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### 5.4 LAND USE AND AGRICULTURE

Hydrogen Energy California LLC (HECA LLC) is proposing an Integrated Gasification Combined Cycle (IGCC) polygeneration project (HECA or Project). The Project will gasify a fuel blend of 75 percent coal and 25 percent petroleum coke (petcoke) to produce synthesis gas (syngas). Syngas produced via gasification will be purified to hydrogen-rich fuel, and used to generate a nominal 300 megawatts (MW) of low-carbon baseload electricity in a Combined Cycle Power Block, low-carbon nitrogen-based products in an integrated Manufacturing Complex, and carbon dioxide (CO<sub>2</sub>) for use in enhanced oil recovery (EOR). CO<sub>2</sub> from HECA will be transported by pipeline for use in EOR in the adjacent Elk Hills Oil Field (EHOF), which is owned and operated by Occidental of Elk Hills, Inc. (OEHI). The EOR process results in sequestration (storage) of the CO<sub>2</sub>.

Terms used throughout this section are defined as follows:

- **Project or HECA.** The HECA IGCC electrical generation facility, low-carbon nitrogen-based products Manufacturing Complex, and associated equipment and processes, including its linear facilities.
- **Project Site or HECA Project Site.** The 453-acre parcel of land on which the HECA IGCC electrical generation facility, low-carbon nitrogen-based products Manufacturing Complex, and associated equipment and processes (excluding off-site portions of linear facilities), will be located.
- **OEHI Project.** The use of CO<sub>2</sub> for EOR at the EHOF and resulting sequestration, including the CO<sub>2</sub> pipeline, EOR processing facility, and associated equipment.
- **OEHI Project Site.** The portion of land within the EHOF on which the OEHI Project will be located and where the CO<sub>2</sub> produced by HECA will be used for EOR and resulting sequestration.
- **Controlled Area.** The 653 acres of land adjacent to the Project Site over which HECA will control access and future land uses.

This introduction provides brief descriptions of both the Project and the OEHI Project. Additional HECA Project description details are provided in Section 2.0. Additional OEHI Project description details are provided in Appendix A of this Application for Certification (AFC) Amendment.

#### *HECA Project Linear Facilities*

The HECA Project includes the following linear facilities, which extend off the Project Site (see Figure 2-7, Project Location Map):

- **Electrical transmission line.** An approximately 2-mile-long electrical transmission line will interconnect the Project to a future Pacific Gas and Electric Company (PG&E) switching station east of the Project Site.

- **Natural gas supply pipeline.** An approximately 13-mile-long natural gas interconnection will be made with PG&E natural gas pipelines located north of the Project Site.
- **Water supply pipelines and wells.** An approximately 15-mile-long process water supply line and up to five new groundwater wells will be installed by the Buena Vista Water Storage District (BVWSD) to supply brackish groundwater from northwest of the Project Site. An approximately 1-mile-long water supply line from the West Kern Water District (WKWD) east of the Project Site will provide potable water.
- **Coal transportation.** HECA is considering two alternatives for transporting coal to the Project Site:
  - **Alternative 1, rail transportation.** An approximately 5-mile-long new industrial railroad spur that will connect the Project Site to the existing San Joaquin Valley Railroad (SJVRR) Buttonwillow railroad line, north of the Project Site. This railroad spur will also be used to transport some HECA products to market.
  - **Alternative 2, truck transportation.** An approximately 27-mile-long truck transport route via existing roads from an existing coal transloading facility northeast of the Project Site. This alternative was presented in the 2009 Revised AFC.

### *OEHI Project*

OEHI will be installing the CO<sub>2</sub> pipeline from the Project Site to the EHOFF, as well as installing the EOR Processing Facility, including any associated wells and pipelines needed in the EHOFF for CO<sub>2</sub> EOR and sequestration. The following is a brief description of the OEHI Project, which is described in more detail in Appendix A of this AFC Amendment:

- **CO<sub>2</sub> EOR Processing Facility.** The CO<sub>2</sub> EOR Processing Facility and 13 satellites are expected to occupy approximately 136 acres within the EHOFF. The facility will use 720 producing and injection wells: 570 existing wells and 150 new well installations. Approximately 652 miles of new pipeline will also be installed in the EHOFF.
- **CO<sub>2</sub> pipeline.** An approximately 3-mile-long CO<sub>2</sub> pipeline will transfer the CO<sub>2</sub> from the HECA Project Site south to the OEHI CO<sub>2</sub> EOR Processing Facility.

In accordance with the California Energy Commission (CEC) regulations, this section describes existing land uses and potentially sensitive land uses in a study area that extends 1 mile from the Project Site and 0.25 mile from Project linear facilities. The analysis included in this section focuses on the HECA Project as well as the CO<sub>2</sub> linear associated with the OEHI Project. The analysis of the CO<sub>2</sub> EOR Processing Facility associated with the OEHI Project is included in Appendix A-1, Section 4.9, Land Use, and Appendix A-2, Section 2.4, Land Use, of this AFC Amendment. No agricultural or land use impacts related to coal transportation Alternative 2 are expected because the coal transloading facility is an existing use and trucks would use existing roads. Therefore, coal transportation Alternative 2 is not further evaluated in section.

Local, state, and federal jurisdictions potentially affected by the Project are identified, as are their respective plans, policies, laws, and regulations. Planned development and land use trends in the vicinity of the Project Site and associated linear facilities are identified based on currently available development plans. Reasonably foreseeable future development projects in the study area are discussed, and the potential land use impacts associated with the Project are assessed. The conformance with local plans and regulations and the compatibility of the Project with existing land uses in the area are evaluated.

Land use considerations for the Project have been identified and evaluated based on site reconnaissance surveys, current U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps, aerial photography, local land use ordinances, general plans and specific plans, and consultation with staff of the Kern County Planning Department.

Land uses in the study area are controlled and regulated through plans and ordinances adopted by the various agencies with jurisdiction over land use in the Project vicinity. The Kern County General Plan (Kern County, 2009) is the broadest in scope of the planning documents; it is a long-range planning instrument that includes land use goals and policies and designates preferred land uses for unincorporated Kern County. The Oglesby Specific Plan and Interstate 5 at Highway 58 Rural Community Specific Plan have also been developed for areas near Interstate 5 (I-5) and State Route 58 [SR 58] (Kern County, 1985 and 1986). The Kern County Zoning Ordinance (Kern County, 2011b) is the primary tool for achieving the objectives of the General Plan. The Zoning Ordinance identifies zoning districts and permitted uses, and includes development standards (e.g., density, minimum lot size, maximum height, and minimum setbacks). Other regulations governing development in the study area include grading and subdivision ordinances and building codes.

### 5.4.1 Affected Environment

#### 5.4.1.1 Regional Setting

The Project Site is in western unincorporated Kern County, approximately 7 miles west of the outermost edge of the city of Bakersfield (see Figure 5.4-1). Kern County is in the southern Central Valley of California. The County extends east beyond the southern slope of the eastern Sierra Nevada range into the Mojave Desert, and includes parts of the Indian Wells Valley and the Antelope Valley. From the Sierra Nevada range, the county extends across the floor of the San Joaquin Valley to the eastern edge of the Temblor Range, which is part of the Coastal Ranges. The county also extends to the south over the ridge of the Tehachapi Mountains. Kern County is the third-largest California county in area, with a total of 8,171 square miles (5,229,440 acres).

The county includes numerous unincorporated communities and eleven incorporated cities, including Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. Kern County is adjacent to nine other California counties, including Monterey County (northwest), Kings County (north), Tulare County (north), Inyo County (northeast), San Bernardino County (east), Los Angeles County (south), Ventura County (south), Santa Barbara County (southwest), San Luis Obispo County (west). None of these other jurisdictions (incorporated cities or other counties) is located in the Project vicinity (see Figure 5.4-1).

Predominant land uses in Kern County include agriculture, oil production, mineral exploration (including gold, borate, and kernite), residential, and military installations (including Edwards Air Force Base and China Lake Naval Air Weapons Station). Farm products are an important component of the county's economy, as well as petroleum, logistics/warehousing, and national defense and aerospace activities.

In 2010, the county's population was 839,631, and it is expected to grow 3.8 percent per year on average, to 1,352,627 in 2030 (CDOF, 2007; U.S. Census Bureau, 2010). This growth is primarily occurring in the incorporated cities rather than the unincorporated county areas. For example, Bakersfield's population grew by approximately 100,426 residents between 2000 and 2010, an increase of more than 28 percent (CDOF, 2007; Kern County, 2011).

#### *5.4.1.2 Land Uses On Site and in the Project Vicinity*

The Project Site is located 2 miles northwest of the unincorporated community of Tupman, and approximately 4 miles southeast of the unincorporated community of Buttonwillow. The Project Site is bounded by Tupman Road to the east, an irrigation canal to the south, and Dairy Road to the west; Adohr Road is located approximately 1,080 feet to the north. Primary access to the site is from Dairy Road. Stockdale Highway and I-5 are located approximately 1 mile to the north and 3 miles to the east, respectively. The Elk Hills-Buttonwillow Airport, which is a public airport primarily used for general aviation, is approximately 5 miles west-northwest of the Project Site and 3 miles south of Buttonwillow. EHOFF is approximately 1 mile south of the Project Site. Distances to places, sensitive receptors, and unique land uses in the Project vicinity are listed in Table 5.4-1.

Existing land uses in the study area were identified through site reconnaissance surveys, current USGS 7.5-minute topographic quadrangle maps, aerial photography, and Kern County Assessor's land use codes. Existing land uses (including sensitive land uses) in the study area are presented on Figure 5.4-2 and listed in Table 5.4-2. Figure 5.4-3 presents 2011 crop types for agricultural lands in the study area, which are also listed in Table 5.4-3. A list of assessor's parcel numbers (APNs) and ownership information in the study area is provided in Appendix H.

The 453-acre Project Site is currently used for farming purposes, including the cultivation of cotton, alfalfa, and onions. HECA LLC also has the option of purchasing 653 acres adjacent to the Project Site, whereby HECA LLC will control public access and future land uses. Land in the Controlled Area to the north, west, and south of the Project Site is also currently used for the cultivation of these crops. A fertilizer manufacturing plant (Port Organics) was previously located adjacent to the northwest of the Project Site in the Controlled Area.

Land within 1 mile of the Project Site is primarily used for farming purposes (particularly the cultivation of cotton, alfalfa, and onions), undeveloped areas, and orchards for the cultivation of pistachios. The western border of the Tule Elk State Natural Reserve is approximately 3,868 feet to the east of the Project Site. The nearest single-family dwellings are approximately 370 feet to the north, 1,400 feet to the east, and 3,300 feet to the southeast. The two nearest residences to the north consist of one single-family residence and a mobile home on a 5 acre parcel adjacent to the Project Site. The option to purchase this parcel was acquired subsequent to the 2009 Revised

AFC and it became part of the Controlled Area. These residences will not be in use during Project construction and operation.

Existing land uses within 0.25 mile of the 3.4-mile CO<sub>2</sub> linear primarily include undeveloped areas, farming (mainly alfalfa, cotton and onion cultivation), and resource extraction (oil production). The CO<sub>2</sub> linear would also cross under the Outlet Canal, the Kern River Flood Control Channel, and the California Aqueduct with horizontal directional drilling.

Land uses within 0.25 mile of the 13-mile natural gas linear and the 5.3-mile railroad primarily include farmland (mainly alfalfa, cotton, wheat, and corn cultivation) and orchards for the cultivation of pistachios.

Land within 0.25 mile of the 15-mile process water linear is primarily used for farming (mainly cotton and alfalfa cultivation), and orchards (pistachio). The process water pipeline extends from Seventh Standard Road to the Project Site, along the existing BVWSD road on the northwest side of the West Side Canal. Much of the land between the West Side Canal and the Kern River Flood Control Channel is undeveloped.

Land within 0.25 mile of the 2.1-mile electrical transmission linear and 1.2-mile potable water linear is primarily used for farming (mainly alfalfa and cotton cultivation), and orchards (pistachio). The electrical transmission linear will cross Tupman Road and Morris Road and interconnect with a future PG&E switching station approximately 2 miles east of the Project Site. The potable water linear will extend along a portion of this alignment, and will cross the East Side Canal.

### *5.4.1.3 Agricultural Lands and Williamson Act Contracts*

#### *Agricultural Lands*

The California Department of Conservation (CDOC) Farmland Mapping and Monitoring Program (FMMP) produces Important Farmland Maps to analyze impacts on California's agricultural resources. Land is rated according to soil quality, irrigation status, and current land use, and is included in one of the following classifications:

- **Prime Farmland.** Land that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Farmland of Statewide Importance.** Similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Unique Farmland.** Includes lands with lesser-quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated

orchards or vineyards, as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.

- **Farmland of Local Importance.** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land.** Land on which the existing vegetation is suited to the grazing of livestock.
- **Urban and Built-Up Land.** Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- **Other Land.** Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas unsuitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. In some counties Other Land is further classified as follows:
  - **Rural Residential Land.** Residential areas of 1 to 5 structures per 10 acres (“ranchettes”).
  - **Semi-Agricultural and Rural Commercial Land.** Includes farmsteads, agricultural storage and packing sheds, unpaved parking areas, composting facilities, equine facilities, firewood lots, and campgrounds.
  - **Vacant or Disturbed Land.** Open-field areas that do not qualify for an agricultural category; that are mineral and oil extraction areas or off road vehicle areas; or that have electrical substations, channelized canals, and rural freeway interchanges.
  - **Confined Animal Agriculture.** May be a component of Farmland of Local Importance in some counties. This category includes poultry facilities, feedlots, dairy facilities, and fish farms.
  - **Nonagricultural or Natural Vegetation.** Heavily wooded, rocky, or barren areas, riparian and wetland areas, and grassland areas that do not qualify for Grazing Land due to their size or land management restrictions. This category includes small water bodies, recreational water ski lakes, and constructed wetlands.
- **Water.** Perennial water bodies with an extent of at least 40 acres.

Figure 5.4-3 presents the important farmland classifications assigned to land in the study area. The acreage of land in the study area included in each of the FMMP categories is listed in Table 5.4-4. As shown on Figure 5.4-3 and in Table 5.4-4, the Project Site is categorized as Prime Farmland. The Prime Farmland and Semi-Agricultural and Rural Commercial Land classifications extend over the Controlled Area, which is to the north, south, and west of the

Project Site. Land within 1 mile of the Project Site is primarily included in the Prime Farmland classification. Grazing Land is located on the southern side of the West Side Canal and Outlet Canal. The Nonagricultural or Natural Vegetation classification applies to lands used for the Tule Elk State Natural Reserve to the east of the East Side Canal and south of Station Road.

As shown on Figure 5.4-3 and in Table 5.4-4, land within 0.25 mile of the Project linears is primarily included in the Prime Farmland or Grazing Land classifications. Prime Farmland is mostly found along the process water linear on the eastern side of the West Side Canal and along the railroad and natural gas linear. Grazing Land is mostly found along the process water linear on the western side of the West Side Canal, and the CO<sub>2</sub> linear south of the Outlet Canal.

### *Williamson Act Contracts*

The Williamson Act of 1965, which is also known as the California Land Conservation Act, was passed to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. The Act creates a mechanism that allows private landowners to contract with cities and counties to voluntarily restrict land to agricultural and open-space uses under a rolling 10-year contract. Restricted parcels are assessed for property tax purposes at a rate consistent with their actual use rather than potential market value. Unless either party files a “notice of non-renewal,” the contract is automatically renewed annually for an additional year.

Figure 5.4-3 depicts the lands under Williamson Act contracts in the study area, and the acreage of land in the study area under Williamson Act contracts is listed in Table 5.4-5. As shown on Figure 5.4-3 and in Table 5.4-5, the 453-acre Project Site is currently under Williamson Act contract. The Williamson Act contracts for the Project Site are included in Appendix H.

Williamson Act contracts also cover most of the land currently used for farmland within 1 mile of the Project Site, as well as properties adjacent to the process water linear (particularly on the eastern side of the West Side Canal), along the railroad and natural gas linear, and along portions of the CO<sub>2</sub> linear, electrical transmission linear, and potable water linear.

#### *5.4.1.4 General and Specific Plan Designations*

##### *Kern County General Plan*

The Kern County General Plan covers all of unincorporated Kern County, except for the metropolitan Bakersfield planning area, which is covered by the Metropolitan Bakersfield General Plan. The General Plan is a policy document that is intended to give long-range guidance for decisions relating to the growth and resources to unincorporated areas of the County. The plan was adopted in 2004 and was last amended in 2009. The General Plan is a long-term planning document and is anticipated to have a range of 15 to 25 years. The General Plan includes six of the seven mandatory general plan elements, including land use, circulation, housing, conservation, open space, noise, and safety, as well as an optional element addressing energy. The mandatory housing element is an interrelated document that has been kept separate for ease of future updating and use. A military readiness element is anticipated to be developed in the future as a separate program, and incorporated as a chapter of the General Plan. General Plan goals and policies relevant to the proposed Project are presented in Table 5.4-6.

The General Plan Land Use Element includes maps that present preferred land uses within unincorporated Kern County. The intent of these land use designations is also described in the Land Use Element. General Plan land use designations in the study area are shown on Figure 5.4-4. Table 5.4-7 presents a summary of the intent and the acreage of land for each of the land use designations identified in the study area.

As shown on Figure 5.4-4 and in Table 5.4-7, the entire Project Site is included in the Intensive Agriculture (Map Code 8.1) land use designation. Land designated as Intensive Agriculture is intended to be devoted to the production of irrigated crops or has a potential for such use. Permitted uses in the designation also include public utility uses. Most of the land within 1 mile of the Project Site is also included in the Intensive Agriculture designation, except for land to the south of the Outlet Canal, which is designated Extensive Agriculture (Map Code 8.3), and the Tule Elk State Natural Reserve, which is designated State or Federal Land (Map Code 1.1).

Land within 0.25 mile of the CO<sub>2</sub> linear is primarily included in the Mineral and Petroleum (Map Code 8.4) designation. The Intensive Agriculture designation applies to most of the land within 0.25 mile of the natural gas linear, railroad, process water linear, electrical transmission linear, and potable water linear. The Accepted County Plan Areas (Map Code 4.1) and Mineral and Petroleum (Map Code 8.4) designations apply to land within 0.25 mile of the natural gas linear near SR 58 and I-5 (see Figure 5.4-3 and Table 5.4-7). The Accepted County Plan Areas (Map Code 4.1) designation applies to lands included in the Oglesby Specific Plan and Interstate 5 at Highway 58 Rural Community Specific Plan.

### *Oglesby Specific Plan*

The Oglesby Specific Plan was adopted by Kern County in 1985. The plan applies to 124 acres of land bounded to the west by the Interstate 5 at Highway 58 Rural Community Specific Plan, and to the south by SR 58. The purpose of the plan is to guide development of the plan area for three primary land use designations: public facilities; residential; and commercial facilities. The plan identifies constraints affecting development of the site, policies, programs and intended actions. Land within the Oglesby Specific Plan area and 0.25 mile of the natural gas linear is included in the Highway Commercial (Map Code 6.3), General Commercial (Map Code 6.2), and Maximum 10 Units/Net Acre (Map Code 5.3) land use designations.

### *Interstate 5 at Highway 58 Rural Community Specific Plan*

The Interstate 5 at Highway 58 Rural Community Specific Plan was adopted by Kern County in 1986. The plan includes 640 acres of land bisected by I-5, SR 58, and an industrial rail spur paralleling SR 58. The purpose of the plan is to guide development of the plan area, particularly for transportation-related commercial and industrial uses. The plan identifies constraints affecting development of the site, policies, programs and intended actions. Land within the Specific Plan area and 0.25 mile of the natural gas pipeline is included in the Highway Commercial (Map Code 6.3) and Light Industrial (Map Code 7.1) land use designations.

### 5.4.1.5 Zoning Districts

The Kern County Zoning Ordinance is included in Title 19 of the Kern County Code. The Zoning Ordinance includes zoning maps that include land in unincorporated areas of the County into various zoning districts. The purpose of these zoning districts is described in the Zoning Ordinance, as well as permitted land uses and standards for development. Zoning districts in the study area are shown on Figure 5.4-5. Table 5.4-8 presents a summary of the purpose and the acreage of land for each of the zoning districts identified in the study area.

As shown on Figure 5.4-5 and in Table 5.4-8, the entire Project Site is included in the Exclusive Agriculture (A) zone. Electrical Power Generating Plants and Fertilizer Manufacture and Storage for Agricultural Use Only are permitted under Zoning Ordinance § 19.12.030.G with a Conditional Use Permit. Most of the land within 1 mile of the Project Site is also included in the Exclusive Agriculture (A) zone, except for land to the south of the Outlet Canal, which is zoned Limited Agriculture (A-1).

Land within 0.25 mile of the CO<sub>2</sub> linear is primarily included in the Limited Agriculture (A-1) and Exclusive Agriculture (A) zoning districts. Land within 0.25 mile of the natural gas linear and railroad is primarily included in the Exclusive Agriculture (A) zone (see Figure 5.4-5 and Table 5.4-8). Land within 0.25 mile of the process water linear is primarily included in the Exclusive Agriculture (A) zone, except for some areas on the western side of the West Side Canal (see Figure 5.4-5 and Table 5.4-8). The Airport Approach Height (H) Combining zoning district applies to land along the process water linear south of Brite Road. The purpose of this combining zoning district is to regulate the height of buildings, and minimize other aviation hazards near the Elk Hills-Buttonwillow Airport. The Exclusive Agriculture (A) zone applies to all of the land within 0.25 mile of the potable water pipeline and electrical transmission line.

Transmission lines, underground facilities for natural gas and water owned and operated by a public utility company or companies under the jurisdiction of the California Public Utilities Commission, are permitted uses in the Limited Agriculture (A-1) and Exclusive Agriculture (A) zoning districts. Oil or gas exploration and production, and related accessory equipment, which would include the CO<sub>2</sub> pipelines to the EHOE, are also permitted uses in these zoning districts. The federal Surface Transportation Board (STB) will have exclusive regulatory authority over the construction and operation of the railroad spur. The spur is expected to be exempt from STB certification because it would be exclusively used for industrial deliveries required for the HECA Project.

### 5.4.1.6 Legal Status of Project Site

HECA currently has an Option Agreement for the entire Project Site and Controlled Area. The Project Site includes Assessor's Parcel Numbers 159-040-02 (part), 159-040-16 (part) and 159-040-18 (part); and the Controlled Area includes Assessor's Parcel Numbers 159-040-16 (part), 159-040-17, 159-040-18 [part], and 159-190-09. HECA will own this property and have control over public access and future land use, including over the Controlled Area.

HECA proposes to be the owner and operator of the IGCC electrical generation, low-carbon nitrogen-based products manufacture, and associated equipment processes, including it linear

facilities. OEHI will own and operate the CO<sub>2</sub> pipeline. The transmission line ownership, up to the point of interconnect at the future PG&E switching station, will be determined in the future based on input from PG&E and the California Independent System Operator (CAISO). HECA will also be the owner of the proposed railroad spur and potable water line. HECA will need to obtain easement agreements conveying the necessary legal rights from the owners of properties crossed by the railroad spur, natural gas pipeline, electrical transmission line, and potable water line. The natural gas pipeline will be constructed by HECA or PG&E and PG&E will own the natural gas pipeline. The process water pipeline will be constructed and owned by BVWSD.

As discussed in Sections 5.4.1.3, 5.4.2.3, and 5.4.7, the Project Site is covered by Williamson Act contracts, which must be cancelled pursuant to GC § 51280 *et seq.* prior to construction and operation of the Project.

