

Section 4.8
Hazards and Hazardous Materials

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4.8.1 Introduction

This section of the Supplemental Recirculated Environmental Impact Report (SREIR) addresses potential hazards associated with the proposed Grapevine Project (project) that could occur from potentially lower trip internal capture rates (ICRs) than evaluated in the Draft Environmental Impact Report (DEIR) and Final Environmental Impact Report (FEIR) (collectively, the “2016 EIR”) for the project.

The DEIR and FEIR were circulated and publicly reviewed in 2016, and the FEIR was certified by Kern County on December 6, 2016. As discussed in Chapter 2, *Introduction*, the FEIR certification was subsequently rescinded by the Board of Supervisors at a hearing on March 12, 2019, and the County received an application to re-adopt the approvals for the proposed project on March 14, 2019. On April 12, 2019, the County published a Notice of Preparation (NOP) for an SREIR to evaluate potential traffic, air pollution, greenhouse gas, noise, public health and growth inducing impacts that could occur from lower ICRs than were considered in the 2016 EIR.

The ICR represents the percentage of trips staying within a community compared to total trips generated by the uses in a community. Residential and mixed-use development, such as the proposed project, generate vehicle trips that begin and end within a project study area. These are called “internal” trips. Trips that end or begin outside the project study area are called “external” trips. If a project area uses generate an average daily total of 1,000 trips, for example, and 500 trips begin and end within the community, the average daily ICR would be 50 percent. Traffic trip volumes are highest during “peak” morning (AM) and evening (PM) periods. If a project generates 300 trips during the AM peak period, and 100 of these trips begin and end within the project, the AM peak hour ICR would be 33.3 percent. External trips are generally longer and result in higher vehicle miles travelled than internal trips. A project’s ICRs change as land uses and transportation patterns, which are affected by transit options and technologies, change over time. An ICR analysis generally reflects and considers ICRs and transportation patterns that exist at a specific a point in time of the project buildout process.

The original DEIR (2016) used projections for the ICRs as peak period traffic impacts generated from the Kern County Council of Governments (Kern COG) 2014 Regional Transportation Plan/Sustainable Communities Strategy Travel Demand Model (KernCOG model). The analysis considered the ICR rates for home to work trips (“Home-Based Work” trips) and home to school, shopping, recreational and other non-work related trips (“Home-Based Other/Non-Home-Based” trips). The KernCOG model projected that, for all trips combined, at buildout the project would have an AM peak period ICR of 72.2 percent and a PM peak period ICR of 71.4 percent.

During the DEIR (2016) comment period, the California Department of Transportation (Caltrans) requested that Fehr & Peers, the project’s traffic consultants, conduct a review of Home-Based Work ICRs in certain other California locations. The review found that the average Home-Based Work ICR for the California communities was 57.4 percent and, based on this information, Caltrans requested that the project analysis utilize a Home-Based Work ICR of 28.7 percent, 50 percent lower than the results of the review.

As a result, the DEIR (2016) traffic analysis was revised in the FEIR (2016) to incorporate the 28.7 percent Home-Based Work trip ICR requested by Caltrans. When combined with the KernCOG model ICRs for non-work Home-Based Other/Non-Home-Based trips, the ICRs for all project trips considered in the FEIR (2016) were 59.8 percent in the AM peak period and 64.2 percent in the PM period. These results are lower than the 72.2 percent AM peak period and 71.4 percent PM peak period ICRs analyzed in the DEIR (2016). The FEIR (2016) revised the project's mitigation measures and considered the significance of all significant impacts that were determined to potentially occur using the lower AM and PM peak period ICRs.

The purpose of the SREIR is to evaluate the potential impacts that could occur from lower ICRs than evaluated in the FEIR (2016). To perform this evaluation, it was determined that a variety of scenarios needed to be developed for modeling that could show what would happen if the projected mix of residential, commercial and industrial development did not build out as proposed. Potential hazards associated with the proposed project that could occur from potentially lower trip ICRs than evaluated in the 2016 EIR is addressed in the following sections:

- Section 4.3, *Air Quality*: The potential for the project to expose sensitive receptors to substantial pollutant concentrations, including carbon monoxide hotspots and toxic air contaminant emissions associated with Interstate 5 (I-5), as well as a discussion of health effects associated with criteria air pollutants, is addressed in Section 4.3, *Air Quality* and in Section 2.8 of the Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Grapevine Specific and Community Plan Project Supplemental Recirculated Environmental Impact Report, dated July 2019, and prepared by Dudek in March (2019 Air Study; Dudek 2019a), provided in Volume 2, Appendix D.
- Section 4.16, *Transportation and Traffic*: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) is addressed in Section 4.16, *Transportation and Traffic*.

This section of the SREIR describes the potential hazards (other than geologic and flood hazards) associated with the project site, infrastructure, activities, and materials that could impact human health and the environment as described in the 2016 EIR.

4.8.2 Environmental Setting

The environmental setting for wildfires, hazardous materials, air traffic and military aviation, noise, existing wastewater treatment facilities, and disease vectors are presented in this section. In addition, proposed residences in close proximity to certain project features (waste water treatment plant, water treatment plant, etc.) are also described herein, as their location determines their exposure to the potential hazards described below. There are existing, scattered rural residences near the project site and there is one existing residential unit within the project's open space area south of the existing I-5/Grapevine Road interchange. Existing hotels are located along the I-5 corridor on the western side of the project site, at the I-5/Wheeler Ridge Road/Laval Road and I-5/Grapevine Road interchanges. There are also agricultural land uses, the Pastoria Energy Facility, Griffith Construction Facility, and the Edmonston Pumping Plant near the project's eastern boundary.

The project site encompasses a total of approximately 8,087 acres, which includes the off-site infrastructure improvements, in the west-central portion of the 270,000-acre Tejon Ranch, which is privately owned by Tejon Ranchcorp (See Figure 3-1). The area is generally bounded by the

Tehachapi and San Emigdio Mountains and Tejon Ranch conservation lands immediately to the south, east, and west; with the Tejon Ranch Tecuya Creek Conservation Easement and Wind Wolves Preserve to the west; and the Tejon Ranch Commerce Center (TRCC) to the north. The California Aqueduct, which is operated by the California Department of Water Resources, traverses the project site near the northern boundary. The Edmonston Pumping Plant Road bisects the project site from east to west and I-5 bisects the project site from north to south. The project site is immediately south of the TRCC.

The lowest elevation portion of the project site is in the San Joaquin Valley, with an elevation of 898 feet above mean sea level (amsl). Elevations gradually slope upwards from north to south. Where the California Aqueduct crosses the I-5, the project site elevation is 1,255 feet amsl. Within the foothills, the elevations rise higher over a shorter distance resulting in steeper slopes to 2,186 feet amsl and are generally north-facing towards the valley floor.

Oil Extraction Areas

The primary mineral resource currently under development in Kern County is oil. Kern County is one of the richest oil-producing counties in the United States. The valley floor area of the County and the lower elevations of the surrounding mountain ranges contain numerous deposits of oil and gas resources, a major economic resource for the County. Several oil field administrative boundaries have been identified by the California Department of Oil, Gas and Geothermal Resources (DOGGR) near and within the project site, including the Tejon, North Tejon, Wheeler Ridge and Tejon Hills oil fields. The oil field administrative boundaries are established by DOGGR based on established oil and gas production limits. Tejon Ranchcorp, or its affiliates, own all of the oil, gas and other subsurface mineral rights throughout the project site. Several oil and gas exploration and development leases within the project site have been established between Tejon Ranchcorp and several entities (WZI, 2015).

In addition, database searches have identified 146 oil and gas wells (active, dry holes, abandoned oil, and abandoned gas) within the project site. The majority of these wells are located within Plan Areas 6b, 6c, 6d and 6e; however, there are wells, mostly abandoned, located throughout the project site (Pacific Edge Engineering, 2014).

Areas within DOGGR Oil Field Boundaries

DOGGR regulates productive wells in part through designating and establishing rules for designated oil fields. Approximately 204 acres of the project site are within the North Tejon Oil Field administrative boundary and approximately 930 acres are located within the Tejon Oil Field administrative boundary. Much of the area within these two field boundaries is extensively disturbed with pumping units, treatment units, storage tanks, heater treater, pipelines, tank farms, water treatment units, and unpaved roads. As of March 2014, there were 49 active wells within the project site. Within the surrounding oil fields there are currently 226 active wells in the Tejon Oil Field (including the project site), 45 active wells in the North Tejon Oil Field, and 76 active wells within the Wheeler Ridge Oil Field. There are currently no energy producing facilities associated with oil production within the project site (WZI, 2015).

Areas outside DOGGR Oil Field Boundaries

Sojitz Energy, the lessee of the oil and gas mineral rights located outside of the oil field bound areas, has permits issued by the DOGGR to drill eight exploratory wells to depths exceeding

7,000 feet, three of which are located within the project site boundary. At the present time, there are no production facilities located outside of the oil field boundaries. Currently there are 14 abandoned wells located within the project site outside of the oil field boundaries.

Agricultural Activities

As described in detail in Section 4.2, *Agriculture and Forestry Resources*, the project site contains active agricultural uses which include almond orchards (454 acres), wine grapes (35 acres), and several corrals associated with cattle ranching operations. The almond orchards are located in the northeast portion of the project site, while the wine grape vineyard is located in the southern portion of the project site, between the northbound and southbound lanes of I-5. The west side of I-5 is grazed by livestock from winter to spring, depending on foraging production, and on the east side of I-5, livestock are moved to the project site for birthing and processing in late fall to early winter before returning to higher elevations, within the larger Tejon Ranch property. Outside of the project boundaries, there is existing agricultural lands to the north of the project, east of I-5.

In general, agricultural chemicals in use today are applied in diluted concentrations and, when used properly, degrade relatively quickly; however, older pesticides have the potential to remain in the soil for many years. Overspray from the surrounding agricultural land uses may occur at the project site. Consequently, pesticides, herbicides, and associated metals may be present in near-surface soils at residual concentrations.

Wildfires

On-site vegetation is dominated by grasslands that have been grazed for decades and are dominated by annual grasses such as bromes (*Bromus* spp.) and barley (*Hordeum* spp.) on the valley floor. The foothills are also dominated by grasslands, but also include scrub, wetland, woodland, and riparian scrub habitats. Table 4.8-1, *Vegetation on the Project Site*, provides the acreage of the vegetation/fuel types within the project site.

Generalized Habitat Type	Area (acres)
Grasslands (various grass models) ¹	6,993
Irrigated orchards and vineyard (custom model)	493
Urban/Developed and Roadway Infrastructure (non-combustible)	397
Shrublands/Scrub (shrub models)	78
Wash (disturbed/non-combustible)	62
Riparian scrub/wetlands (shrub model)	44
Riparian woodland (timber/litter model)	16
Oak savannah (grass model)	5
Total ²	8,087

Source: Dudek, 2015a

¹ Over 99 percent of the grasslands are non-native annual grasslands that are grazed.

² Rounding of acreages results in a slightly higher acreage total (8,088 acres); however, total actual acreage of the project site, including off-site infrastructure improvements, is 8,087.

The behavior and characteristics of wildfires are dependent on a number of biophysical and anthropogenic (human-caused) factors. The biophysical variables are fuels (including composition, cover, and moisture content), weather conditions (particularly wind velocity and humidity), topography (slope and aspect), and ignitions (e.g., lightning). The anthropogenic variables are ignitions (e.g., arson, smoking, power lines) and management (wildfire prevention and suppression efforts).

Vegetation with low moisture content is more susceptible to ignitions and burns more readily than vegetation with higher moisture content. Grasses tend to ignite more easily, burn faster, and burn for a shorter duration than woody vegetation such as shrubs and trees. Continuity of fuels helps sustain wildland fires. High winds provide oxygen to wildfires and can also blow glowing embers of vegetation far ahead of the front of a fire, allowing fires to jump fuel breaks in some cases. Conditions of low relative humidity will dry out fuels, increasing the likelihood of ignition. Finally, any steep slopes or slopes with exposure to wind will carry fires rapidly uphill. Fires that are extinguished in mountainous areas are often contained along ridgelines.

Fire Hazard Severity Zones

Fire Hazard Severity Zones (FHSZs) are areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors that have been mapped by the California Department of Forestry and Fire Protection (CAL FIRE) under the direction of Public Resources Code (PRC) 4201-4204 and Government Code 51175-89. FHSZs are ranked from moderate to very high and are categorized fire protection as within a Federal Responsibility Area under the jurisdiction of a Federal agency, within a State Responsibility Area (SRA) under the jurisdiction of CAL FIRE, or within a Local Responsibility Area (LRA) under the jurisdiction of a local agency. The project site is located in an area with both “Moderate” and “Very High” fire threat ratings, and a portion of the site lies within an SRA. CAL FIRE implements wildfire planning and protection for the SRA (CAL FIRE, 2007). CAL FIRE has determined that Kern County has no “Very High” FHSZs in LRA, therefore Kern County does not have a final LRA map of FHSZs (CAL FIRE, 2008).

SRAs occur over a 6,530-acre portion (81 percent) of the project site. Of these 6,530 acres within SRAs, 5,032 acres are designated as moderate FHSZs and are predominately located on the Valley floor, as depicted in Figure 4.8-1, *Fire Hazard Severity Zones*. The remaining 1,498 acres of the project site within SRAs are designated as high FHSZs and are largely in the foothills at the southern end of the project site (refer to Figure 4.8-1). The vegetation in the moderate FHSZs is largely grazed grasslands. Areas designated as moderate FHSZs include terrain and fuels that are not likely to result in aggressive wildfires. Wildfires may occur, but are considered manageable. The vegetation in the high FHSZs also is mostly grazed grasslands with a small amount of scrub, woodland, savannah, and wetlands. Fires occurring in the high FHSZs would be expected to be more aggressive than in the moderate FHSZs, but this vegetation is also grazed and maintained in a low fuel condition. Fires occurring on the slopes would be strongly influenced by the terrain, which slopes up, away from the project, which would tend to produce fires that move away from the project, absent wind influence (Dudek, 2015a).

LRAs occur over 1,557 acres (19 percent) of the project site, north of the California Aqueduct. This portion of the project site is identified by CAL FIRE as unzoned LRAs, indicating there is minimal or no wildland fire hazards. The unzoned LRAs primarily consist of irrigated orchards and areas that are currently being used or have been used for oil and gas operations. Unzoned LRAs present low risk for wildfire ignitions and fire spread, and are provided protection by the Kern County Fire Department (KCFD) (Dudek, 2015a).

Fire History

Nearly all fires in the project site are ignited by human activity adjacent to roadways (e.g., improperly discarded cigarettes, overheated vehicles, burning metal from brakes or catalytic converter, or vehicular accidents), particularly the I-5 freeway. Fires that were not caused by

freeway related sources were also human caused. It appears that naturally caused wildfires (such as from lighting) in the area do occur, especially in the mountainous areas, but very infrequently in the Valley Floor areas. Fires occurring in 1915, 1916, 1920, 1921, 1940, 1941, 1965, 1970, 1974, 1993 (three fires), 1994, 1996, 1998, 1999 (two fires), 2003 (three fires), 2005, 2006 (two fires), 2008 (two fires), 2009 (four fires), 2010 (four fires), 2011 (three fires), and 2012 (six fires), burned within 5 miles of the project site. Nine of these fires burned onto the project site in 1920, 1974, 1993, 1998, 2003, 2009 (two fires) and 2010 (two fires). The 1920 fire (unnamed) burned over 2,385 acres, the 1974 Grapevine Fire burned over 467 acres, the 1993 Tejon Fire burned a total of 873 acres, the 1998 Grapevine Fire burned 485 acres, the 2003 Grapevine Fire burned over 1,800 acres, the 2009 Parkway Fire burned 689 acres, the 2009 Ridge Fire burned 10 acres, and both 2010 Base Fires burned a combined acreage of 150 acres (Dudek, 2015a).

Weather

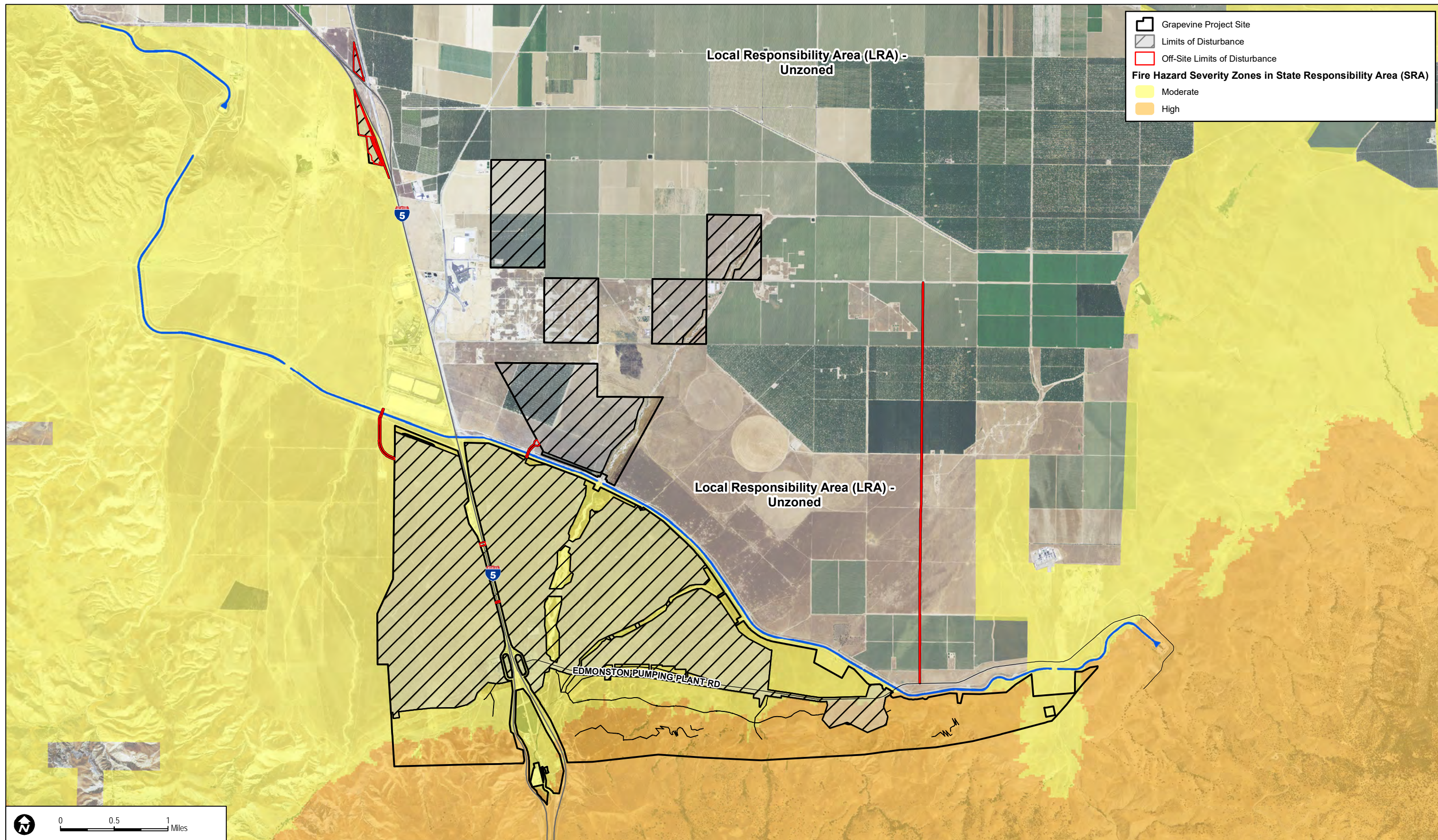
The southern San Joaquin Valley has a semi-arid climate characterized by long, hot, dry summers and damp, short winters that have a heavy fog layer for weeks at a time. From the regional perspective, the fire season is virtually year round; however, it is more likely for large wildfires to occur in mid- to late-summer as vegetation begins to dry out after winter and spring rains. The fire season typically is reduced in December, although fire weather may be present year-round (Dudek, 2015a).

