indicate the potential for other types of munitions debris at the site.

⁵ U.S. Army Corps of Engineers, *Final Site Inspection Report, Former Cadiz Lake Sonic Target No. 9, San Bernardino County, California*, pages ES-1 to ES-3.

The report recommended conducting a remedial investigation/feasibility study to determine the need to further define the nature and extent of UXO at this site. The report did not recommend a removal action at this time based on the remote location of the site.

Mining Activities

Other than the salt producing operations on the Dry Lakes, the USGS website for tracking active mining operations identified no active metals mining operations as of 2003⁶ within the Project area. Although the Project area does not have any active mining operations, the region, including the Project area, does have a history of mining for mineral resources dating back to the 1800's. Various historical inactive and active mining operations exist within and near the Project area, along with the salt producing operations. (See Section 4.11) Most of these historical mining operations extracted metals such as gold, silver, copper, and lead. The historical mining sites are located in mountain ranges and hills. None of the historical mines are located at any of the Project's elements.

The salt producing operations on Bristol, Cadiz, and Danby Dry Lakes are often referred to as "mining" operations, although the process of recovering the salts does not involve excavation as is used for mining in hard rock. The salt producing operations at Bristol and Cadiz Dry Lakes recover sodium chloride (also called halite, rock salt, or table salt) and calcium chloride (commonly used for brine for refrigeration plants, ice and dust control on roads, and desiccation) by digging trenches to expose saline groundwater and then pumping additional saline water from wells into the trenches where evaporation removes water from the solution. Halite precipitates out as a solid, leaving the remaining solution concentrated with calcium chloride. The operations at Danby Dry Lake produce only halite. The salt producing operations are not located at any of the Project elements.

Existing Natural Gas Pipelines

Six interstate natural gas pipelines and appurtenant facilities are located in the Project vicinity (See Section 4.13) The EPNG natural gas Line 1903A or the PG&E Line 300 A&B could supply power to the Project facilities. As part of the Groundwater Conservation and Recovery Component, several options for powering the wells are being considered. One of the favored options would involve constructing a distribution system that would connect to the high pressure natural gas pipeline that traverses the Cadiz Property and would supply natural gas to a central power generator that would provide electric power for the pumps at each well. Some of the water conveyance pipelines to the water wells would cross the active natural gas lines.

Vegetation and Wildfire Hazards

Vegetation in the area includes blackbush scrub, desert dry wash woodland, desert saltbrush scrub, Mojave creosote bush scrub, Mojave mixed steppe, Mojave mixed woodland and succulent scrub, Mojave mixed woody scrub, Mojavean pinyon and juniper woodland, semi-desert

⁶ U.S. Geological Survey, *Mineral Resources Online Spatial Data*, <http://mrddata.usgs.gov/mineral-resources/active-mines.html>, accessed April 2011.

chaparral, and Sonoran creosote bush scrub. The Mojave creosote bush shrub is the most prevalent plant association and covers most of the valley floors; however, it is relatively sparse even in these areas. Further details of the flora and fauna is present in Section 4.4, Biological Resources.

The California Department of Forestry and Fire Protection (CAL FIRE) fire hazard severity zone map identifies the Project area as within the lowest level of its fire hazard severity zones, the lowest possible risk category.⁷

Hazardous Materials

Definitions

Chapter 6.5 of the California Health and Safety Code sets forth definitions and regulations related to hazardous materials management and disposal. The Code defines hazardous materials as

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

Hazards versus Risk

The health of workers and the general public are potentially at risk whenever hazardous materials have been used, or where exposure to such materials could occur. Inherent in the setting and analysis presented in this Section are the concepts of the “hazard” presented by these materials and the “risk” they pose to human health.

The level of risk to human health in a given environment is determined by the probability of exposure to a hazardous material and the severity of harm such exposure would pose. Therefore, a determination regarding the degree of risk takes into account the likelihood and means of exposure as well as the inherent toxicity of a material or hazard presented by a specific condition.