Following cancellation of the Williamson Act contracts, HECA will seek approval from Kern County to merge the Project Site into one legal parcel by obtaining a lot line adjustment from Kern County, pursuant to Chapter 18.35 of the Kern County Code. The lot line adjustment will require approval by the Planning Director, subject to certain findings, and is appealable to the Board of Supervisors. Approval of the lot line adjustment is anticipated within 90 days of submitting the lot line adjustment application (see Section 5.4.7).

#### ***5.4.1.7 Recent and Proposed General Plan Amendments, Zoning Changes, and Discretionary Reviews***

As shown in Table 5.4-9, two applications within 1 mile of the Project Site and 0.25 mile of the Project linears are currently in the preliminary review stage for conditional use permit or zoning change.

### **5.4.2 Environmental Consequences**

#### ***5.4.2.1 Significance Criteria***

The following sections discuss the potential land use and agriculture impacts associated with construction and operation of the Project. Appendix G of the California Environmental Quality Act (CEQA) describes project-related effects that would normally be considered to have a significant effect on the environment. Based on this guidance, project-related land use and agriculture impacts are considered significant if the Project would do any of the following:

- Physically divide an established community
- Conflict with any applicable land use plan and policies
- Conflict with any applicable habitat conservation plan or natural community conservation plan
- Result in conversion of prime or unique farmland, or farmland of statewide importance, to non-agricultural use
- Conflict with existing zoning for agricultural use or with a Williamson Act contract
- Result in degradation or loss of available agricultural land, agricultural activities, or agricultural land productivity
- Result in alteration of agricultural land characteristics due to plant air emissions

Consistency with applicable habitat conservation and natural community plans is discussed in Section 5.2, Biological Resources. Other issues related to land use are addressed in Section 5.1, Air Quality; Section 5.10, Traffic and Transportation; Section 5.5, Noise; Section 5.8, Socioeconomics; and Section 5.11, Visual Resources.

### *5.4.2.2 Compatibility with Established Land Uses*

The Project is not expected to conflict with existing land uses in the vicinity of the Project Site, which include farming, the Tule Elk State Natural Reserve, and a few scattered single-family dwellings. The Project would not result in physical division of an established community because the Project would involve the conversion of a portion of an existing farm, and surrounding land uses are primarily farming. Project linears would be buried, except for the electrical transmission line and the railroad spur, and would not conflict with the continuation of existing land uses. Poles supporting the electrical transmission line would be located to minimize interference with the continuation of existing land uses, which primarily include farming and orchards. The railroad spur bed would be minimized to 22 feet in width to minimize interference with existing land uses. Therefore, the Project would be compatible with existing land uses.

### *5.4.2.3 Compatibility with Agricultural Lands and Williamson Act Contracts*

#### *Agricultural Lands*

The Project would result in conversion of the 453-acre Project Site from agricultural uses. The Controlled Area will provide a buffer area between the Project Site and adjacent parcels, and would continue to be used for agricultural purposes. The Project Site is categorized as Prime Farmland and represents approximately 0.07 percent of the 608,789 acres of Kern County Prime Farmland inventoried by the CDOC in 2010 (CDOC, 2011). No significant changes to agricultural land uses on properties adjacent to the Project Site are expected because Project construction and operations will be isolated to the Project Site, with the exception of the temporary construction laydown areas, the railroad spur, the electrical transmission line, the PG&E gas metering station, and underground off-site linears. The conversion of farmland at the Project Site is not expected to result in the conversion of adjacent or nearby lands from agricultural use. When fully operational, the Project will require approximately 200 employees. This number of people is insufficient to require additional public services, and the use would not involve customers or public visits. Consequently, surrounding agricultural uses will not be affected. Most of the land in the vicinity of the Project Site is under Williamson Act contracts that prohibit use for purposes other than agriculture, open space, and compatible uses. Based on the small percentage of Prime Farmland affected by the Project, it would not result in significant impacts to agricultural lands and activities.<sup>1</sup>

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<sup>1</sup> The fact that the Project meets the criteria to be determined a project of statewide, regional, or areawide significance per CEQA Guidelines Section 15206 (b)(3) by virtue of the cancellation of a Williamson Act contract for a parcel of 100 or more acres does not necessarily mean that the Project causes a significant impact to agricultural resources. The determination of whether a project is of statewide, regional, or areawide significance is relevant to certain procedural requirements under CEQA, and is distinct from and independent of the determination of whether the project will significantly impact a specific resource.

*Williamson Act Contracts*

As discussed in Section 5.4.1.3, the Project Site is currently under Williamson Act contract. Because Kern County has determined that the Project is not a compatible use under the Williamson Act, the Williamson Act restrictions on the Project Site must be cancelled pursuant to California GC § 51280 *et seq.* prior to construction and operation of the Project. The Project Site represents approximately 0.03 percent of the 1,649,780 acres of Williamson Act contracted lands in Kern County (Kern County, 2007).

HECA will own the Controlled Area adjacent to the Project Site, and cancellation of the Williamson Act contracts covering these lands would not be required because they would continue to be used for agricultural purposes. Construction of the Project would require temporary use of approximately 80 acres of the Controlled Area in addition to the Project Site as a construction laydown area for construction equipment and materials (see Figure 5.4-1). The type of equipment and materials that will be staged in the construction laydown area is anticipated to include piping, vessels, steel for fabrication, electrical conduit and similar materials, pumps, compressors, valves, spools, insulation, instrumentation, scaffolding, tools, heavy equipment such as cranes, trucks, and earthmoving equipment, as well as construction worker vehicles. Kern County and the CDOC have confirmed that the proposed temporary use of this area for staging construction equipment and materials during Project construction would not require cancellation of the Williamson Act restrictions over this laydown area.

Williamson Act contracts covering lands along the CO<sub>2</sub> linear, natural gas linear, railroad, process water linear, electrical transmission linear, and potable water linear would not be cancelled because Kern County has determined that these Project components are compatible uses under the Williamson Act.

On June 29, 2010, the Kern County Board of Supervisors adopted Resolution 2010-168, approving the tentative cancellation of the Williamson Act contracts on approximately 491 acres, which included the 473 acres of the former Project Site boundaries, as described in HECA's Revised AFC that was filed in 2009, and 18 acres of the former fertilizer manufacturing plant (Port Organics) adjacent to the northwestern boundaries of the Project Site (see Figure 5.4-6). In approving the tentative cancellation, the Board of Supervisors found that the cancellation was in the public interest, pursuant to GC § 51282(a). A Certificate of Tentative Cancellation was recorded on July 14, 2010. The Certificate of Tentative Cancellation and Resolution 2010-168 are included in Appendix H. Additionally, a letter from the CDOC dated May 27, 2010, included in Appendix H, states that CDOC has no objection to the approval of the cancellation application by the Kern County Board of Supervisors. Also included in Appendix H is the Staff Report of the Kern County Board of Supervisors regarding the approval of the cancellation application. The Williamson Act restrictions over the tentatively cancelled acreage continue to remain in place until the conditions set forth in the Certificate of Tentative Cancellation are satisfied, including payment of the assessed cancellation fee, and recording of the final Certificate of Cancellation.

HECA plans to submit a new petition to Kern County to cancel the Williamson Act contract restrictions over the new Project Site boundaries (see Figure 5.4-6). Cancellation of the Williamson Act contract restrictions will require tentative approval of the Williamson Act

cancellation by the Kern County Board of Supervisors, following a public hearing and subject to certain findings discussed below. Final approval of the cancellation is subject to obtaining all discretionary permits necessary to implement the Project, payment of a cancellation fee, and satisfaction of any other conditions imposed by the Board of Supervisors in the tentative cancellation. Once these conditions are satisfied, a certificate of final cancellation will be issued and recorded by Kern County. The Kern County Planning Department has advised that the petition for cancellation would be statutorily exempt from CEQA pursuant to State Public Resources Code (PRC) § 21080(b)(6) and State CEQA Guidelines § 15271, which exempts early actions related to thermal power plants if an environmental document covering the actions will subsequently be prepared by a regulatory agency.

In order to grant tentative approval for cancellation of a Williamson Act contract, GC § 51282(a) requires the Kern County Board of Supervisors to make one of the following determinations:

- The cancellation is consistent with the purposes of the Williamson Act.
- The cancellation is in the public interest.

HECA will seek cancellation based on the public interest determination. The Board of Supervisors made this public interest determination in connection with its June 2010 approval of tentative cancellation of the Williamson Act contract affecting the former Project Site boundaries. HECA anticipates that the Board of Supervisors will determine—as it did in June 2010—that the cancellation would be in the public interest based on the following two findings:

1. Other public concerns, which include public concerns of energy supply, energy security, global climate change, water supply, hydrogen infrastructure, substantially outweigh the objectives of the Williamson Act Land Use Contract;
2. There is no available and suitable proximate noncontracted land for the use proposed on the contracted land and the site was selected based upon the proximity to a CO<sub>2</sub> storage reservoir, existing natural gas transportation, electric transmission, and brackish groundwater supply infrastructure that could support the proposed power generation.

The first finding is supported by the following facts:

- **Supplying Electricity.** The Project will provide approximately 300 MW of new, baseload low-carbon generating capacity, enough to power more than 159,000 homes.
- **Capturing Green House Gas Emissions.** The Project will prevent the release of approximately 3 million tons per year of greenhouse gases to the atmosphere by sequestering them underground. Existing conventional power plants release CO<sub>2</sub> into the atmosphere, rather than capturing and sequestering it. This will help the State to meet its important greenhouse gas reduction targets as established by Assembly Bill (AB) 32, AB 1925, and Senate Bill 1368. The Project is designed to support Executive Order S-3-05, which sets a State target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050.
- **Water Supply and Agricultural Production.** The Project will conserve fresh water sources by using brackish groundwater for its water needs. The brackish groundwater will be

supplied by BVWSD, a water district with impaired groundwater sources not suitable for agricultural or drinking use. Project consumption of the sources is expected to benefit local agriculture by removing salts from the groundwater sourcing the BVWSD, which will result in an improved groundwater quality. As a result, the Project will facilitate efforts by the Water District to improve local groundwater quality and agriculture in localized areas.

- **Protecting Energy Security and Domestic Energy Supplies.** The Project will conserve domestic energy supplies by using coal and petcoke, a local energy source that is currently exported overseas for fuel. Conservation of this domestic energy supply will enhance energy security. Petcoke is a by-product from the oil refining process. In addition, the Project will produce additional energy from existing California oil fields by injecting CO<sub>2</sub> for EOR, which will help California extract an otherwise unrecoverable 5 million barrels of oil each year or 150 million barrels over the first thirty years of the Project.
- **Promoting Hydrogen Infrastructure.** The Project will increase the supply of hydrogen available to support the State's goal of energy independence as expressed in California Executive Order S-7-04, which mandates the development of a hydrogen infrastructure and hydrogen transportation in California. The Project is poised to supplement the quantities of hydrogen necessary for these future energy and transportation technologies, and support California's roles as a world leader in clean energy.
- **Stimulating the Local and California Economy.** The Project will boost the local and California economy with an estimated 2,500 jobs associated with peak construction and approximately 200 fulltime positions associated with Project operations, plus ancillary jobs and businesses to support the Project.

Given that the Project addresses these public concerns, there is substantial evidence to support the finding set forth in GC § 51282(c)(1) that "other public concerns substantially outweigh the objects of the Williamson Act."

The following facts support the second finding:

The Project Site was selected based upon the available land, proximity to a suitable CO<sub>2</sub> EOR and sequestration site and the existing natural gas transportation, electric transmission and brackish groundwater supply infrastructure that could support the proposed 300 MW of baseload low-carbon power generation. The Project Site was also selected for its reasonable proximity to I-5, State Routes 58 and 119, and Stockdale Highway. There is no non-contracted land proximate to the Project Site that is both available and suitable for the Project. As such, the finding set forth in GC § 51282(c)(2) is satisfied. With regard to availability, virtually all land in the proximity of the Project Site is either under Williamson Act or in the Tule Elk State Natural Reserve. With regard to suitability, no alternative sites have been identified that meet the highly specific site selection requirements of the Project.

#### *5.4.2.4 Consistency with Adopted General and Specific Plans*

The Project is consistent with applicable Kern County General Plan goals and policies, which are presented in Table 5.4-6. The General Plan Energy Element recognizes the importance of

## 5.4 Land Use and Agriculture

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alternative energy development and the County's role as a major electricity producer, given its geographic position in California and location on the boundaries of the State's largest gas and electric utilities. The Project is also consistent with County goals and policies related to resource development, since the Project would enhance existing oil production in the EHOE.

The Project is also consistent with the allowed uses in the Intensive Agriculture land use designation, which include (but are not limited to) non-agricultural uses such as public utilities. For example, the Pastoria Energy Facility was found to be consistent with the intent of Kern County's Intensive Agriculture General Plan designation, and was permitted by the CEC. Agricultural industries are also permitted uses, and the production of nitrogen-based products as part of the Project would not conflict with the intent of the Intensive Agriculture land use designation. Land adjacent to the Project Site is also included in the Intensive Agriculture designation and is primarily used for farming purposes. The Project would not interfere with surrounding agricultural uses.

Project linears would be buried, except for the railroad and transmission line, and would not conflict with the intent of applicable General Plan and Specific Plan land use designations, which primarily include Intensive Agriculture and Mineral and Petroleum. Permitted uses in these land uses designation include (but are not limited to) pipelines, transmission facilities, and petroleum exploration and extraction. Poles supporting the electrical transmission line would be located to minimize interference with the continuation of existing land uses, which primarily include farming and orchards. In addition, the railroad spur bed would be minimized to 22 feet in width to minimize interference to existing land uses.

The Project will be constructed and operated to minimize impacts to all adjacent land uses as described in Section 5.1, Air Quality; Section 5.2, Biological Resources; Section 5.5, Noise; 5.10, Traffic and Transportation; and Section 5.11, Visual Resources. Therefore, the Project would not conflict with the Kern County General Plan and relevant specific plans.

### *5.4.2.5 Consistency with Kern County Zoning Ordinance*

The Project Site is included in the Exclusive Agriculture (A) zone. The Project is consistent with the purpose of the Exclusive Agriculture (A) zoning district because Electrical Power Generating Plants are permitted under Zoning Ordinance § 19.12.030.G with a Conditional Use Permit (CUP). The CUP for the Project will be subsumed within the CEC's permitting process. In the last 10 years, a number of energy facilities were found to be consistent with the purpose of Kern County's Exclusive Agriculture (A) zoning district and were permitted by the CEC, including the La Paloma Generating Project, Pastoria Energy Facility, Sunrise Cogeneration and Power Project, and Western Midway Sunset Power Project.

The Project also includes a Manufacturing Complex, which will produce low-carbon nitrogen-based products including fertilizer. Fertilizer production and storage for agricultural purposes (whether on-site or off-site) is a conditionally permitted use in the Exclusive Agriculture (A) zoning district. Production and storage of low-carbon nitrogen-based products other than fertilizer for agricultural purposes are not listed as permitted uses in the zoning district. The Kern County Planning Department expects to issue a Similar Use Determination under Zoning Ordinance § 19.08.030 for the proposed production and storage of low-carbon nitrogen-based

products. A Determination of Similar Use is a ministerial approval made by the Planning Director within 45 days of application submittal. No discretionary approvals under the Kern County Zoning Ordinance would be required.

The Project is consistent with the development standards for the Exclusive Agriculture (A) zoning district. The Kern County Zoning Ordinance regulates a minimum setback of 55 feet from the legal centerline of any existing or proposed street or access easement. The Zoning Ordinance indicates that there are no height limits on nonresidential structures and no landscaping is required.

Most of the land in the vicinity of the Project Site and Project linears is included in the Exclusive Agriculture (A) zone or the Limited Agriculture (A-1) zone. The Project would not interfere with surrounding land uses, which are permitted uses in the Exclusive Agriculture (A) zone or the Limited Agriculture (A-1) zone. Transmission lines and underground facilities for natural gas and water owned and operated by a public utility company or companies under the jurisdiction of the California PUC are permitted uses in the Exclusive Agriculture (A) and Limited Agriculture (A-1) zoning districts. Oil or gas exploration and production, and related accessory equipment, which would include the CO<sub>2</sub> pipelines to the EHOF are also permitted uses in these zoning districts. Project linears would be buried, except for the railroad and electrical transmission line, and would not conflict with the purpose of these zoning districts. The height of poles supporting the electrical transmission line would not conflict with the Zoning Ordinance because there are no height limits for nonresidential structures in the Exclusive Agriculture (A) or Limited Agriculture (A-1) zoning districts. In addition, poles supporting the electrical transmission line would be located to minimize interference with the continuation of existing land uses, which primarily include farming and orchards. The federal Surface Transportation Board will have exclusive regulatory authority over the construction and operation of the industrial rail spur. The spur is expected to be exempt from STB certification because it would be exclusively used for industrial deliveries required for the HECA Project.

#### *5.4.2.6 OEHI Project*

According to the analysis contained in Appendix A-1, Section 4.9, Land Use, and Appendix A-2, Section 2.4, Land Use, construction and operation of the OEHI Project will not result in significant adverse impacts.

### **5.4.3 Cumulative Impacts Analyses**

Under certain circumstances, CEQA requires consideration of a project's cumulative impacts (CEQA Guidelines § 15130). A "cumulative impact" consists of an impact that is created as a result of the combination of the project under review together with other projects causing related impacts (CEQA Guidelines § 15355). CEQA requires a discussion of the cumulative impacts of a project when the project's incremental effect is cumulatively considerable (CEQA Guidelines § 15130[a]). "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (CEQA Guidelines § 15065 [b][3]).

When the combined cumulative impact associated with a project's incremental effect and the effects of other projects is not significant, further discussion of the cumulative impact is not necessary (CEQA Guidelines § 15130[a]). It is also possible that a project's contribution to a significant cumulative impact is less than cumulatively considerable and thus not significant (CEQA Guidelines § 15130[a]).

The discussion of cumulative impacts should reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a level of detail as is provided for the effects attributable to the project under consideration (CEQA Guidelines § 15130[b]). The discussion should be guided by standards of practicality and reasonableness (CEQA Guidelines § 15130[b]).

A cumulative impact analysis starts with a list of past, present, and probable future projects in a defined geographical scope with the potential to produce related or cumulative impacts (CEQA Guidelines § 15130[b]). Factors to consider when determining whether to include a related project include the nature of the environmental resource being examined, the location of the project, and its type (CEQA Guidelines § 15130[b]). For purposes of this AFC Amendment, Kern County was contacted to obtain a list of related projects, which is contained in Appendix I. Depending on its location and type, not every project on this list is necessarily relevant to the cumulative impact analysis for each environmental topic.

Of the projects identified in Appendix I only two are located in the land use study area (i.e., 1 mile from the Project Site and 0.25 mile from the Project linears). One of these projects involves establishing a 121-acre dairy farm with 739-acres for liquid waste disposal and 201 acres for solid waste disposal on the southwestern corner of Adohr Road and Dairy Road, directly across the Dairy Road right-of-way from the Project Site. Although dairies are not common in the vicinity of the Project Site, the use is compatible with surrounding farming uses and the Project. The second project involves a general plan amendment from light industrial to service industrial to develop a 1.3-million-square-foot distribution facility. The facility will be located on Old Tracy Road and I-5, and will be compatible with the nearby land use designations. No other planned industrial or commercial projects were identified in the study area. For these reasons, the Project is not expected to result in significant cumulative land use impacts.

According to the analysis contained in Appendix A-1, Section 4.9, Land Use, and Appendix A-2, Section 2.4, Land Use, construction and operation of the OEHI Project would not result in significant cumulative adverse impacts to land use.

### 5.4.4 Mitigation Measures

The Project would not result in significant land use impacts; therefore, no mitigation measures are necessary.

### 5.4.5 Laws, Ordinances, Regulations, and Standards

The Project will be constructed and operated in compliance with all LORS applicable to land use and agricultural resources. Federal, state, and local LORS applicable to land use and agricultural resources are discussed below and summarized in Table 5.4-10.

#### *5.4.5.1 Federal*

49 U.S.C. § 10501(b)(2) preempts state regulatory authority over railroad operations.

49 U.S.C. § 10906 precludes all regulation of industrial or spur tracks.

No federal LORS are applicable to land in the vicinity of the Project.

#### *5.4.5.2 State*

CEQA PRC § 21000-21177 requires evaluation and appropriate mitigation measures for potential environmental impacts to land use and agricultural resources from a proposed project. A discussion and evaluation of applicable CEQA provisions is included in Section 5.4.2, above.

The Williamson Act of 1965 (GC § 51200-51207), which is also known as the California Land Conservation Act, enables local governments to enter into contracts with private landowners to voluntarily restrict specific parcels of land to agricultural and open space uses under a rolling 10-year contract. Restricted parcels are assessed for property tax purposes at a rate consistent with their actual use rather than potential market value. Unless either party files a “notice of non-renewal,” the contract is automatically renewed annually for an additional year. The Act also includes findings for cancellation of Williamson Act contracts. A discussion and evaluation of applicable Williamson Act provisions is included in Section 5.4.2.3, above.

#### *5.4.5.3 Local*

The Project will be constructed and operated in accordance with all local land use LORS as discussed in Section 5.4.2.4 and 5.4.2.5, above.

### **5.4.6 Involved Agencies and Agency Contacts**

Kern County will review the proposed development plans for consistency with their General Plan and Zoning Ordinance and consider a petition for cancellation of the Williamson Act contract restrictions on the Project Site, a lot line adjustment application, a Similar Use Determination application, and an application for vacating roads and easements within the Project Site. See Section 5.4.7 for required permits and schedule. Kern County has expressed support for the Project and a willingness to cooperate throughout the permitting process. Involved agencies are listed in Table 5.4-11.

### **5.4.7 Permits Required and Permit Schedule**

Permits required for the Project are listed in Table 5.4-12. The CEC has exclusive authority to license power plants in California. According to PRC § 25500:

The issuance of a certificate by the Commission shall be in lieu of any permit, certificate or similar document required by any state, local or regional agency. . . and shall supersede any applicable statute, ordinance or regulation of any state, local or regional agency . . .

Nonetheless, barring a finding that a project is required for the public convenience and necessity and that there are no more prudent and feasible means of achieving that convenience and necessity (20 California Code of Regulations 7752 [1]), the CEC might not issue a license for a project that is inconsistent with local land use designations.

As discussed above, the Project is consistent with the goals and policies of Kern County's General Plan and Zoning Ordinance. The Project is a permitted use in the Exclusive Agriculture (A) zoning district with a Conditional Use Permit.

Although the Kern County CUP requirement for the Project will be subsumed within the CEC permitting process, HECA will need to seek approval from the County for the following:

1. Cancellation of the Williamson Act contract restrictions on the Project Site (as discussed in Section 5.4.2.3);
2. Lot line adjustment to merge the Project Site into a single legal parcel (as discussed in Section 5.4.1.6);
3. Similar Use Determination (as discussed in Section 5.4.2.5); and
4. Vacation of various public roads and easements within the Project Site, which will require approval by the Board of Supervisors, following a noticed public hearing pursuant to California Streets & Highways Code § 8320–8334.5.

The timelines for the required Kern County approvals are set forth in Table 5.4-12.

### 5.4.8 References

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Kern County, 2011b. Zoning Ordinance. December.

Mynk, Christopher (Kern County Planning Department), 2012. Email communication to Christopher Wolf, URS. March 12, 2012.