Typical wind patterns in the area include warm winds from the north that flow across the Valley floor and up over the Tehachapi Mountains throughout the daytime hours. Nighttime winds are similar as the warm north winds continue to blow; however, near the project site, they shift to an “eddy” type wind that includes north and south winds as the warmer air meets cooler mountain drainage winds and are forced back northward. Extreme fire weather can occur and could be associated with large Santa Ana wind events. Santa Ana winds occur throughout the Fire Weather Zone 295, which encompasses the Tehachapi Mountains. Especially large Santa Ana events may result in lower humidity and higher winds in the vicinity of the project. These conditions can also occur from localized terrain driven winds and result in higher likelihood of ignitions, more aggressive fire behavior and faster fire spread. Extreme fire weather is typically associated with humidity readings that are less than 15 percent and winds that are above 25 miles per hour (Dudek 2015a).

Hazardous Materials and Waste

A hazardous material is any substance that, because of its quantity, concentration, or physical or chemical properties, may pose a hazard to human health and the environment. Under Title 22 of the California Code of Regulations (CCR), the term “hazardous substance” refers to both hazardous materials and hazardous wastes. Both of these are classified according to four properties: (1) toxicity; (2) ignitability; (3) corrosiveness; and, (4) reactivity (CCR Title 22, Chapter 11, and Article 3). A hazardous material is defined in CCR, Title 22 as:

...A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (CCR, Title 22, Section 66260.10).



SOURCE: Dudek, 2015b

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 SPA No. 157, Map No. 500; GPA No. 9, Map No. 202; GPA No. 10, Map No. 202; GPA No. 4, Map No. 218R; GPA No. 5, Map No. 218R; GPA No. 11, Map No. 219;
 GPA No. 12, Map No. 219; Special Plan No. 2, Map No. 202; Special Plan No. 3, Map No. 218R; Special Plan No. 3, Map No. 219; ZCC No. 18, Map No. 202;
 ZCC No. 3, Map No. 218R; ZCC No. 14, Map No. 219; Ag. Preserve No. 19 – Exclusion, Map No. 202

Fire Hazard Severity Zones

Figure 4.8-1

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Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Hazards to human health and the environment can occur during production, storage, transportation, use, or disposal of hazardous materials.

Construction and operation of the project would require the use of limited amounts of various petrochemicals, including fuels, lubricants, and solvents to operate and maintain equipment. At this time, specific quantities of hazardous materials necessary for construction activities are not known.

The project site currently includes facilities that handle hazardous materials, such as the gas stations at the I-5/Grapevine Road interchange (refer to Figure 4.8-3, *Grapevine Center Development*) and an existing wastewater treatment facility serving the Grapevine commercial area at the I-5/Grapevine Road interchange (refer to Figure 4.8-2, *Wastewater Treatment Facilities Location Map*). The Grapevine WWTF consists of unlined percolation/evaporation ponds with a total water surface area of 6.62 acres. The WWTF is permitted for a treatment capacity of 0.235 million gallons per day (MGD) (EKI, 2015a).

Transportation of Hazardous Materials

The transportation of hazardous materials within the State of California is subject to various Federal, State, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery or the loading of such materials (California Vehicle Code §§ 31602[b], 32104[a]). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes, except in cases where travel branching from these routes is required to deliver or receive hazardous materials. Information on CHP requirements and regulatory authority is provided in Section 4.8.3, *Regulatory Setting*, below.

Air Traffic and Military Aviation

The project site is not located within the sphere of influence of any airport as identified by the Kern County Airport Land Use Compatibility Plan (ALUCP). The Tejon Ag Airport is the nearest private airstrip, and is located immediately between Plan Areas 6c and 6d and accessed from Laval Road. The Tejon Ag Airport is a privately owned that is unattended and has one dirt runway (AirNav, 2015a). The Paradise Lakes Airport is an unattended, privately owned airport, located 11 miles north of the project site (specifically Plan Area 6b). It has one paved runway and has three aircraft based on the field: two single-engine airplanes and one multi-engine airplane (AirNav, 2014b). The Creekside Airport is an unattended, privately owned airport, located 11 miles north of the project site, less than 0.5 mile east of Paradise Lakes Airport. It has one asphalt/turf runway and has seven aircraft based on the field: five single-engine airplanes and two ultralight aircraft (AirNav, 2014c).

The nearest public airport is Bakersfield Municipal Airport, located 22 miles north of the northern most project boundary. The Bakersfield Municipal Airport is attended from 7 AM to 5 PM. The Airport operates one paved runway and averages 68 operations per day for the 12-month period ending April 11, 2014, of which 40 percent was local general aviation, 60 percent was transient general aviation. The Bakersfield Municipal Airport has 87 aircraft based on the field: 77 single-engine airplanes and 10 multi-engine airplanes (AirNav, 2014d).

The next nearest public airport, the Meadows Field Airport, is located 30 miles north of the northern most project boundary. The Meadows Field Airport, a publicly owned airport, is continuously attended and contains two paved runways. The airport averages 262 operations per day for the 12-month period ending December 31, 2013, of which 37 percent was local general aviation, 53 percent was transient general aviation, eight percent was air taxi aviation, one percent was commercial aviation, and less than one percent was military aviation. The Meadows Field Airport has 219 aircraft based on the field: 206 single-engine airplanes, nine multi-engine airplanes, and four helicopters (AirNav, 2012e).

Natural Gas Transmission Lines

Natural Gas transmission lines are used to transport natural gas via a network of mostly underground lines. There are existing natural gas transmission mains that traverse the project site. They are large pipelines designed to server large service areas (Utility Specialists, 2014).

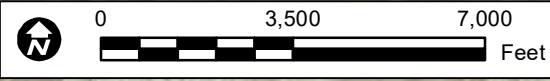
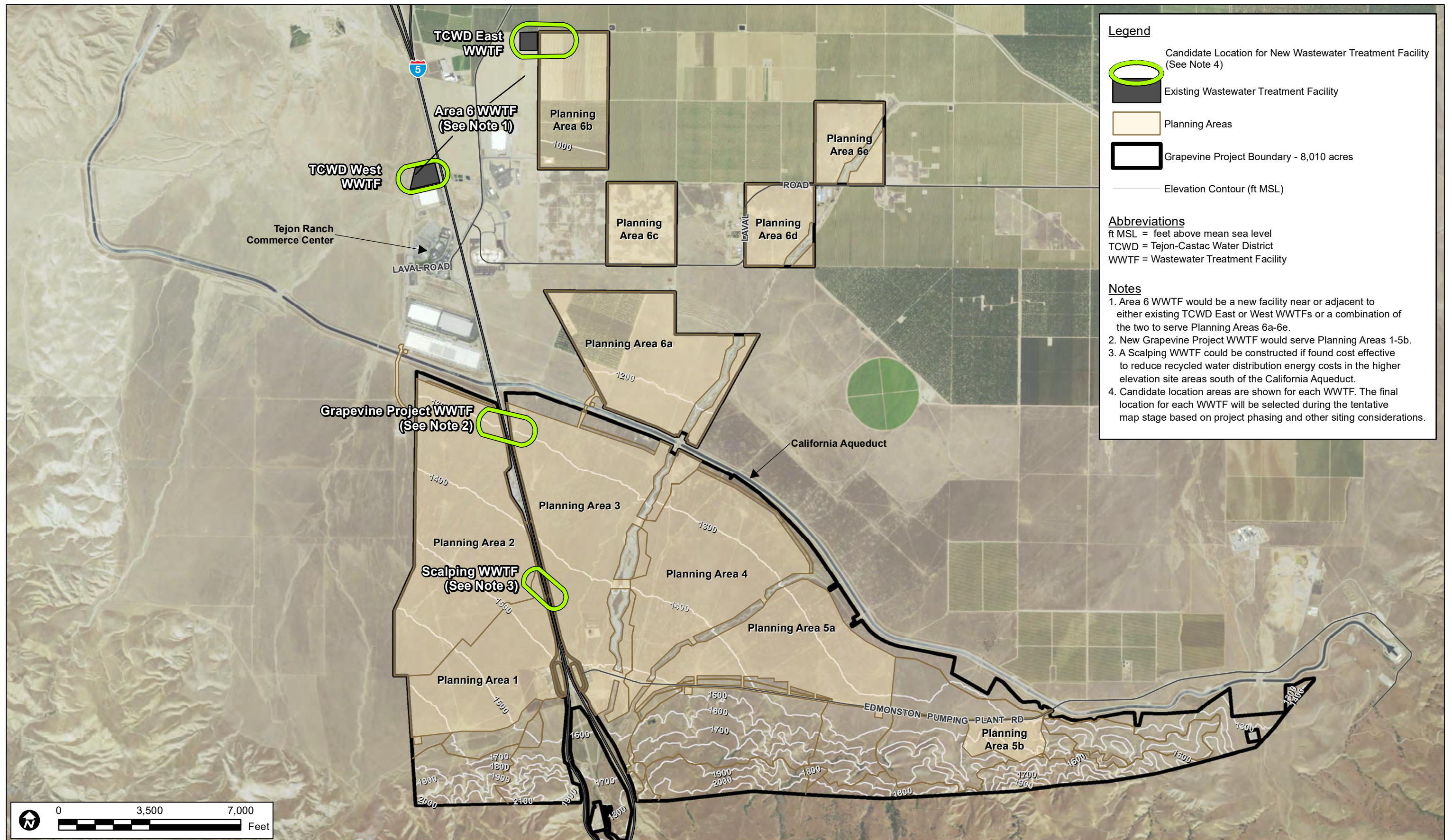
Electromagnetic Fields

Electromagnetic fields (EMF) are associated with electromagnetic radiation, which is energy in the form of photons. Radiation energy spreads as it travels and has many natural and human-made sources. The electromagnetic spectrum, the scientific name given to radiation energy, includes light, radio waves, and x-rays, among other energy forms. Electric and magnetic fields are common throughout nature and are produced by all living organisms. Concern over EMF exposure, however, generally pertains to human-made sources of electromagnetism and the degree to which they may have adverse biological effects or interfere with other electromagnetic systems.

Commonly known human-made sources of EMF are electrical systems such as electronics, telecommunications, electric motors, and other electrically powered devices. Radiation from these sources is invisible, non-ionizing, and of low frequency. Generally, in most living environments, the level of such radiation plus background natural sources of EMF are low.

Electric voltage (electric field) and electric current (magnetic field) from transmission lines create EMFs. Power frequency EMF is a natural consequence of electrical circuits and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information. Pacific Gas and Electric Company (PG&E) operates a 70 kilovolt (kV) transmission line paralleling I-5. PG&E also operates a local 12 kV distribution facility serving existing residential and comment development along I-5. Southern California Edison (SCE) operates a 66 kV transmission line that runs diagonally from the northwest corner of the project site, near Laval Road, to the I-5/Grapevine Road interchange, at which point the transmission line continues south, paralleling I-5. SCE also operates a 220 kV transmission line that runs north-south across the eastern edge of the project site (Utility Specialists, 2014).

Possible health effects associated with exposure to EMFs have been the subject of scientific investigation since the 1970s. Concern about EMF originally focused on electric fields; however, much of the recent research has focused on magnetic fields. Although the health effects of EMF are uncertain, field intensity, transients, harmonics, and changes in intensity over time are some of the EMF characteristics that may need to be considered to assess human exposure effects. These characteristics may vary from power lines to appliances to home wiring and so may create different types of exposures. The exposure most often considered is intensity or magnitude of the field.



SOURCE: EKI, 2015a

SPA No. 157, Map No. 500; GPA No. 9, Map No. 202; GPA No. 10, Map No. 202; GPA No. 4, Map No. 218R; GPA No. 5, Map No. 218R; GPA No. 11, Map No. 219; GPA No. 12, Map No. 219; Special Plan No. 2, Map No. 202; Special Plan No. 3, Map No. 218R; Special Plan No. 3, Map No. 219; ZCC No. 18, Map No. 202; ZCC No. 3, Map No. 218R; ZCC No. 14, Map No. 219; Ag. Preserve No. 19 – Exclusion, Map No. 202

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Wastewater Treatment Facilities Location Map

Figure 4.8-2

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Grapevine Center



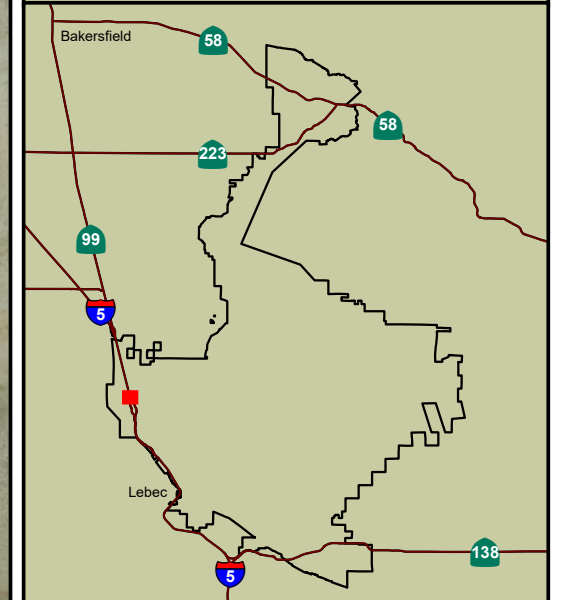
LANDSCAPE AREAS

- DENNY'S
- DON PERICOS
- FRONTAGE ROAD
- INTERCHANGE EAST
- INTERCHANGE WEST
- JACK IN THE BOX
- MASTER AREA EAST
- MASTER AREA WEST
- MOBIL GAS
- RAMADA INN
- SHELL GAS
- UNOCAL GAS

- DOMESTIC WATER LINE
- HISTORIC LANDSCAPE LINE



0 100 200 400 Feet



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SPA No. 157, Map No. 500; GPA No. 9, Map No. 202; GPA No. 10, Map No. 202; GPA No. 4, Map No. 218R; GPA No. 5, Map No. 218R; GPA No. 11, Map No. 219; GPA No. 12, Map No. 219; Special Plan No. 2, Map No. 202; Special Plan No. 3, Map No. 218R; Special Plan No. 3, Map No. 219; ZCC No. 18, Map No. 202; ZCC No. 3, Map No. 218R; ZCC No. 14, Map No. 219; Ag. Preserve No. 19 – Exclusion, Map No. 202

Grapevine Center Development

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Reviews of the scientific literature conducted by the National Institute of Environmental Health Sciences (NIEHS), the National Research Council/National Academy of Sciences, the International Agency for Research on Cancer (a division of the World Health Organization), and the American Cancer Society from the 1990s through 2001 have consistently indicated insufficient evidence of an association between EMF exposure and adverse health effects in humans. During the 1990s, most EMF research focused on extremely low frequency exposures stemming from conventional power sources, such as power lines, electrical substations, or home appliances. While some of these studies showed a possible link between EMF field strength and an increased risk for childhood leukemia, their findings indicated that such an association was weak. Now, in the age of cellular telephones, wireless routers, and portable global positioning system devices (all known sources of EMF radiation), concerns regarding a possible connection between EMFs and adverse health effects still persist, though the NIEHS' research continues to point to the same weak association. Additionally, the few studies that have been conducted on adults show no evidence of a link between EMF exposure and adult cancers, such as leukemia, brain cancer, and breast cancer. Nevertheless, NIEHS recommends continued education on practical ways of reducing exposures to EMFs (National Institute of Environmental Health Sciences, National Institutes of Health 2014).

On January 15, 1991, the California Public Utilities Commission (CPUC) initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, called the California EMF Consensus Group, was created by the CPUC to advise it on this issue. The Consensus Group's fact-finding process was open to the public, and its report incorporated concerns expressed by the public. Its recommendations were filed with the CPUC in March 1992. Based on the work of the Consensus Group, written testimony, and evidentiary hearings, the CPUC issued its decision (93-11-013) on November 2, 1993 to address public concern about possible EMF health effects from electric utility facilities. The conclusions and findings included the following:

We find that the body of scientific evidence continues to evolve; however, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure. We do not find it appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value.

This continues to be the stance of the CPUC with regard to establishing standards for EMF exposure. Currently, the State has not adopted any specific limits or regulation on EMF levels related to electric power facilities.

Implementation of the Grapevine Specific and Community Plan and Grapevine Special Plan would require the project to demonstrate compliance with all setback requirements as set forth. Such setbacks would include restrictions in the development of the project's residential and commercial land uses, including Kern County's setback requirements for any property lines, neighboring homes, utility corridors and rights-of-way, public access easements, local and County roads, and/or railroads.

Disease Vectors

A disease vector is an insect or animal that carries a disease-producing micro-organism from one host to another. The Federal Insecticide, Fungicide and Rodenticide Act defines the term vector as:

...any organism capable of transmitting the causative agent of human disease or capable of producing human discomfort or injury, including mosquitoes, flies, fleas, cockroaches, or other insects and ticks, mites or rats.

The accumulation of organic wastes would act as attractors for various vectors. In addition any depressed areas, ponds, or drainage channels would provide areas for the breeding of mosquitoes.

Mosquitoes

Mosquitoes are of particular concern because of their abundance and distribution. In Kern County, mosquitoes are most abundant and active between May and October. Mosquitoes require standing water to breed and can be prolific in areas with standing water, such as wetlands.

Adult female mosquitoes can deposit eggs in a variety of aquatic habitats and other sources that contain water. The immature stages of each mosquito species develop in particular habitats. In general, there are four mosquito habitat groups: agricultural, industrial, domestic, and natural sources. Typical sites within these habitat groups include:

- Agricultural Sources: irrigated pastures, dairies, and orchards.
- Industrial Sources: sewage treatment ponds, flood plains, drain ditches.
- Domestic Sources: containers, debris in and around ponds, bird baths, pet watering dishes, animal troughs, septic tanks, catch basins, roadside ditches, leaky sprinkler systems, stagnant swimming pools.
- Natural Sources: wetlands, rain pools.

All species of mosquitoes require standing water to complete their growth cycle. Therefore, any standing body of water represents a potential mosquito breeding habitat. Although mosquitoes will typically stay close to suitable breeding habitat and blood-meal hosts, they are known to travel up to 10 miles under breezy conditions. The breeding period for mosquitoes depends on temperature but generally occurs in March through October.

Water quality also affects mosquito reproduction. Generally, poor-quality water (e.g., water with limited circulation, high temperature, and high organic content) produces greater numbers of mosquitoes than high-quality water (e.g., water with high circulation, low temperature, and low organic content). Typically, water bodies with water levels that slowly increase or recede produce greater numbers of mosquitoes than water bodies with water levels that are stable or that rapidly fluctuate.

In Kern County, the Kern Mosquito and Vector Control District is responsible for vector control; however, there is no established vector control district in the area of Kern County where the project would be located.