Responsible Agencies

Various regulatory agencies, such as the EPA and Cal EPA, the California Water Resources Control Board (SWRCB), the California Department of Toxic Substances Control (DTSC), and OSHA and California OSHA (Cal OSHA) are responsible for developing and/or enforcing risk-based standards to protect the public and the environment from hazards posed by hazardous materials. The California Department of Forestry and Fire Protection, Office of the State Fire Marshall, Pipeline Safety Division is responsible for developing and/or enforcing standards for

⁷ California Department of Forestry and Fire Protection, *Very High Fire Hazard Severity Zone Map, Southeast San Bernardino County*, October 2008.

natural gas and petroleum product pipelines. Additional responsible agencies include the Santa Ana and Colorado River Basin Regional Water Quality Control Boards (RWQCB), MDAQMD, and Riverside County Community Health Agency, Department of Environmental Health (DEH).

4.8.2 Regulatory Framework

The term “hazardous materials” refers to both hazardous substances and hazardous wastes. Under federal and State laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases). A hazardous material is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.⁸

In some cases, past industrial, military, or commercial activities on a site could have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. Hazardous materials may also be present in building materials and released during building demolition activities. If improperly handled, hazardous materials and wastes can cause public health hazards when released to the soil, groundwater, or air. The four basic exposure pathways through which an individual can be exposed to a chemical agent include: inhalation, ingestion, bodily contact, and injection. Exposure can come as a result of an accidental release during transportation, storage, or handling of hazardous materials. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transportation of soils contaminated by hazardous materials from previous spills or leaks. Areas with previous military operations may have UXO that may present explosion hazards or chemical hazards, as summarized above.

According to the EPA, materials and waste are considered hazardous based on four characteristics:

Ignitability – Ignitable wastes can create fires under certain conditions, are spontaneously combustible, or have a flash point less than 60 °C (140 °F). Examples include waste oils and used solvents.

Corrosivity Corrosive wastes are acids or bases (pH less than or equal to 2, or greater than or equal to 12.5) that are capable of corroding metal containers, such as storage tanks, drums, and barrels. Battery acid is an example.

Reactivity – Reactive wastes are unstable under "normal" conditions. They can cause explosions or release toxic fumes, gases, or vapors when heated, compressed, or mixed with water. Examples include lithium-sulfur batteries and explosives.

Toxicity – Toxic wastes are harmful or fatal when ingested or absorbed (e.g., wastes containing mercury, lead, etc.).

⁸ State of California, *Health and Safety Code*, Chapter 6.95, Section 25501(o).

According to the California Health and Safety Code (Section 25501), “hazardous material” means any 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 released from historical land uses could be encountered within the footprint of the proposed Project.

Federal

The EPA is the lead federal agency responsible for enforcing federal regulations regarding hazardous materials and hazardous waste. The primary legislation governing hazardous materials and hazardous waste are the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Superfund Amendments and Reauthorization Act (SARA).

Resource Conservation and Recovery Act

RCRA regulates the generation, transportation, treatment, storage and disposal of hazardous waste by “large-quantity generators” (1,000 kilograms per month or more) through comprehensive life cycle or “cradle to grave” tracking requirements. The requirements include maintaining inspection logs of hazardous waste storage locations, records of quantities being generated and stored, and manifests of pick-ups and deliveries to licensed treatment/storage/disposal facilities. RCRA also identifies standards for treatment, storage, and disposal.

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA, also known as Superfund, created a tax on the chemical and petroleum industries to provide for response and cleanup of hazardous substances that may endanger public health or the environment. CERCLA established requirements for the treatment of abandoned hazardous waste sites and provided for liability of persons responsible for releases of hazardous waste at these sites.

Superfund Amendments and Reauthorization Act

SARA amended CERCLA to increase state involvement and required Superfund actions to consider state environmental laws and regulations. SARA also established a regulatory program for underground storage tanks (USTs) and the Emergency Planning and Community Right-to-Know Act.