**Table 5.4-1  
Distances to Places, Sensitive Receptors, and Unique Land Uses in the Project Vicinity**

Place/Sensitive Receptor	Location	Direction from Project Site	Distance from Project Site
Buttonwillow (unincorporated community)	N/A	Northwest	4.3 miles
Buttonwillow Elementary School	42600 SR 58 Buttonwillow, CA 93206	Northwest	6.3 miles
California Aqueduct	N/A	South	1,980 feet
City of Bakersfield	N/A	East	6.5 miles
East Side Canal	N/A	East	1,415 feet
Elk Hills Elementary School	501 Kern Street Tupman, CA 93276	South	2.4 miles
Elk Hills Oil Field	N/A	South	1 mile
Elk Hills–Buttonwillow Airport	Buttonwillow, CA 93206	West	5 miles
Kern River Flood Control Channel	N/A	South	805 feet
Kern Water Bank	N/A	East	1 mile
Oasis Church of God	405 Kern Street Tupman, CA 93276	Southeast	2.4 miles
Residence	6122 Tule Park Road Buttonwillow, CA 93206	East	1,466 feet
Residence	34365 Stockdale Highway Buttonwillow, CA 93206	North	5,308 feet
Residence	8229 Station Road Buttonwillow, CA 93206	East	1,442 feet
Residence	Tupman Road Buttonwillow, CA 93206	Southeast	3,024 feet
Tule Elk State Natural Reserve	8653 Station Road Buttonwillow, CA 93206	East	3,869 feet
Tupman (unincorporated community)	N/A	Southeast	2.0 miles
West Side Canal (called Outlet Canal further east)	N/A	South	580 feet

Notes:

N/A = not applicable

**Table 5.4-2  
Existing Land Uses in the Study Area**

Existing Land Use	Area (acres)	Percent
<b>Project Site</b>	<b>446.4</b>	<b>100.0</b>
Farming	445.4	99.8
Industrial	1.0	0.2
<b>Vicinity of Project Site (1 Mile Radius)</b>	<b>4362.0</b>	<b>100.0</b>
Canal	36.4	0.8
Farming	2715.9	62.3
Industrial	31.6	0.7
Orchards	505.7	11.6
Parks/Open Space/Recreation	372.1	8.5
Public/Quasi-Public	29.7	0.7
Residential	0.6	0.0
Residential/Urban	5.6	0.1
Undeveloped	664.3	15.2
<b>CO<sub>2</sub> Linear (0.25 Mile Radius)</b>	<b>1120.8</b>	<b>100.0</b>
Canal	5.6	0.5
Farming	319.4	28.5
Public/Quasi-Public	6.6	0.6
Resource Extraction	286.2	25.5
Undeveloped	503.0	44.9
<b>Natural Gas/Railroad Linears (0.25 Mile Radius)</b>	<b>4144.2</b>	<b>100.0</b>
Canal	26.5	0.6
Commercial	27.0	0.7
Farming	2825.7	68.2
Industrial	106.1	2.6
Orchards	782.7	18.9
Public/Quasi-Public	32.0	0.8
Residential	5.1	0.1
Undeveloped	339.0	8.2
<b>Transmission/Potable Water Linears (0.25 Mile Radius)</b>	<b>771.0</b>	<b>100.0</b>
Canal	8.6	1.1
Farming	698.0	90.5
Orchards	50.7	6.6
Public/Quasi-Public	13.6	1.8
<b>Process Water Linears (0.25 Mile Radius)</b>	<b>4832.6</b>	<b>100.0</b>
Canal	65.8	1.4
Farming	2936.9	60.8
Orchards	571.3	11.8
Public/Quasi-Public	8.4	0.2
Residential	12.8	0.3
Undeveloped	1237.6	25.6

Source: Site reconnaissance surveys; U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle maps; aerial photography; and Kern County Assessor's land use codes

**Table 5.4-3  
Crop Types in the Study Area**

Crop Type	Area (acres)	Percent
<b>Project Site</b>	<b>430.7</b>	<b>100.0</b>
Alfalfa	118.0	27.4
Cotton	246.8	57.3
Onion	65.9	15.3
<b>Vicinity of Project Site (1 Mile Radius)</b>	<b>2906.2</b>	<b>100.0</b>
Alfalfa	615.1	21.2
Corn	200.8	6.9
Cotton	1449.8	49.9
Onion	177.3	6.1
Pistachio	376.2	12.9
Wheat	11.0	0.4
Other	76.2	2.6
<b>CO<sub>2</sub> Linear (0.25 Mile Radius)</b>	<b>301.5</b>	<b>100.0</b>
Alfalfa	102.7	34.1
Cotton	124.9	41.4
Onion	73.9	24.5
<b>Natural Gas/Railroad Linears (0.25 Mile Radius)</b>	<b>4054.7</b>	<b>100.0</b>
Alfalfa	1205.9	29.7
Almond	137.6	3.4
Carrot	60.2	1.5
Corn	421.9	10.4
Cotton	948.0	23.4
Pistachio	434.4	10.7
Uncultivated Ag	100.5	2.5
Wheat	618.2	15.2
Other	128.0	3.2
<b>Potable Water/Transmission Linears (0.25 Mile Radius)</b>	<b>343.9</b>	<b>100.0</b>
Alfalfa	225.5	65.6
Corn	17.3	5.0
Cotton	64.8	18.9
Pistachio	35.2	10.2
Wheat	1.2	0.3
<b>Process Water Linear (0.25 Mile Radius)</b>	<b>8530.57</b>	<b>100.0</b>
Alfalfa	1005.6	11.8
Almond	31.8	0.4
Carrot	72.6	0.9
Corn	72.6	0.9
Cotton	1233.1	14.5
Onion	212.8	2.5
Pistachio	456.3	5.4
Uncultivated Ag	78.5	0.9
Wheat	210.9	2.5
Other	2578.2	30.2

Source: Kern County, 2011.

**Table 5.4-4  
Important Farmland in the Study Area**

<b>Important Farmlands</b>	<b>Area (acres)</b>	<b>Percent</b>
<b>Project Site</b>	<b>453.0</b>	<b>100.0</b>
Prime Farmland	453.0	100.0
<b>Vicinity of Project Site (1 Mile Radius)</b>	<b>4579.8</b>	<b>100.0</b>
Grazing Land	741.3	16.2
Nonagricultural or Natural Vegetation	397.7	8.7
Prime Farmland	3285.9	71.8
Semi-Agricultural and Rural Commercial Land	39.7	0.9
Unique Farmland	37.6	0.8
Vacant or Disturbed Land	77.6	1.7
<b>CO<sub>2</sub> Linear (0.25 Mile Radius)</b>	<b>1196.2</b>	<b>100.0</b>
Grazing Land	574.2	48.0
Nonagricultural or Natural Vegetation	199.8	16.7
Prime Farmland	343.6	28.7
Semi-Agricultural and Rural Commercial Land	9.9	0.8
Vacant or Disturbed Land	68.6	5.7
<b>Natural Gas/Railroad Linears (0.25 Mile Radius)</b>	<b>4271.5</b>	<b>100.0</b>
Confined Animal Agriculture	80.0	1.9
Farmland of Statewide Importance	896.9	21.0
Nonagricultural or Natural Vegetation	427.6	10.0
Prime Farmland	2632.4	61.6
Semi-Agricultural and Rural Commercial Land	31.9	0.7
Unique Farmland	0.6	0.0
Urban and Built-up Land	92.7	2.2
Vacant or Disturbed Land	109.4	2.6
<b>Potable Water/ Transmission Linears (0.25 Mile Radius)</b>	<b>781.9</b>	<b>100.0</b>
Grazing Land	182.0	23.3
Prime Farmland	585.0	74.8
Unique Farmland	14.9	1.9
<b>Process Water Linear (0.25 Mile Radius)</b>	<b>4915.3</b>	<b>100.0</b>
Farmland of Statewide Importance	132.8	2.7
Grazing Land	1599.5	32.5
Nonagricultural or Natural Vegetation	22.7	0.5
Prime Farmland	2962.3	60.3
Unique Farmland	198.0	4.0

Source: Kern County, 2007.

**Table 5.4-5  
Williamson Act Contracts in the Study Area**

<b>Important Farmlands</b>	<b>Area (acres)</b>	<b>Percent</b>
<b>Project Site</b>	<b>453</b>	<b>100.0</b>
Williamson Act Contract	453	100.0
<b>Vicinity of Project Site (1 mile Buffer)</b>	<b>4579.9</b>	<b>100.0</b>
Williamson Act Contract	2821.0	61.6
<b>CO<sub>2</sub> Linear (0.25 Mile Buffer)</b>	<b>1196.2</b>	<b>100.0</b>
Williamson Act Contract	488.3	40.8
<b>Natural Gas/Railroad Linears (0.25 Mile Buffer)</b>	<b>4271.5</b>	<b>100.0</b>
Williamson Act Contract	2652.2	62.1
<b>Potable Water/Transmission Linears (0.25 Mile Buffer)</b>	<b>782.0</b>	<b>100.0</b>
Williamson Act Contract	341.3	43.6
<b>Process Water Linear (0.25 Mile Buffer)</b>	<b>4915.3</b>	<b>100.0</b>
Williamson Act Contract	2448.3	49.8

Source: Kern County, 2007.

**Table 5.4-6  
Kern County General Plan Goals and Policies**

<b>Goal/Policy No.</b>	<b>Goal/Policy</b>
Land Use Policy 1.4.5	Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users in Kern County.
Land Use Goal 1.9.2	Protect areas of important mineral, petroleum, and agriculture resource potential for future use.
Land Use Goal 1.9.3	Ensure the development of resource areas and minimize effects on neighboring resource lands.
Land Use Goal 1.9.4	Encourage safe and orderly energy development in the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.
Land Use Goal 1.9.5	Conserve prime agriculture lands from premature conversion.
Land Use Goal 1.9.6	Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.
Land Use Policy 1.9.7	Areas designated for agriculture use, which include Class I and II and other enhanced agriculture soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.
Land Use Policy 1.9.11	Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.
Land Use Policy 1.9.16	The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.
Land Use Policy 1.9.20	Areas along rivers and streams will be conserved where feasible to enhance drainage, flood control, recreation, and other beneficial uses, while acknowledging existing land use patterns.
Land Use Policy 1.10.8	The County shall ensure that new industrial uses and activities are sited to avoid or minimize significant hazards to human health and safety in a manner that avoids overconcentrating such uses in proximity to schools and residents.
Land Use Policy 1.10.19	In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that: (a) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and (b) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.
Land Use Policy 1.10.20	The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

**Table 5.4-7  
General and Specific Plan Land Use Designations in the Study Area**

Designation (Map Code)	Intent	Area (Acres)	Percent
<b>Project Site</b>		<b>453</b>	<b>100.0</b>
Intensive Agriculture (8.1)	<p>Areas devoted to the production of irrigated crops or having a potential for such use. Other agriculture uses, while not directly dependent on irrigation for production, may also be consistent with the intensive agriculture designation. Minimum parcel size is 20 acres gross.</p> <p>Uses shall include, but are not limited to, the following:</p> <p>Irrigated cropland; orchards; vineyards; horse ranches; raising of nursery stock, ornamental flowers, and Christmas trees; fish farms, bee keeping, ranch and farm facilities, and related uses; one single-family dwelling unit; cattle feed yards; dairies; dry land farming; livestock grazing; water storage; groundwater recharge acres; mineral, aggregate, and petroleum exploration and extraction; hunting clubs; wildlife preserves; farm labor housing; public utility uses; agricultural industries pursuant to provisions of the Kern County Zoning Ordinance; and land in development areas subject to significant physical constraints.</p>	453	100.0
<b>Vicinity of Project Site (1 Mile Radius)</b>		<b>4579.8</b>	<b>100.0</b>
Extensive Agriculture (8.3)	<p>Agricultural uses involving large amounts of land with relatively low value-per-acre yields, such as livestock grazing, dry land farming, and woodlands. Minimum parcel size is 20 acres gross, except lands subject to a Williamson Act Contract/ Farmland Security Zone Contract, in which case the minimum parcel size shall be 80 acres gross.</p>	711.7	15.5
Intensive Agriculture (8.1)	See intent under Project Site, above.	3493.2	76.3
State or Federal Land (1.1)	<p>Applied to all property under the ownership and control of the various state and federal agencies operating in Kern County (such as military, United States Forest Service, Bureau of Land Management, and Department of Energy)</p>	375.0	8.2

**Table 5.4-7  
General and Specific Plan Land Use Designations in the Study Area (Continued)**

<b>Designation (Map Code)</b>	<b>Intent</b>	<b>Area (Acres)</b>	<b>Percent</b>
<b>CO<sub>2</sub> Linear (0.25 Mile Radius)</b>		<b>1196.2</b>	<b>100.0</b>
Extensive Agriculture (8.3)	See intent under Vicinity of Project Site, above.	207.6	17.4
Intensive Agriculture (8.1)	See intent under Project Site, above.	334.8	28.0
Mineral and Petroleum (8.4)	Areas that contain producing or potentially productive petroleum fields, natural gas, and geothermal resources, and mineral deposits of regional and statewide significance. Uses are limited to activities directly associated with the resource extraction. Minimum parcel size is 5 acres gross.	653.8	54.7
<b>Natural Gas/Railroad Linears (0.25 Mile Radius)</b>		<b>4271.5</b>	<b>100.0</b>
Extensive Agriculture (8.3)	See intent under Vicinity of Project Site, above.	161.2	3.8
General Commercial (6.2) <sup>1</sup>	Retail and service facilities of less intensity than regional centers providing a broad range of goods and services which serve the day-to-day needs of nearby residents. Permitted uses shall include, but are not limited to, the following: neighborhood shopping centers, convenience markets, restaurants, offices, and wholesale business facilities.	11.5	0.3
Highway Commercial (6.3) <sup>1</sup>	Uses which provide services, amenities, and accommodations at key locations along major roadways to visitors and through traffic. Maximum building height not to exceed 50 feet. Permitted uses shall include, but are not limited to, the following: hotels, motels, restaurants, garages, service stations, and recreation vehicle facilities.	133.4	3.1
Intensive Agriculture (8.1)	See intent under Project Site, above.	3333.4	78.1
Light Industrial (7.1) <sup>1</sup>	Unobtrusive industrial activities that can locate in close proximity to commercial uses with a minimum of environmental conflicts. These industries are characterized as non-labor intensive and nonpolluting and do not produce fumes, odors, noise, or vibrations detrimental to nearby properties. Permitted uses shall include, but are not limited to, the following: wholesale businesses, storage buildings and yards, warehouses, manufacturing and assembling, truck parking and servicing, all commercial uses, public facilities, and resource land use.	88.8	2.1
Residential Maximum 10 Units/Net Acre (5.3) <sup>1</sup>	This category is designed to accommodate single-family development on mobile home lots in conformance with § 17.3 of the Kern County Zoning Ordinance and State of California Title 25 ordinance standards.	17.9	0.4

**Table 5.4-7  
General and Specific Plan Land Use Designations in the Study Area (Continued)**

Designation (Map Code)	Intent	Area (Acres)	Percent
Mineral and Petroleum (8.4)	See intent under CO <sub>2</sub> , above.	244.0	5.7
Resource Management (8.5)	<p>Primarily open space lands containing important resource values, such as wildlife habitat, scenic values, or watershed recharge areas. These areas may be characterized by physical constraints, or may constitute an important watershed recharge area or wildlife habitat or may have value as a buffer between resource areas and urban areas. Other lands with this resource attribute are undeveloped, non-urban areas that do not warrant additional planning within the foreseeable future because of current population (or anticipated increase), marginal physical development, or no subdivision activity.</p> <p>Minimum parcel size is 20 acres gross, except lands subject to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size shall be 80 acres gross.</p> <p>Uses shall include, but are not limited to, the following:</p> <p>Recreational activities; livestock grazing; dry land farming; ranching facilities; wildlife and botanical preserves; and timber harvesting; one single-family dwelling unit; irrigated croplands; water storage or groundwater recharge areas; mineral; aggregate; petroleum exploration and extraction; open space and recreational uses; one single-family dwelling on legal residentially zoned lots on effective date of this General Plan; land within development areas subject to significant physical constraints; State and federal lands which have been converted to private ownership.</p>	275.6	6.5
State Land (1.1) <sup>1</sup>	Applied to property owned or controlled by the State of California.	4.5	0.1
<b>Potable Water/Transmission Linears (0.25 Mile Radius)</b>		<b>782.0</b>	<b>100.0</b>
Intensive Agriculture (8.1)	See intent under Project Site, above.	782.0	100.0
<b>Process Water Linear (0.25 Mile Radius)</b>		<b>4915.3</b>	<b>100.0</b>
Extensive Agriculture (8.3)	See intent under Vicinity of Project Site, above.	1055.8	21.5
Intensive Agriculture (8.1)	See intent under Project Site, above.	3859.5	78.5

Sources: Kern County, 1985, 1986, 2009.

Notes:

<sup>1</sup> Designations under the Oglesby Specific Plan (Kern County, 1985) or Interstate 5 at Highway 58 Rural Community Specific Plan (Kern County, 1986)

**Table 5.4-8  
Zoning Districts in the Study Area**

<b>Designation</b>	<b>Purpose/Development Standards</b>	<b>Area (Acres)</b>	<b>Percent</b>
<b>Project Site</b>		<b>453</b>	<b>100.0</b>
Exclusive Agriculture (A)	The purpose of the Exclusive Agriculture (A) District is to designate areas suitable for agricultural uses and to prevent the encroachment of incompatible uses onto agricultural lands and the premature conversion of such lands to nonagricultural uses. Uses in the A District are limited primarily to agricultural uses and other activities compatible with agricultural uses. Minimum lot size is 20 gross acres. A minimum lot size of 80 gross acres applies to lots under Williamson Act Contract and designated 8.2, 8.3, or 8.5 by the County General Plan or equivalent designation of any other adopted General or Specific Plan. The minimum front yard setback is 55 feet from the legal centerline of any existing or proposed private local street or access easements. The minimum side yard setback is 5 feet, except a minimum of 10 feet is required on the street side or corner lots. The minimum rear yard setback is 5 feet. There are no height limits for non-residential structures.	453	100.0
<b>Vicinity of Project Site (1 mile Buffer)</b>		<b>4440.9</b>	<b>100.0</b>
Exclusive Agriculture (A)	See intent under Project Site, above.	4050.6	91.2
Limited Agriculture (A-1)	The purpose of the Limited Agriculture (A-1) District is to designate areas suitable for a combination of estate-type residential development, agricultural uses, and other compatible uses. Final map residential subdivisions are not allowed in the A-1 District.	390.3	8.8
<b>CO<sub>2</sub> Linear (0.25 Mile Buffer)</b>		<b>1135.3</b>	<b>100.0</b>
Exclusive Agriculture (A)	See intent under Project Site, above.	438.8	38.7
Limited Agriculture (A-1)	See intent under Vicinity of Project Site, above.	696.5	61.4

**Table 5.4-8  
Zoning Districts in the Study Area (Continued)**

<b>Designation</b>	<b>Purpose/Development Standards</b>	<b>Area (Acres)</b>	<b>Percent</b>
<b>Natural Gas/Railroad Linears (0.25 Mile Buffer)</b>		<b>4180.8</b>	<b>100.0</b>
Exclusive Agriculture (A)	See intent under Project Site, above.	3969.5	94.9
General Commercial (C-2), Precise Development Combining (PD)	The purpose of the General Commercial (C-2) District is to designate areas for the widest range of retail commercial activities, including regional shopping centers and heavy commercial uses. The C-2 District should be located on major highways.  The purpose of the Precise Development (PD) Combining District is to designate areas with unique site characteristics or environmental conditions or areas surrounded by sensitive land uses to ensure that development in such areas is compatible with such constraints.	78.3	1.9
Limited Agriculture (A-1)	See intent under Vicinity of Project Site, above.	97.1	2.3
Medium Industrial (M-2), Precise Development Combining (PD)	The purpose of the Medium Industrial (M-2) District is to designate areas for general manufacturing, processing, and assembly activities. Uses may not produce fumes, odor, dust, smoke, gas, or vibrations extending beyond zoning district boundaries.  See intent above.	16.6	0.4
Mobilehome Park (MH)	The purpose of the Mobilehome (MH) Combining District is to provide for the installation of mobile homes with or without foundations in agricultural, resource-related, and residential zoned areas.	19.3	0.5
<b>Potable Water/Transmission Linears (0.25 Mile Buffer)</b>		<b>782.0</b>	<b>100.0</b>
Exclusive Agriculture (A)	See intent under Project Site, above.	782.0	100.0
<b>Process Water Linear (0.25 Mile Buffer)</b>		<b>4881.0</b>	<b>100.0</b>
Exclusive Agriculture (A)	See intent under Project Site, above.	3843.7	78.8

**Table 5.4-8  
Zoning Districts in the Study Area (Continued)**

Designation	Purpose/Development Standards	Area (Acres)	Percent
Exclusive Agriculture (A), Airport Approach Height Combining (H)	The purpose of the Airport Approach Height (H) Combining District is to minimize aviation hazards by regulating land uses, restricting the height of buildings and vegetation, and specifying design criteria necessary to promote aviation safety and to implement the requirements of the adopted Airport Land Use Compatibility Plan. The H District may be applied to areas within the vicinity of any public or general-use airport as provided for in the adopted Airport Land Use Compatibility Plan. The standards established by the H District are in addition to the regulations of the base district with which the H District is combined.	36.5	0.8
Limited Agriculture (A-1)	See intent under Vicinity of Project Site, above.	577.2	11.8
Limited Agriculture (A-1), Airport Approach Height Combining (H)	See intent above.	423.5	8.7

Source: Kern County, 2011a.

Note:

The identified zoning districts have been summarized and only those districts in the affected environment of the Project study area are discussed.

**Table 5.4-9  
Recent and Proposed Discretionary Reviews in the Study Area**

APN	Request	Case Type/ Permit Number	Status
159-020-16 159-030-06 159-070-03 159-130-11	Establish a 1,061 acre dairy (121-acre dairy, 739 acres of liquid waste disposal/spreading, and 201 acres for solid waste disposal/spreading)	Conditional Use Permit #10212	Application submitted on July 24, 2004. Project is part of a Master Environmental Impact Report by Kern County for dairies
103-080-45	General Plan Amendment from Other Facilities (3.3) and Light Industrial (7.1) to Service Industrial (7.2) to develop a 1.3 million square foot distribution facility	General Plan Amendment #13479	Application submitted and on hold pending payment of fees. Expected to require Environmental Impact Report

Source: Mynk, 2012.