Mosquito Hazards

Mosquito Species of Concern

In Kern County, two species of mosquito are primary targets for suppression. These two species, *Culex pipiens quinquefasciatus* and *Culex tarsalis*, are potential vectors of encephalitis and West Nile Virus. Other species of mosquitoes exist in Kern County that can cause a substantial nuisance in surrounding communities, but the *Culex* mosquito is the primary vector species of concern.

Although the West Nile Virus can be transmitted by a number of mosquito species, *Culex* is the most common carrier. This disease is thought to be a seasonal epidemic that flares up in the summer and fall. West Nile Virus is spread when mosquitoes that feed on infected birds bite humans and other animals.

The encephalitis mosquito (*Culex tarsalis*) breeds in almost any freshwater pond. Birds appear to be the primary blood-meal hosts of this species, but the insect will also feed on domestic animals and humans (Bohart and Washino, 1978). This species is the primary carrier in California of western equine encephalitis, St. Louis encephalitis, and California encephalitis, and is considered a significant disease vector of concern in the State.

The house mosquito (*Culex pipiens quinquefasciatus*) usually breeds in waters with a high organic material content. This species is often identified by its characteristic buzzing. Although its primary blood-meal host is birds, the house mosquito may also seek out humans. The house mosquito is a vector of St. Louis encephalitis.

Mosquito Borne Diseases

Mosquitoes are known to be the carriers of many serious diseases. The mosquito genus *Anopheles* carries the parasite that causes malaria, which is the leading cause of premature mortality worldwide. Encephalitis-type diseases are also transmitted through mosquitoes, including Eastern equine encephalitis and Western equine encephalitis, which occur in the United States where they cause disease in humans, horses, and some bird species. Both Eastern equine encephalitis and Western equine encephalitis are regarded as two of the most serious mosquito-borne diseases in the United States due to their high mortality rates. It is not known how long West Nile Virus has been in the U.S., but Centers for Disease Control and Prevention scientists believe the virus has been in the eastern U.S. since the early summer of 1999, and possibly longer (CDC, 2014a). In 2014 a yellow fever mosquito (*Aedes aegypti*) was detected in Kern County; this mosquito is a known carrier of diseases such as dengue, yellow fever, and chikungunya.

West Nile virus is the most important mosquito-borne disease affecting Kern County. West Nile virus is the most important mosquito-borne disease affecting Kern County. As of October 14, 2014, a total of 47 states and the District of Columbia have reported West Nile virus infections, with a total of 487 human West Nile virus infections in California and 14 deaths (CDC, 2014b). The As of October 15, 2014, the California Department of Public Health reports 562 human West Nile virus infections in California and 17 deaths; 8 of these cases were in Kern County (California Department of Public Health, 2014d). As of November 18, 2014, the Kern County Public Health Services Department reported 12 known cases of West Nile Virus and one fatality within the County.

In September 2002, the Kern County Public Health Services Department formed a West Nile Virus Task Force and has subsequently released reports documenting cases, developed strategies to prevent the occurrence of West Nile virus, and generated public education information such as

information pamphlets. Statewide, there are 52 local agencies, including local Mosquito Abatement Districts and the California Department of Health Services Arbovirus Field Testing Stations, that work cooperatively to routinely conduct surveillance and control of mosquitoes and the diseases they transmit throughout California.

Yellow fever virus is related to West Nile virus and is transmitted to humans primarily through the bite of infected mosquitoes. Symptoms typically develop within three to six days and include fever, chills, severe headache, back ache, general body aches, nausea, vomiting, and fatigue (CDC, 2014f). Dengue emerged as a worldwide project in the 1950s and rarely occurs within the continental United States. The principal symptoms of dengue fever are high fever, severe headache, severe pain behind the eyes, joint pain, muscle and bone pain, rash, and mild bleeding (e.g., nose or gums bleed, easy bruising) (CDC, 2014e). Chikungunya was identified in the Americas on islands in the Caribbean in 2013 and beginning in 2014, cases in the United States were identified in travelers returning from the Caribbean. Symptoms may include headache, muscle pain, joint swelling, or rash; chikungunya does not often result in death but symptoms can be severe and disabling (CDC, 2014g). In August 2014, one County resident was diagnosed with dengue and one County resident was diagnosed with chikungunya after traveling outside of the County. According to the Kern County Public Health Services Department, to date, no known cases of these three viruses have originated within Kern County.

Flies

Nuisance flies have a life cycle comprised of an egg stage, three larval stages, a pupal stage, and an adult stage. Eggs are laid by a mature female fly onto a substrate appropriate for larval development. A single female can lay hundreds of eggs during her life. Nuisance fly larvae (grubs) are generally white in color and are blunt ended. They develop in wet substrates, especially dung pats and manure and wet or rotting feed, hay, and bedding straw, where they feed on food particles found on the substrate. Fly larvae are not capable of developing in truly aqueous habitats; they need wet, but not overly wet, substrates.

Within the confines of a pupal case, the developing fly will undergo further changes to become a winged adult fly that will eventually emerge from the pupal case and disperse from the site. The length of time required to complete the development from egg to adult is temperature dependent and may be as short as seven days during the summer months in California.

Some nuisance flies are blood feeders and can inflict a painful bite while feeding on animals or humans. Blood feeding (or biting) flies include the stable fly and horn fly. Other flies do not bite (non-biting flies), instead feeding on body secretions or liquefied organic matter. Non-biting flies include the house fly, face fly, and garbage fly.

Adult flies are generally active during daylight hours and inactive at night. Nuisance flies are known to disperse from their development sites into surrounding areas; however, the distance and direction of dispersal are not well understood. Non-biting nuisance fly species are likely to disperse further than those fly species that require animal blood meals. The habitat surrounding a breeding site will play a role in the distance of nuisance fly dispersal. Nuisance flies will likely disperse further in open habitats typical of rangeland and low agricultural crops than they will in urban or forested/orchard areas that contain substantially more vertical structure on which flies may rest and that provide shade and higher humidity on hot summer days.

Most nuisance flies are not known to disperse great distances. Studies using marked house flies show that 60 percent to 80 percent of house flies were captured within one mile of their release point; 85 percent to 95 percent were caught within two miles of the release site within the first four days after they were turned loose. A few flies have been shown to travel further, but in general, fly control efforts for a community problem are focused within one mile of the source.

Rodents

The accumulation of organic waste presents the potential for significant populations of mice and rats. Rodents can spread or accelerate the spread of disease from contaminated areas to uncontaminated areas via their droppings, feet, fur, urine, saliva, or blood. In addition, mice provide a food source that could attract wild predatory animals (e.g., skunks, foxes, coyotes, and stray dogs), which could pose other disease problems.

Mice are generally nocturnal and secretive animals with keen senses of taste, hearing, smell, and touch. They are small enough to enter any opening larger than one quarter of an inch. Mice prefer cereal grains, if available, but will eat garbage, insects, meat, and even manure. Mice reproduce at high rates, making early control important in minimizing the potential for infestation. Although the life span of a mouse is only nine to twelve months, a female mouse can have five to ten litters per year with five or six young in each litter. Mice do not consume large quantities of food but can cause significant economic damage due to physical structure damage and site contamination.

Rodent Borne Diseases

Hantavirus pulmonary syndrome (or simply Hantavirus) is an infectious respiratory disease endemic to North and South America. The virus is carried by wild rodents, especially deer mice. The virus produces two clinical signs in the deer mice, but can produce deadly infection in humans. Over 50 percent of human cases have been fatal. The rodents carrying the disease shed the virus in their urine, feces, and saliva. Humans become infected with the hantavirus when they inhale dust that has been contaminated with rodent urine. Most individuals who have become infected have lived or worked in areas that were heavily contaminated with rodent droppings. If a human being becomes infected, signs of illness usually appear about two weeks after exposure, although the time can range from a few days to as long as six weeks. The first signs are fever, headache, and pain in the abdomen, joints, and back. Afterwards, the patient's lungs begin to fill with fluid and breathing becomes extremely difficult. A high proportion of the patients die, but early treatment offers the best chance of survival.

Ten cases of hantavirus were reported in California in 2012 (the most recent data available). Nine of these ten cases were confirmed to have stayed in the same campground in Yosemite National Park (CDC, 2012). In 2013 there were three reported cases of hantavirus in California (CDC, 2014c). Of the 68 reported cases in California residents between February 1980 and December 2013, four cases were confirmed to originate in Kern County (California Department of Public Health, 2014e). There have been no reported cases of Hantavirus within the project area; however, due to the extensive areas of natural lands where infected rodents could occur, there is the potential for the Hantavirus to occur within the project area.

Fleas

The California ground squirrel and its fleas are the most common source of plague in the Pacific states. Domestic cats (and sometimes dogs) can be infected by fleas or from eating infected wild

rodents. Cats may serve as a source of infection to persons exposed to them. In addition, pets may bring plague-infected fleas into the home.

Bubonic plague is an infectious disease of animals and humans caused by the *Yersinia pestis* bacterium. People usually get plague from being bitten by a flea from a rodent that is carrying the plague bacterium or by handling an infected animal. Millions of people in Europe died from plague in the Middle Ages, when human homes and places of work were inhabited by flea-infested rats. Today, modern antibiotics are effective against plague, but if an infected person is not treated promptly, the disease is likely to cause illness or death. Human plague in the United States since the last urban outbreak in the 1920s has occurred as mostly scattered cases in rural and semi-rural areas, with an average of seven human cases each year (CDC, 2013).

Onset of plague is usually two to six days after a person is exposed. Initial symptoms include fever, headache, and general illness, followed by the development of painful, swollen regional lymph nodes. The disease progresses rapidly and the bacteria can invade the bloodstream, producing severe illness, called plague septicemia.

Once a human is infected, a progressive and potentially fatal illness generally results unless specific antibiotic therapy is given. Progression leads to blood infection and, finally, to lung infection. The infection of the lung is termed plague pneumonia, and it can be transmitted to others through the expulsion of infective respiratory droplets by coughing.

The plague is endemic to California, mainly occurring in the mountains and foothills surrounding the California Central Valley. It has not occurred in an urban and developed areas of California for approximately 100 years (California Department of Public Health, 2011). There was one reported case of the plague in Kern County in 2012 (California Department of Public Health, 2012).

There have been no reported human cases of the plague within the project area. However, since it is endemic to the area due to extensive areas of natural lands where there could be animals with fleas that could provide a source of the plague, there is the potential for the plague to occur within the project site.

Ticks

Lyme disease is a potentially debilitating and sometimes chronic infection transmitted to humans and other animals by certain ticks. The disease is caused by a spirochete (*Borrelia burgdorferi*) a corkscrew-shaped bacterium. Of the 48 tick species found in California, the western black-legged tick (*Ixodes pacificus*) is the only tick thought to be responsible for transmitting the spirochete to people. A different but closely related tick species (*I. scapularis*) transmits spirochetes that cause Lyme disease in the northeastern and upper Midwestern United States, but that tick does not occur in California.

First recognized in the mid-1970s in Lyme, Connecticut, Lyme disease has been reported in the United States, Canada, and many European and Asian countries. The first Californian report of the disease appeared in 1978. State health authorities began monitoring this disease in 1983. A total of 120 cases of Lyme disease were reported to have onset in 2013 within California. Between 2004 and 2013, the highest incidence of Lyme disease was in the northwest coastal areas of California (California Department of Public Health, 2014f).

Lyme disease begins in up to 60 to 80 percent of patients as a slowly expanding, reddish rash 3 to 32 days after the bite of an infectious tick. Fifty (50) percent or more of Lyme disease patients may

not recall having been bitten by a tick. Many victims experience fatigue, headache, fever, chills, and other flu-like symptoms during the initial stage of illness. Days to weeks later, a variety of other symptoms may occur singly or in combination: secondary rashes, migratory pain in joints, tendons, muscles, or bones; headache, facial palsy; memory loss; and other symptoms involving the lymphatic system, heart, eyes, liver, respiratory system, or kidneys. Finally, a persistent infection normally begins a year or more after the onset of the disease and may involve arthritic, neurologic, or further skin manifestations, profound fatigue, or inflammation of the cornea in the eyes.

Dogs, horses, and other domesticated animals susceptible to Lyme disease may develop arthritis or lameness, lethargy, loss of appetite, disease of the lymph nodes, or other conditions after being infected.

Due to the extensive areas of natural lands that support animals which host ticks that could provide a source of Lyme disease, the ticks are endemic to the area and there is the potential for Lyme disease to occur within the project area.

Valley Fever

Coccidioidomycosis, commonly known as Valley Fever, is primarily a disease of the lungs that is common in the southwestern United States and northwestern Mexico. The disease is of critical concern to Kern County. Valley Fever is caused by the fungus *Coccidioides immitis*, which grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. These fungal spores become airborne when the soil is disturbed by winds, construction, farming, and other activities. In susceptible people and animals, infection occurs when a spore is inhaled. Valley Fever symptoms generally occur within three weeks of exposure. Valley Fever is not a contagious disease, and secondary infections are rare.

It is estimated that more than four million people live in areas where Valley Fever fungus is prevalent in the soils. Residents of Bakersfield, California and Phoenix, Arizona, have shown positive skin-test reaction rates of 30 to 40 percent, meaning that about one-third of residents tested have had Valley Fever sometime in the past. Among those who have never had Valley Fever, the chance of infection is about three percent per year, but the longer one resides in an endemic area, the greater the risk. In the southwestern U.S., there are 100,000 new infections each year.

People working in certain occupations such as construction, agriculture, and archaeology have an increased risk of exposure and disease because these jobs result in the disturbance of soils where fungal spores are found. Valley Fever infection is highest in California from June to November. In addition, many domestic and native animals are susceptible to the disease, including dogs, horses, cattle, coyotes, rodents, bats, and snakes. Most Valley Fever cases are very mild. It is estimated that 60 percent or more of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention.

For 2014, there were 895 reported cases of Valley Fever and 14 reported deaths in Kern County. In 2014, there were a reported 696 cases of Valley Fever in the Central Valley region of Kern County and 30 cases reported in the Mountain region of Kern County.

Environmental Database Review and Site Observations

Environmental record reviews were conducted, or requested, from the Central Valley Regional Water Quality Control Board (CVRWQCB), the California State Water Resources Control Board

GeoTracker, the Department of Toxic Substances Control (DTSC), Kern County Public Health Services Department, Environmental Health Division (KCEHD), and DOGGR. In addition, available public records provided by the Environmental Data Resource, Inc. were reviewed with respect to the project site (Pacific Edge Engineering, 2014).

Within the Project Site

Table 4.8-2, *EDR Listings within the Project Site*, provides information regarding database listings that are currently present within the project boundaries. In addition these database listings, approximately 146 oil and gas wells listed within the project area; refer to the Oil Extraction Areas Section, above. The majority of these wells are located within Plan Areas 6b, 6c, 6d and 6e; however, there are wells located throughout the project site. The project site also contains existing gas stations, and existing and former restaurants. Several livestock watering ponds, Ostrich Storm Water Detention Basin, Rose Station and Westside Cattle Corrals, water production wells A7 and Tejon #201, as well as existing roadways, are also located within the project site (Pacific Edge Engineering, 2014).

Listing Agency (database)	Site Name/Address	Descriptions	Status
ERNS, LUST, Cortese, SWEEPS, UST, HIST UST	Former UNOCAL #4734 (9068 Grapevine Road West)	On 1/7/1992 approximately 18 gallons of gasoline was spilled at the site. Cleanup was conducted and on 3/10/1993 the Kern County Environmental Health Services Department issued a no further action letter.	Unknown
LUST, UST, HAZNET	Former Grapevine Shell (9067 Grapevine Road East)	In 1998 USTs were removed from the site and contamination found. Subsequent investigation by Delta indicated contamination attenuated with depth, and that the groundwater was very deep at 600-feet. Kern County Environmental Health Services Department issues no further action needed on 1/23/2009.	Closed
FINDS, UST, EMI, HIST AUTO STATION	Former Tejon Mobil / Valero (9012 Grapevine Road East)	The former Tejon Mobil station was located at the currently operating Valero station site. No violations noted in database for Tejon Mobil. <i>Several recent violations noted for Valero station. These violations involve monitoring, record keeping, and maintenance issues and do not indicate the occurrence of any significant spills.</i>	Ongoing
UST, HIST AUTO STATION	Lebec Shell / Former Lebec Texaco (9069 Grapevine Road West)	The former Lebec Texaco was located at the currently operating Lebec Shell station site. No violations noted in database for Lebec Texaco. <i>Numerous violations from 2000 to 2013 noted for current Shell station. These violations involve monitoring, record keeping, and maintenance issues and do not indicate the occurrence of any significant spills.</i>	Ongoing
SWEEPS UST, HAZNET, HIST AUTO STATION	Former Chevron Station #9-8616 (8977 Grapevine Road)	The record states that the station had three gasoline tanks and one waste oil tank. No other records available for this site.	Unknown

Listing Agency (database)	Site Name/Address	Descriptions	Status
HAZNET	Tejon Ranch Company (9021 Grapevine Road East)	This record is for the disposal of 0.84 tons of asbestos containing waste at an off-site landfill in 2005. The Tejon Ranch Contact is listed as Pablo Gonzalez.	Closed
Source: Pacific Edge Engineering, 2014. FINDS = ; LUST; UST = Underground Storage Tanks; EMI; HIST AUTO STATION; HAZNET; SWEEPS; Cortese ; ERNS; HIST UST;			

Outside the Project Site

The area surrounding the project site is generally agricultural in nature. The Tejon Ranch owns and operates the majority of the land surrounding the project. In addition, Caltrans operates a weigh station along I-5, north of the Grapevine Center. The Plains Petroleum Grapevine Pump Station is located south of the Grapevine Center at 7901 Grapevine Road, while the ExxonMobil Grapevine Pumping Station is located at 7815 Grapevine Road. The Griffith Company owns and operates a rock quarry and asphalt plant, which is located east of the eastern end of the project site. The Pastoria Energy Plant is located immediately west of the Griffith Company rock quarry and asphalt plant. The Edmonston Pumping Station located on the California Aqueduct is immediately southeast of the eastern edge of the project. The TRCC is located west of the northern portion of the project site, along I-5 (Pacific Edge Engineering, 2014).

4.8.3 Regulatory Setting

Federal

U.S. Environmental Protection Agency (USEPA)

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

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act (RCRA)/Hazardous and Solid Waste Act

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

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act (CERCLA)

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

Clean Water Act (CWA)/Spill, Prevention, Control, and Countermeasure (SPCC) Rule

The CWA (33 United States Code Section 1251 et seq., formally the Federal Water Pollution Control Act of 1972), was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. As part of the CWA, the USEPA oversees and enforces the Oil Pollution Prevention regulation contained in Title 40 of the CFR, Part 112 (Title 40 CFR, Part 112), which is often referred to as the “SPCC rule” because the regulations describe the requirements for facilities to prepare, amend, and implement SPCC plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total above ground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the “navigable waters” of the U.S.

Other Federal regulations overseen by the USEPA relevant to hazardous materials and environmental contamination include Title 40 CFR Chapter 1, Subchapter D – Water Programs and Subchapter I – Solid Wastes. Title 40 CFR Chapter 1, Subchapter D, Parts 116 and 117 designate hazardous substances under the CWA. Title 40 CFR Part 116 sets forth a determination of the reportable quantity for each substance that is designated as hazardous. Title 40 CFR Part 117 applies to quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the U.S.