Occupational Safety and Health Act

The OSHA administers the Occupational Safety and Health Act, which requires special training of handlers of hazardous materials, notification to employees who work in the vicinity of hazardous materials, and acquisition from the manufacturer of material safety data sheets (MSDS). An MSDS describes the proper use of hazardous materials. The Act also requires the training of employees to remediate any hazardous material accidental releases.

State

The DTSC is primarily responsible for the regulation of hazardous materials in California. DTSC is responsible for the management of hazardous substances and oversees the investigation and remediation of contaminated sites. The Colorado River RWQCB is primarily responsible for the protection of groundwater and surface-water resources from hazardous materials.

California Occupational Safety and Health Act

The Cal OSHA regulates worker safety similar to federal OSHA but also requires preparation of an Injury and Illness Prevention Program, an employee safety program of inspections, procedures to correct unsafe conditions, employee training, and occupational safety communication. In addition, Cal OSHA regulations indirectly protect the general public by requiring construction managers to post warnings signs, limit public access to construction areas, and obtain permits for work considered to present a significant risk of injury, such as excavations greater than five feet.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Cal EPA adopted regulations in 1996 to establish a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program and designated local agencies called Certified Unified Program Agencies (CUPA). The local agencies regulate hazardous substances management with respect to the following areas:

- Hazardous waste generators and hazardous waste onsite treatment
- USTs
- Aboveground storage tanks
- Hazardous materials release response plans and inventories (business plans), including Unified Fire Code hazardous materials management plans and inventories
- Risk management and accidental release prevention programs

The CUPA in the Project area is the San Bernardino County Fire Department – Hazardous Materials Division.

Waters Bill of 1985 (Business Emergency Plan/Hazardous Materials Business Plan)

Administered by the CUPA, the Waters Bill requires facilities that meet minimum hazardous materials use/storage thresholds to file a Business Emergency Plan (BEP), or a Hazardous Materials Business Plan (HMBP). A BEP or HMBP includes a complete inventory of the hazardous materials being used and stored on a site. Employee training and emergency response plans and procedures for the accidental release of hazardous materials are also included in a BEP.

Safe Drinking Water and Toxics Enforcement Act (Proposition 65)

Administered by the CUPA, the Safe Drinking Water and Toxics Enforcement Act requires businesses that use hazardous materials to post public notices of the accidental release of hazardous materials or other potential exposures to materials known to the State of California to

cause cancer or reproductive toxicity. The Act prohibits such businesses from releasing hazardous materials into the environment at levels above identified risk levels.

Uniform Fire Code

The Uniform Fire Code is administered by the CUPA via regular site inspections. The code regulates the type, configuration, and quantity of hazardous materials that may be stored within structures or in outdoor areas.

Local

San Bernardino County

AB 2948 (Chapter 1504, Statutes of 1986), commonly known as the Tanner Bill, authorizes counties to prepare Hazardous Waste Management Plans (HWMPs) in response to the need for safe management of hazardous wastes. The HWMP was adopted by the County of San Bernardino Board of Supervisors and approved by the California Department of Health Services in February 1990. The HWMP serves as the primary planning document for the management of hazardous waste in San Bernardino County. The HWMP identifies the types and amounts of wastes generated in the County; establishes programs for managing these wastes; identifies an application review process for the siting of specified hazardous waste facilities; identifies mechanisms for reducing the amount of waste generated in the County; and identifies goals, policies, and actions for achieving effective hazardous waste management.

The San Bernardino County Fire Department – Hazardous Materials Division is the local agency responsible for the enforcement of a variety of hazardous materials management requirements. They are the State designated CUPA for the County of San Bernardino (excluding the City of Victorville). The purpose of the CUPA program is to provide a comprehensive approach to reduce the overlapping and sometimes conflicting requirements of different governmental agencies. The CUPA provides consolidation and consistency in reporting requirements, permit formats, inspection criteria, enforcement standards, and fees for various hazardous materials programs. The CUPA is required by State law to maintain a list of facilities within the County that are known to use, store, and/or generate hazardous materials/wastes. Facilities that handle hazardous materials or generate hazardous waste must obtain a permit from the CUPA. The San Bernardino County Fire Department manages the hazardous material and hazardous waste programs noted above.