Notes:

APN = Assessor's Parcel Number

**Table 5.4-10  
Applicable Land Use Laws, Ordinances, Regulations, and Standards**

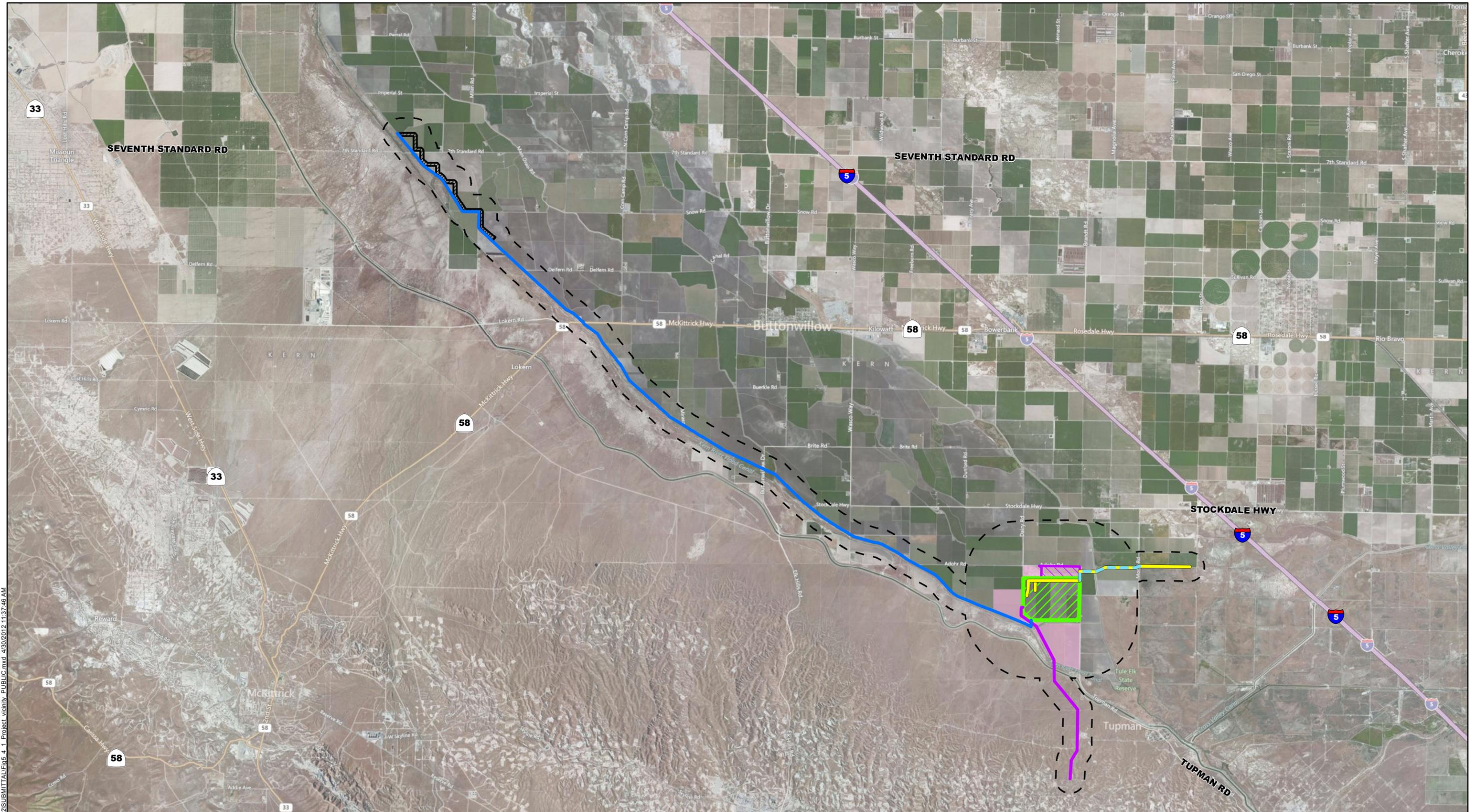
LORS	Applicability	Administering Agency	AFC Section
<b>Federal</b>			
None Applicable			
<b>State</b>			
California Environmental Quality Act (CEQA), Pub. Res. Code § 21000-21177	Requires evaluation of impacts to land use and mitigation measures for potential impacts.	CEC	5.4.2
Williamson Act, Government Code § 51200-51207	Enables local governments to enter into contracts with private landowners to restrict specific parcels of land to agriculture or related open space use. Restricted parcels are assessed for property tax purposes at a rate consistent with their actual use rather than potential market value. The Act includes findings for cancellation of Williamson Act contracts.	Kern County	5.4.2.3
<b>Local Jurisdiction</b>			
Kern County General Plan	Includes goals and policies, and preferred land use designations to guide development in unincorporated county areas	Kern County	5.4.2.4
Interstate 5 at Highway 58 Rural Community Specific Plan	The plan includes 640 acres of land bisected by I-5, Highway 58, and a rail spur paralleling Highway 58. The purpose of the plan is to guide development of the site, particularly for transportation-related commercial and industrial uses.	Kern County	5.4.2.4
Oglesby Specific Plan	The plan applies to 124 acres of land bounded to the west by the Interstate 5 at State Route 58 Rural Community Specific Plan and to the south by State Route 58. The purpose of the plan is to guide development of the site for three primary land use designations: public facilities; residential; and commercial facilities.	Kern County	5.4.2.4
Kern County Zoning Ordinance	Includes development standards for development in the Exclusive Agriculture (A) zoning district	Kern County	5.4.2.5

**Table 5.4-11  
Involved Agencies and Agency Contacts**

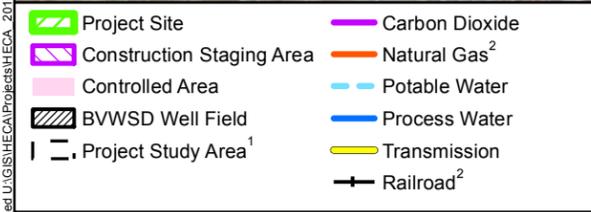
<b>Agency</b>	<b>Contact</b>	<b>Title</b>	<b>Telephone</b>
Kern County Planning Department 2700 "M" Street, Suite 100 Bakersfield, CA 93301	Lorelei Oviatt	Planning and Community Development Director	(661) 862- 8866

**Table 5.4-12  
Permits Required and Permit Schedule**

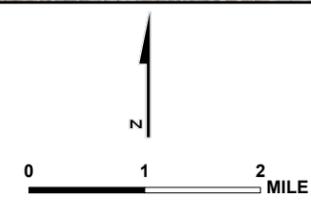
<b>Responsible Agency</b>	<b>Permit/Approval</b>	<b>Timeline</b>	<b>Schedule</b>
Kern County	Williamson Act Cancellation	120 days	Prior to certification
Kern County	Similar Use Determination	45 days	Prior to certification
Kern County	Lot Line Adjustment	90 days	Prior to commencing construction
Kern County	Various Public Road and Easement Vacations	120 days	Prior to commencing construction



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Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



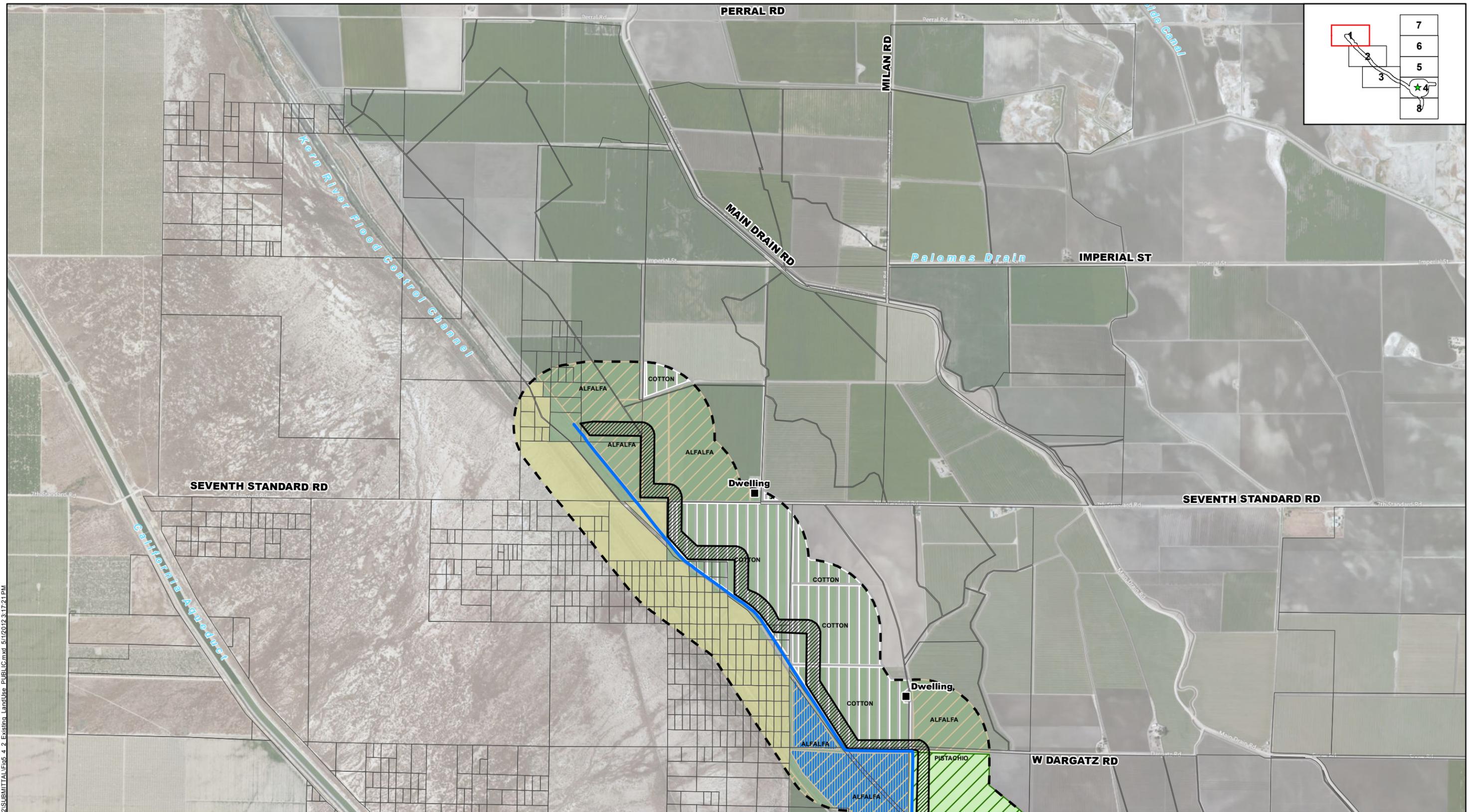
**PROJECT VICINITY**

April 2012  
 28068052

Hydrogen Energy California (HECA)  
 Kern County, California

**FIGURE 5.4-1**

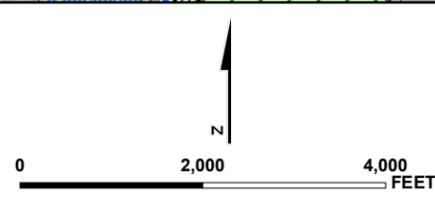
Source: Aerial Imagery, Bing Maps, 2010.



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Project Site	Carbon Dioxide	<b>Land Uses</b>	Parks/Open Space/Recreation	<b>Commodity</b>	Corn	Pistachio
Construction Staging Area	Natural Gas <sup>2</sup>	Commercial	Public/Quasi-Public	Alfalfa	Cotton	Uncultivated Ag
Controlled Area	Potable Water	Farming	Residential	Almond	Onion	Wheat <sup>2</sup>
BVWSD Well Field	Process Water	Industrial	Resource Extraction	Carrot	Other Crops	
Project Study Area <sup>1</sup>	Railroad <sup>2</sup>	Orchards	Undeveloped			
Parcel Boundary	Transmission					
Rail Laydown Yard <sup>2</sup>						

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential  
 3. Includes wheat for/ not for food



**EXISTING LAND USE**

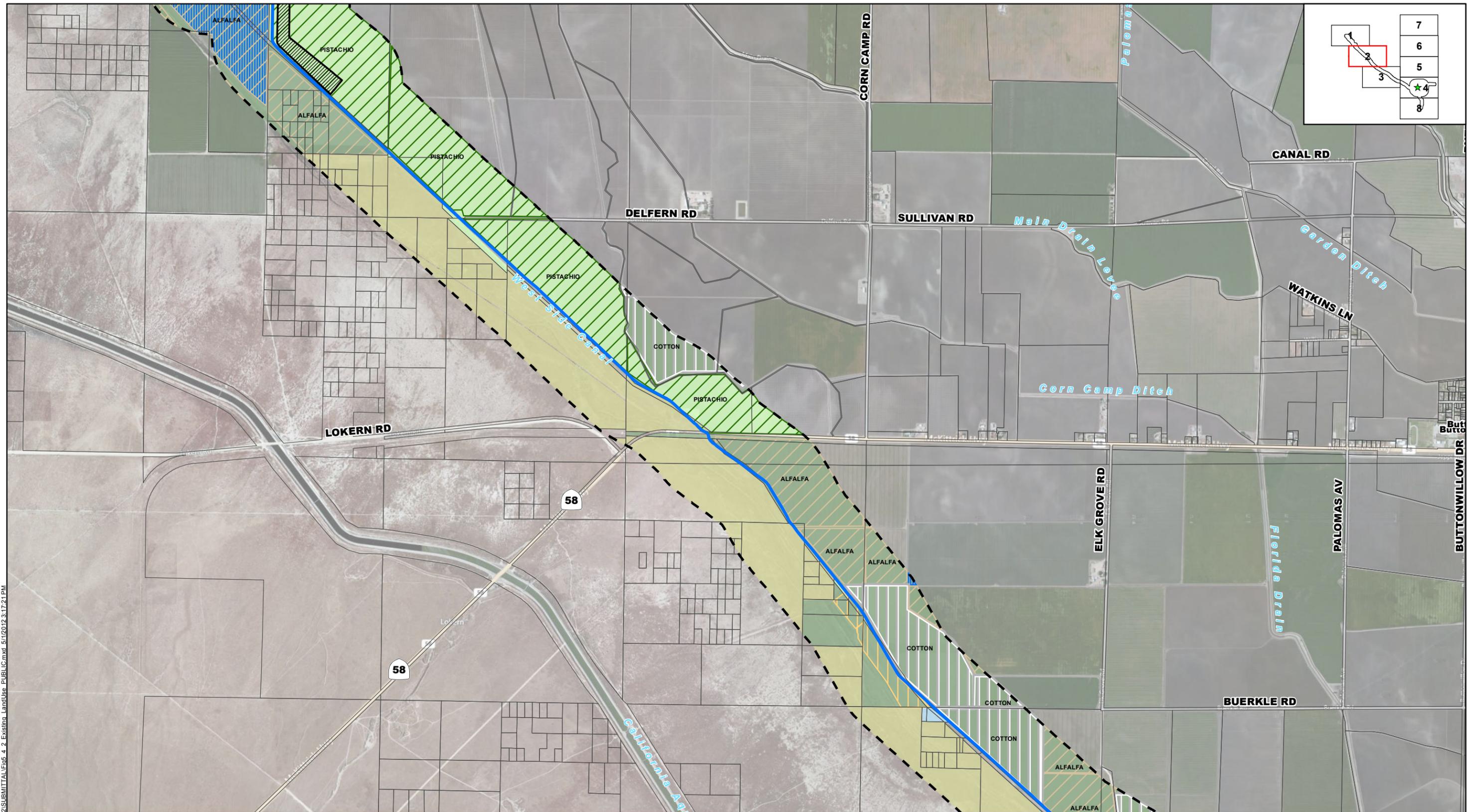
May 2012  
 28068052

Hydrogen Energy California (HECA)  
 Kern County, California

**URS**

**FIGURE 5.4-2 (1)**

Source: Aerial Imagery, Bing Maps, 2009; Existing Land Use: Kern County, 2011



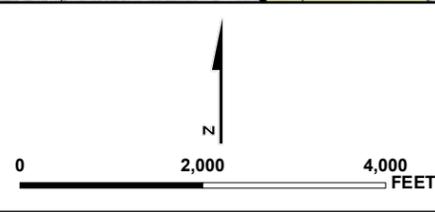
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Project Site	Carbon Dioxide	<b>Land Uses</b>	Parks/Open Space/Recreation
Construction Staging Area	Natural Gas <sup>2</sup>	Commercial	Public/Quasi-Public
Controlled Area	Potable Water	Farming	Residential
BVWSD Well Field	Process Water	Industrial	Resource Extraction
Project Study Area <sup>1</sup>	Railroad <sup>2</sup>	Orchards	Undeveloped
Parcel Boundary	Transmission		
Rail Laydown Yard <sup>2</sup>			

<b>Commodity</b>	Corn	Pistachio
Alfalfa	Cotton	Uncultivated Ag
Almond	Onion	Wheat <sup>2</sup>
Carrot	Other Crops	

Notes:

- 1 mile from project site and 1/4 mile radius from linear facilities
- Feature temporarily designated as confidential
- Includes wheat for/ not for food



**EXISTING LAND USE**

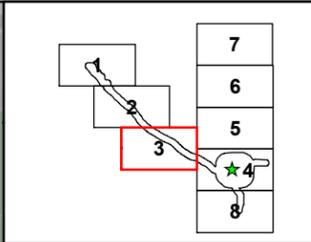
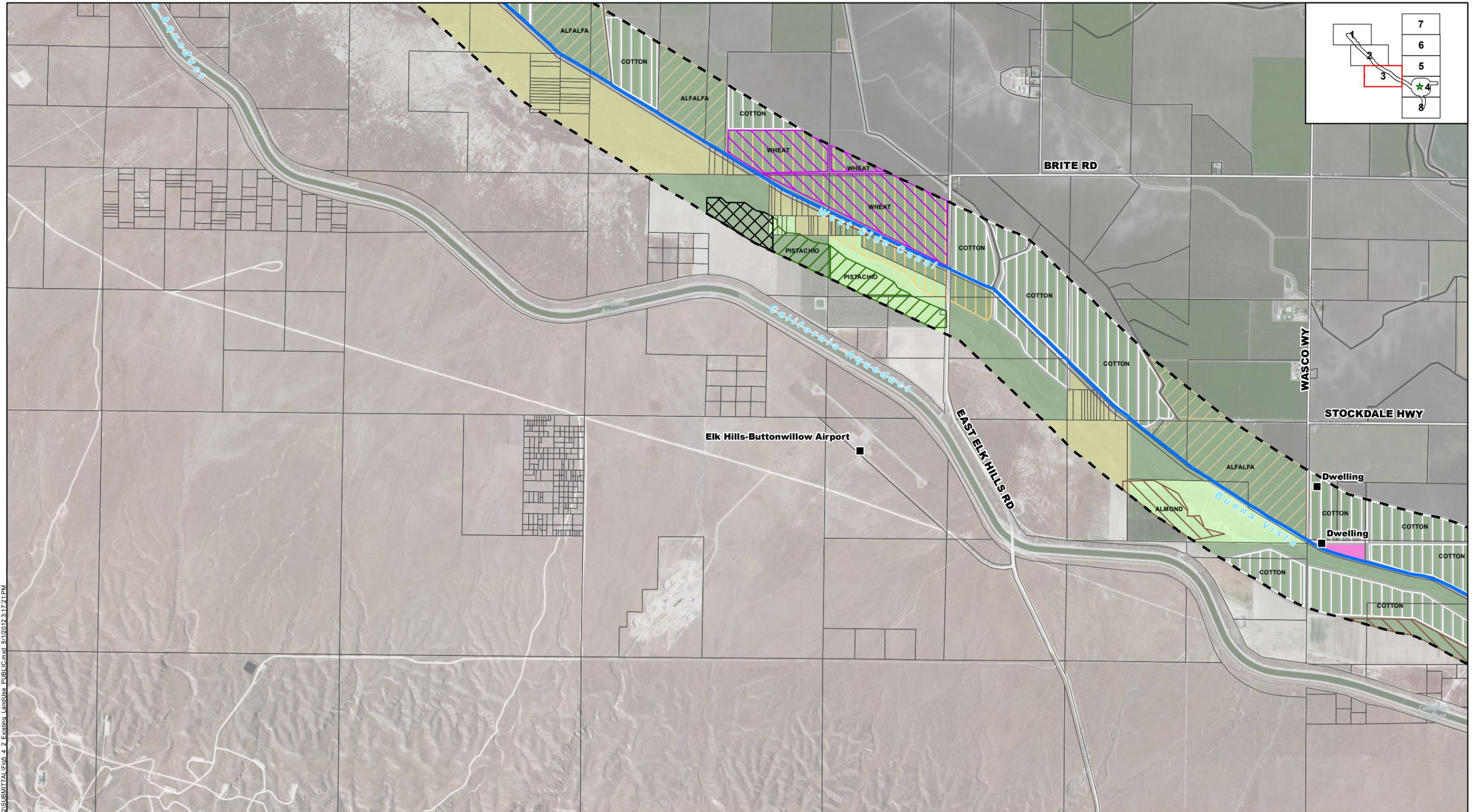
May 2012  
 28068052

Hydrogen Energy California (HECA)  
 Kern County, California

**URS**

**FIGURE 5.4-2 (2)**

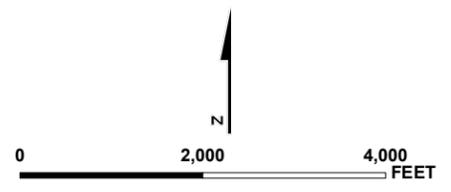
Source: Aerial Imagery, Bing Maps, 2009; Existing Land Use: Kern County, 2011



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Project Site	Carbon Dioxide	<b>Land Uses</b>	Parks/Open Space/Recreation	<b>Commodity</b>	Corn	Pistachio
Construction Staging Area	Natural Gas <sup>2</sup>	Commercial	Public/Quasi-Public	Alfalfa	Cotton	Uncultivated Ag
Controlled Area	Potable Water	Farming	Residential	Almond	Onion	Wheat <sup>2</sup>
BVWSD Well Field	Process Water	Industrial	Resource Extraction	Carrot	Other Crops	
Project Study Area <sup>1</sup>	Railroad <sup>2</sup>	Orchards	Undeveloped			
Parcel Boundary	Transmission					
Rail Laydown Yard <sup>2</sup>						

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential  
 3. Includes wheat for/ not for food

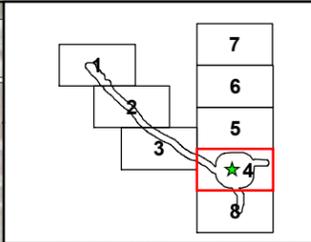
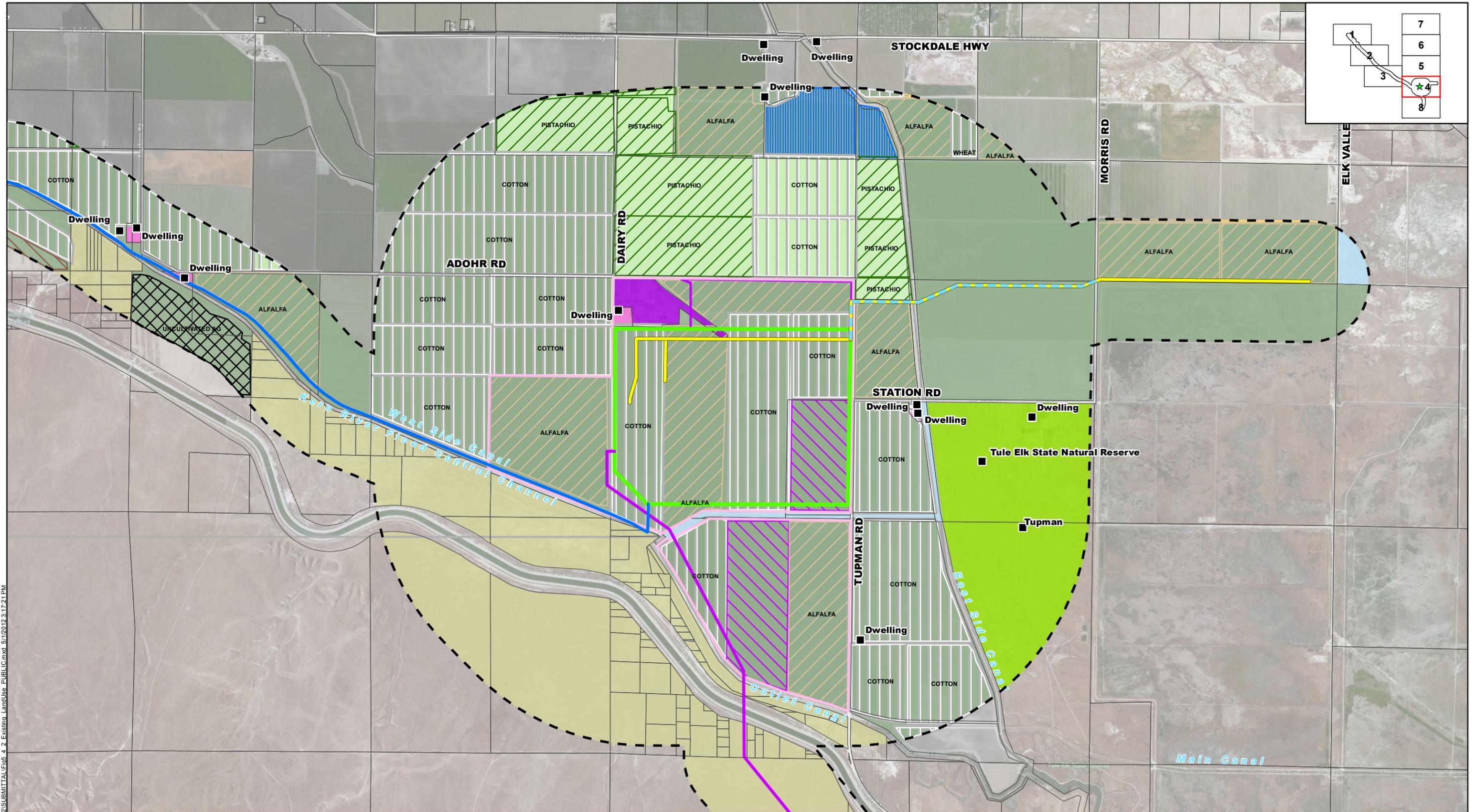