Occupational Safety and Health Administration (OSHA)

OSHA’s mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in Title 29 CFR Part 1910.

Federal Aviation Administration (FAA)

The FAA regulates aviation at regional, public, private, and military airports, such as Edwards Air Force Base, located 25.5 miles to the east/southeast of the project site. The FAA regulates objects affecting navigable airspace and structures taller than 200 feet according to Federal Aviation Regulation 14 CFR Part 77. The U.S. and California Departments of Transportation also require

the proponent to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration. According to 14 CFR Part 77.5, notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace. Any structure that would constitute a hazard to air navigation, as defined in 14 CFR Part 77, requires issuance of a permit from the Caltran's Aeronautics Program. The permit is not required if the FAA aeronautical study determines that the structure has no impact on air navigation.

As described in 14 § CFR 77.9 (Construction or alteration requiring notice), each sponsor who proposes any of the following construction or alteration scenarios shall notify the FAA in the form and manner as follows:

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

- (a) Any construction or alteration that is more than 200 ft. AGL at its site.
- (b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:
 - (1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.
 - (2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.
 - (3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.
- (c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.
- (d) Any construction or alteration on any of the following airports and heliports:
 - (1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;
 - (2) A military airport under construction, or an airport under construction that will be available for public use;
 - (3) An airport operated by a Federal agency or the DOD.
 - (4) An airport or heliport with at least one FAA-approved instrument approach procedure.

- (e) You do not need to file notice for construction or alteration of:
- (1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;
 - (2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;
 - (3) Any construction or alteration for which notice is required by any other FAA regulation.
 - (4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Per 14 CFR 77.7, notification requirements include sending one executed form set of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. The notice required must be submitted at least 45 days before the earlier of the following dates: (1) the date the proposed construction or alteration is to begin, or (2) the date an application for a construction permit is to be filed.

National Weather Service (NWS)

Under extreme fire weather conditions, the NWS issues Red Flag Warnings for all affected areas. A Red Flag Warning means that any ignition could result in a large-scale damaging wildfire. The NWS region encompassed by the project is the San Joaquin Valley/Hanford region. Red Flag Warning criteria for are as follows: the area contains dry fuels, the National Fire Danger Rating System is high to extreme, and the following forecast weather parameters are: 1) relative humidity is 25 percent or less; 2) a sustained wind average of 15 miles per hour or greater; and 3) a temperature of more than 75 degrees Fahrenheit (NWS, 2014).

Transportation Emergency Preparedness Program

The U.S. Department of Energy (DOE) Office of Environmental Management implements the Transportation Emergency Preparedness Program (TEPP) through the Office of Transportation. TEPP integrates a basic approach to transportation emergency planning and preparedness activities under a single program with the goal to ensure DOE, its operating contractors, and state, tribal, and local emergency responders are prepared to respond promptly, efficiently, and effectively to accidents involving DOE shipments of radioactive material. The TEPP mission is to ensure that federal, state, tribal, and local responders have access to the plans, training, and technical assistance necessary to safely, efficiently, and effectively respond to transportation accidents involving DOE-owned radioactive materials. To accomplish this mission, a suite of tools have been developed to aid the response jurisdictions in their readiness activities.

State

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources

DOGGR is a State agency and responsible for supervising the drilling, operation, maintenance, plugging, and abandonment of oil, gas, and geothermal wells. DOGGR's regulatory program promotes the sensitive development of oil, natural gas, and geothermal resources in California through sound engineering practices, pollution prevention, and the implementation of public safety programs. DOGGR requires any construction above or near plugged or abandoned oil and gas wells to be avoided and remediation of wells to current DOGGR standards.

California Public Utilities Commission General Order 95 (GO 95): Rules for Overhead Electric Line Construction

GO 95 is the key standard governing the design, construction, operation, and maintenance of overhead electric lines within the State of California. It was adopted in 1941 and updated most recently in 2006. GO 95 includes safety standards for overhead electric lines, including minimum distances for conductor spacing, minimum conductor ground clearance, standards for calculating maximum sag, electric line inspection requirements, and vegetation clearance requirements. The latter, governed by Rule 35, and inspection requirements, governed by Rule 31.2, are summarized below.

GO 95: Rule 35, *Tree Trimming*, defines minimum vegetation clearances around power lines. Rule 35 guidelines require 10 feet radial clearances for any conductor of a line operating at 110,000 Volts or more, but at less than 300,000 Volts. This requirement would apply to the proposed 230 kV lines.

GO 95: Rule 31.2, *Inspection of Lines*, requires that lines be inspected frequently and thoroughly for the purpose of ensuring that they are in good condition, and that lines temporarily out of service be inspected and maintained in such condition so as not to create a hazard.

Pipeline Safety and Management

The CPUC regulates pipelines that transport natural gas, including natural (flammable, toxic, or corrosive) gas and other gases as well as the transport and storage of liquefied natural gas. The California State Fire Marshall administers regulatory and enforcement authority over intrastate crude oil, petroleum product, and other hazardous liquid pipelines under California Government Code Sections 51010-51019.144.

Public Resources Code 3208.1

Section 3208.1 of the PRC authorizes the State Oil and Gas Supervisor of DOGGR to order the reabandonment of a previously abandoned well when construction of any structure over or in proximity to a well could result in a hazard. The cost of reabandonment operations is the responsibility of the owner or developer of a project upon which the structure would be located.

Powerline Hazard Reduction (PRC 4292)

PRC 4292 requires a 10-foot clearance of any tree branches or ground vegetation from around the base of power poles carrying more than 110 kV. The firebreak clearances required by PRC 4292

are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from minimum clearance requirements by provisions of PRC 4296.

Powerline Clearance Required (PRC 4293)

PRC 4293 presents guidelines for line clearance including a minimum of 10 feet of vegetation clearance from any conductor operating at 110,000 volts or higher.

California Public Resources Code

The California Environmental Quality Act (CEQA) Section 21092.6 requires land agencies to consult with lists compiled pursuant to Section 65962 of the Government Code to determine whether the project or alternatives are located on a site which is included on any list.

California Education Code

The California Education Code Section 17213(1)(3) prohibits the approval of a school site if the site “contains one or more pipelines, situated underground or aboveground, which carries hazardous substances, acutely hazardous substances, or hazardous wastes, unless the pipeline is a natural gas line which is used only to supply natural gas to that school or neighborhood.”

California Education Code Section 17231.1 requires the California DTSC to be involved in the environmental review process for the acquisition or construction of a school property utilizing State funding. The responsible school board is required to contract with an environmental assessor to supervise the preparation of a site evaluation to determine the potential for hazards or hazardous materials to exist on or near the site that could affect future staff and students, prior to acquiring a school site.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

Hazardous Waste Control Act (HWCA)

The HWCA created the State hazardous waste management program, which is similar to, but more stringent than, the Federal RCRA program. The HWCA is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste:

- Identification and classification;
- Generation and transportation;
- Design and permitting of recycling, treatment, storage, and disposal facilities;
- Treatment standards;

- Operation of facilities and staff training; and
- Closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the HWCA and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the California DTSC.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)

Senate Bill 1082, introduced by Senator Charles Calderon (D-Whittier) and passed in 1993, created the Unified Program, which requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are:

- Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (a.k.a., Tiered Permitting);
- Aboveground Petroleum Storage Tank SPCC;
- Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or “Community-Right-To-Know”);
- California Accidental Release Prevention Program;
- Underground Storage Tank (UST) Program; and
- Uniform Fire Code Plans and Inventory Requirements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA.

California Environmental Protection Agency (Cal/EPA)

The Cal/EPA was created in 1991, which unified California’s environmental authority in a single cabinet-level agency and brought the California Air Resources Board, State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards, California Department of Resources Recycling and Recovery—formerly the Integrated Waste Management Board, DTSC, Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation under one agency. These agencies were placed within the Cal/EPA “umbrella” for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Their mission is to restore, protect, and enhance the environment, to ensure public health, environmental quality, and economic vitality.

DTSC is a department of Cal/EPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority

of RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Department of Toxic Substances Control

DTSC is a department of Cal/EPA and is the primary agency in California that regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the Federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

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

California Office of Emergency Services

In order to protect the public health and safety and the environment, the California Office of Emergency Services is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and the health risks) needs to be available to firefighters, public safety officers, and regulatory agencies and needs to be included in business plans in order to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1–Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520) and Article 2–Hazardous Materials Management (Sections 25531 to 25543.3).

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

- 500 pounds of a solid substance;
- 55 gallons of a liquid;
- 200 cubic feet of compressed gas;

- A hazardous compressed gas in any amount; or,
- Hazardous waste in any quantity.

California Occupational Safety and Health Administration (Cal/OSHA)

Cal/OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than Federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

California Highway Patrol

A valid Hazardous Materials Transportation License, issued by the CHP, is required by the laws and regulations of State of California Vehicle Code Section 3200.5 for transportation of either:

- Hazardous materials shipments for which the display of placards is required by State regulations; or,
- Hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the CHP under the authority of the State Vehicle Code. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (Title 14, CCR, Chapter 6, Article 1, Sections 1150-1152.10). Inhalation hazards face similar, more restrictive rules and regulations (Title 13, CCR, Chapter 6, Article 2.5, Sections 1157-1157.8). Radioactive materials are restricted to specific safe routes for transportation of such materials.

Hazardous Material Business Plan

The State of California requires an owner or operator of a facility or business to complete and submit an HMBP to the Kern County Public Health Services Department if the facility or business handles a hazardous material or mixture containing a hazardous material that has a quantity at any one time during the reporting year equal to or greater than: 55 gallons; 500 pounds; 200 cubic feet at standard temperature and pressure for a compressed gas; any amount of hazardous waste; or amounts of radioactive materials requiring an emergency plan pursuant to Parts 30, 40, or 70 of Title 10, CFR. Lower threshold quantities may be required for acutely hazardous substances. Pursuant to Health and Safety Code Section 25504 (a-c), an HMBP is required to contain detailed information on:

- Hazardous materials at the facility;
- Emergency response plans and procedures in the event of the reportable release or threatened release of a hazardous material; and
- Training for all new employees and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material.

The intent of the HMBP is to provide basic information necessary for use by first responders in order to: prevent or mitigate damage to the public health and safety and to the environment from a release or threatened release of a hazardous material; and to satisfy federal and State Community Right-to-Know laws.

Senate Bill 1639

On January 1, 2005, California Governor Arnold Schwarzenegger signed into law on September 23, 2004, Senate Bill 1369 which amends both PRC 4291 and Government Code 51182. The following is an overview of these new fire safe requirements:

- The minimum clearance around structures increases from 30 feet to 100 feet.
- Local ordinance or regulations are allowed to specify clearance distances greater than 100 feet.
- Allows insurance companies to require home/building owners to maintain fire breaks greater than 100 feet.
- In areas where PRC 4291 applies, owners proposing to build or rebuild must obtain certification from the local building official that the proposed structure complies with all applicable State and local building standards.
- Owners must provide, upon request, a copy of the fire safe certification to their insurance company.
- After construction, the owner must obtain from the local building official, a copy of the final inspection report that demonstrates the structure was constructed in compliance with standards mentioned above.
- Owners must provide, upon request, a copy of the final inspection report to their insurance company.
- The Director of CAL FIRE is authorized to remove vegetation not consistent with PRC 4291 and, if necessary, make the removal expense a lien upon the property.

Local

Kern County General Plan (KCGP)

The project site is located within the KCGP. The policies, goals, and implementation measures in the KCGP relevant to hazards and hazardous materials that are applicable to the project are provided below.

Chapter 1. Land Use, Open Space, and Conservation Element

Section 1.3 Physical and Environmental Constraints

Goals

- **Goal 1.** To strive to prevent loss of life, reduce personal injuries and property damage, and minimize economic and social diseconomies resulting from natural disaster by directing development to areas that are not hazardous.

Policy

- **Policy 1.** Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2

[Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes 2.6–2.9 and Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in an unmitigated significant impact.

Chapter 2. Circulation Element

Section 2.5.4 Transportation of Hazardous Materials

Issues

Transportation-related accidents and spills of hazardous materials pose a serious threat to the traveling public and nearby sensitive land uses. Transportation of hazardous materials poses a short-term threat to public health.

Goals

- **Goal 1.** Reduce risk to public health from transportation of hazardous materials.

Policies

- **Policy 1.** The commercial transportation of hazardous material, identification, and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.
- **Policy 2.** Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.

Implementation Measures

- **Implementation Measure A.** Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to California Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.

Chapter 4. Safety Element

Section 4.1 Introduction

Goals

- **Goal 1.** Minimize injuries and loss of life and reduce property damage.
- **Goal 2.** Reduce economic and social disruption resulting from earthquakes, fire, flooding, and other geologic hazards by assuring the continuity of vital emergency public services and functions.
- **Goal 4.** Create an awareness of the residents in Kern County through the dissemination of information about geologic, fire, and flood safety hazards.
- **Goal 5.** Ensure the availability and effective response of emergency services following a catastrophic event.
- **Goal 7.** Ensure that adequate emergency services and facilities are available to the residents of Kern County through the coordination of planning and development of emergency facilities and services.

- **Goal 8.** Reduce the public's exposure to fire, explosion, blowout, and other hazards associated with the accidental release of crude oil, natural gas, and hydrogen sulfide gas.

Section 4.2 General Policies and Implementation Measure, which Apply to More than One Safety Constraint

Policies

- **Policy 1.** That the County's program of identification, mapping, and evaluating the geologic, fire, flood safety hazard areas, and significant concentrations of hydrogen sulfide in oilfield areas, presently under way by various County departments, be continued.
- **Policy 2.** Those hazardous areas, identified as unsuitable for human occupancy, are guided toward open space uses, such as agriculture, wildlife habitat, and limited recreation.
- **Policy 3.** That the County government encourage public support of local, State, and Federal research programs on geologic, fire, flood hazards, valley fever, plague, and other studies so that acceptable risk may be continually reevaluated and kept current with contemporary values.
- **Policy 4.** The County shall encourage extra precautions be taken for the design of significant lifeline installations, such as highways, utilities, and petrochemical pipelines.

Implementation Measures

- **Implementation Measure A.** All hazards (geologic, fire, and flood) should be considered whenever a Planning Commission or Board of Supervisor's action could involve the establishment of a land use activity susceptible to such hazards.
- **Implementation Measure C.** Require detailed site studies for ground shaking characteristics, liquefaction potential, dam failure inundation, flooding potential, and fault rupture potential as background to the design process for critical facilities under County discretionary approval.
- **Implementation Measure D.** Require seismic review prior to major addition, renovation, or increase in occupancy of buildings.
- **Implementation Measure E.** Maintain adequate setbacks between oil/gas wells and development through the use of the zone DI (Drilling Island) or PE (Petroleum Extraction) and implementation of the uniform Fire Code 7904.32.3
- **Implementation Measure F.** The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by FEMA, shall be used as a source document for preparation of environmental documents pursuant to CEQA, evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.

Section 4.6 Wildland and Urban Fire

Hazard Identification

- Access and Evacuation Routes - Good planning principles, as well as existing policies and laws, dictate that all developments must be planned with circulation routes that will assure safe access for fire and other emergency equipment. The circulation routes must include secondary means of ingress and egress, consistent with topography, to meet emergency needs.

The general circulation routes are provided throughout the County by Federal, State, and County-maintained road systems which are adequate for access and evacuation. State and County laws regulate the standards for new public circulation routes.

Private circulation routes that are not maintained by the State or County are subject to the standards set forth in Kern County Ordinance No. G-1832.

- Clearance of Vegetative Cover for Fire Control - In 1963 the State of California enacted the Public Resources Code clearance law. This is a minimum Statewide clearance law of flammable vegetative growth around structures, especially in brush- and tree-covered watershed areas. The enactment of a local ordinance is necessary where more restrictive fire safety clearance measures are desirable to meet local conditions.
- Fuel Breaks and Firebreaks - Fuel breaks and/or firebreaks separating communities or clusters of structures from the native vegetation may be required. Such fuel breaks may be “greenbelts,” as all vegetation need not be removed but thinned or landscaped to reduce the volume of fuel.

All fuel and firebreaks are required to meet the minimum design standards of the Kern County Fire Chief.

The Fire Department’s Chief may require a fire plan for a development during the critical fire season. This plan should reflect the proposed course of action for fire prevention and suppression.

The parcel size and setback distances of buildings placed thereon should be such that adequate clearance of flammable vegetation cover may be performed within the limits of the owner’s parcel of land.

Should the owner of a property fail to apply the required firebreak clearance, following proper notice, the County may elect to clear the firebreak vegetation and make the expense of the clearing a lien against the property upon which the work was accomplished.

- Hazardous Fire Area - The Hazardous Fire Areas consists mainly of wildlands, which are mountain and hill land in an uncultivated, more or less natural state, covered with timber, wood, brush, and grasslands. This area includes some urban influence and agricultural use, such as exists around Isabella Lake and the Kern River, Woody/Glennville, Tehachapi/Cummings Valley, and Lebec/Frazier Park/Lake of the Woods.

The wildlands provide prime habitats for deer, mountain lions, bears, kit foxes, quail, chucker, wild turkeys, and condors. They also harbor fifteen identified and important rare botanic communities and vegetation associations.

The Kern County Hazardous Fire Area was established by an amendment to the Uniform Fire Code, Section 1.49H under Section 4016 of the Kern County Ordinance Code.

The boundaries of the Hazardous Fire Area are determined and publicly announced before the start of each annual “fire season” and is normally the period from April 15 to December 1 of each year, except when the Fire Chief extends this period.

The wildlands include valuable watersheds that must be preserved for receiving and passing water into surface streams and underground storage. Protection of the watersheds will prevent erosion and flood damages.

For the protection of our wildlands we must consider all factors which will aid in fulfilling the policy stated in the California Environmental Quality Act, Public Resources Code Section 21000 et seq., to “create and maintain conditions under which man and nature can exist in productive harmony to fulfill the social and economic requirements of present and future generations.”

In implementing their Fire Prevention Program, Fire Department personnel periodically inspect the areas around all buildings for accumulations of flammable material and closure of openings of vacant buildings.

Policies

- **Policy 1.** Require discretionary projects to assess impacts on emergency services and facilities.
- **Policy 2.** The County will encourage the promotion of public education about fire safety at home and in the work place.
- **Policy 3.** The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.
- **Policy 4.** Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.
- **Policy 5.** Require that all roads in wildland fire areas are well marked and that homes have addresses prominently displayed.
- **Policy 6.** All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measures

- **Implementation Measure A.** Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.
- **Implementation Measure B.** The provision of an adequate water supply for fire fighting purposes should be encouraged for all housing areas where an inadequate supply now exists.

Section 4.7 Kern County Emergency Plan

Implementation Measures

- **Implementation Measure A.** Incorporate specific plans and procedures for the sequential and orderly evacuation of the potential dam inundation area into Kern County emergency plans
- **Implementation Measure C.** Require emergency plans to include procedures for traffic control and security of damaged areas.

Section 4.8 Critical Facilities and Hazardous Buildings

Policies

- **Policy 1.** That buildings and other structures indispensable to emergency services, including hospitals, law enforcement stations, fire stations, communication control stations, and other facilities of disaster control and refuge (e.g. schools) remain operational during any major disaster and be designed, located, and constructed accordingly.