4.8.3 Impact and Mitigation Analysis

Significance Criteria

Based on the *CEQA Guidelines*, Appendix G, a project may be deemed to have a significant effect on the environment with respect to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 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;
- Result in a safety hazard for people residing or working in the Project area for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures 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.

Methodology

The qualitative analysis in this Section focuses on potential public safety and hazards impacts, including the use, disposal, transport, or management of hazardous or potentially hazardous materials resulting from the construction and operation of the Project. The evaluation considered Project plans, current conditions at the Project area, and applicable regulations and guidelines.

Groundwater Conservation and Recovery Component

Routine Transportation, Use, Disposal or Release of Hazardous Materials

Significance Threshold

Would the proposed Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Would the proposed Project 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?

Impact Analysis

The routine transport, use, and disposal of hazardous materials could result in hazards to people and the environment due to the potential for accidental release. Such hazards are typically associated with certain types of land uses, such as chemical manufacturing facilities, industrial processes, waste disposal, and storage and distribution facilities. As part of Project construction, potentially hazardous materials, including equipment fuel, paints, lubricants, antifreeze, solvents,

and other potentially hazardous materials would be transported to, stored, and used in the Project area. It is anticipated that one or more temporary, above-ground fuel storage tanks would be used throughout the proposed Project construction to service construction equipment. Because of the remote Project location, servicing and emergency repair of construction equipment may occur in the proposed Project area. Equipment servicing and repair could result in the generation of oily and hazardous wastes such as spent solvents, residual fuels, used oils, and filters. Potentially hazardous materials may also be required for operation of the Project, including natural gas that is proposed to power the well pumps. The site wells are currently powered by diesel fuel from an onsite above-ground storage tank located within a secondary containment structure. The wells' power also is to be converted to natural gas, thus removing the need for the storage of fuels for the well pumps.

Mishandling of these fuel materials could result in their accidental release to the environment, which could in turn result in a hazardous condition to workers, the public, or the environment. However, by following applicable laws and regulations, as described in Regulatory Framework above, the safe handling and use of hazardous materials and the safe disposal of the resulting hazardous wastes could be managed and achieved. More specifically, federal and State agencies would determine driver-training requirements, load labeling procedures, and container specifications to minimize the risk of accidental release.

The net result of compliance would be the reduction of risks and hazards to workers, the public, and the environment, to levels that are considered acceptable for all hazardous materials proposed for use. Implementation of Mitigation Measure **HAZ-1** would ensure that transportation, storage, and handling of hazardous materials would not result in accidental releases that could significantly impact neighboring land uses.

Mitigation Measures

HAZ-1: On-site materials storage, fueling, and vehicle maintenance areas shall be equipped with secondary containment and spill containment equipment. Storage, handling, and disposal of hazardous materials shall comply with applicable regulations including submittal of a Business Plan to the County Fire Department.

Significance Conclusion

Less than significant with mitigation.

Hazardous Materials Use Near Schools

Significance Threshold

Would the proposed Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Impact Analysis

There are no schools located within a quarter mile of the Project. Therefore, there would be no impacts to schools and no mitigation is required.

Mitigation Measures

None required.

Significance Conclusion

No impact.

Hazardous Material Sites

Significance Threshold

Would the proposed Project 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?

Impact Analysis

The facilities to be constructed as part of the Groundwater Conservation and Recovery Component are not located on a site listed on a hazardous material site list pursuant to Government Code Section 65962.5. However, the area has a known history of military use and UXO has been found in others areas. Moreover, construction of the Project facilities would involve grading and excavation, and therefore the potential of encountering previously unidentified hazardous materials is present. Encountering contaminated soil, surface water, and groundwater without taking proper precautions could result in the exposure of construction workers and the environment to hazardous conditions. Mitigation Measure **HAZ-2** would ensure that any previously unknown contamination is handled appropriately in coordination with the CUPA.