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Hydrogen Energy California (HECA)  
 Kern County, California

**FIGURE 5.4-2 (3)**



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<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid green; margin-right: 5px;"></span> Project Site</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid purple; margin-right: 5px;"></span> Construction Staging Area</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid pink; margin-right: 5px;"></span> Controlled Area</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid black; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></span> BVWSD Well Field</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px dashed black; margin-right: 5px;"></span> Project Study Area<sup>1</sup></li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid gray; margin-right: 5px;"></span> Parcel Boundary</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid yellow; margin-right: 5px;"></span> Rail Laydown Yard<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid purple; margin-right: 5px;"></span> Carbon Dioxide</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid orange; margin-right: 5px;"></span> Natural Gas<sup>2</sup></li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid lightblue; margin-right: 5px;"></span> Potable Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid blue; margin-right: 5px;"></span> Process Water</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid black; margin-right: 5px;"></span> Railroad<sup>2</sup></li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid yellow; margin-right: 5px;"></span> Transmission</li> </ul>	<p><b>Land Uses</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; margin-right: 5px;"></span> Commercial</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; margin-right: 5px;"></span> Farming</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: purple; margin-right: 5px;"></span> Industrial</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen; margin-right: 5px;"></span> Orchards</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: brown; margin-right: 5px;"></span> Residential</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: gray; margin-right: 5px;"></span> Resource Extraction</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: tan; margin-right: 5px;"></span> Undeveloped</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue; margin-right: 5px;"></span> Public/Quasi-Public</li> </ul>	<p><b>Commodity</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid gray; margin-right: 5px;"></span> Alfalfa</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Almond</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Carrot</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid gray; margin-right: 5px;"></span> Cotton</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid purple; margin-right: 5px;"></span> Onion</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid blue; margin-right: 5px;"></span> Other Crops</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid green; margin-right: 5px;"></span> Pistachio</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Uncultivated Ag</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid orange; margin-right: 5px;"></span> Wheat<sup>2</sup></li> </ul>
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Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential  
 3. Includes wheat for/ not for food

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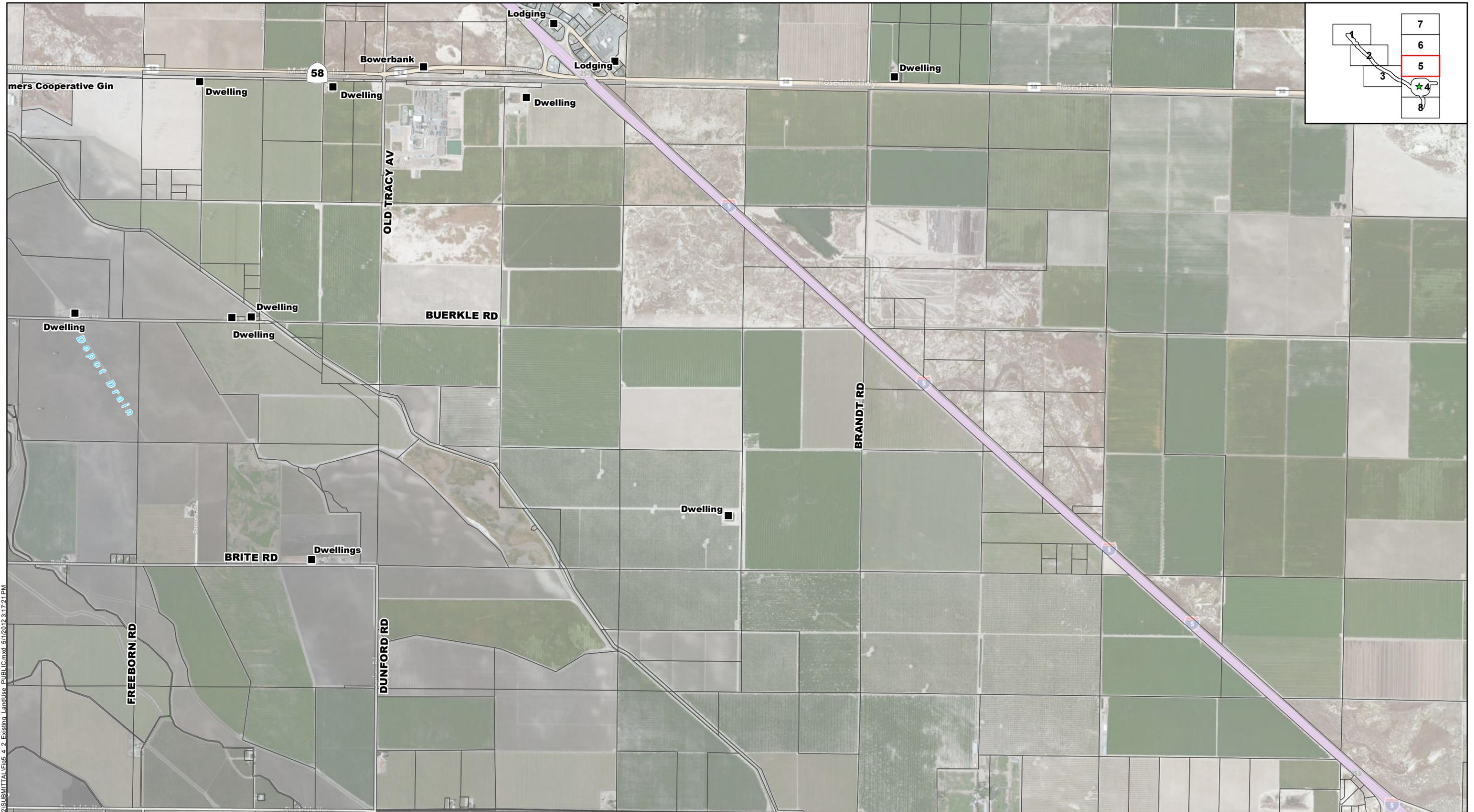
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Kern County, California

**FIGURE 5.4-2 (4)**

Source: Aerial Imagery, Bing Maps, 2009; Existing Land Use: Kern County, 2011



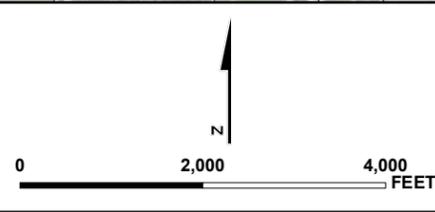
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Project Site	Carbon Dioxide	<b>Land Uses</b>	Parks/Open Space/Recreation
Construction Staging Area	Natural Gas <sup>2</sup>	Commercial	Public/Quasi-Public
Controlled Area	Potable Water	Farming	Residential
BVWSD Well Field	Process Water	Industrial	Resource Extraction
Project Study Area <sup>1</sup>	Railroad <sup>2</sup>	Orchards	Undeveloped
Parcel Boundary	Transmission		
Rail Laydown Yard <sup>2</sup>			

<b>Commodity</b>	Corn	Pistachio
Alfalfa	Cotton	Uncultivated Ag
Almond	Onion	Wheat <sup>2</sup>
Carrot	Other Crops	

Notes:

- 1 mile from project site and 1/4 mile radius from linear facilities
- Feature temporarily designated as confidential
- Includes wheat for/ not for food



**EXISTING LAND USE**

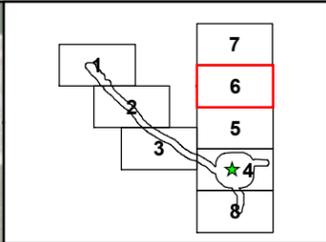
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 Kern County, California

**URS**

**FIGURE 5.4-2 (5)**

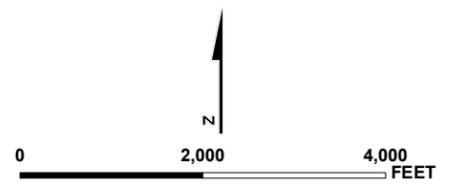
Source: Aerial Imagery, Bing Maps, 2009; Existing Land Use: Kern County, 2011



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Project Site	Carbon Dioxide	<b>Land Uses</b>	Parks/Open Space/Recreation	<b>Commodity</b>	Corn	Pistachio
Construction Staging Area	Natural Gas <sup>2</sup>	Commercial	Public/Quasi-Public	Alfalfa	Cotton	Uncultivated Ag
Controlled Area	Potable Water	Farming	Residential	Almond	Onion	Wheat <sup>2</sup>
BVWSD Well Field	Process Water	Industrial	Resource Extraction	Carrot	Other Crops	
Project Study Area <sup>1</sup>	Railroad <sup>2</sup>	Orchards	Undeveloped			
Parcel Boundary	Transmission					
Rail Laydown Yard <sup>2</sup>						

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential  
 3. Includes wheat for/ not for food

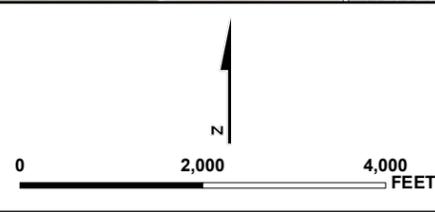
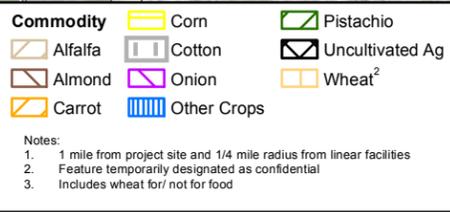
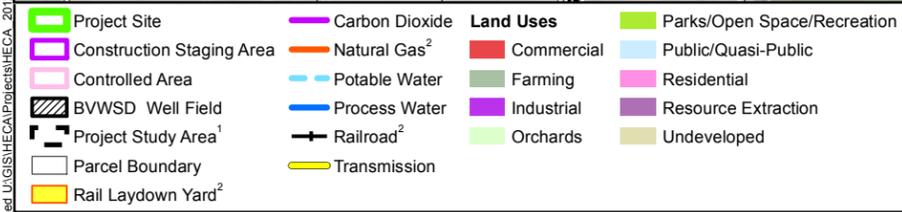
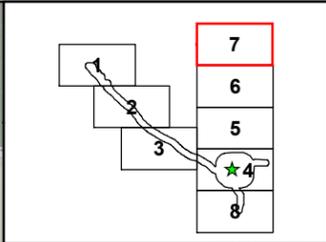


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**FIGURE 5.4-2 (6)**



**EXISTING LAND USE**

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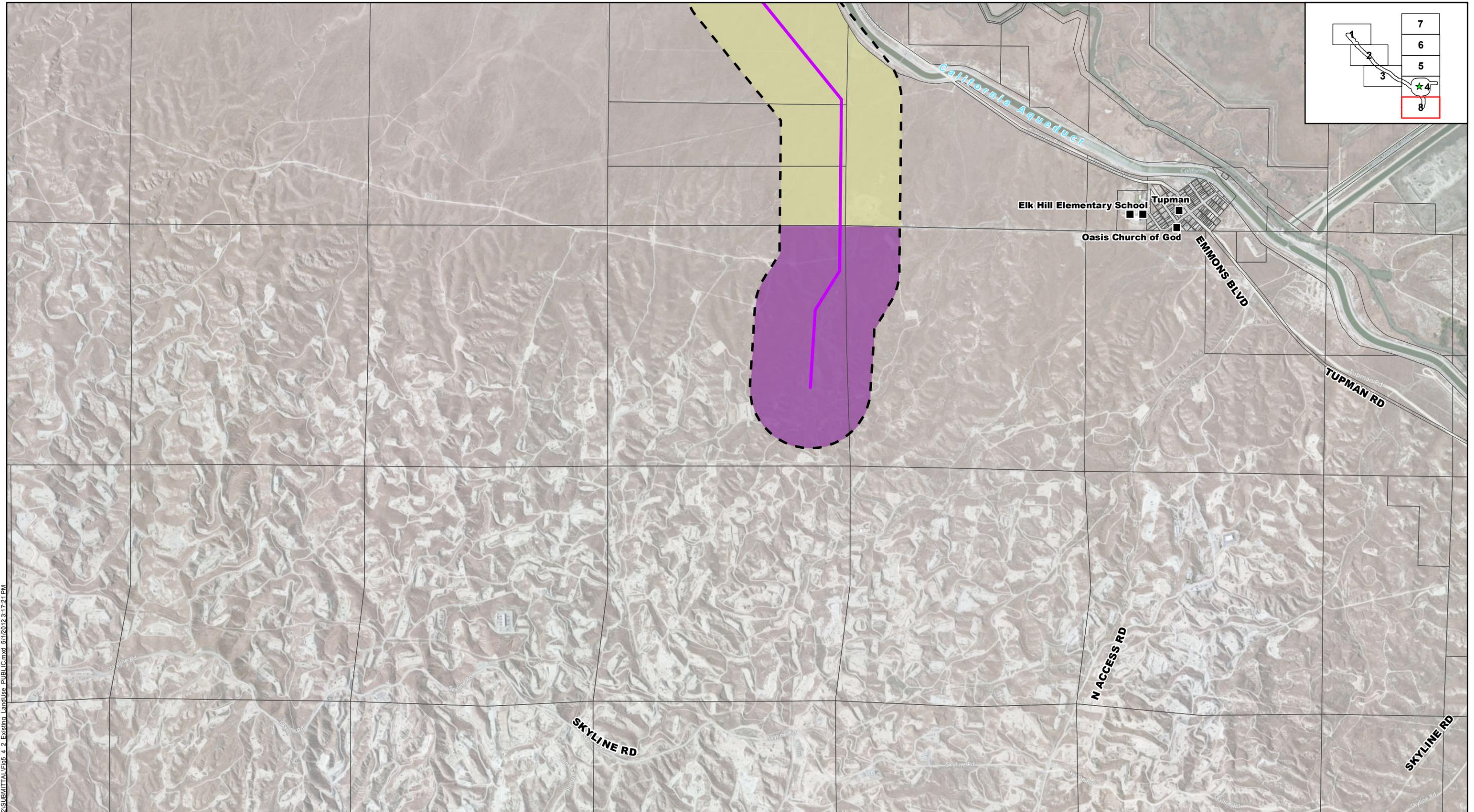
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Kern County, California

**URS**

**FIGURE 5.4-2 (7)**

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Source: Aerial Imagery, Bing Maps, 2009; Existing Land Use: Kern County, 2011



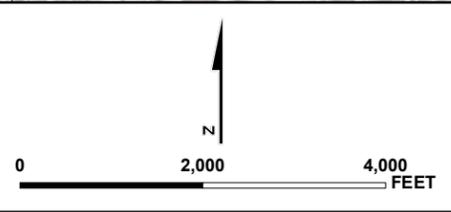
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Project Site	Carbon Dioxide	<b>Land Uses</b>	Parks/Open Space/Recreation
Construction Staging Area	Natural Gas <sup>2</sup>	Commercial	Public/Quasi-Public
Controlled Area	Potable Water	Farming	Residential
BVWSD Well Field	Process Water	Industrial	Resource Extraction
Project Study Area <sup>1</sup>	Railroad <sup>2</sup>	Orchards	Undeveloped
Parcel Boundary	Transmission		
Rail Laydown Yard <sup>2</sup>			

<b>Commodity</b>	Corn	Pistachio
Alfalfa	Cotton	Uncultivated Ag
Almond	Onion	Wheat <sup>2</sup>
Carrot	Other Crops	

Notes:

- 1 mile from project site and 1/4 mile radius from linear facilities
- Feature temporarily designated as confidential
- Includes wheat for/ not for food



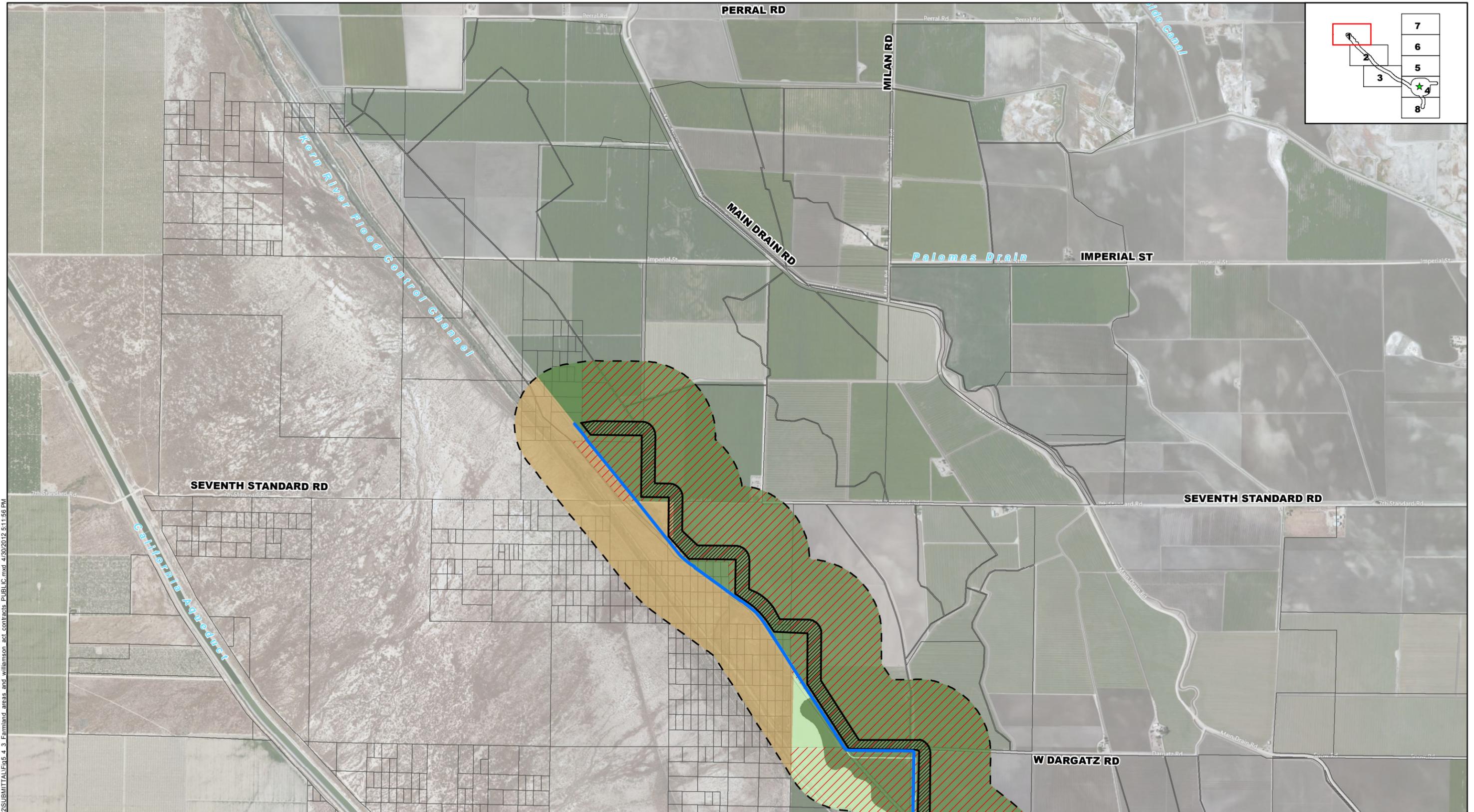
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 Kern County, California

**FIGURE 5.4-2 (8)**

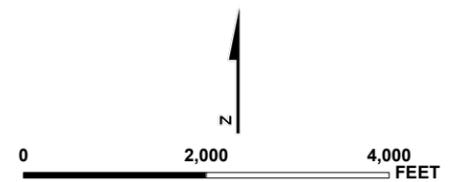
Source: Aerial Imagery, Bing Maps, 2009; Existing Land Use: Kern County, 2011



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Project Site	Carbon Dioxide	<b>Important Farmland Areas</b>	Nonagriculture or Natural Vegetation	Williamson Act Contracted Land
Construction Staging Area	Natural Gas <sup>2</sup>	Prime Farmland	Semi-Agriculture and Rural Commercial Land	
Controlled Area	Potable Water	Farmland of Statewide Importance	Vacant or Disturbed Land	
BVWSD Well Field	Process Water	Unique Farmland	Urban and Built-Up Land	
Project Study Area <sup>1</sup>	Transmission	Grazing Land	Confined Animal Agriculture	
Parcel Boundary	Railroad <sup>2</sup>			

Note:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**FARMLAND AREAS AND WILLIAMSON ACT CONTRACTS**

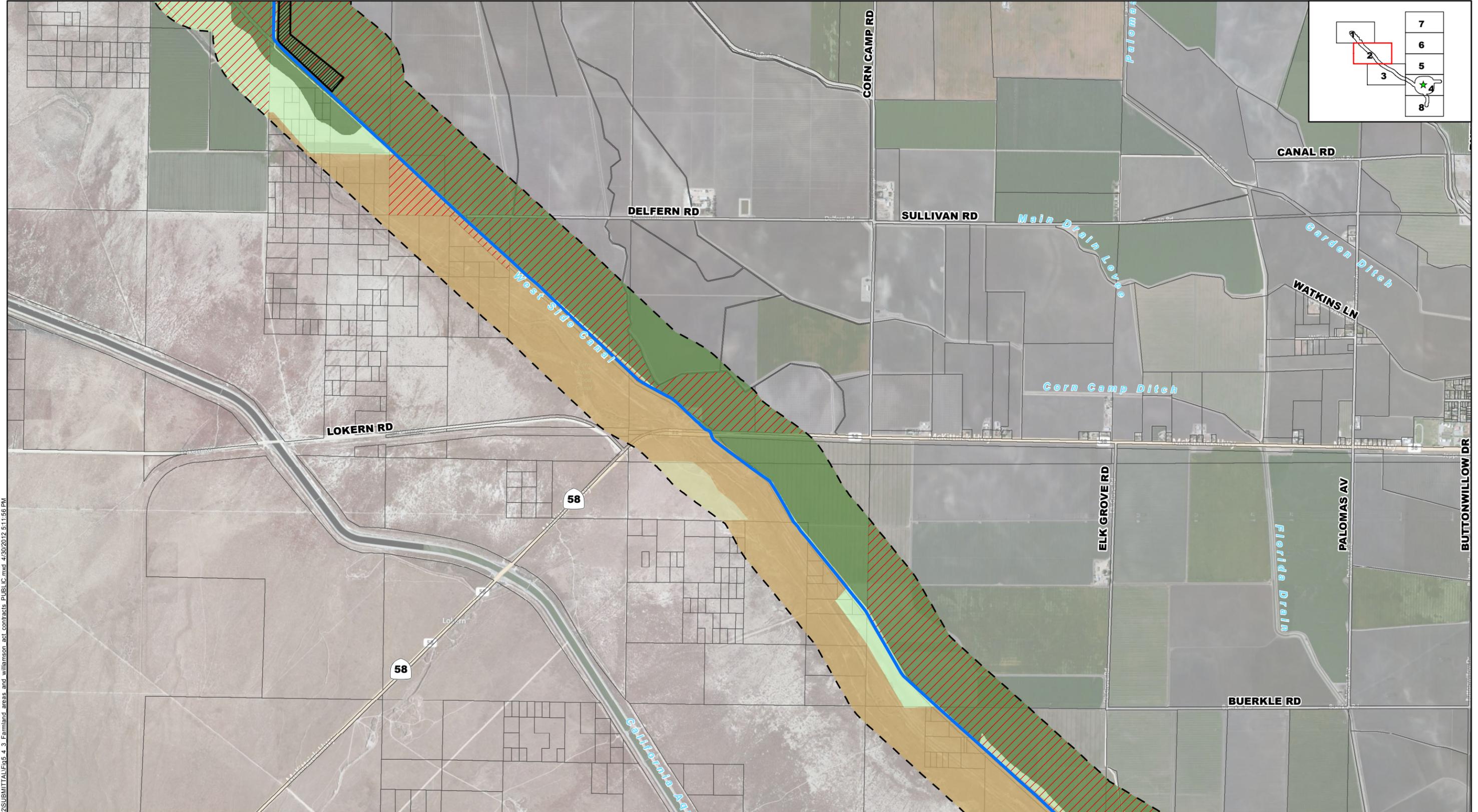
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Kern County, California



**FIGURE 5.4-3(1)**

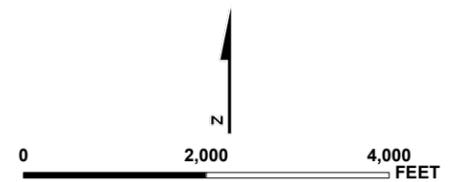
Source: Aerial Imagery, Bing Maps, 2009.