Section 4.9 Hazardous Materials

Policies

- **Policy 1.** The proposed siting or expansion of hazardous waste facilities will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.
- **Policy 2.** Innovative technologies to manage hazardous waste streams generated in Kern County will be encouraged.

Implementation Measures

- **Implementation Measure A.** Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.
- **Implementation Measure B.** The proposed siting or expansion of hazardous waste facilities will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

Section 4.10 Abandoned Open Shafts and Wells

In some areas of the County, there exist abandoned mine shafts that, if not secured, contribute to the injury of or fatality to unsuspecting members of the public. Many such shafts are within lands owned and controlled by various agencies of the Federal government.

Policies

- **Policy 1.** The County should protect residents from the hazards of improperly abandoned mine shafts.
- **Policy 2.** The County should protect residents from the hazards associated with development in areas where wells have been drilled and abandoned for exploration and/or production of oil and natural gas.

Implementation Measures

- **Implementation Measure B.** Support the construction site review program of the Department of Oil, Gas and Geothermal Resources that ensures that wells are precisely located, properly plugged and abandoned, and tested for leakage prior to development of the area.

Chapter 5. Energy Element

Section 5.3.1 Urban/Residential Development in Petroleum Resource Areas

Issues

Conflict can arise when residential or urban development takes place in petroleum resource areas or, conversely, when petroleum exploration and development is undertaken in existing urban areas. In some cases, this can preclude the development of otherwise viable petroleum reserves or cause health and safety hazards and threaten aesthetic values in urban development.

Goals

To protect oil resource areas from unnecessary urban/suburban encroachment and, in instances of urban/suburban development in oil resource areas, provide for the development of petroleum resources in a manner compatible with the surrounding environment to minimize adverse impacts and protect health and safety.

Policies

- **Policy 2.** The County shall ensure adequate minimum setbacks between the construction of any structure and existing wells as permitted by the Kern County Fire Department and the State Division of Oil, Gas, and Geothermal Resources.
- **Policy 8.** Reduce the public's exposure to fires, explosions, blowouts, and other hazards associated with the accidental release of crude oil, natural gas, or hydrogen sulfide gas by ensuring that discretionary development projects have adequate separation from oil and natural gas production land uses.

Section 5.3.5 Reuse of Nonproductive Petroleum Resource Areas

Issues

The oil and natural gas reservoirs in Kern County are finite resources, which will eventually be depleted. It should be noted that recoveries from these reservoirs are only partial and that, upon abandonment, a reservoir may retain a major portion of the original oil in place. Based on oil price and available technology, both individual wells and entire oilfields have been abandoned and subsequently reactivated. It is important to provide for the productive reuse of these areas. DOGGR regulates the abandonment of wells, including the removal of surface equipment.

Wells that were abandoned prior to the 1950s were abandoned in accordance with laws and regulations in place at that time; however, additional requirements have subsequently been added to protect fresh groundwater and the public from hazards at the surface. Previously abandoned wells may not be precisely at the location on record and may be hazardous or leaking.

Goals

To ensure the proper abandonment of petroleum production operations, in accordance with DOGGR requirements, when petroleum resource areas are depleted or are no longer productive to provide for conversion of these areas to other land uses.

Policies

- **Policy 3.** The County shall promote and encourage the safe reuse of former petroleum production lands with developments that are compatible with surrounding land use designations. The guidelines for site reestablishment include the following:
 - Removal of oil-laden soil;
 - Shaping of disturbed lands back to natural grade and the elimination of pad areas, settling ponds, and similar disturbances;
 - Stabilization of sites by seedlings and plantings as appropriate;
 - Other measures as may be stipulated by DOGGR; and
 - Proper identification and abandonment of all oil and natural gas wells.

Implementation Measures

- **Implementation Measure B.** Non-petroleum related discretionary projects proposed on abandoned oilfields will be required to demonstrate that abandonment and clean up have taken place in compliance with regulations administered by DOGGR.

Kern County Wildland Fire Management Plan

The Kern County Wildland Fire Management Plan documents the assessment of wildland fire situations throughout the SRAs within the County. The KCFD Wildland Fire Management Plan provides for systematically assessing the existing levels of wildland protection services and identifying high-risk and high-value areas that are potential locations for costly and damaging wildfires. The goal of the plan is to reduce costs and losses from wildfire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success. Based on this assessment, preventive measures are implemented, including the creation of wildfire protection zones.

Kern County Building and Construction Ordinance (Title 17 of the Ordinance Code of Kern County)

Chapter 17.32 Fire Code

Kern County has adopted, by reference, portions of the California Building Standards Code and the Uniform Fire Code, with modifications and amendments. The purpose of this code is to prescribe the minimum requirements necessary to establish a reasonable level of fire safety to protect life and property from hazards created by fire, explosion, and dangerous conditions.

The Kern County Fire Code defines a hazardous fire area as any land that is covered with grass, grain, brush, or forest and situated (e.g., in an inaccessible location) so that a fire originating upon such land would present an abnormally difficult job of suppression and would result in great and unusual damage through fire or the resulting erosion.

Chapter 17.34 Wildland-Urban Interface Code

Kern County has adopted, by reference the Urban Wildland Interface Code, published by the International Fire Code Institute, with modifications and amendments. The purpose of this code is to safeguard life and property and maintain public welfare to a reasonable degree by addressing hazards related to wildland fire exposures and fire exposures from adjacent structures, and to prevent structure fires from spreading to wildland fuels.

Kern County Multi-Hazard Mitigation Plan (2005)

The Kern County Multi-Hazard Mitigation Plan, adopted in November 2005, was prepared for the purpose of reducing or eliminating long-term risk to people and property from natural hazards and their effects. The Multi-Hazard Mitigation Plan was prepared to meet the requirements of the Disaster Mitigation Act of 2000 and the Hazards Mitigation Grant Programs. The plan and planning process lays out the strategy that will enable Kern County to become less vulnerable to future disaster losses.

Kern County and Incorporated Cities Hazardous Waste Management Plan

In response to the growing public concern regarding hazardous waste management, State Assembly Bill (AB) 2948 enacted legislation authorizing local governments to develop comprehensive hazardous waste management plans. The intent of each plan is to ensure that adequate treatment and disposal capacity is available to manage the hazardous wastes generated within the local government's jurisdiction.

The Kern County and Incorporated Cities Hazardous Waste Management Plan (Hazardous Waste Plan) was first adopted by Kern County and each incorporated city before September 1988 and was subsequently approved by the State Department of Health Services. The Hazardous Waste Plan was updated and incorporated by reference into the KCGP in 2004 as permitted by Health and Safety Code Section 25135.7(b), and thus must be consistent with all other aspects of the KCGP.

The Hazardous Waste Plan provides policy direction and action programs to address current and future hazardous waste management issues that require local responsibility and involvement in Kern County. In addition, the Hazardous Waste Plan discusses hazardous waste issues and analyzes current and future waste generation in the incorporated cities, County, and State and Federal lands. The purpose of the Hazardous Waste Plan is to coordinate local implementation of a regional action to effect comprehensive hazardous waste management throughout Kern County. The action program focuses on development of programs to equitably site needed hazardous waste management facilities; to promote on-site source reduction, treatment, and recycling; and to provide for the collection and treatment of small quantity hazardous waste generators. An important component of the Hazardous Waste Plan is the monitoring of hazardous waste management facilities to ensure compliance with Federal and State hazardous waste regulations. The siting criteria and any subsequent environmental documentation required pursuant to the CEQA would also ensure the mitigation of adverse impacts associated with the siting of any new hazardous waste facility.

Kern County Operational Area Hazardous Materials Area Plan

The Hazardous Materials Area Plan identifies local, State, and Federal responsibilities during incidents involving the release or threatened release of hazardous substances. According to the Kern County Operational Area Hazardous Materials Area Plan:

[H]azardous materials emergencies are the result of threatened releases, highway accidents, clandestine drug laboratories, train derailments, pipeline transportation accidents, pesticide drift incidents, or related fire and/or spills at fixed facilities.

4.8.4 Supplemental Recirculated EIR (SREIR) New and Updated Analysis

Methodology

The analysis in this section is largely based on the following studies:

- Agricultural Resources Technical Report, dated April 2016, prepared by Dudek;
- Mineral Resources Evaluation, dated August 2015, prepared by WZI, Inc.;
- Fire Protection Plan, Grapevine Project, dated November 2015, prepared by Dudek; and

- Phase I Environmental Site Assessment (Phase I ESA), dated November 2014, prepared by Pacific Edge Engineering.

Methodology and assumptions from the technical studies are summarized in Table 4.8-3, *Methods for Hazards and Hazardous Materials*, below. Consistent with ASTM Standard Practice for Environment Site Assessments, the existing hazardous materials sites analyzed for the project are, those within one mile of the project boundary that have known environmental contamination; those that have underground storage tanks; or, those that store, use, or dispose of hazardous materials with reported incidents of spills or violations. These are sites with the potential to have resulted in environmental contamination on the project site.

Table 4.8-3. Methods for Hazards and Hazardous Materials					
Technical Studies	Documentation	Area	Dates	Methods	Additional Work
Agricultural Resources Technical Report	<ul style="list-style-type: none"> • Kern County's Williamson Act Map • NRCS Soil Survey • California DOC Division of Land Resource Protection's Important Farmland map and farmland conversion tables 	<ul style="list-style-type: none"> • Project site 	<ul style="list-style-type: none"> • Report: dated 2016 	N/A	N/A
Mineral Resources Evaluation	<ul style="list-style-type: none"> • USGS Mineral Resources Information • DOGGR records and databases • SMGB Mineral Resource Zones • DMG Publications 	<ul style="list-style-type: none"> • Project site and adjacent parcels 	<ul style="list-style-type: none"> • Report dated 2015 	N/A	N/A
Fire Protection Plan	<ul style="list-style-type: none"> • CAL FIRE data bases , including fire history, SRAs, and FHSZs • Chuchupate RAWS • Grapevine Peak RAWS • Kern County Fire Department standards 	<ul style="list-style-type: none"> • Project Site and adjacent parcels 	<ul style="list-style-type: none"> • Report dated 2015 • Site Evaluation: January 27, 2014 	<ul style="list-style-type: none"> • FireFamily Plus software package • BehavePlus Fire Behavior Modeling 	<ul style="list-style-type: none"> • Chuchupate RAWS provided data between August 1 and October 31 for each year between 1961 and 2006. • Grapevine RAWS KRN03 RAWS provided data from 2007.
Phase I ESA	<ul style="list-style-type: none"> • EDR Report • Historical USGS topographic maps; Historical aerial photographs; Sanborn fire insurance maps; well data; federal, state, local, and tribal environmental regulatory databases • Property owner and occupant interviews. • DTSC environmental records review. • KCEHD environmental records review 	<ul style="list-style-type: none"> • Record search: Project site and a 1-mile radius from the project site • Field visits were within and adjacent to the project site. 	<ul style="list-style-type: none"> • EDR Report: April 2014 • DTSC, KCEHD records request: October 2, 2013 • Field visits began on September 11, 2013 and the last visit was conducted on April 22, 2014 • Interviews: September 11, 2013 	<ul style="list-style-type: none"> • Drove existing and accessible paved and dirt roads within the project site. • Walked (on foot) the project site to the extent accessible. 	<ul style="list-style-type: none"> • The open/fallow area was inspected by driving along hunting and carrel management roads or from a high vantage point. • Interior inspection of the restaurants and the hotel at the Grapevine Center was limited to those areas accessible to the general public.
<p>Sources: Dudek, 2016a, 2015a; Pacific Edge Engineering, 2014; WZI, 2015. N/A = not applicable, DOC = California Department of Conservation, NRCS = Natural Resource Conservation Service, SMGB = California State Mining and Geology Board, USGS = U.S. Geological Survey, DMG = California Department of Conservation Division of Mines and Geology, DOGGR = California Division of Oil, Gas and Geothermal Resources, KCEHD = Kern County Public Health Services Department – Environmental Health Division, EDR = Environmental Data Resources, Inc., DTSC = California Department of Toxic Substances Control, RAWS = Remote Automated Weather Station, CAL FIRE = California Department of Forestry and Fire Protection, FHSZ = Fire Hazard Severity Zone</p>					

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would normally be considered to have a significant impact 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 which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within the adopted Kern County ALUCP, would the 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, would the project result in a safety hazard 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;
- 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; or,
- Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold:

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

- i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and,
- ii. Are associated with design, layout, and management of project operations; and,
- iii. Disseminate widely from the property; and,
- iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

The lead agency determined in the DEIR (2016) NOP/Initial Study (IS) (see Volume 6) that the following environmental issue area resulted in no impact and were scoped out of requiring further review in the 2016 EIR. Refer to Volume 6 for a copy of the NOP/IS and additional information regarding the following impacts:

- For a project located within the adopted Kern County ALUCP or within two miles of a public airport, would the project result in a safety hazard for people residing or working in the project area.

The project site is not located within two miles of a public airport and the site is not within the sphere of influence of any airport as identified by the Kern County ALUCP. The nearest public airport is located more than 20 miles from the project site. Therefore, the project would not create a hazard to air navigation due to the height of structures at the project site to public airports. No impact would occur.

Project Impacts

Chapter 3.0, *Project Description*, of this EIR provides a description of the project which consists of the implementation of the Grapevine Specific and Community Plan and the Grapevine Special Plan. The Grapevine Specific and Community Plan establishes planning goals, policies, and implementation measures to guide the future land uses and development of the project site to enhance the community's business and residential resources, while conserving existing environmental resources. Figure 3-9, *Proposed Specific Plan Districts*, of this EIR provides the Grapevine Specific and Community Plan land use districts which identify the proposed land use distribution within the project site. The reduced ICR analysis has not identified new conditions that would change the significance of impact areas analyzed in the 2016 EIR. The previously identified impact areas are provided below.

Impact 4.8-1: Create a Significant Hazard to the Public or the Environment through the Routine Transport, Use, or Disposal of Hazardous Materials

As noted above, the Kern County and Incorporated Cities Hazardous Waste Management Plan (Hazardous Waste Plan) identifies goals and policies regarding the transport of hazardous wastes in and throughout Kern County. The Hazardous Waste Plan establishes State and federally maintained roads as candidate Commercial Hazardous Waste Shipping Routes in and through the County, except those to collect locally generated hazardous wastes. The KCGP Circulation Element identifies adopted commercial hazardous shipping routes. The nearest hazardous materials shipping routes to the project site are I-5 (bisects the project site); State Route (SR) 99 (approximately 1 mile to the west); SR-166 (approximately four miles to the northwest); SR-119 (approximately 18.5 miles to the northwest); and SR-58 (approximately 22 miles to the northeast). The transport of all project-related hazardous materials would occur along these approved routes. Compliance with the Hazardous Waste Plan and the KCGP would be considered adequate to offset the potentially negative effects related to the transport of hazardous materials within the project area.

Hazardous and non-hazardous wastes would likely be transported to and from the project site during the construction phase of the proposed project. Construction would involve the use of some hazardous materials, such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum based products, although these materials are commonly used during construction activities and would not be disposed of on the project site. Any hazardous waste or debris that is generated during construction of the proposed project would be collected and transported away from the site, and disposed of at an approved off-site landfill or other such facility. In addition, sanitary waste generated during construction would be managed through the use of portable toilets, which would be located at reasonably accessible on-site locations. Hazardous materials such as paint, bleach, water treatment chemicals, gasoline, oil, etc., are used at the existing wastewater treatment facilities, existing TRCC, and existing Grapevine Center. These materials are stored in appropriate storage locations and containers in the manner specified by the manufacturer and disposed of in accordance with local, Federal, and State regulations. In accordance with the

California Health and Safety Code and Kern County regulations, the project proponent would be required to prepare and submit a hazardous materials business plan for any uses that would require the use and storage of hazardous materials (such as a wastewater treatment facility, water treatment facility, maintenance facilities, emergency response services, etc.), as discussed in Mitigation Measure MM 4.8-1, to the Kern County Public Health Service Department, Environmental Health Services Division/Hazardous Materials Section. Therefore, with implementation of Mitigation Measure MM 4.8-1, no significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous waste during construction or operation of the project would occur.

Short-Term (Construction-Related) Impacts

Hazardous and non-hazardous wastes would likely be transported to and from the project site during the construction phase of the project. Construction would involve the use of hazardous materials, such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum based products, although these materials are commonly used during construction activities and would not be disposed of on the project site. Any hazardous waste or debris that is generated during construction of the project would be collected and transported away from the site, and disposed of at an approved off-site landfill or other such facility. In addition, sanitary waste generated during construction would be managed through the use of portable toilets, which would be located at reasonably accessible on-site locations.

Additionally, because construction would occur over multiple years, these substances may also be stored in temporary storage tanks that would be located on site. The presence and use of these materials, which are classified as hazardous materials, create the potential for accidental spillage and exposure of workers and neighboring residents to these substances. The contractor would be required to comply with applicable federal and state environmental and workplace safety laws. These regulations include a requirement for contractors to submit a hazardous materials inventory and emergency plan to the KCFD for review and approval. Adherence to these regulatory requirements would ensure that this impact would be less than significant.

Although it is not anticipated that blasting would be required during project construction, the use of explosives at the project site could pose a hazard to personnel, or serve as a wildfire ignition source. The occurrence of a large wildfire would pose hazards both to personnel and the public. Hazards to personnel and the public from project-related blasting would be potentially significant; however, implementation of Mitigation Measure MM 4.8-1 would ensure that potential impacts from blasting would be reduced to a less-than-significant level.

Long-Term (Operations-Related) Impacts

The project would include residential development, parks, schools, and other public facilities (i.e., fire station, sheriff's substation, transit facilities). The hazardous materials associated with this operation of the project would be related to those activities generally associated with suburban development. These land uses would be expected to use hazardous chemicals that are not acute and chemicals in relatively small quantities and concentrations, such as rodenticides, petroleum to power household (residential) or maintenance (parks and schools) equipment and vehicles, fertilizers, paints, detergents, and other cleaners. Therefore, these land uses would not be expected to involve any dangerous activities that would expose on-site people or the surrounding community to health hazards.

The addition of future residential development in proximity to agricultural land and farming would have the potential to result in the release of hazardous materials through dust and pesticide drift from agricultural activities. In the event of exposure to toxic substances, the result can be detrimental to public health and the environment. The Kern County Department of Agriculture and Measurement Standards policies limit the use of pesticides and herbicides adjacent to sensitive land uses including residential, commercial and schools. In addition, the Cal/EPA Department of Pesticide Regulation required licensing and certification of individuals involved in the application of pesticides. This program is responsible for examining and licensing pest control operators, crop dusters, pesticide dealers and brokers, and pesticide advisers; and for certifying pesticide applicators that use or supervise the use of restricted pesticides. Therefore, based on the existing programs and requirements provided for by State regulations, the potential impact of the release of hazardous materials through dust and pesticide drift from agricultural activities would be reduced to a level of less than significant.