Project construction and operations would result in the installation of three production wells just within or along the border of the former Cadiz Lake Sonic Target No. 5. The southwestern corner former Cadiz Lake Sonic Target No. 9 intersects the location of the optional (Option A) Equalization Storage Reservoir and associated piping. Construction activities could encounter UXO and could result in exposing workers and equipment to a hazardous condition.

Explosive materials may become more unstable over time, increasing the possibility of harm if encountered. Although the USACE has conducted some field investigations, is it not possible to identify the exact locations and nature of these wastes in the Project area. However, based on previous military uses and records indicating the discovery of UXO in the proposed Project area, it is possible that some UXO may be encountered during construction. Therefore, construction of the water conveyance facilities, power distribution facilities, and Project wellfield may result in

significant adverse ordnance and explosive wastes hazards. Implementation of Mitigation Measures **HAZ-2** and **HAZ-3** would be required to reduce impacts to a less than significant level.

Mitigation Measures

HAZ-2: If excavation uncovers contaminated materials, excavation activities shall cease in the contaminated area. Soil samples shall be collected to characterize the soils and contamination. The CUPA shall be notified of the sample results. The construction contractor shall stockpile contaminated soils on plastic sheeting as necessary to prevent releasing contamination into the ground and shall ultimately dispose of the materials in coordination with the CUPA in compliance with hazardous material regulations.

HAZ-3: Prior to installation of the Project elements within 250 feet of the Cadiz Sonic Lake Target No. 5 and No. 9 areas, the USACE shall be requested to clear the proposed locations for the potential presence of unexploded ordnance from historical military uses. In the event that the USACE encounters unexploded ordnance, the USACE is obligated to remove the unexploded ordnance under their ongoing investigations.

Significance Conclusion

Less than significant with mitigation.

Airport Hazards

Significance Threshold

Would the proposed Project result in a safety hazard for people residing or working in the Project area for a project within the vicinity of a private airstrip or within an airport land use plan?

Impact Analysis

The Project is not located within an airport land use plan or within two miles of a public or public-use airport where no plan has been adopted. The nearest public airport is located approximately 35 miles from the proposed Project area. All of the local private airstrips are lightly-used single airstrips with no available facilities (e.g., fuel and maintenance) other than the landing airstrip. Only small single or twin-engine aircraft would be able to land. The airstrips are all located outside of the Project footprint and over 2 miles away from any Project component. The nearest airstrip (Cadiz airstrip) is located approximately three miles southwest of the wellfield area. Airstrips are not commercial airports, and therefore, none have airport land use plans. Nevertheless, once constructed, all Project facilities and components would be located below ground or at the surface with minimal height. As such, the potential for collision is considered very low. Therefore, the potential impact associated with local airstrips would be considered less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Emergency Response Plans

Significance Threshold

Would the proposed Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact Analysis

The elements of the Project are not located on any roads and do not interfere with adopted emergency response plans or evacuation routes defined by any local jurisdictions. The proposed Project area is not located in the immediate vicinity or flight path of a major airport. Private airstrips are located at Amboy, at the Cadiz agricultural operations and at the Iron Mountain Pumping Plant. The proposed Project area is sparsely vegetated, making the likelihood of wildland fires very low. Emergency responses to remote parts of eastern San Bernardino County typically involve helicopter transport, which would not be hindered by proposed Project construction or operation. Therefore, no impact would occur and no mitigation is required.

Mitigation Measures

None required.

Significance Conclusion

No impact.

Grassland and Wildland Fires

Significance Threshold

Would the proposed Project 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?

Impact Analysis

The Project would be located within a sparsely-vegetated desert area. The CAL FIRE fire hazard severity zone map identifies the Project area as within its lowest fire hazard severity zone, the lowest possible risk category. Proposed Project impact areas associated with the Groundwater Conservation and Recovery Component are not located adjacent to urbanized areas or residences. The nearest residences are located in Chambless, approximately 5 miles from the Project site. Impacts associated with implementation of the proposed Project are considered less than significant and no mitigation is required.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Imported Water Storage Component

This component is analyzed on a programmatic basis.