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Project Site	Carbon Dioxide	<b>Important Farmland Areas</b>	Nonagriculture or Natural Vegetation	Williamson Act Contracted Land
Construction Staging Area	Natural Gas <sup>2</sup>	Prime Farmland	Semi-Agriculture and Rural Commercial Land	Vacant or Disturbed Land
Controlled Area	Potable Water	Farmland of Statewide Importance	Urban and Built-Up Land	Confined Animal Agriculture
BVWSD Well Field	Process Water	Unique Farmland	Grazing Land	
Project Study Area <sup>1</sup>	Transmission	Grazing Land		
Parcel Boundary	Railroad <sup>2</sup>			

Note:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**FARMLAND AREAS AND WILLIAMSON ACT CONTRACTS**

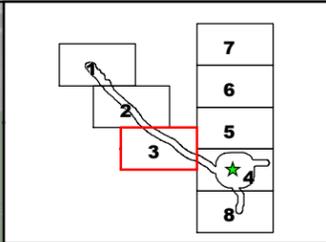
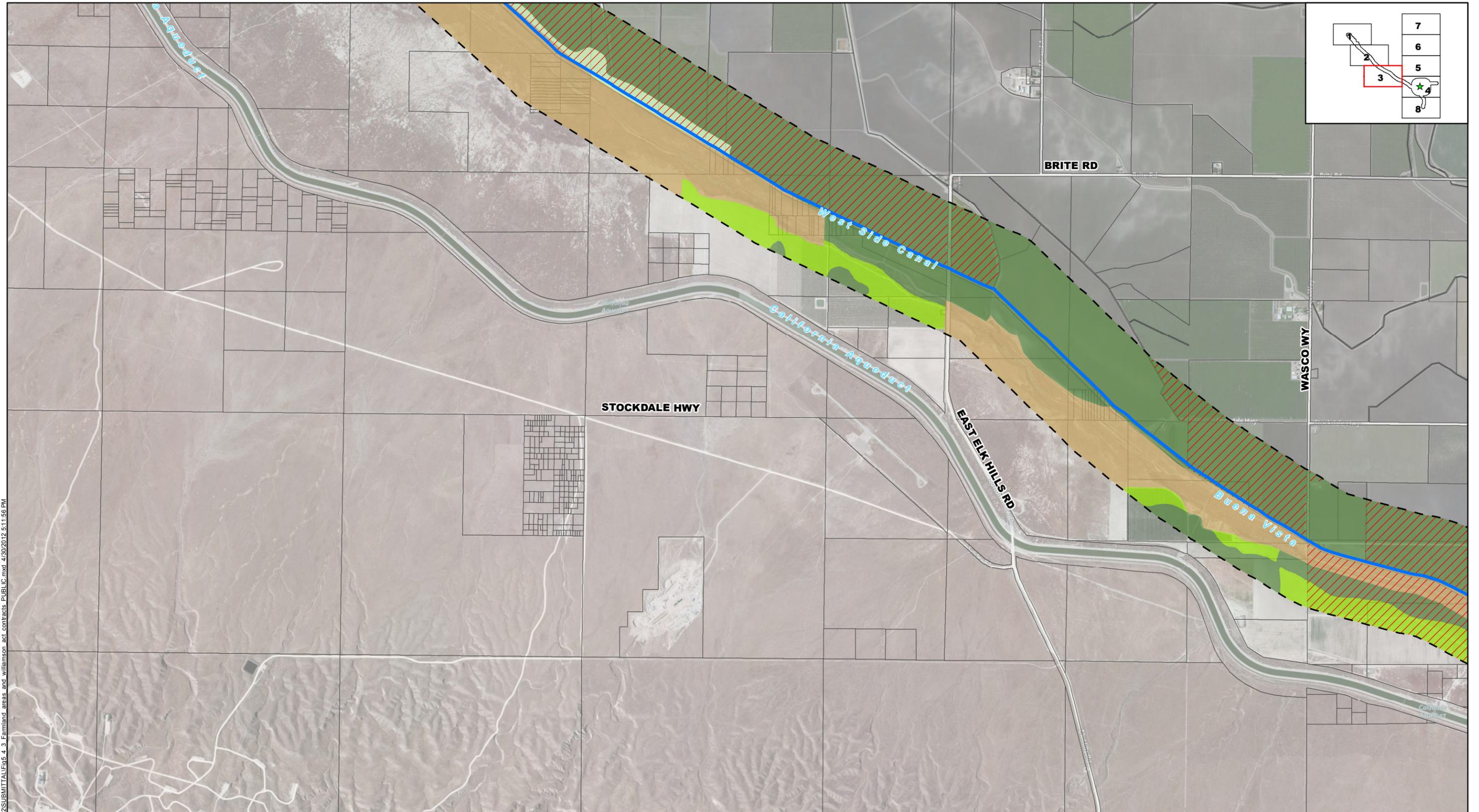
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**FIGURE 5.4-3(2)**

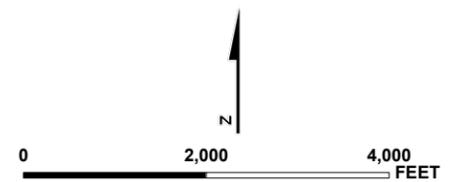
Source: Aerial Imagery, Bing Maps, 2009.



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|---------------------------------|--------------------------|----------------------------------|--|--------------------------------|
| Project Site                    | Carbon Dioxide           | <b>Important Farmland Areas</b>  | Nonagriculture or Natural Vegetation       | Williamson Act Contracted Land |
| Construction Staging Area       | Natural Gas <sup>2</sup> | Prime Farmland                   | Semi-Agriculture and Rural Commercial Land | Vacant or Disturbed Land       |
| Controlled Area                 | Potable Water            | Farmland of Statewide Importance | Urban and Built-Up Land                    | Confined Animal Agriculture    |
| BVWSD Well Field                | Process Water            | Unique Farmland                  | Grazing Land                               |                                |
| Project Study Area <sup>1</sup> | Transmission             |                                  |  |                                |
| Parcel Boundary                 | Railroad <sup>2</sup>    |                                  |  |                                |

Note:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**FARMLAND AREAS AND WILLIAMSON ACT CONTRACTS**

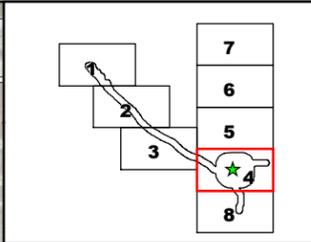
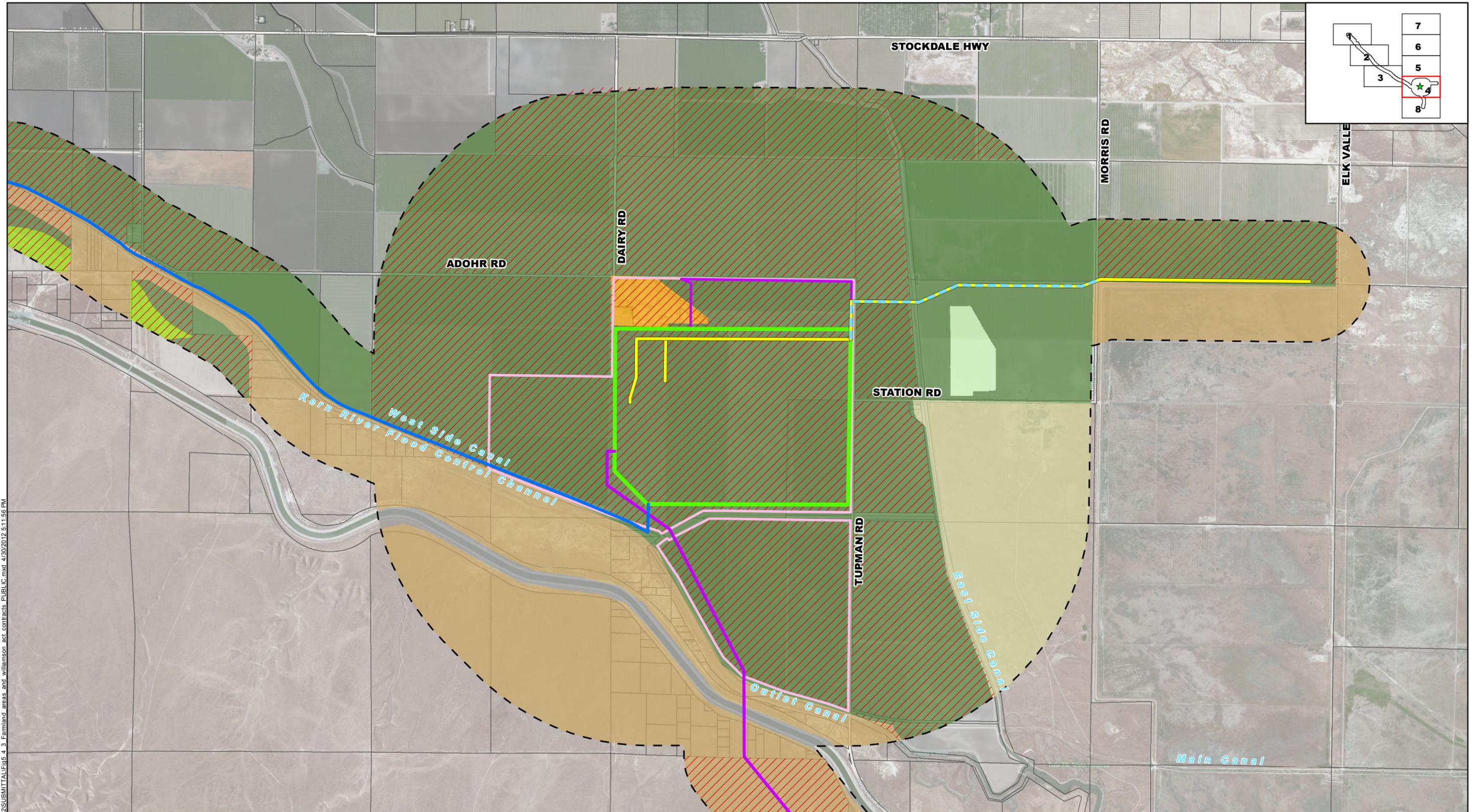
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**FIGURE 5.4-3(3)**

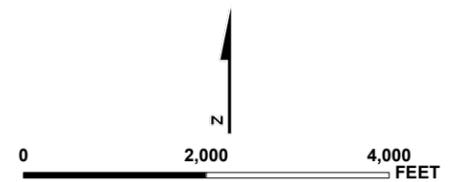
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 Source: Aerial Imagery, Bing Maps, 2009.

- |                                 |                          |                                  |  |                                |
|---------------------------------|--------------------------|----------------------------------|--|--------------------------------|
| Project Site                    | Carbon Dioxide           | <b>Important Farmland Areas</b>  | Nonagriculture or Natural Vegetation       | Williamson Act Contracted Land |
| Construction Staging Area       | Natural Gas <sup>2</sup> | Prime Farmland                   | Semi-Agriculture and Rural Commercial Land |                                |
| Controlled Area                 | Potable Water            | Farmland of Statewide Importance | Vacant or Disturbed Land                   |                                |
| BVWSD Well Field                | Process Water            | Unique Farmland                  | Urban and Built-Up Land                    |                                |
| Project Study Area <sup>1</sup> | Transmission             | Grazing Land                     | Confined Animal Agriculture                |                                |
| Parcel Boundary                 | Railroad <sup>2</sup>    |                                  |  |                                |

Note:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



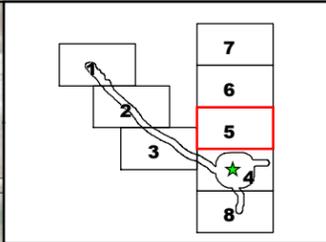
**FARMLAND AREAS AND WILLIAMSON ACT CONTRACTS**

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Hydrogen Energy California (HECA)  
 Kern County, California



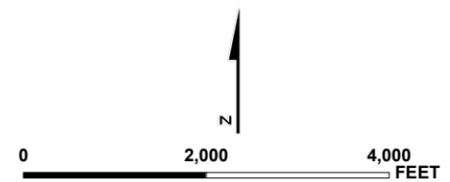
**FIGURE 5.4-3(4)**



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Project Site	Carbon Dioxide	<b>Important Farmland Areas</b>	Nonagriculture or Natural Vegetation	Williamson Act Contracted Land
Construction Staging Area	Natural Gas <sup>2</sup>	Prime Farmland	Semi-Agriculture and Rural Commercial Land	
Controlled Area	Potable Water	Farmland of Statewide Importance	Vacant or Disturbed Land	
BVWSD Well Field	Process Water	Unique Farmland	Urban and Built-Up Land	
Project Study Area <sup>1</sup>	Transmission	Grazing Land	Confined Animal Agriculture	
Parcel Boundary	Railroad <sup>2</sup>			

Note:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**FARMLAND AREAS AND WILLIAMSON ACT CONTRACTS**

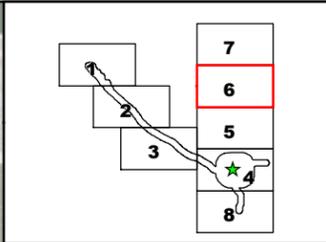
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 28068052

Hydrogen Energy California (HECA)  
 Kern County, California



**FIGURE 5.4-3(5)**

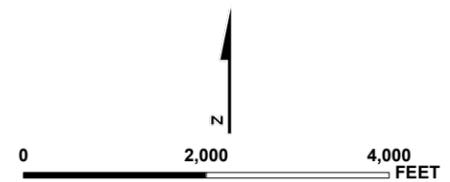
Source: Aerial Imagery, Bing Maps, 2009.



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|---------------------------------|--------------------------|----------------------------------|--|--------------------------------|
| Project Site                    | Carbon Dioxide           | <b>Important Farmland Areas</b>  | Nonagriculture or Natural Vegetation       | Williamson Act Contracted Land |
| Construction Staging Area       | Natural Gas <sup>2</sup> | Prime Farmland                   | Semi-Agriculture and Rural Commercial Land |                                |
| Controlled Area                 | Potable Water            | Farmland of Statewide Importance | Vacant or Disturbed Land                   |                                |
| BVWSD Well Field                | Process Water            | Unique Farmland                  | Urban and Built-Up Land                    |                                |
| Project Study Area <sup>1</sup> | Transmission             | Grazing Land                     | Confined Animal Agriculture                |                                |
| Parcel Boundary                 | Railroad <sup>2</sup>    |                                  |  |                                |

Note:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**FARMLAND AREAS AND WILLIAMSON ACT CONTRACTS**

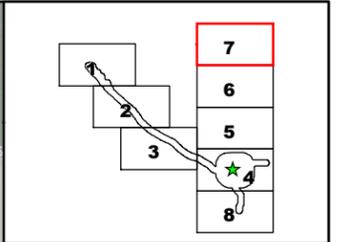
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 Kern County, California

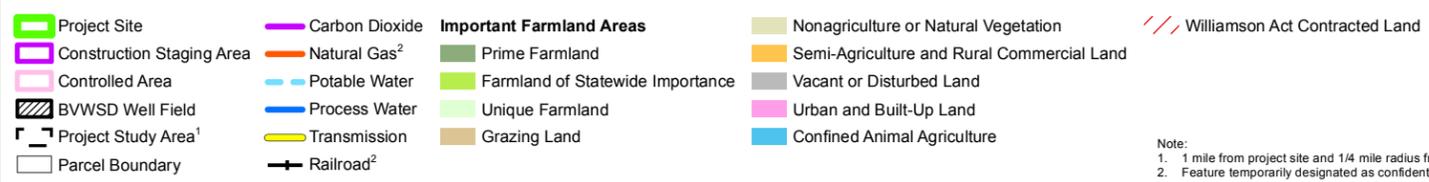


**FIGURE 5.4-3(6)**

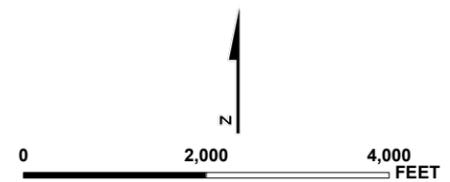
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Note:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



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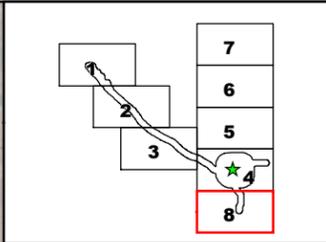
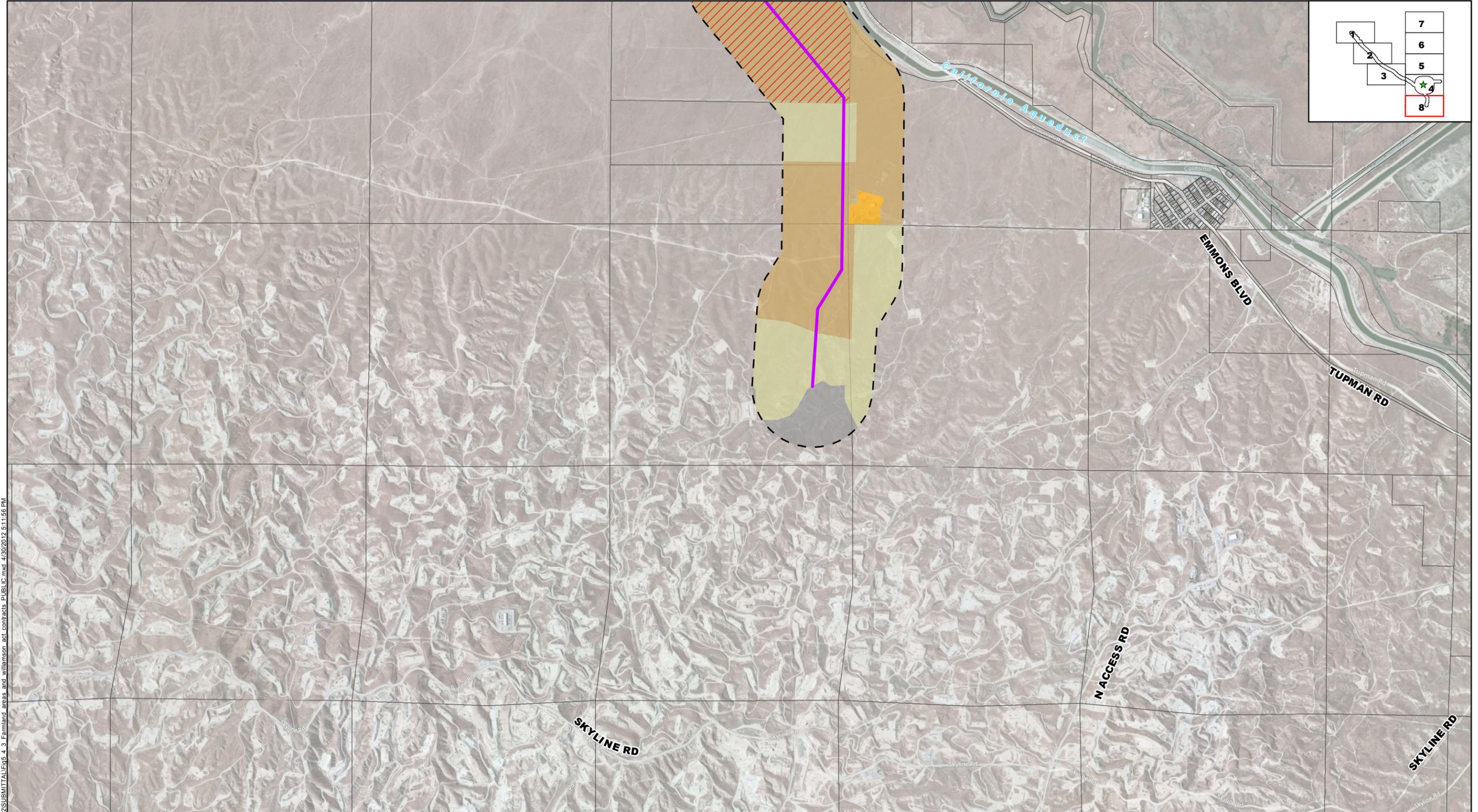
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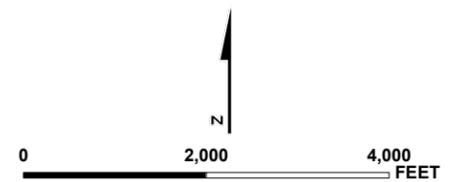
**FIGURE 5.4-3(7)**

Source: Aerial Imagery, Bing Maps, 2009.