The project would introduce approximately 5,100,000 square feet of commercial and light industrial land uses. Industrial uses often involve the transport of hazardous materials. Delivery trucks would potentially transport materials and chemicals along the roadways that are not designated hazardous materials shipping routes; however, the project areas that would be designated for light industrial uses are in the northern portion of the project site, in an area that already contains industrial, agricultural, and warehouse uses and is in close proximity to designated hazardous materials shipping routes (I-5 and SR-99). Therefore, the number of deliveries in the area would increase; however, there is already the presence of hazardous material transport within the vicinity of the project. While the risk of exposure to hazardous materials cannot be fully eliminated, measures can be implemented to maintain risks at acceptable levels. As described above, several federal, state, and local regulatory agencies oversee hazardous material transportation. Hazardous materials such as fuel used in commercial use areas would be stored in tanks, either aboveground or underground, in compliance with all regulatory standards, such as leak detection and secondary containment. Oversight by the appropriate agencies and compliance with applicable regulations are considered adequate to offset the negative effects related to the transport of hazardous materials within the project site as it is related to the new commercial and light industrial/warehouse land uses.

The project would include several water and wastewater treatment facilities. For wastewater disinfection, the process includes ultraviolet light, chlorination, or chloramination. Chlorination or chloramination combines chlorine and ammonia and can also be used to disinfect potable water. Disinfection of wastewater would be designed to meet CCR Title 22, Section 60301.230 in order to use disinfected tertiary recycled water suitable for unrestricted use. For potable water disinfection, the processes include chloramination and the use of sodium hypochlorite. The finished potable water would be fluoridated in compliance with applicable regulations, utilizing sodium fluoride or sodium silicofluoride. These chemicals would be transported to the new water and wastewater facilities and then used as regulated. As described above, several federal, state, and local regulatory agencies oversee hazardous material transportation. All hazardous materials would be handled and stored in compliance with the requirements set forth in applicable codes and regulations. Oversight by the appropriate agencies and compliance with applicable regulations are considered adequate to offset the negative effects related to the transport and use of hazardous materials within the project site as it is related to the new water and wastewater treatment facilities.

Conclusion

Construction or operation of the project would result in a potentially significant hazard to the public or personnel if a hazardous material spill or leak were to occur. The construction phase of the project would require the use of gasoline, diesel fuel, and lubricants for fueling project vehicles and paints, adhesives, and solvents for the construction of the project. Project operations associated with residential land uses would result in the use of hazardous materials that are not acute and chemicals that are used in relatively small quantities and concentrations. Project operations associated with commercial and light industrial/warehouse land uses would result in the transport and use of hazardous materials. Project operations associated with the water and wastewater treatment facilities would result in the use of chlorine, ammonia, fluoride, and associated disinfecting chemicals. Several federal, state, and local regulatory agencies oversee hazardous material transportation and storage. Oversight by the appropriate agencies and compliance with applicable regulations would occur for the appropriate land uses.

In accordance with the California Health and Safety Code and Kern County regulations, business owners would be required to prepare an HMBP and submit it to the Kern County Public Health Services Department for review and approval. The HMBPs would delineate storage areas for hazardous material and hazardous waste; describe proper handling, storage, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. The business owners would be required to provide the HMBPs to all contractors and would ensure that one copy is available at the project site at all times. Implementation of the HMBPs for businesses would ensure that materials are handled in a safe manner and would minimize the risk of accidental releases of hazardous materials.

The practices described above would ensure that herbicide use would not pose a significant hazard to personnel or the environment.

Mitigation Measures

MM 4.8-1 Prior to site plan or special permit approval for the commercial and industrial uses designated in the Grapevine Special Plan, the project proponent shall provide to the County a description of planned hazardous material transportation, use and disposal, an assessment of compatibility with adjacent land uses, and measures to assure avoidance of incompatible adjacent land uses such as siting loading docks and hazardous substance storage areas at appropriate distances away from sensitive uses, and accident prevention and emergency response measures.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.8-2: 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

The majority of the project site is undeveloped; however, the project site contains agricultural lands, gas stations, existing and former restaurants, exploratory drilling, and portions of the project site

are within the administrative boundaries of two oil fields. Several livestock watering ponds, Ostrich Storm Water Detention Basin, Rose Station and Westside Cattle Corrals, water production wells A7 and Tejon #201, as well as existing roadways, are located within the project site (Pacific Edge Engineering, 2014). Approximately 160 acres of the project site are within the North Tejon Oil Field administrative boundary and approximately 914 acres are located within the Tejon Oil Field administrative boundary. As of March 2014, 49 active wells were identified on the project site. Within the surrounding oil fields there are 226 active wells in the Tejon Oil Field (including the project site), 45 active wells in the North Tejon Oil Field and 76 active wells within the Wheeler Ridge Oil Field.

A review of federal, state, and local environmental databases and field visits identified seven RECs relative to the project site. These RECs include: (1) existing development at the I-5/Grapevine Road interchange; (2) the project site is above geologic features that have produced, or have the potential to produce, crude oil and natural gas; (3) former seepage pit and leach field at the Grapevine Center; (4) Grapevine Wastewater Treatment Plant (WWTP); (5) agricultural lands within the project site; (6) unlined pond used for percolation/evaporation of wash-out water; and (7) ExxonMobil Grapevine Pumping Station 99-GVR (Pacific Edge Engineering, 2014). The Phase I ESA prepared by Pacific Edge Engineering in July 2014 provided the following information on the RECs. The Phase I ESA is provided in Volumes 10 through 13, Appendix J.1 and provides further details.

1) Existing development in the project area consists primarily of highway support services located at the I-5/Grapevine Road interchange. The Grapevine Center was first developed between the late 1950's to early 1960's, and included several gasoline service stations. Figure 4.8-3, *Grapevine Center Development*, depicts the existing and former land uses at the I-5/Grapevine Road interchange.

- 9058 Mountain Base Road: This site contains an existing Phillips 76 gas station. There are two 15,000-gallon underground storage tanks (USTs) on the site. Prior to it being a Phillips 76 gas station, it was Unocal Gas Station #7580, which began operating in 1994. The KCEHD records do not indicate a significant release at this site.
- 9069 Grapevine Road West: This site first began operation as a Texaco Gas Station in 1961 and included four 4,000-gallon USTs. In 1985 Texaco replaced the USTs with five fuel tanks and one waste oil tank to accommodate renovations at the property. These renovations included a car wash facility that is still present at this location but is no longer operational. In 1991, a Phase II soil testing investigation was conducted and soils were tested for benzene, ethylbenzene, xylenes, (BTEX) and total petroleum hydrocarbons (TPH). This investigation found that levels were below thresholds and no further action was required.

The site became the Lebec Shell gas station about 2000 and a follow-up Phase II soil investigation was conducted. Gasoline was detected in the soil at the dispensers and diesel was detected at the dispensers and waste oil tank. However, contamination attenuated with depth, therefore, no further action was required. There are no records indicating that KCEHD concurred with this recommendation.

- 9068 Grapevine Road West: The KCEHD records do not indicate when the Unocal Oil Station #4734 began operation at this location; however, the records do indicate that in 1986 the Unocal station was present and included two 10,000-gallon gasoline USTs and

one 550-gallon waste oil UST. During demolition of the station in 1992, gasoline contamination was discovered and the tank excavation was expanded to remove contaminated soil. Due to site constraints, the excavation was ceased at 35 feet below ground with up to 3,500 milligrams per kilogram (mg/kg) of gasoline remaining in the soil. In 1993, a Phase II soil investigation was conducted by drilling a boring in the location of remaining gasoline contamination to a depth of 65 feet below ground. Gasoline contamination was not detected at the 65-foot depth. No further actions were recommended and KCEHD concurred with this finding.

- 9067 Grapevine Road East: Grapevine Shell occupied this site and included two 10,000-gallon gasoline USTs, one 8,000-gallon gasoline UST, and one 500-gallon waste oil UST. The USTs were removed in 1998 and soils were sampled to a depth of six feet beneath the UST locations. Gasoline and Methyl Tertiary Butyl Ether (MTBE) levels were identified. Soil borings were advanced to a depth of 80 feet below ground and contamination attenuated to non-detect levels for both gasoline and MTBE. The depth to groundwater at this property was found to be 600 feet below ground at the time of the soil testing. The KCEHD closed the case in September 2009.
- 9012 Grapevine Road East: In 2000, a permit to construct and install USTs was obtained to operate the Tejon Mobil gas station. Tejon Mobil installed two 30,000-gallon gasoline USTs, one 20,000-gallon gasoline UST, and one 10,000-gallon diesel UST. In 2006, the KCEHD issued a notice of violation to Tejon Mobil for failing to provide certification of UST monitoring equipment, failure to conduct secondary containment testing, failure to have secondary monitoring system installed in dispenser pads, and failure to train employees in operation of USTs systems. In 2012, Valero took over the operations of this gas station.
- 8977 Grapevine Road East: Chevron Station #9-8616 operated at this location from 1968 to December 1992. In April 1993, Chevron removed one 12,000-gallon gasoline UST, one 10,000-gallon gasoline UST, one 5,000-gallon gasoline UST, and one 1,000-gallon waste oil UST. During removal activities, soil contamination was encountered. A Phase II soil investigation was conducted in 1994 and subsequently remediated soil by excavation and off-site disposal of the soil; soil remediation was conducted until cleanup goals were reached. The KCEHD granted closure of the case in November 1994 and found that no further action was required. Records also show that this location was the site of a former Standard Gas Station as well; however, no further information is available.
- 9046 Grapevine Road East: This location was the site of a former ARCO gas station. It is currently a Denny's restaurant. No records were found during the record and literature review for this property.

The former and existing gas stations within this site are either existing gas stations or former gas stations. With the exception of the existing Denny's restaurant (9046 Grapevine Road East), the properties of concern appear to have been remediated or do not require remediation. Therefore, this REC, which encompasses multiple gas stations at the I-5/Grapevine Road interchange, would not pose a significant threat to human health and the environment with the implementation of mitigation measures.

As described in greater detail in Section 4.11, *Mineral Resources*, the project is located above geologic features that have produced, or have the potential to produce, crude oil and natural gas. Active oil production and exploration activities are currently occurring, or have occurred, on parcels located within the project boundaries. The majority of oil production and exploration activities have occurred within Plan Areas 6b, 6c, 6d and 6e. Oil exploration and production activities, including active and inactive and abandoned wells, and localized collector and distribution piping and storage tanks, can cause environmental contamination to soil and groundwater that would prevent development unless mitigation measures were undertaken. Also, the disposal method used for drilling fluids from historic exploration and production activities at these parcels is can include on-site earthen pits commonly called “mud pits.” These mud pits were typically covered with soil as the only closure measure undertaken; therefore, the mud pits could be a source of contamination to soil and groundwater. This potential REC would not pose a significant threat to human health and the environment with the implementation of mitigation measures, including specifically compliance with well closure and other requirements described in Section 4.11, *Mineral Resources*, and compliance with the measure described below for discovery of previously-unknown contaminated soil.

A former seepage pit and leach field is located in the northern portion of the Grapevine Center, and was used for disposal of sewage waste from businesses in the Grapevine Center, including gas station sites. This REC would not pose a significant threat to human health and the environment with the implementation of mitigation measures.

- 2) The existing Grapevine WWTP is located northeast of the Grapevine Center (refer to Figure 4.8-2). The Grapevine WWTP serves the Grapevine Center commercial area and consists of three unlined percolation/evaporation ponds with a total water surface area of 6.62 acres. The Grapevine WWTP is permitted for a treatment capacity of 0.235 million gallons per day (MGD). One of the three ponds is divided into four smaller cells. Currently, only one of the four smaller cells is in use at any given time and the Grapevine WWTP processes approximately 0.05 MGD. This REC would not pose a significant threat to human health and the environment with the implementation of mitigation measures.
- 3) Agricultural chemicals are applied to the almond groves and the vineyards within the project site. In addition, there are agricultural fields outside of, but within close proximity to, the project site. Agricultural chemicals used include surfactants, pesticides, insecticides, fungicides, herbicide, and rodenticides. This REC would not pose a significant threat to human health and the environment with the implementation of mitigation measures.
- 4) An unlined pond in the northern portion of the project site (Plan Area 6b) is used for percolation/evaporation of wash-out water. The wash-out water is generated when the irrigation water treatment filters are back flushed/cleaned. Agricultural chemicals are added to the irrigation water treatment system. This REC would not pose a significant threat to human health and the environment with the implementation of mitigation measures.
- 5) The ExxonMobil Grapevine Pumping Station 99-GVR is a crude oil pumping station for the Mobil M-70 pipeline located outside, but adjacent to, the southern project boundary at 7815 Grapevine Road. This facility is regulated by the CVRWQCB and is known as Case No. SLT5FR714638. The Mobil M-70 crude oil pipeline, an idle 12-inch diameter Mobil M-1 pipeline, a pair of idled 8-inch diameter Mobil crude pipelines, and a high pressure Southern

California Gas pipeline are all located within the ExxonMobil Grapevine Pumping Station 99-GVR.

Crude oil petroleum leaks have been documented at this facility from 1947 to 1999 and an estimated 4,704 gallons of crude oil have been released to the environment as a result of the leaks. In 1998, oil and oily water was observed seeping from the base of the embankment next to I-5, directly below the ExxonMobil Grapevine Pumping Station 99-GVR. At the base of this embankment is a storm drain that follows I-5. It is assumed that this storm drain flows to the north toward the southern end of the project site.

Soil and groundwater investigations have been conducted at this facility since 1999. Work has included the removal of floating petroleum from the top of shallow groundwater, approximately 40-feet below ground surface. Groundwater monitoring has been ongoing since 2000. The groundwater flow direction over the past 14 years has been described as toward the east, northeast, and southeast. The predominant groundwater flow direction appears to be to the east, traveling down the embankment toward I-5. The four groundwater sampling events conducted in 2000 included the analysis of TPH as gasoline, crude oil, BTEX, and MTBE. In April 2013, the CVRWQCB required additional investigation work at the facility. In December 2013, a site assessment work plan was submitted to the CVRWQCB; the work plan states that it does appear that a continued release is occurring at the facility and proposes to further delineate the lateral extent of soil and groundwater contamination to the east and southeast by installing five temporary monitoring wells. Soil and groundwater samples would be collected at each of the proposed locations. To date, a report for the proposed work has not been made available for public access and it is not known if the investigation work has been completed. This REC would pose a significant threat to human health and the environment if contamination has migrated to the project site; however, with the implementation of mitigation measures, impacts would be less than significant.

Existing site structures may include asbestos-containing materials (ACMs). There is the potential for ACMs to exist in on-site structures; however, no release of ACMs has been known to occur at the project site. Improvements to the I-5/Grapevine Road interchange, and other project-related development, could result in the demolition of the structures containing ACM. Similarly, the relocation of the Commercial Vehicle Enforcement Facility would result in the demolition of the weigh station structures and the construction of structures at the replacement area, near the SR-99 and I-5 junction. Mitigation Measure MM 4.8-2 requires that any structure to be demolished as part of this project be tested for ACMs prior to demolition. If ACMs are detected, then a certified asbestos abatement specialist would be required to handle and dispose of the material prior to project construction. In addition, Mitigation Measure MM 4.8-2 would require the coordination with the SJVAPCD to determine if additional requirements are necessary. Implementation of Mitigation Measure MM 4.8-2 would reduce the potential ACM-related impacts to less than significant.

The potential exists for contamination to occur on the project site as a result of unknown or unreported spills or leaks, or from illegal dumping. The potential for unknown or unanticipated hazardous materials to be discovered onsite would exist during the project construction phase, as grading and excavation activities would occur. Mitigation Measure MM 4.8-4 would reduce potential impacts by requiring the construction contractor to stop work if suspected contamination is identified, cordon off areas of suspected contamination, take appropriate health and safety

measures, have a trained individual conduct sampling and testing of suspected material, and, if contamination is found to be greater than regulatory limits, to notify the Kern County Public Health Services Department and document all actions. Additionally, as addressed in Section 4.11, *Mineral Resources*, should any abandoned or unrecorded wells be uncovered or damaged during excavation or grading, the project proponent shall immediately contact DOGGR and comply with established procedures for the handling and disposal of any discovered hazardous wastes and ensure that the wells have been, or will be, properly abandoned according to current DOGGR standards.

Natural water courses within the project site include Grapevine Creek, Cattle Creek, Pastoria Creek, and Live Oak Creek. As such, there is a potential for hazardous materials being used at the project site to be released into these drainages; however, Mitigation Measure MM 4.8-6 would require hazardous materials use and storage to occur at a distance from watercourses, which would reduce the potential for any spilled materials to enter on-site watercourses.

There is also the potential for motor vehicle fuel to be released from gas stations at the Grapevine Center and the TRCC, existing oil exploration sites in the northern portion of the project site (Plan Areas 6c, 6d, and 6e), and chemicals used at the Griffith Company Rock Quarry and the Pastoria Energy Plant. An accidental release from these sites could potentially result in a hazard to soil, water, wildlife, or personnel at the project site. As drainages occur on the project site, the project proponent would be subject to the SPCC rule, which requires a secondary means of containment for spills of large quantities of petroleum products used at the site. Mitigation Measure MM 4.8-7 formalizes this requirement and specifies timing and oversight.

In addition, implementation of Mitigation Measure MM 4.6-1 through MM 4.6-7, as described in Section 4.6, *Geology and Soils*, of this EIR, would minimize the potential for project infrastructure to fail as a result of seismic activity or unstable soils. Implementation of Mitigation Measure MM 4.11-1, as described in Section 4.11, *Mineral Resources*, of this EIR, would minimize the potential for hazardous materials to be disturbed in the areas associated with oil exploration.

Mitigation Measures

Implement Mitigation Measures MM 4.6-1 through MM 4.6-7, as described in Section 4.6, *Geology and Soils*, Mitigation Measure MM 4.8-1, as described above, and Mitigation Measure MM 4.11-1, as described in Section 4.11, *Mineral Resources*.

MM 4.8-2 Prior to approval of a demolition or grading permit for existing gas stations, leach fields, unlined ponds, and the Grapevine Wastewater Treatment Plant subsurface testing, compliant with the Phase II ASTM E1903-11 standard, shall be completed. Appropriate remediation, with regulatory agency oversight, shall be undertaken if contamination is discovered prior to issuance of a building permit for a residence, school, or place of assembly on the contaminated area. Potential remediation options could include excavation and off-site disposal of contaminated soil, in-place treatment, and/or the installation of protective barriers.

MM 4.8-3 Prior to issuance of any building permit for a residence, school or place of assembly in existing almond groves and grape fields, subsurface testing, compliant with the Phase II ASTM E1903-11 standard, shall be completed. Appropriate remediation, with regulatory agency oversight, shall be undertaken if contamination is discovered prior to issuance of any building permit for a residence, school or place of assembly on the contaminated area. Potential

remediation options could include excavation and off-site disposal of contaminated soil, in-place treatment, and/or the installation of protective barriers.

MM 4.8-4 If previously unknown soil contamination conditions are discovered during construction activities, the project proponent will (a) report these conditions to the County and, as applicable, other environmental oversight agencies; (b) prepare and implement a Soil Management Plan (SMP) addressing the newly discovered environmental conditions under the oversight of the County or alternate environmental oversight agency.

MM 4.8-5 The project proponent shall include in its grading plan application the location and descriptions of any oil and gas equipment in the area proposed for grading.

- a) Prior to issuance of a grading permit for lands that include abandoned oil and gas wells, or abandoned oil and ancillary equipment, such wells shall be decommissioned and ancillary equipment removed, as required by applicable law, including but not limited to the regulatory requirements of the Division of Oil, Gas and Geothermal Resources. If soil contamination conditions exist in the oil and gas equipment areas, testing and remediation shall be required.
- b) All grading permits approved for the site shall require the permittee to report to the County any previously-unknown oil and gas equipment that is discovered during site grading or construction activities, and to comply with (a), above, prior to obtaining a building permit for the construction of a structure at the location of the newly-discovered oil and gas equipment.
- c) Site construction and development is required to avoid oil and gas equipment, including wells and ancillary equipment such as pipelines and storage tanks, with a 210-foot setbacks that comply with Chapter 19.98 of the Ordinance Code of Kern County.