Routine Transportation, Use, Disposal or Release of Hazardous Materials

Significance Threshold

Would the proposed Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Would the proposed Project 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?

Impact Analysis

As with the Groundwater Conservation and Recovery Component, potentially hazardous materials, including fuels, paints, lubricants, antifreeze, solvents, and other potentially hazardous materials needed for construction and operations activities for the spreading basins, pipeline extension, and expanded wellfield would be transported to and stored in the Project area. Potentially hazardous materials may also be required for operations, including natural gas proposed for powering well pumps and chemicals used to prepare the existing natural gas pipeline for water conveyance.

Mishandling of these materials could result in their accidental release to the environment, which could in turn result in a hazardous condition to workers, the public, or the environment. However, by following applicable laws and regulations, as described in Regulatory Framework above, the safe handling and use of hazardous materials and the safe disposal of the resulting hazardous wastes could be achieved. The net result of compliance would be the reduction of risks and hazards to workers, the public, and the environment to levels that are considered acceptable for all hazardous materials proposed for use.

Therefore, impacts would be less than significant with implementation of Mitigation Measure **HAZ-1**.

Mitigation Measures

Implement Mitigation Measure **HAZ-1**.

Significance Conclusion

Less than significant with mitigation.

Hazardous Materials Use Near Schools

Significance Threshold

Would the proposed Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Impact Analysis

There are no schools located within a quarter mile of the Project. Therefore, there would be no impacts to schools and no mitigation is required.

Mitigation Measures

None required.

Significance Conclusion

No impact.

Hazardous Material Sites

Significance Threshold

Would the proposed Project 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?

Impact Analysis

Project construction and operations activities associated with the Imported Water Storage Component of the proposed Project would result in the construction of recharge basins and associated piping. The recharge basins are not located on a site listed on a hazardous material site list pursuant to Government Code Section 65962.5. However, the area has a known history of military use and UXO has been found in others areas. As previously discussed, construction activities could encounter UXO and could result in exposing workers and equipment to a hazardous condition. Encountering contaminated soil, surface water, and groundwater without taking proper precautions could result in the exposure of construction workers and the environment to hazardous conditions.

The potential hazards to human health are associated with the presence of ordnance and explosive waste within the proposed Project area. The presence of ordnance and explosive wastes would pose the greatest risk during construction of the proposed Project when earth-moving activities

are likely to result in disturbance. Explosive materials may become more unstable over time, increasing the possibility of harm from residual wastes. Although the USACE has conducted some field investigations, is it not possible to quantify the risk associated with ordnance and explosive wastes in the proposed Project area as the exact locations and nature of these wastes are not known. However, based on previous military uses and records indicating the discovery of ordnance and explosive wastes in the proposed Project area, it is possible that some ordnance and explosive wastes may be encountered during construction. The presence of former ranges and bombing targets suggests that a greater concentration of ordnance and explosive wastes may exist at these locations but does not preclude the possibility that ordnance and explosive wastes may exist outside these areas. Therefore, construction of the recharge basins and associated pipelines and power distribution facilities may result in significant adverse ordnance and explosive wastes hazards. Implementation of Mitigation Measure **HAZ-3**, discussed above and copied below, would be required to reduce impacts to a less than significant level.

Mitigation Measures

Implement Mitigation Measure **HAZ-3**.

Significance Conclusion

Less than significant with mitigation.

Airport Hazards

Significance Threshold

Would the proposed Project result in a safety hazard for people residing or working in the Project area for a project within the vicinity of a private airstrip or within an airport land use plan?