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|---------------------------------|--------------------------|----------------------------------|--|--------------------------------|
| Project Site                    | Carbon Dioxide           | <b>Important Farmland Areas</b>  | Nonagriculture or Natural Vegetation       | Williamson Act Contracted Land |
| Construction Staging Area       | Natural Gas <sup>2</sup> | Prime Farmland                   | Semi-Agriculture and Rural Commercial Land | Vacant or Disturbed Land       |
| Controlled Area                 | Potable Water            | Farmland of Statewide Importance | Urban and Built-Up Land                    | Confined Animal Agriculture    |
| BVWSD Well Field                | Process Water            | Unique Farmland                  | Grazing Land                               |                                |
| Project Study Area <sup>1</sup> | Transmission             | Railroad <sup>2</sup>            |  |                                |
| Parcel Boundary                 |                          |                                  |  |                                |

Note:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**FARMLAND AREAS AND WILLIAMSON ACT CONTRACTS**

April 2012  
28068052

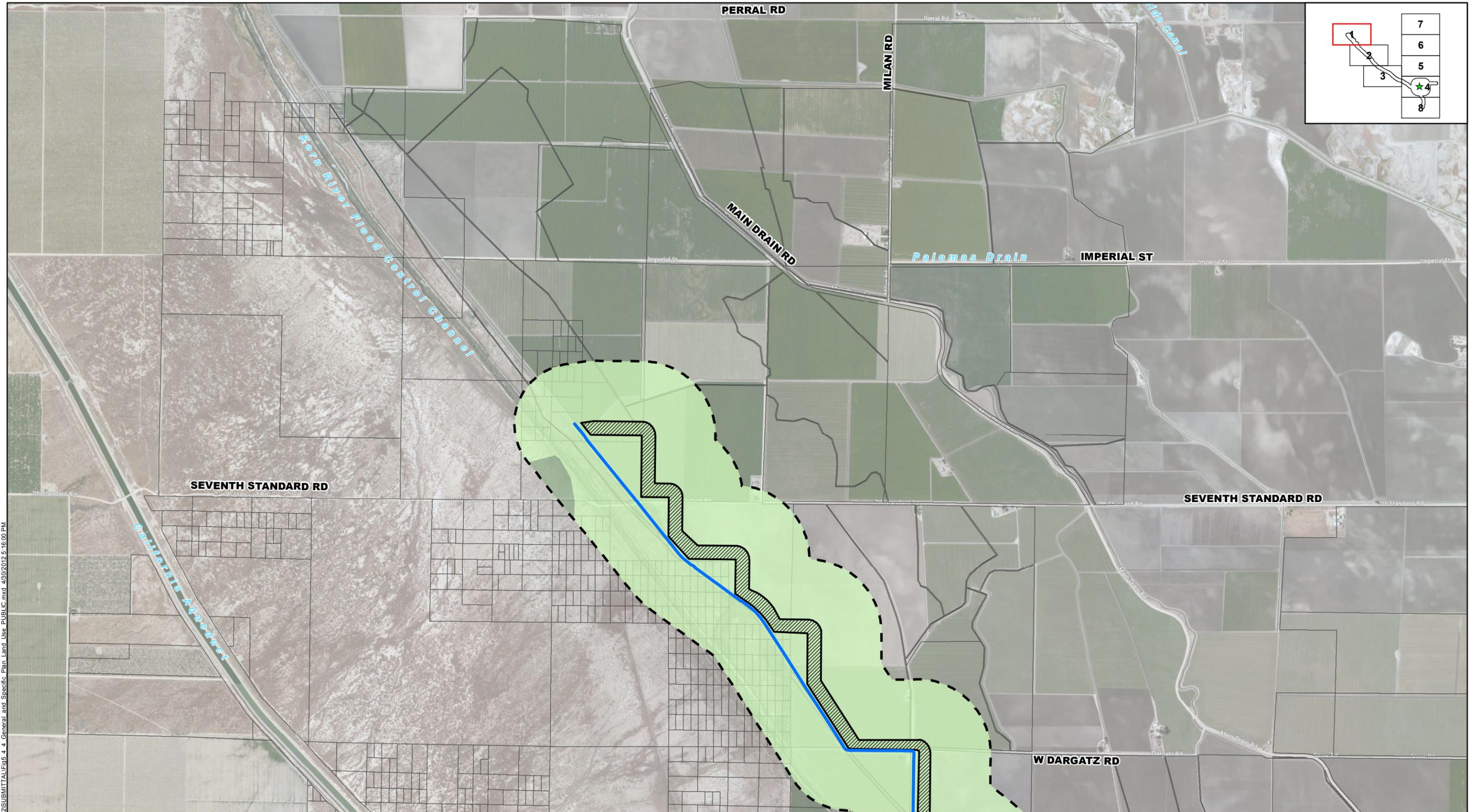
Hydrogen Energy California (HECA)  
Kern County, California



**FIGURE 5.4-3(8)**

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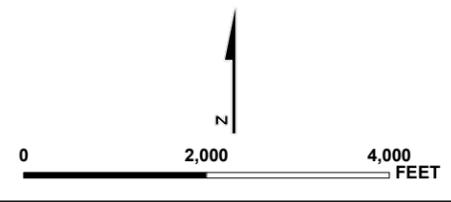
Source: Aerial Imagery, Bing Maps, 2009.



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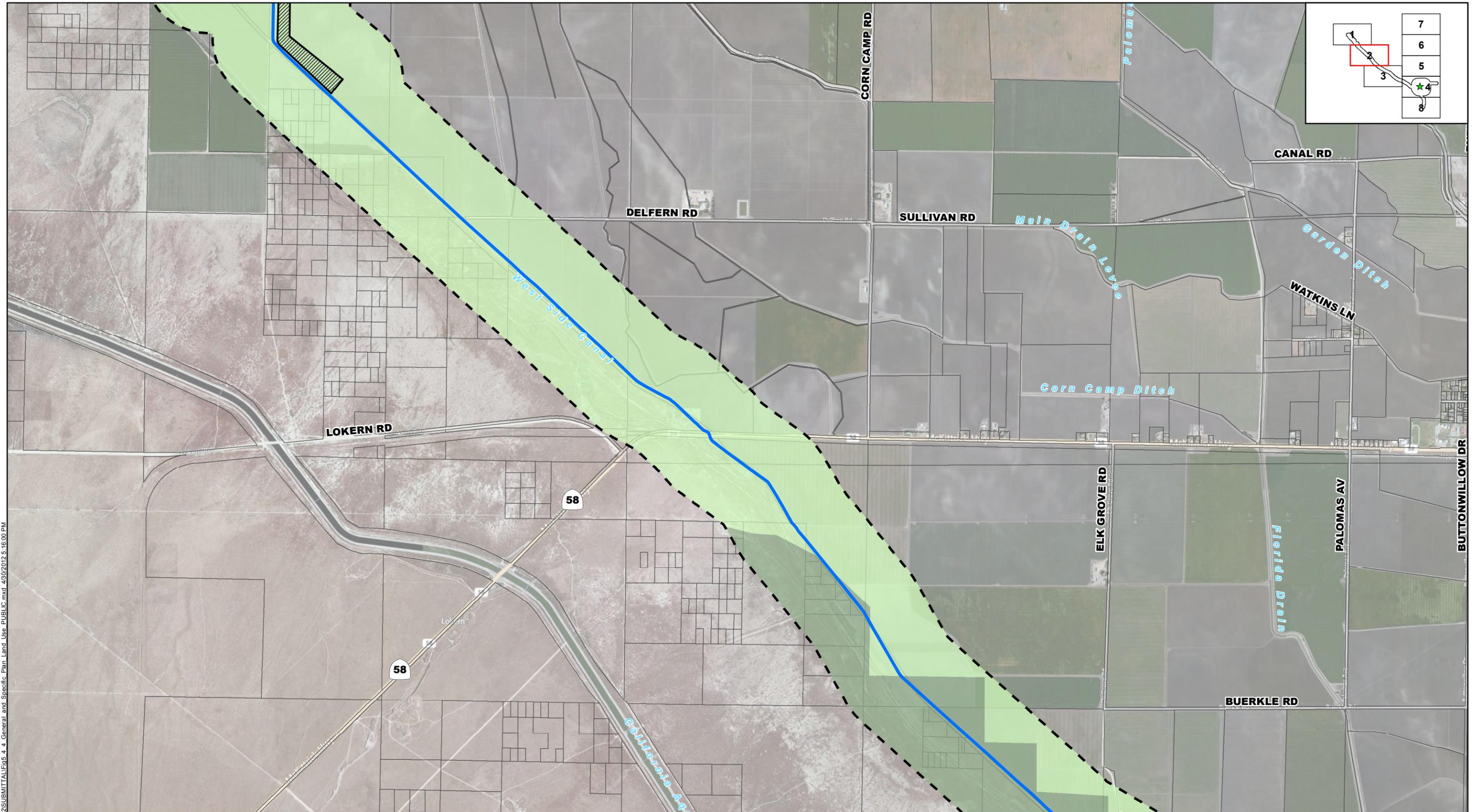
Project Site	Carbon Dioxide	<b>Land Use Designation</b>	6. Commercial	8. Resource
Construction Staging Area	Natural Gas <sup>2</sup>	1. Non- Jurisdictional	6.2 General Commercial	8.1 Intensive Agriculture (Min. 20-Acre Parcel Size)
Controlled Area	Potable Water	1.1 State or Federal Land	6.3 Highway Commercial	8.3 Extensive Agriculture (Min. 20-Acre Parcel Size)
BWSD Well Field	Process Water	5. Residential	7. Industrial	8.4 Mineral and Petroleum (Min. 5-Acre Parcel Size)
Project Study Area <sup>1</sup>	Transmission	5.3 Maximum 10 Units/ Net Acre	7.1 Light Industrial	8.5 Resource Management (Min. 20-Acre Parcel Size)
Specific Plan Boundary	Railroad <sup>2</sup>			
Parcel Boundary				

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**GENERAL AND SPECIFIC PLAN  
 LAND USE DESIGNATIONS**  
 April 2012  
 28068052

Hydrogen Energy California (HECA)  
 Kern County, California  
**FIGURE 5.4-4 (1)**

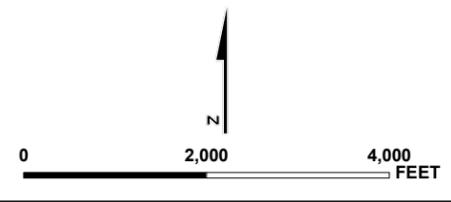


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Project Site	Carbon Dioxide	<b>Land Use Designation</b>	6. Commercial	8. Resource
Construction Staging Area	Natural Gas <sup>2</sup>	1. Non- Jurisdictional	6.2 General Commercial	8.1 Intensive Agriculture (Min. 20-Acre Parcel Size)
Controlled Area	Potable Water	1.1 State or Federal Land	6.3 Highway Commercial	8.3 Extensive Agriculture (Min. 20-Acre Parcel Size)
BWSD Well Field	Process Water	5. Residential	7. Industrial	8.4 Mineral and Petroleum (Min. 5-Acre Parcel Size)
Project Study Area <sup>1</sup>	Transmission	5.3 Maximum 10 Units/ Net Acre	7.1 Light Industrial	8.5 Resource Management (Min. 20-Acre Parcel Size)
Specific Plan Boundary	Railroad <sup>2</sup>			
Parcel Boundary				

Notes:

- 1 mile from project site and 1/4 mile radius from linear facilities
- Feature temporarily designated as confidential

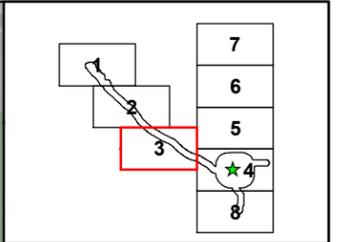
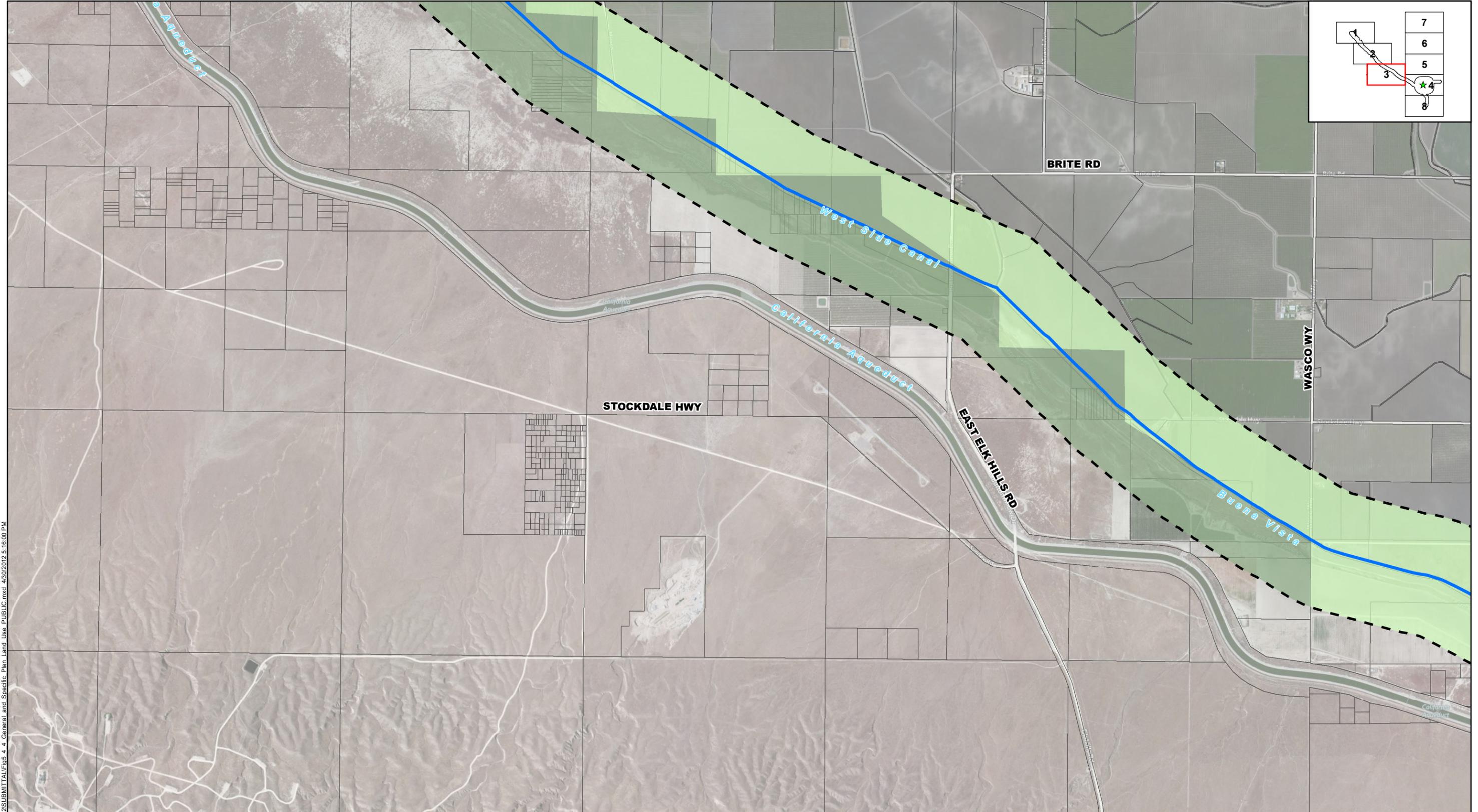


**GENERAL AND SPECIFIC PLAN  
LAND USE DESIGNATIONS**

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 28068052

Hydrogen Energy California (HECA)  
 Kern County, California  
**FIGURE 5.4-4 (2)**

Source: Aerial Imagery, Bing Maps, 2009; General/ Specific plans: Kern County, 2011



- Project Site
- Construction Staging Area
- Controlled Area
- BWSD Well Field
- Project Study Area<sup>1</sup>
- Specific Plan Boundary
- Parcel Boundary

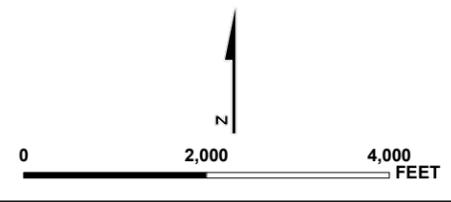
- Carbon Dioxide
- Natural Gas<sup>2</sup>
- Potable Water
- Process Water
- Transmission
- Railroad<sup>2</sup>

- Land Use Designation**
- 1. Non- Jurisdictional
  - 1.1 State or Federal Land
  - 5. Residential
  - 5.3 Maximum 10 Units/ Net Acre

- 6. Commercial
- 6.2 General Commercial
- 6.3 Highway Commercial
- 7. Industrial
- 7.1 Light Industrial

- 8. Resource
- 8.1 Intensive Agriculture (Min. 20-Acre Parcel Size)
- 8.3 Extensive Agriculture (Min. 20-Acre Parcel Size)
- 8.4 Mineral and Petroleum (Min. 5-Acre Parcel Size)
- 8.5 Resource Management (Min. 20-Acre Parcel Size)

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**GENERAL AND SPECIFIC PLAN  
 LAND USE DESIGNATIONS**

April 2012  
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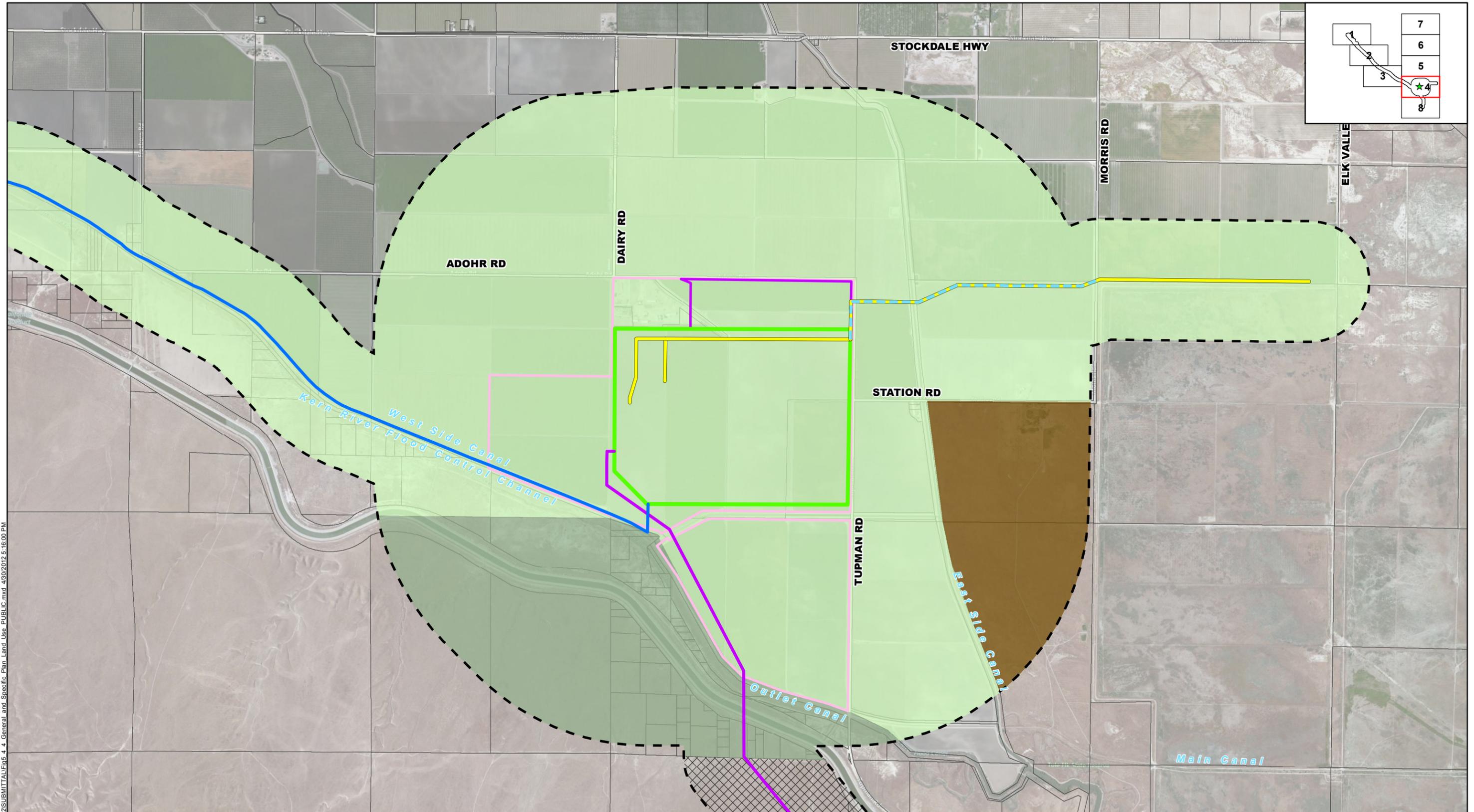


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 Kern County, California

**FIGURE 5.4-4 (3)**

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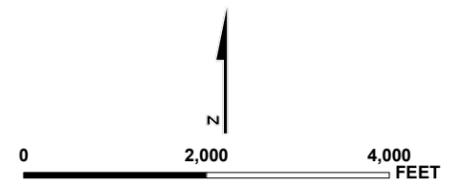
Source: Aerial Imagery, Bing Maps, 2009; General/ Specific plans: Kern County, 2011



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Project Site	Carbon Dioxide	<b>Land Use Designation</b>	6. Commercial	8. Resource
Construction Staging Area	Natural Gas <sup>2</sup>	1. Non- Jurisdictional	6.2 General Commercial	8.1 Intensive Agriculture (Min. 20-Acre Parcel Size)
Controlled Area	Potable Water	5. Residential	6.3 Highway Commercial	8.3 Extensive Agriculture (Min. 20-Acre Parcel Size)
BWSD Well Field	Process Water	5.3 Maximum 10 Units/ Net Acre	7. Industrial	8.4 Mineral and Petroleum (Min. 5-Acre Parcel Size)
Project Study Area <sup>1</sup>	Transmission	1.1 State or Federal Land	7.1 Light Industrial	8.5 Resource Management (Min. 20-Acre Parcel Size)
Specific Plan Boundary	Railroad <sup>2</sup>			
Parcel Boundary				

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**GENERAL AND SPECIFIC PLAN  
LAND USE DESIGNATIONS**

April 2012  
28068052

Hydrogen Energy California (HECA)  
Kern County, California

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**FIGURE 5.4-4 (4)**

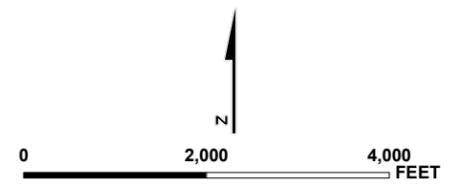
Source: Aerial Imagery, Bing Maps, 2009; General/ Specific plans: Kern County, 2011



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Project Site	Carbon Dioxide	<b>Land Use Designation</b>	6. Commercial	8. Resource
Construction Staging Area	Natural Gas <sup>2</sup>	1. Non- Jurisdictional	6.2 General Commercial	8.1 Intensive Agriculture (Min. 20-Acre Parcel Size)
Controlled Area	Potable Water	1.1 State or Federal Land	6.3 Highway Commercial	8.3 Extensive Agriculture (Min. 20-Acre Parcel Size)
BWSD Well Field	Process Water	5. Residential	7. Industrial	8.4 Mineral and Petroleum (Min. 5-Acre Parcel Size)
Project Study Area <sup>1</sup>	Transmission	5.3 Maximum 10 Units/ Net Acre	7.1 Light Industrial	8.5 Resource Management (Min. 20-Acre Parcel Size)
Specific Plan Boundary	Railroad <sup>2</sup>			
Parcel Boundary				

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**GENERAL AND SPECIFIC PLAN  
LAND USE DESIGNATIONS**

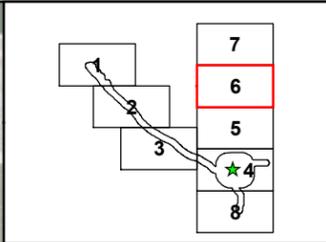
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Hydrogen Energy California (HECA)  
Kern County, California

**FIGURE 5.4-4 (5)**

Source: Aerial Imagery, Bing Maps, 2009; General/ Specific plans: Kern County, 2011