MM 4.8-6 The project proponent shall include in its grading plan application the location and description of electrical transformers, and if transformers are present, an inspection report by a qualified expert that identifies any transformer leakage, damage or deterioration. Transformers that are leaking or deteriorated that contain polychlorinated biphenyls shall be replaced with newer models that do not contain polychlorinated biphenyls (PCBs) prior to issuance of any building permit for a structure on the transformer site. Any replaced transformers containing polychlorinated biphenyls shall be disposed of through a commercially permitted polychlorinated biphenyls disposal company, as identified by the U.S. Environmental Protection Agency.

MM 4.8-7 Decommissioning and abandonment of oil and gas wells will be required to meet current applicable regulatory standards. Oil and gas well decommissioning procedures are addressed in WZI, Inc.'s August 2015 report entitled "Mineral Resources Evaluation". Where significant oil and gas production is currently occurring and has occurred in the past and visible contamination is present or is likely present, an ASTM E1903-11 compliant Phase II investigation shall be conducted with appropriate environmental agency oversight to evaluate environmental impacts so that appropriate remedial or other mitigation measures

are undertaken, if necessary. A minimum of 30 days prior to construction (for motor vehicle fuel), the project proponent shall prepare and submit a Spill Prevention, Control, and Countermeasures Plan to the U.S. Environmental Protection Agency, the California Environmental Protection Agency, the Kern County Planning and Natural Resources Department, and to the Kern County Public Health Department for review. The Plan will be for the storage and use of gasoline or diesel fuel at the site in quantities of 660 gallons or greater. The purpose of the Plan will be to mitigate the potential effects of a spill of gasoline or diesel fuel. The Plan shall include features during construction that will contain accidental releases of petroleum products from construction equipment.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.8-3: Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within One-Quarter Mile of an Existing or Proposed School

The nearest school to the project site is El Tejon Middle school, located 4.5 miles south of the site. As the project is within the San Joaquin Valley, and the southern end of the project site would be designated open space, project-related infrastructure would not emit hazardous materials or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing school. The project would construct up to six schools as part of the Grapevine Specific and Community Plan development. As directed in the Grapevine Specific and Community Plan, oil and gas development would be required to be 300 feet or more from any of the school locations. The risk from hazardous materials used on the project site is less than significant. The type of development with the greatest likelihood to emit or handle hazardous materials (wastewater treatment facility, water treatment facility, commercial/light industrial businesses, etc.) would be great than 0.25 mile from both existing (El Tejon Middle School) and proposed schools within the development areas of the project site. Therefore, impacts would be less than significant and no mitigation is required.

Mitigation Measures

MM 4.8-8 As set forth in the Grapevine Special Plan, designated commercial and industrial uses are required to complete a special permit process with Kern County to avoid incompatible land uses.

Level of Significance

Impacts would be less than significant.

Impact 4.8-4: Create a Hazard to Public or the Environment as a Result of Being Located on a Site that is Included on a List of Hazardous Material Sites Compiled Pursuant to Government Code Section 65962.5

As stated above, seven RECs were identified relative to the project area and include former and existing gas stations at the Grapevine Center, oil exploration activities in the northern portion of the project site, former seepage pit and leech field, the existing Grapevine WWTP, historic and

existing agricultural land uses, an unlined pond used for percolation/evaporation of wash-out water, and ExxonMobil Grapevine Pumping Station 99-GVR. These RECs are located within the project site, and mainly within the areas identified for development within the Grapevine Specific and Community Plan and Grapevine Special Plan. The RECs would not pose a significant threat to human health and the environment with the implementation of mitigation measures.

No other known hazardous materials spill sites are within 0.5 mile of the project; however, the potential exists for contamination to occur on the project site as a result of unknown or unreported spills or leaks, or from illegal dumping.

As the potential for releases to occur that may result in a hazard to the public or the environment would occur, impacts would be considered significant. With the implementation of mitigation measures, potential impacts would be reduced to less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.8-1 through MM 4.8-7, as described above, Mitigation Measures MM 4.6-1 through MM 4.6-7, as described in Section 4.6, *Geology and Soils*, and Mitigation Measure MM 4.11-1, as described in Section 4.11, *Mineral Resources*.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.8-5: For a Project Located within the Vicinity of a Private Airstrip, Would the Project Result in a Safety Hazard for People Residing or Working in the Project Area

The project site is not located within two miles of a public or public use airport. As mentioned above, the nearest public airstrip is the Tejon Ag Airport, located immediately between Plan Areas 6c and 6d and accessed from Laval Road. Paradise Lakes Airport and Creekside Airport are located 11 miles north of the project site (specifically Plan Area 6b). The nearest public airport facility is Bakersfield Municipal Airport, located 22 miles north of the northern most project boundary.

The project site is not located within the sphere of influence of any airport as identified by the Kern County ALUCP. The project is not located within the sphere of influence, 20,000 feet (3.78 miles), of any public use or military airport as identified by the FAA. Therefore, there are no anticipated safety hazards for people residing or working in the project site with respect to the project's proximity to a public or public use airport.

The project would create a hazard if the height of structures at the project site creates obstructions to air navigation by being poorly lit or marked or by obstructing the navigation system used by private aircraft. The project development areas identified for commercial/light industrial land uses, Plan Areas 6c and 6d, are located east and west, and adjacent to, the Tejon Ag Airport. Additional project structures would be located approximately 0.72 mile to the northwest (commercial/light industrial Specific Plan district), approximately 0.85 mile to the northeast (commercial/light industrial Specific Plan district), and approximately 0.72 mile directly south (mixed use and village mixed use Specific Plan district). Existing buildings in the vicinity of the Tejon Ag Airport include single-story structures and aboveground storage tanks. The runway for the Tejon Ag Airport is 3,200 feet by 50 feet, and appears to trend northeast to southeast (AirNav, 2015a). The project development areas are more than 500 feet from the Tejon Ag Airport runway.

In addition, the Grapevine Specific and Community Plan and the Grapevine Special Plan would provide maximum height requirements for project structures within the project land uses, including commercial/light industrial land uses. If the project proposes structures that are more than 200 feet above ground level, then Title 14 CFR 77 requires that the FAA be notified by filing form 7460-1 a minimum of 30 days prior to the start of construction. If structures would be more than 200 feet, then any height restriction and lighting/marketing requirements by the FAA would be adhered to in order to provide safe use of both the development and the air traffic. In the event that structures would be more than 200 feet in height, the number of structures with lights, the type of lighting, and any other additional markings (e.g., orange striping, checkerboard patterns, etc.) would be determined in consultation with the FAA. If structures are more than 200 feet in height, the project proponent would be required to file Form 7460-1, Notification of Proposed Construction or Alteration, with the FAA for each structure that exceeds the height limit. The FAA would then complete the requisite aeronautical study and determine the appropriate lighting required for the project and the appropriate exterior finish for the structures for daylight marking to ensure safety.

The project would comply with Kern County zoning restrictions for height of structures, as set forth by the Grapevine Specific and Community Plan and Grapevine Special Plan, and would be required to implement any FAA required mitigations to reduce potential impacts with regard to hazards to air mitigation to less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.8-6: Impair Implementation of, or Physically Interfere with, an Adopted Emergency Response Plan or Emergency Evacuation Plan

The project site is located south of the City of Bakersfield and is bisected by I-5. While the project site is currently accessed from Grapevine Road, the project includes a network of roads through the development areas. The project would include access from the I-5/Grapevine Road and I-5/Laval Road interchanges. The northern portion of the project would mainly be accessed by Laval Road, while the southern portion would mainly be accessed by Grapevine Road and Edmonston Pumping Plant Road. The project provides one crossing between development areas over the California Aqueduct.

During the construction phase of the project, heavy construction-related traffic could interfere with emergency response to the project site or emergency evacuation procedures in the event of an emergency such as a wildfire, a natural gas pipeline explosion, or a chemical spill within or adjacent to the project site. Heavy construction-related traffic could also potentially interfere with emergency response to any residences or businesses in the project vicinity. To ensure emergency access to the project site during construction, as described in Section 4.16, *Transportation and Traffic*, of this EIR, Mitigation Measure MM 4.16-11 requires preparation of a construction traffic control plan that includes assurance of access for emergency vehicles to the project site. Additionally, MM 4.8-9, provided herein, would reduce the significance of this impact by ensuring coordination between emergency responders and project construction crews and by establishing

emergency procedures for access to the project site in the event of an emergency during construction activities.

Upon build-out of the project, local streets would be required to be designed per Kern County design standards, which include assuring that emergency vehicles have access to the project site. During project operation, Mitigation Measure MM 4.16-1, also described in Section 4.16, *Transportation and Traffic*, of this EIR, requires the project owner to obtain Kern County approval of all proposed road design prior to construction ensuring on-site emergency access on the local roads is adequate.

Mitigation Measures

Implement Mitigation Measures MM 4.16-1 and MM 4.16-11, as described in Section 4.16, *Transportation and Traffic*.

MM 4.8-9 Prior to the issuance of grading or building permits, the project proponent shall appoint an Emergency Response Liaison to coordinate the reduction of construction-related traffic for the duration of any emergency at or nearby the project site. The Kern County Fire Department, Kern County Sheriff's Department, and the California Highway Patrol shall be provided with the construction schedule and the on-site contact information for the Liaison prior to construction. The Liaison shall be immediately reachable at all times during project construction. The Liaison shall have radio contact with project construction vehicles at all times to coordinate traffic reduction measures. In addition, the Liaison shall coordinate with the Kern County Fire Department, the Kern County Sheriff's Department, and the California Highway Patrol to establish emergency procedures for access to the project site in the event of emergency during construction activities.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.8-7: 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

This section discusses the fire risk and onsite methods to reduce that risk. Impacts on the KCFD and its response times are discussed in Section 4.14, *Public Services*.

The project site is located in an area with both "Moderate" and "Very High" fire threat ratings, and a portion of the site lies within a SRA (CAL FIRE, 2007). CAL FIRE has determined that Kern County has no "Very High" FHSZs in LRA, therefore, Kern County does not have a final LRA map of FHSZs (CAL FIRE, 2008); refer to Figure 4.8-1, *Fire Hazard Severity Zone*. As stated previously, nearly all fires in the project site are ignited by human activity adjacent to roadways, particularly the I-5 corridor. The project site is in an area where the fire season is virtually year round; however, it is more likely for large wildfires to occur in mid- to late-summer as vegetation begins to dry. The project would include between 12,000 and up to a maximum of 14,000 residential units, approximately 5,100,000 square feet of commercial land uses (the commercial land use would decrease with an increase of residential units based on vehicle trip equivalency

ratios), up to six schools, 96 acres of parks, and public facilities. The project would introduce managed urban landscapes within the development areas.

While the slopes are steeper on the foothills than on the valley floor, the majority of the foothills (95 percent) would be designated open space; the area being developed occurs on the site's flattest terrain. Slopes that rise away from the Valley Floor influence wildfire behavior because fire would tend to burn upslope, away from the project development areas and the project site. However, as characteristics of the project site are "Moderate" and "Very High" fire hazards, during extreme weather conditions, a grass fire originating at the project site could spread up the slopes of the Tehachapi Mountains out of control and pose a risk to life and property.

The Grapevine Specific and Community Plan (Volume 2, Appendix B) and the Grapevine Special Plan (Volume 2, Appendix C) provide details regarding the land uses and potential development associated with the project. The *Fire Protection Plan*, provided in Volume 15, Appendix Y, found that the project site has a low occurrence of wildfire within the project boundaries, with wildfires occurring approximately every five years. The majority of the project site is grassland with a history of lower risk, lower intensity grass-fires, which would have a fire behavior considered to be low to moderate and manageable (Dudek, 2015a). The project site may be subject to nearby wildfire, such as from the southerly open space or adjacent areas that include native fuels that could spread toward the project development areas.

Construction activities involving vehicles, heavy machinery, and personnel smoking at the proposed project site could result in the ignition of a wildfire. During construction, heavy equipment and passenger vehicles driving on vegetated areas prior to clearing and grading could increase the risk of fire. Heated mufflers, potential explosives used during site preparation, and improper disposal of cigarettes could potentially ignite surrounding vegetation. In addition, during construction, lightning strikes on unfinished buildings and infrastructure could potentially result in a fire. Mitigation Measures MM 4.8-12 and MM 4.8-17 would reduce the potential for construction activities to result in severe fires by requiring fire-safe construction and maintenance practices. Mitigation Measure MM 4.8-16 would further reduce the severity of this impact by restricting work during severe fire weather.

Project operation would include activities generally associated with urban development. Urban areas include a variety of emergencies that would require responses from the KCFD, including medical and fire-related emergencies associated with residential, commercial, and light industrial land uses, in addition to calls related to I-5. Project design features would reduce the potential for wildfire ignition and the potential for a wildfire to spread out of control. The project would include yards, parkways, green spaces, and fuel modification zones. In addition, the Grapevine Specific and Community Plan, Grapevine Special Plan, Grapevine Fire Protection Plan, discussed below, and Mitigation Measures MM 4.8-10 through MM 4.8-17 would reduce the potential for injury or loss of life and property due to wildfires.

The KCGP Safety Element further outlines protocol that would ensure that the project site is properly maintained. These measures include identifying access and evacuation routes, clearing dry vegetative cover, limiting potential fuel sources, and designing firebreaks (by at minimum adhering to the established setback distances). The project would implement all relevant safety measures into the operation and maintenance of the project in order to ensure the safety to the employees, visitors, and residents within and adjacent to project site.

Any wildfire ignition resulting from project activities could result in a loss of life and property, and would be considered a significant impact. Implementation of the Grapevine Specific and Community Plan, Grapevine Special Plan, Grapevine Fire Protection Plan, discussed below, and Mitigation Measures MM 4.8-10 through MM 4.8-17 would reduce the potential for injury or loss of life and property due to wildfires.

Grapevine Fire Protection Plan

The Kern County Building and Fire Codes govern the building, infrastructure, and defensible space requirements. The project would generally meet applicable codes; however, some code exceptions would be requested as project development proceeds; these exceptions are subject to the KCFD Fire Code Official approval.

Primary Fire Access

Fire apparatus access roads shall be consistent with the requirements of the KCFD Fire Code. Typical fire access roads include no less than 20 feet wide unobstructed travel lanes (minimum of two 10-foot wide lanes). Exceptions to this are being requested as follows:

- a. Street Improvements shall be Type A; however, rights-of-way, widths, and design for streets, alleys, public ways and easements shall conform to the Specific and Special Plans.
- b. Street improvement standards for all streets shall be as stated in the Specific and Community Plan and Special Planning District Plan.

Entrances and Gates

Access gates would not be allowed on public roadways. Should private roadways be included in the project, gates on private roads would comply with KCFD standards for electric gates including an emergency key-operated switch overriding all command functions and opening the gate. Gate setbacks from roadway and other code requirements would be required.

All automatic gates would be equipped with a Knox, emergency key-operated switch overriding all command functions and opening the gate(s). Automatic gates accessing through the main entrance and secondary/emergency access roadways would be equipped with approved emergency traffic control-activating strobe light sensor(s) which would activate the gate from both directions of travel on the approach of emergency apparatus. The automatic gate would have a battery back-up or manual mechanical disconnect in case of a power failure.

Pole gates or other structures or devices which could obstruct fire access roadways or otherwise hinder emergency operations would be equipped with an approved, Knox padlock.

Dead Ends

All project roads would meet KCFD standards regarding dead-end roads and provided turnarounds. Exceptions to this are being requested as follows:

- a. The Special Planning District Plan would allow cul-de-sacs to be up to 20 percent longer with the provision of attic sprinklers and additional fuel modification requirements. The additional provisions of attic sprinklers and additional fuel modification would apply only to a limited number of units and would provide additional fire protection from both wildfire and interior structure fires, enabling longer response times from responding fire agencies.

- b. Rowhouses, Townhouses, and Clustered Small lot residences are accessed by alleys or lanes as an integral part of the overall design and to conform to the Specific and Special Plans. These units would be protected by 13-R structure protection fire sprinklers and access via nearby roads would enable fire apparatus access to within 150 feet of all sides of each structure.
- c. Special Plan development would be designed in certain areas with lane fronted “Clustered Small Lot” residences with dead end access for general public, but turfblock EVA access for emergency vehicles would be provided. The turfblock would be designed to support the imposed loads of fire apparatus.

Turning Radius

Turning radius for fire apparatus access roads would meet KCFD standards, which are a 40-foot inside turning radius. Exceptions to this are being requested as follows:

- a. A turning radius would be a minimum 30 feet measured on the inside edge of the improved width.

Grade

The project would comply with KCFD Fire Codes, as applicable, for public roads and would not exceed 10 percent road grade. The development areas of the project site are flat and roadways would be well below a 10-percent grade.

Surfaces

The project will comply with KCFD Fire Codes regarding surface, as applicable. All fire access and vehicle roadways would be of all-weather construction, and designed and maintained to support the imposed loads of fire apparatus (not less than 75,000 pounds) that may respond, including ladder trucks and Type I and Type III engines. Access roads to active construction areas would be drivable by fire apparatus prior to the start of combustible construction.

Structures

All new structures would be constructed to KCFD Fire and Building Code Standards for the type of occupancy. Each of the project structures would comply with the enhanced ignition-resistant construction standards of the 2013 or most current California Building Code. These requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires.

All structures would have a permanently posted address, which would be legible from the street. If it would not be legible from the street, an address would also be posted at the street entrance to a driveway and would be visible from both directions of travel. Numbers would be four inches high with 0.5-inch stroke, and located six to eight feet above ground level. Numbers would contrast with background.

Water

Water service for the project would be provided by the Tejon–Castac Water District and would be consistent with KCFD requirements. Because the water availability, flow, and residual pressures would meet KCFD code requirements, the water system would be considered in compliance with firefighting needs, including proposed hydrant locations. The KCFD Fire Code indicates fire flow

requirements for buildings or portions of buildings and facilities would be determined by the Fire Code Official and would be computed on the basis of a minimum 20 pounds per square inch (137.9 kilopascals) residual operating pressure at the point of lowest pressure of the street main from which the flow is measured.

Hydrants and Fire Sprinklers

Hydrants would be located consistently with KCFC Fire Code standards which allow the following exceptions:

- Stretches of roadway serving no structures could eliminate hydrants or include spacing of 1,000 feet between hydrants as approved by the KCFD.
- The required fire flow would be based on all structures having approved fire sprinkler systems, with a resulting 50 percent reduction in the Fire Code Fire Flow requirements consistent with the Adopted 2013 California Building Code.
- A three-foot clear space (free of ornamental landscaping and retaining walls) would be maintained around the circumference of all fire hydrants. Hydrants would be in place and serviceable prior to delivery of combustible materials to the site.

All new residential structures would be provided interior fire sprinklers and other structures would receive fire sprinklers to code based on the occupancy type. Automatic internal fire sprinklers would be in accordance with National Fire Protection Association (NFPA) standards for the type of occupancy. For this project, it is anticipated that the sprinkler standards established by the NFPA and adopted by KCFD would include the NFPA 13, 13-D and 13-R system, depending on the occupancy type. NFPA 13 is an industrial fire protection system, 13-R is required for multi-family residential over two units, and 13-D is the standard single family residence sprinkler system.