Impact Analysis

As described with the Groundwater Conservation and Recovery Component above, the Project is not located within an airport land use plan or within two miles of a public or public-use airport where no plan has been adopted. The nearest public airport is located approximately 35 miles from the proposed Project area. All of the local private airstrips are lightly-used single airstrips with no available facilities (e.g., fuel and maintenance) other than the landing airstrip. Only small, single- or twin-engine aircraft are able to land. The airstrips are all located outside of the Project footprint and over 2 miles away from any Project component. The nearest airstrip is the Cadiz airstrip, located approximately 3 miles southwest of the proposed spreading basin area. Airstrips are not commercial airports, and therefore none have airport land use plans. Nevertheless, once constructed, all of the Project elements would be below ground or at the surface with minimal height. As such, the potential for collision is considered very low. Therefore, the potential impact associated with local airstrips would be considered less than significant.

The existing natural gas pipeline is located in proximity to the Barstow-Daggett Airport located between the community of Daggett and City of Bartow which is a county-owned public-use

airport, north of the pipeline. The airport consists of two paved runways. However, the pipeline alignment is not within an airport land use plan. The pipeline currently exists and construction would be conducted within the existing right-of-ways. The proposed pump stations and air valves would not create a safety hazards to the airports as the pump stations would be located at the 32 and 40 milepost from the Cadiz Property at a ridge crossing and the air valves locate at half-mile intervals would have a maximum height of four feet. The appurtenances would not subject people to hazards from the airport or affect operations at the airport. Therefore, impacts would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Emergency Response Plans

Significance Threshold

Would the proposed Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact Analysis

The elements of the Project are not located on any roads and do not interfere with adopted emergency response plans or evacuation routes defined by any local jurisdictions. The proposed Project area is not located in the immediate vicinity or flight path of a major airport. Private airstrips are located at Amboy, at the Cadiz agricultural operations and at the Iron Mountain Pumping Plant. The proposed Project area is sparsely vegetated, making the likelihood of wildland fires very low. Emergency responses to remote parts of eastern San Bernardino County typically involve helicopter transport, which would not be hindered by proposed Project construction or operation. Therefore, no impact would occur and no mitigation is required.

Mitigation Measures

None required.

Significance Conclusion

No impact.

Grassland and Wildland Fires

Significance Threshold

Would the proposed Project 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?

Impact Analysis

The spreading basins would be located within a sparsely-vegetated desert area. The CAL FIRE fire hazard severity zone map identifies the Project area as within its lowest fire hazard severity zone, the lowest-possible risk category. Proposed Project impact areas associated with the Imported Water Storage Component are not located adjacent to urbanized areas or residences. The nearest residences are located in Chambliss, approximately 5 miles from the Project site.

The existing natural gas pipeline area is primarily characterized as arid desert terrain with limited sparse vegetation. The pipeline is located within a low fire hazard severity zone and now located adjacent to urbanized areas or residences. Impacts associated with implementation of the proposed Project are considered less than significant and no mitigation is required. Mitigation Measures

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Mitigation Measure Summary Table

Table 4.8-1 on the following page presents the impacts and mitigation summary for Hazards and Hazardous Materials.

**TABLE 4.8-1
 IMPACTS AND MITIGATION SUMMARY**

Proposed Project Impact	Mitigation Measure	Significance
Groundwater Conservation and Recovery Component		
Routine Transportation, Use, Disposal or Release of Hazardous Materials	HAZ-1	Less than significant with mitigation
Hazardous Materials Use Near Schools	None required	No impact
Hazardous Material Sites	HAZ-2 and HAZ-3	Less than significant with mitigation
Airport Hazards	None required	Less than significant
Emergency Response Plans	None required	No impact
Grassland and Wildland Fires	None required	Less than significant
Imported Water Storage Component		
Routine Transportation, Use, Disposal or Release of Hazardous Materials	HAZ-1	Less than significant with mitigation
Hazardous Materials Use Near Schools	None required	No impact
Hazardous Material Sites	HAZ-3	Less than significant with mitigation
Airport Hazards	None required	Less than significant
Emergency Response Plans	None required	No impact
Grassland and Wildland Fires	None required	Less than significant