Defensible Space and Vegetation Management

The Fire Protection Plan, KCFD Fire Codes, and PRCs 4290 and 4291 would be implemented and would require property owners to maintain fuel modification areas and complete vegetation management annually by May 15 of each year and more often as needed for fire safety and as determined by the KCFD.

Mitigation Measures

MM 4.8-10 Each project area tentative tract map shall be designed to be consistent with the requirements of the Grapevine Fire Protection Plan and the Kern County Fire Department.

MM 4.8-11 A note shall appear on all tentative tract maps specifying the applicable vegetation management zone requirements and prohibited plant list. Furthermore, the project proponent shall ensure that all prospective landowners within the project are aware of the prohibited plants list and vegetation management zone requirements and limitations as set forth in the Grapevine Fire Protection Plan through the following methods:

- a) Prior to purchase of property within the Grapevine Specific and Community Plan area, all future landowners will be provided with the prohibited plant list and vegetation management zone requirements and limitations.

- b) The project proponent shall maintain a community website that includes the prohibited plant list and vegetation management zone requirements and limitations.
 - c) The project proponent shall ensure that the prohibited plant list and provisions of the Fire Management Plan shall be enforced by recording applicable covenants, codes, and restrictions on each private lot.
- MM 4.8-12** Applications for tentative tract maps and site plans shall show that access roads have been designed to meet all applicable state and local fire codes as described in the Grapevine Fire Protection Plan, or include equivalent fire protection performance features as approved by the Kern County Fire Department.
- MM 4.8-13** All new permanent power lines shall be installed underground. Temporary overhead power lines may be used during construction, and existing lines may be temporarily relocated above-ground during construction, provided that the tentative tract map or site plan application includes compliance with the vegetation clearing and restrictions specified in the Grapevine Fire Protection Plan, or alternate measures providing an equivalent level of fire protection as approved by the Kern County Fire Department.
- MM 4.8-14** Site plans and building permit applications shall include compliance with all applicable state and local fire codes as described in the Grapevine Fire Protection Plan, and occupancy permits shall be issued following Kern County inspection and confirmation of compliance.
- MM 4.8-15** Any application for Certificate of Occupancy or Business License within ¼ mile of an existing or designated school site will be required to identify any hazards materials used or stored on-site, and consult with the Kern County Public Health Services, Environmental Health Division for appropriate storage and handling.
- MM 4.8-16** The project proponent shall continuously comply with the following during the construction of the project: When a Red Flag Warning is issued by the National Weather Service for the project site, all non-emergency construction activities shall cease. This provision shall be clearly stated in the Fire Safety Plan. The required Emergency Response Liaison shall ensure implementation of a system that allows for immediate receipt of Red Flag Warning information from the Los Angeles/Oxnard office of the National Weather Service.
- MM 4.8-17** Prior to the issuance of grading or building permits, the project proponent shall develop and implement a Fire Safety Plan for use during construction. The project proponent shall submit the Fire Safety Plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval prior to the issuance of any building permit or grading permits. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to, the following:
- a. All internal combustion engines, stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.

- b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. Said vehicle types shall maintain their factory-installed (type) muffler in good condition.
- c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.
- d. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.
- e. Personnel shall be trained in the practices of the Fire Safety Plan relevant to their duties. Construction personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats.
- f. The project proponent shall make an effort to restrict use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.
- g. Smoking shall be prohibited in wildland areas and shall be limited to paved areas or areas cleared of all vegetation.
- h. The project proponent shall confer with the Kern County Fire Department regarding the need to install water or dip tanks within the project site. Should dip tanks be required, the project proponent shall construct dip tanks as specified by the Kern County Fire Department.
- i. Perimeter fuel modification zones around building pads shall be implemented and approved by the Kern County Fire Department prior to combustible materials being brought to the project site areas adjacent to conservation areas that include flammable vegetation.
- j. Existing flammable vegetation shall be removed on vacant lots prior to commencement of construction and prior to bringing combustible construction materials on-site.
- k. Dead fuel, ladder fuel (fuel which can spread fire from ground to trees), and downed fuel shall be removed and trees/shrubs shall be properly limbed, pruned, and spaced per this plan.

MM 4.8-18 Prior to project approval, the project proponent shall submit tentative tract maps for each project area submitted for approval to the Kern County Planning and Natural Resources Department. These tentative tract maps shall also be submitted to Kern County Fire Department for review to ensure that the map is consistent with applicable plans, policies, and regulations as identified by the Kern County Fire Department.

MM 4.8-19 Prior to issuing the first certificate of occupancy, the project proponent shall implement the Grapevine Fire Protection Plan. The project proponent shall submit the Grapevine Fire Protection Plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval prior to the

issuance of any building permit or grading permits. The Grapevine Fire Protection Plan requires the project proponent enforce the following:

- a. Residents, employees, and employers shall implement passive protections (fuel modification, interior sprinklers, ignition resistant construction) designed to work with little human intervention.
- b. The project proponent shall inform residents, employees, and employers within the project site that they shall maintain landscape and structural components according to the appropriate standards and embracing a “Ready, Set, Go” stance on evacuation.
- c. Fire rules shall be posted on a business bulletin board for all businesses within the project site. These rules shall be posted in areas visible to employees, typically a break room or main office.

MM 4.8-20 Prior to the issuance of certificate of occupancy for any residential unit, all prospective landowners within the project site shall be provided copies of the prohibited plants list and vegetation management zone requirements and limitations as set forth in the Grapevine Fire Protection Plan. These provisions shall be enforced by recording applicable covenants, codes, and restrictions on each private lot and by notifying each private lot owner in writing prior to the lot or other property purchase of applicable plant use prohibitions and vegetation zone management requirements.

MM 4.8-21 Prior to the issuance of certificate of occupancy, the homeowner association(s) within the project site shall provide education information to homeowners specific to the project site and the residential development locations. Homeowners shall be made aware of their responsibilities to maintain fire safe landscaping, and well and maintaining fuel modification zones. All fuel modification areas shall be maintained in perpetuity by the homeowner if private property or by the Property Owners’ Association / Management Company if part of the common area. Per Public Resources Code 4290 and 4291, owners of properties adjacent to wildland fuels are required to maintain fuel modification areas.

- a. High Fire Hazard Severity Zone – Residential Fuel Modification Zones

The development area in the southeast portion of the project site is adjacent to the project’s steeper terrain (Foothill Area) and within the designated high fuel hazard severity zone. Therefore, the structures located on the perimeter edge of this area shall be required to maintain a full 100 feet of fuel modification from the structure outward, toward the conservation area fuels.

The fuel modification zones provided for the perimeter exposed structures shall be located within the development footprint as opposed to occurring off-site. However, off-site conservation area fuel management will continue under the direction of the Tejon Ranch and will be accomplished by managed grazing.

b. Moderate Fire Hazard Severity Zone –Fuel Modification Zones

Development of the project site within the moderate fire hazard severity zone shall be located in areas that include flat terrain and adjacent agriculture or other managed landscapes that present low fire risk and do not result in high flame lengths, high fire intensity, or particularly fast fire spread. Fuel modification zones for these areas shall include at least 30 feet of fuel modification area, which shall include, but are not limited to, mowed non-native grasses, thinned area or irrigated landscaped area including yards, parkways, roads, ornamental agriculture such as orchards and vineyards. This fuel modification area is applicable for perimeter structures' exposed sides that are adjacent to conservation areas or off-site fuels.

c. Local Resource Area Unzoned Designations

Project areas within the Local Resource Area, are unzoned, and will not require formal fuel modification zones. These areas are primarily planned for industrial land uses. Landscaping in these areas shall provide a buffer around structures.

d. Special Fuel Management

- Roadside tree planting when the road is directly adjacent to a conservation area is acceptable, as long as it meets the following restrictions:
- Crowns of trees located within defensible space shall maintain a minimum horizontal clearance of 10 feet for fire-resistant trees. No non-fire-resistant trees will be allowed.
- Mature trees shall be pruned to remove limbs up to one-third the height of the trees or 6 feet above the ground surface adjacent to the trees, whichever is less.
- Deadwood and litter shall be regularly removed from trees.
- Ornamental trees along roadways at the interface with conservation areas shall be limited to groupings of two to three trees, with canopies for each grouping separated horizontally by 10 feet. This does not apply to irrigated and maintained groves, orchards, or other agricultural crops or any areas outside the fuel modification zones.

e. On-site fuel modification areas will require ongoing maintenance as follows;

- For roadside plantings that are within fuel modification zones, i.e., where a road occurs between the project and the conservation areas, fire-resistant trees shall be allowed for landscaping as long as vertical clearance is maintained at street edge. Care shall be given to the type of tree selected, so that it will not encroach into the roadway or produce a closed canopy effect.
- Limit planting of large unbroken masses, especially trees and large shrubs within the fuel modification zones. Groups shall be two to three trees maximum, with mature foliage of any group separated horizontally by at

least 10 feet if planted on a slope less than 20 percent, and 20 feet if planted on a slope greater than 20 percent. This does not apply to groves, orchards, or other irrigated, maintained agriculture operations.

- If shrubs are located underneath a tree's drip line, the lowest tree branch shall be at least three times as high as the understory shrubs or 10 feet, whichever is greater.
- Existing trees can be pruned 10 feet away from roof, eave, or exterior siding, depending on the tree's physical or flammable characteristics and the building construction features.
- All tree branches shall be removed within 10 feet of a fireplace chimney or outdoor barbecue.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.8-8: Would Implementation of the Project Generate Vectors or Have a Component That Includes Agricultural Waste Exceeding Adopted Qualitative Thresholds

As proposed, the project does not possess a component that includes agricultural waste; however, implementation of the project would involve construction and operations that could result in standing water, trash piles, or open containers that could provide breeding areas for mosquitoes, flies, or rodents. These potential disease vectors could pose a potential hazard to personnel or the public. MM 4.8-22 would prohibit standing water, trash piles, and open containers from being accumulated at the site.

Construction of the project would occur in an area favorable to the growth of the Valley Fever vector, the fungus *Coccidioides immitis*, which grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. Project construction would disturb the soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever; however, most Valley Fever cases are very mild, and more than half of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention. In addition, mitigation for dust control, as described in Section 4.3, *Air Quality*, would minimize the spread of fungal spores.

The implementation of the project would provide urban development within the project site. This would increase the opportunities for residents and employees of the project to interact with existing insect and rodent species and for new populations of vectors to be introduced onto the project site. The risk of contracting disease from such vectors would be extremely low. The new conditions on the project site would, in some cases, provide increased opportunities for vectors (e.g., standing water and restaurants); however, standard operations and management of these facilities in accordance with Kern County Public Health Services Department requirements, would ensure that impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.3-1 and MM 4.3-2, as described in Section 4.3, *Air Quality*.

MM 4.8-22 The project proponent shall continuously comply with the following during construction implementation of the project: In order to eliminate the risk of generating disease vectors at the site, during project construction, the project proponent shall ensure that trash is stored in closed containers and removed from the site at regular intervals. Open containers shall be inverted and construction ditches shall not be allowed to accumulate water. Construction activities shall not generate standing water. Naturally occurring depressions, drainages, or pools at the site shall not be drained or filled without consulting with the appropriate resource agency (Kern County, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife) as applicable, and obtaining the appropriate permits. The environmental monitor shall ensure that standing water and large quantities of trash do not accumulate onsite. Project compliance shall be verified by the Kern County Public Works Department during the course of that agency's performance of any on-site inspections.

Level of Significance after Mitigation

Impacts would be less than significant.

Cumulative Setting Impacts and Mitigation Measures

Cumulative Setting

The geographic scope for cumulative impacts to hazards and hazardous materials encompasses an approximately six-mile radius around the project site. The cumulative study area is defined in Section 3.6, *Cumulative Projects*, and is defined by the following boundaries:

- Northern Boundary: The Valley Floor south of the intersection of I-5 and SR-166
- Southern Boundary: Extending south to include all of the Tejon Mountain Village development
- Eastern Boundary: The Tehachapi foothills to the east; and
- Western Boundary: The eastern boundary of the Wildlands Conservancy's Wind Wolves Preserve.

The cumulative project list is provided in Table 3.11, *Cumulative Project List*, in Section 3.6, *Cumulative Projects*. This geographic scope of analysis is appropriate because of influence of the area with wildfires, as well as the localized nature of hazardous materials impacts and other hazards discussed in this section.

Impact 4.8-9: Cumulative Hazards and Hazardous Materials Impacts

With regard to the creation of a hazard through the routine transport, use, or disposal of hazardous materials (Impact 4.8-1), a potentially significant impact could result if a spill or leak were to occur during construction or operation of the project; however, compliance with State and County regulations and the mitigation measures outlined above would ensure that impacts would remain less than significant. This impact does not have the potential to combine with contamination from

spills from other projects within six-miles of the site to result in a cumulative impact due to the site-specific nature of soil contamination and the mitigation measures that would ensure proper cleanup and disposal of contaminated soil. Cumulative contamination of groundwater is unlikely as a result of these projects because the depth to groundwater in the project site is greater than 100 feet (between 500 and 1,000 feet below ground surface and any onsite spill would be unlikely to reach groundwater (Pacific Edge Engineering, 2014). Additionally, implementation of Mitigation Measures MM 4.9-1 through MM 4.9-3, as described in Section 4.9, *Hydrology and Water Quality*, would further reduce the potential for project-related groundwater contamination. Therefore, impacts of the project would not be expected to make a cumulatively considerable contribution, in combination with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact.

With regard to creation of a hazard through upset or accident conditions involving a hazardous material release (Impact 4.8-2), the potential exists for project activities to result in the release of hazardous materials in the soil resulting in exposure of personnel and other sensitive receptors to contaminant levels that could result in short-term and/or long-term health effects. Additionally, demolition of structures for the purposes of the project could result in the handling of ACMs; however, conformance with existing State and County regulations, Grapevine Specific and Community Plan and Grapevine Special Plan requirements and guidelines, and implementation of the mitigation measures identified above would render this impact less than significant. This impact does not have the potential to combine with impacts of other projects because of the localized nature of the impacts, and because appropriate safety, cleanup, and disposal methods would be implemented to reduce the impact to a level that would not combine with impact of other projects. Therefore, impacts of the project would not have the potential to make a cumulatively considerable contribution in combination with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact.

With respect to emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Impact 4.8-3), the potential associated with existing schools is less than significant, as the nearest existing school is located 4.5 miles south of the project. The project would construction up to 11 schools as part of the implementation of the project. However, per the State and County regulations, as well as the requirements within the Grapevine Specific and Community Plan and Grapevine Special Plan, proposed schools would be located greater than 0.25 mile from development that has the potential to emit or handle hazardous materials. This impact does not have the potential to combine with impacts of other projects because of the localized nature of the impacts associated with existing of proposed schools. Impacts of the project would not make a cumulatively considerable contribution, in combination with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact.

With regard to the creation of a hazard to public or the environment as a result of being located on a site that is included on a list of hazardous material sites compiled pursuant to government code section 65962.5 (Impact 4.8-4), as stated above, seven RECs were identified relative to the project site and include former and existing gas stations, oil exploration activities, former seepage pit and leech field, the existing Grapevine WWTP, and historic and existing agricultural land uses and associated infrastructure. With the implementation of the mitigation measures provided above, these RECs would not pose a significant threat to human health and the environment. Therefore,

impacts of the project would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact.

With regard to the creation of a safety hazard for a project located within the vicinity of a private airstrip, the project site is located adjacent to the Tejon Ag Airport. The project is more than 500 feet from the Tejon Ag Airport runway and the Grapevine Specific and Community Plan and Special Plan would provide maximum height requirements, and therefore, does not have the potential to result in creation of a safety hazard to air navigation. However, if the implementation of the Grapevine Specific and Community Plan and Special Plan would result in the construction of structures more than 200 feet in height within the project boundaries, the project would be required to comply with FAA regulations, as provided in the mitigation measures provided above, to ensure that impacts remain less than significant (Impact 4.8-5). As such, the project does not have the potential to combine with impacts of other projects because of the localized nature of airport operations with regard to the project site, and because compliance with existing rules would render impacts less than significant. Therefore, impacts of the project would not have the potential to make a cumulatively considerable contribution, in combination with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact.

With regard to interference with an adopted emergency response plan or emergency evacuation plan (Impact 4.8-6), heavy construction-related traffic could interfere with emergency response/evacuation to and from the project site or with emergency response to residences or businesses in the project vicinity; however, with implementation of the mitigation measure outlined above, this impact would be less than significant. The implementation of the project would include the construction of local street, which would be required to be designed to Kern County design standards, ensuring emergency vehicles have access to the project development areas. While traffic would increase as a result of the project, implementation of the mitigation measures provided above would reduce impacts on emergency access and evacuation routes to a less than significant level. The project's less-than-significant impact has the potential to combine with other current and future projects that would generate high volumes of traffic on area roadways by creating a cumulative traffic burden on regional roadways (I-5 and SR-99) as a result of increase population and thus increased volume of vehicles; however, given the relatively close proximity of emergency services, the increase in emergency services as a result of the implementation of the project, the implementation of mitigation measures described above, and the fact that most cumulative projects in the project vicinity would not generate high volumes of traffic, the potential for a considerable contribution to a cumulative impact to emergency response is unlikely to occur, and would therefore be less than significant.

With regard to exposing people or structures to a wildland fire hazard (Impact 4.8-7), construction and implementation of the project would increase the likelihood of wildfire ignition and well as increasing the number of people and structures that would intermix with wildlands. Implementation of Mitigation Measures MM 4.8-20 and MM 4.8-21 would reduce the possibility of construction-related ignition. Implementation of Mitigation Measures MM 4.8-9 through MM 4.8-21, outlined above, would substantially reduce the possibility of a project-related ignition and would minimize the potential for injury or loss of life and property due to wildfires. Mitigation would reduce this impact to a level that would not combine with other projects. Therefore, impacts of the project would not have the potential to make a cumulatively considerable contribution, in combination with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact.

With regard to generating disease vectors (Impact 4.8-8), project construction could disturb the Valley Fever vector or attract other disease vectors by allowing standing water, trash piles, or open containers to accumulate at the project site, potentially resulting in a hazard to construction personnel or the general public. Implementation of the project would provide urban development within the site that would increase the opportunity for residents and employees of the project to interact with existing insect and rodent species, as well as provide potential for new populations of vectors to be introduced. However, implementation of the mitigation measures described above, in combinations with standard operations and management pursuant to the Kern County Public Health Services Department would reduce this impact to a less than significant level. Mitigation would reduce this impact to a level that would not combine with other projects, therefore, impacts of the project would not have the potential to make a cumulatively considerable contribution, in combination with impacts from past, present, or reasonably foreseeable projects, to result in a cumulative impact.

Mitigation Measures

Implement Mitigation Measures MM 4.8-1 through MM 4.8-22, as described above, Mitigation Measures MM 4.3-1 and MM 4.3-2, as described in Section 4.3, *Air Quality*, Mitigation Measures MM 4.6-1 through MM 4.6-7, as described in Section 4.6, *Geology and Soils*, and Mitigation Measures MM 4.9-1 through MM 4.9-3, as described in Section 4.9, *Hydrology and Water Quality*.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.