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- Project Site
- Construction Staging Area
- Controlled Area
- BWSD Well Field
- Project Study Area<sup>1</sup>
- Specific Plan Boundary
- Parcel Boundary

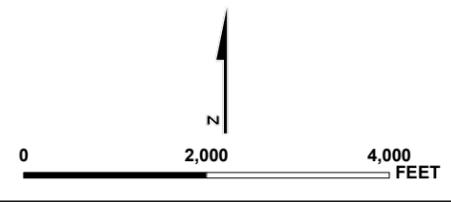
- Carbon Dioxide
- Natural Gas<sup>2</sup>
- Potable Water
- Process Water
- Transmission
- Railroad<sup>2</sup>

- Land Use Designation**
- 1. Non- Jurisdictional
  - 1.1 State or Federal Land
  - 5. Residential
  - 5.3 Maximum 10 Units/ Net Acre

- 6. Commercial
- 6.2 General Commercial
- 6.3 Highway Commercial
- 7. Industrial
- 7.1 Light Industrial

- 8. Resource
- 8.1 Intensive Agriculture (Min. 20-Acre Parcel Size)
- 8.3 Extensive Agriculture (Min. 20-Acre Parcel Size)
- 8.4 Mineral and Petroleum (Min. 5-Acre Parcel Size)
- 8.5 Resource Management (Min. 20-Acre Parcel Size)

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**GENERAL AND SPECIFIC PLAN  
 LAND USE DESIGNATIONS**

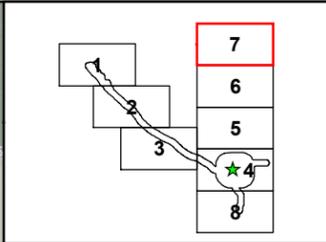
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Hydrogen Energy California (HECA)  
 Kern County, California

**FIGURE 5.4-4 (6)**

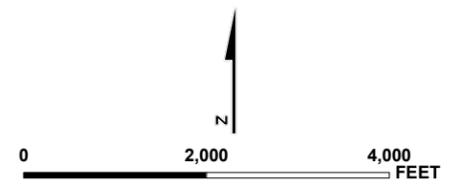
Source: Aerial Imagery, Bing Maps, 2009; General/ Specific plans: Kern County, 2011



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Project Site	Carbon Dioxide	<b>Land Use Designation</b>	6. Commercial	8. Resource
Construction Staging Area	Natural Gas <sup>2</sup>	1. Non- Jurisdictional	6.2 General Commercial	8.1 Intensive Agriculture (Min. 20-Acre Parcel Size)
Controlled Area	Potable Water	1.1 State or Federal Land	6.3 Highway Commercial	8.3 Extensive Agriculture (Min. 20-Acre Parcel Size)
BWWS Well Field	Process Water	5. Residential	7. Industrial	8.4 Mineral and Petroleum (Min. 5-Acre Parcel Size)
Project Study Area <sup>1</sup>	Transmission	5.3 Maximum 10 Units/ Net Acre	7.1 Light Industrial	8.5 Resource Management (Min. 20-Acre Parcel Size)
Specific Plan Boundary	Railroad <sup>2</sup>			
Parcel Boundary				

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



**GENERAL AND SPECIFIC PLAN  
LAND USE DESIGNATIONS**

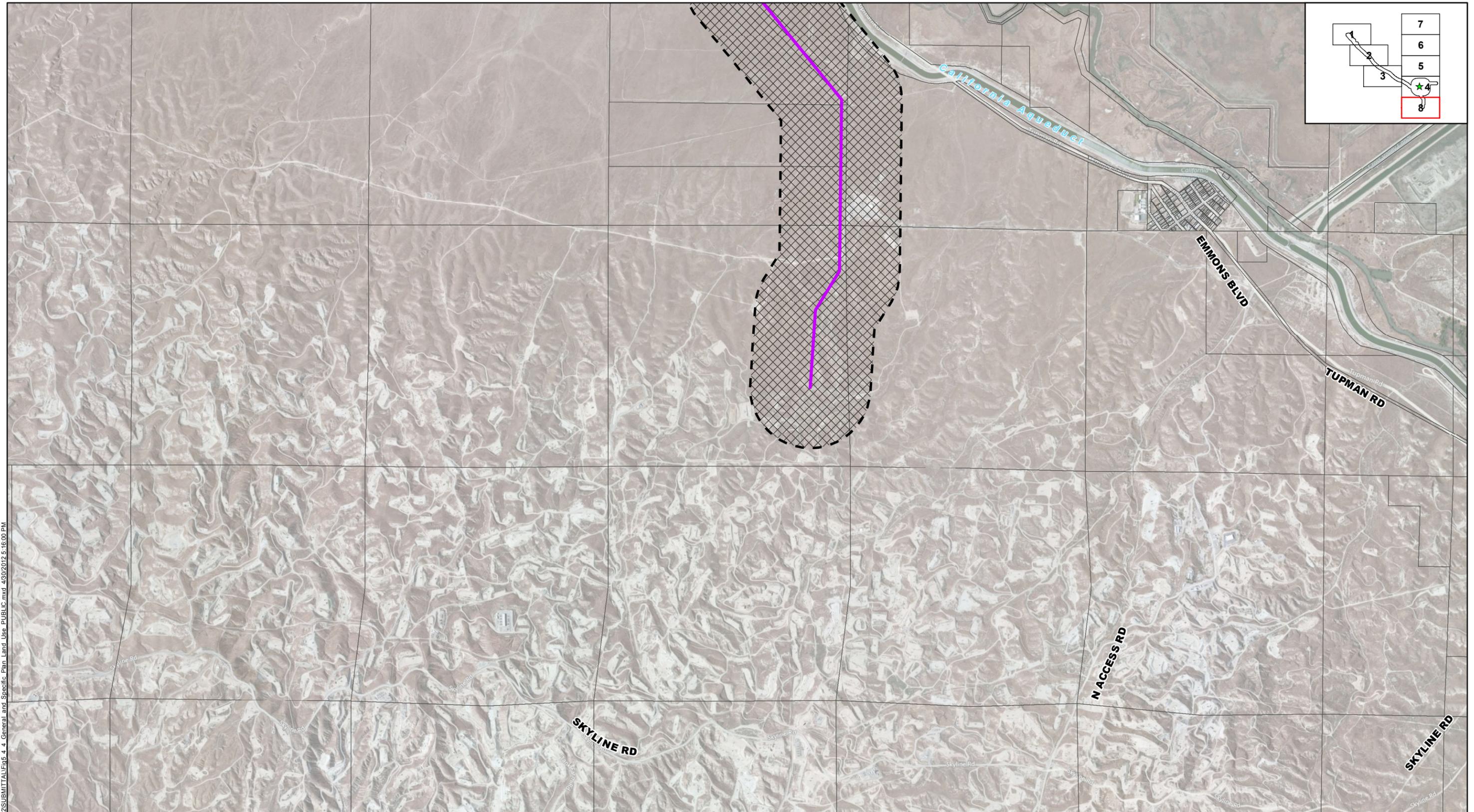
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Hydrogen Energy California (HECA)  
Kern County, California

**FIGURE 5.4-4 (7)**

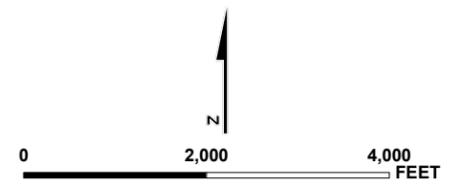
Source: Aerial Imagery, Bing Maps, 2009; General/ Specific plans: Kern County, 2011



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Project Site	Carbon Dioxide	<b>Land Use Designation</b>	6. Commercial	8. Resource
Construction Staging Area	Natural Gas <sup>2</sup>	1. Non- Jurisdictional	6.2 General Commercial	8.1 Intensive Agriculture (Min. 20-Acre Parcel Size)
Controlled Area	Potable Water	1.1 State or Federal Land	6.3 Highway Commercial	8.3 Extensive Agriculture (Min. 20-Acre Parcel Size)
BWSD Well Field	Process Water	5. Residential	7. Industrial	8.4 Mineral and Petroleum (Min. 5-Acre Parcel Size)
Project Study Area <sup>1</sup>	Transmission	5.3 Maximum 10 Units/ Net Acre	7.1 Light Industrial	8.5 Resource Management (Min. 20-Acre Parcel Size)
Specific Plan Boundary	Railroad <sup>2</sup>			
Parcel Boundary				

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



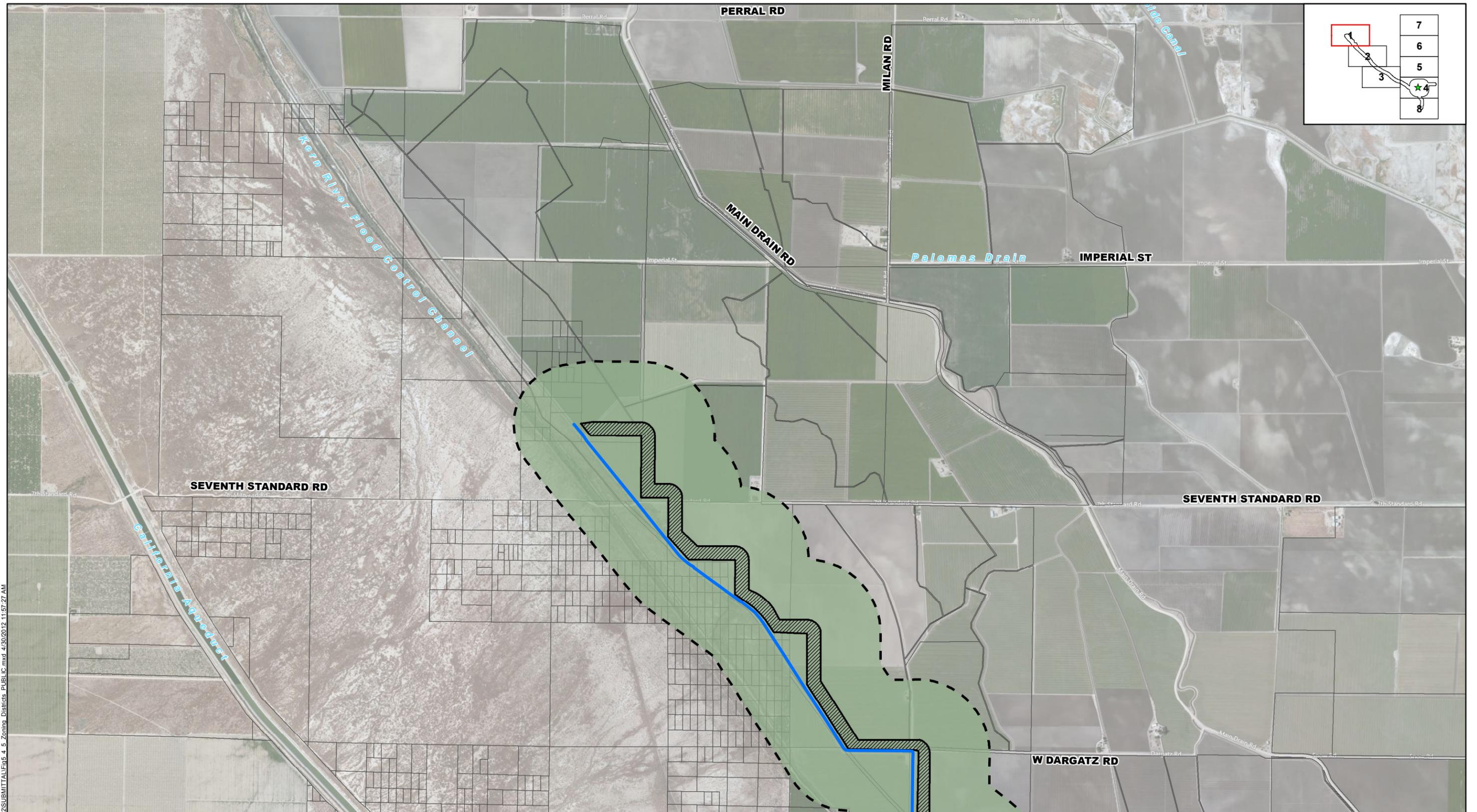
**GENERAL AND SPECIFIC PLAN  
LAND USE DESIGNATIONS**

April 2012  
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Hydrogen Energy California (HECA)  
Kern County, California

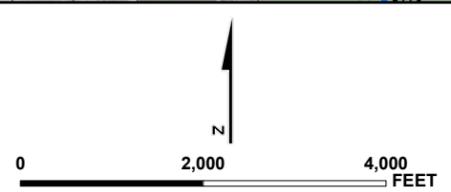
**FIGURE 5.4-4 (8)**



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- |                                 |                          |                           |
|---------------------------------|--------------------------|---------------------------|
| Project Site                    | Carbon Dioxide           | <b>Zoning Districts</b>   |
| Construction Staging Area       | Natural Gas <sup>2</sup> | Exclusive Agriculture (A) |
| Controlled Area                 | Potable Water            | General Commercial (K-2)  |
| BVWSD Well Field                | Process Water            | Limited Agriculture (A-1) |
| Project Study Area <sup>1</sup> | Transmission             | Medium Industrial (M-2)   |
| Parcel Boundary                 | Railroad <sup>2</sup>    |                           |

- Zoning Combining Districts**
- |                             |
|-----------------------------|
| Airport Approach Height (H) |
| Mobile Home (MH)            |
| Precise Development (PD)    |
- Notes:
- 1 mile from project site and 1/4 mile radius from linear facilities
  - Feature temporarily designated as confidential



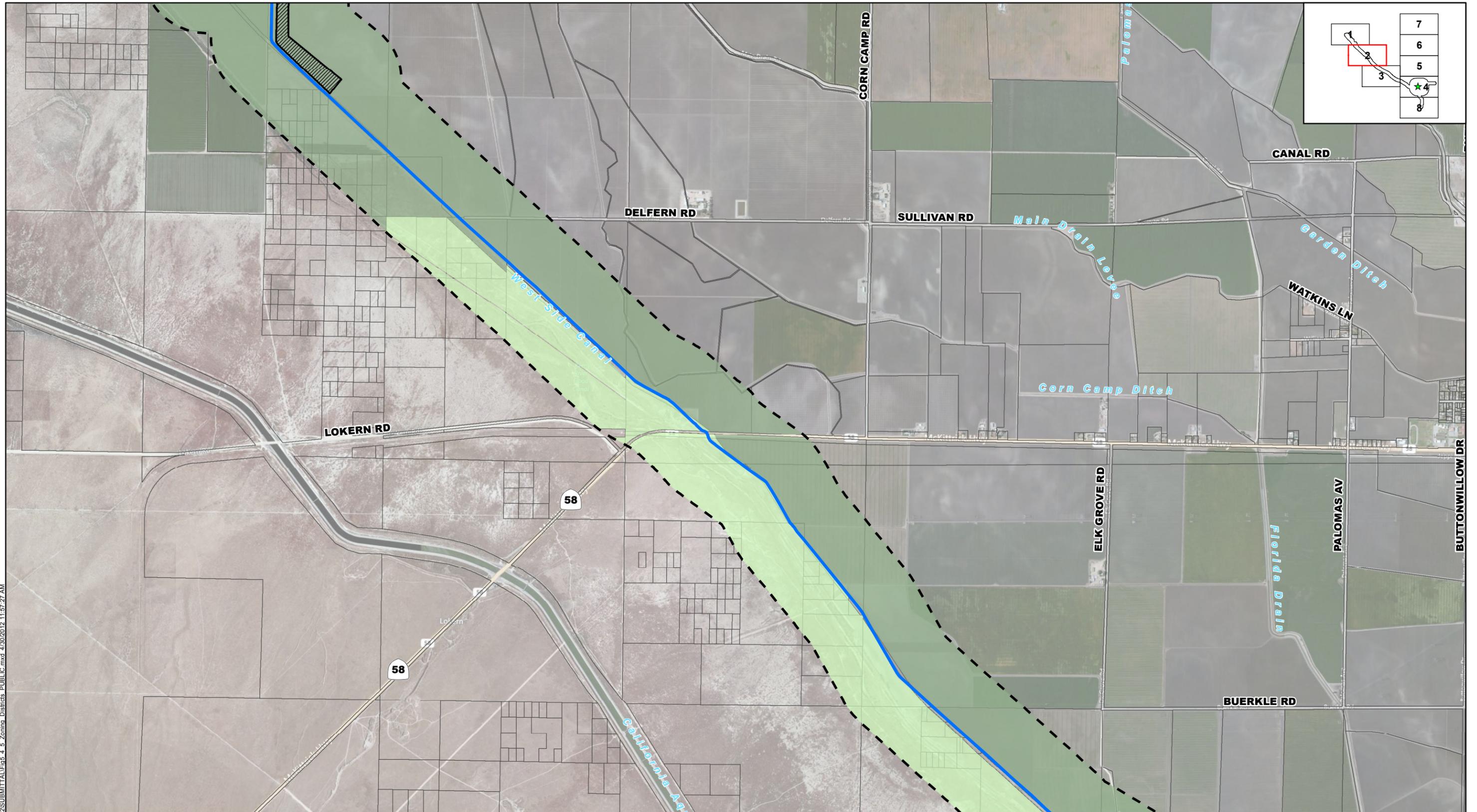
**ZONING DISTRICTS**

April 2012  
 28068052

Hydrogen Energy California (HECA)  
 Kern County, California

**FIGURE 5.4-5(1)**

Source: Aerial Imagery, Bing Maps, 2009; Zoning: Kern County, 2012

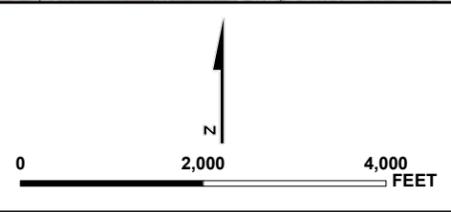


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Project Site	Carbon Dioxide	<b>Zoning Districts</b>	Airport Approach Height (H)
Construction Staging Area	Natural Gas <sup>2</sup>	Exclusive Agriculture (A)	Mobile Home (MH)
Controlled Area	Potable Water	General Commercial (K-2)	Precise Development (PD)
BVWSD Well Field	Process Water	Limited Agriculture (A-1)	
Project Study Area <sup>1</sup>	Transmission	Medium Industrial (M-2)	
Parcel Boundary	Railroad <sup>2</sup>		

Notes:

- 1 mile from project site and 1/4 mile radius from linear facilities
- Feature temporarily designated as confidential



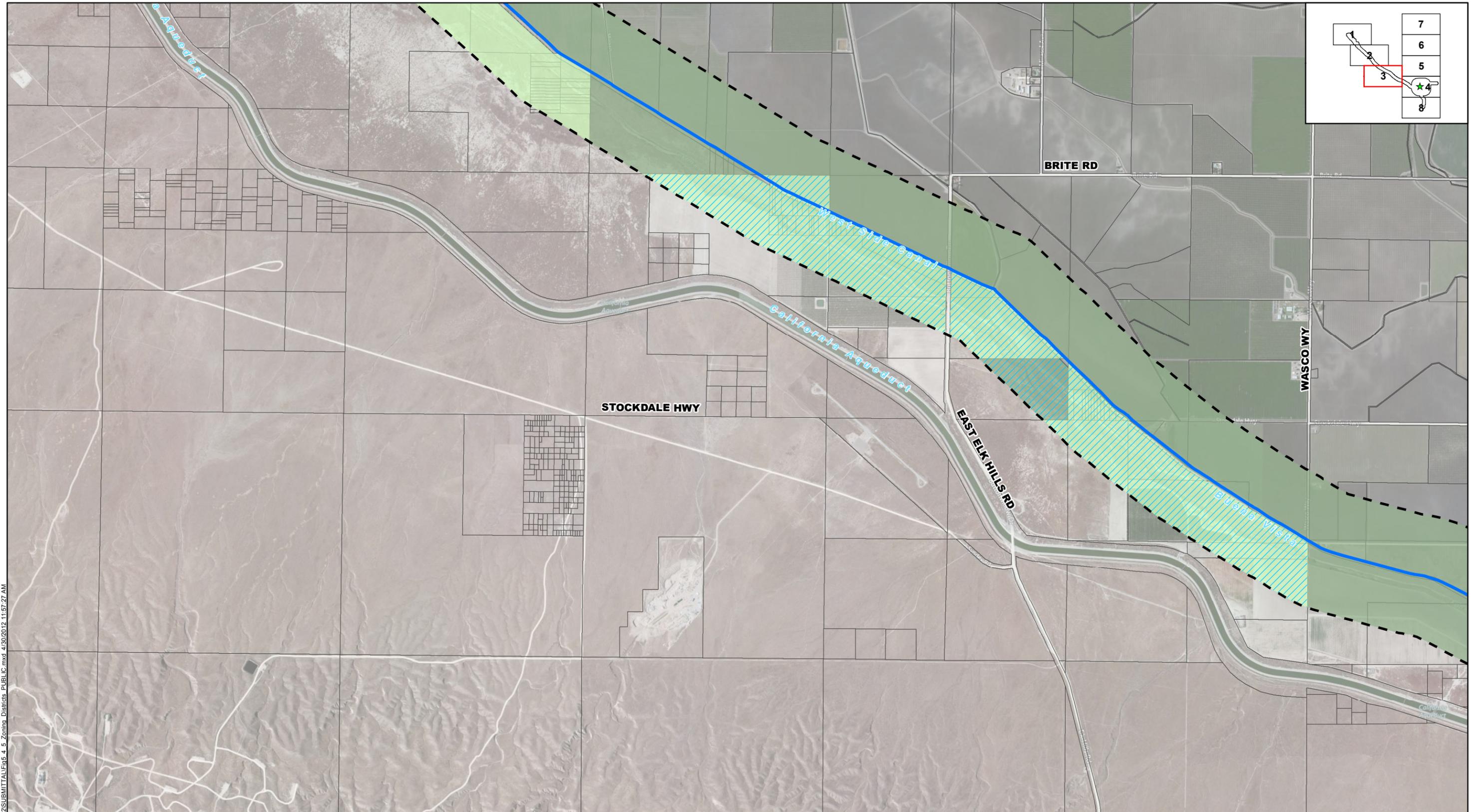
**ZONING DISTRICTS**

April 2012  
 28068052

Hydrogen Energy California (HECA)  
 Kern County, California

**FIGURE 5.4-5(2)**

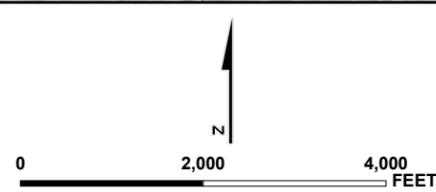
Source: Aerial Imagery, Bing Maps, 2009; Zoning: Kern County, 2012



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- |                                 |                          |                           |
|---------------------------------|--------------------------|---------------------------|
| Project Site                    | Carbon Dioxide           | <b>Zoning Districts</b>   |
| Construction Staging Area       | Natural Gas <sup>2</sup> | Exclusive Agriculture (A) |
| Controlled Area                 | Potable Water            | General Commercial (K-2)  |
| BVWSD Well Field                | Process Water            | Limited Agriculture (A-1) |
| Project Study Area <sup>1</sup> | Transmission             | Medium Industrial (M-2)   |
| Parcel Boundary                 | Railroad <sup>2</sup>    |                           |

- Zoning Combining Districts**
- |                             |
|-----------------------------|
| Airport Approach Height (H) |
| Mobile Home (MH)            |
| Precise Development (PD)    |
- Notes:
- 1 mile from project site and 1/4 mile radius from linear facilities
  - Feature temporarily designated as confidential



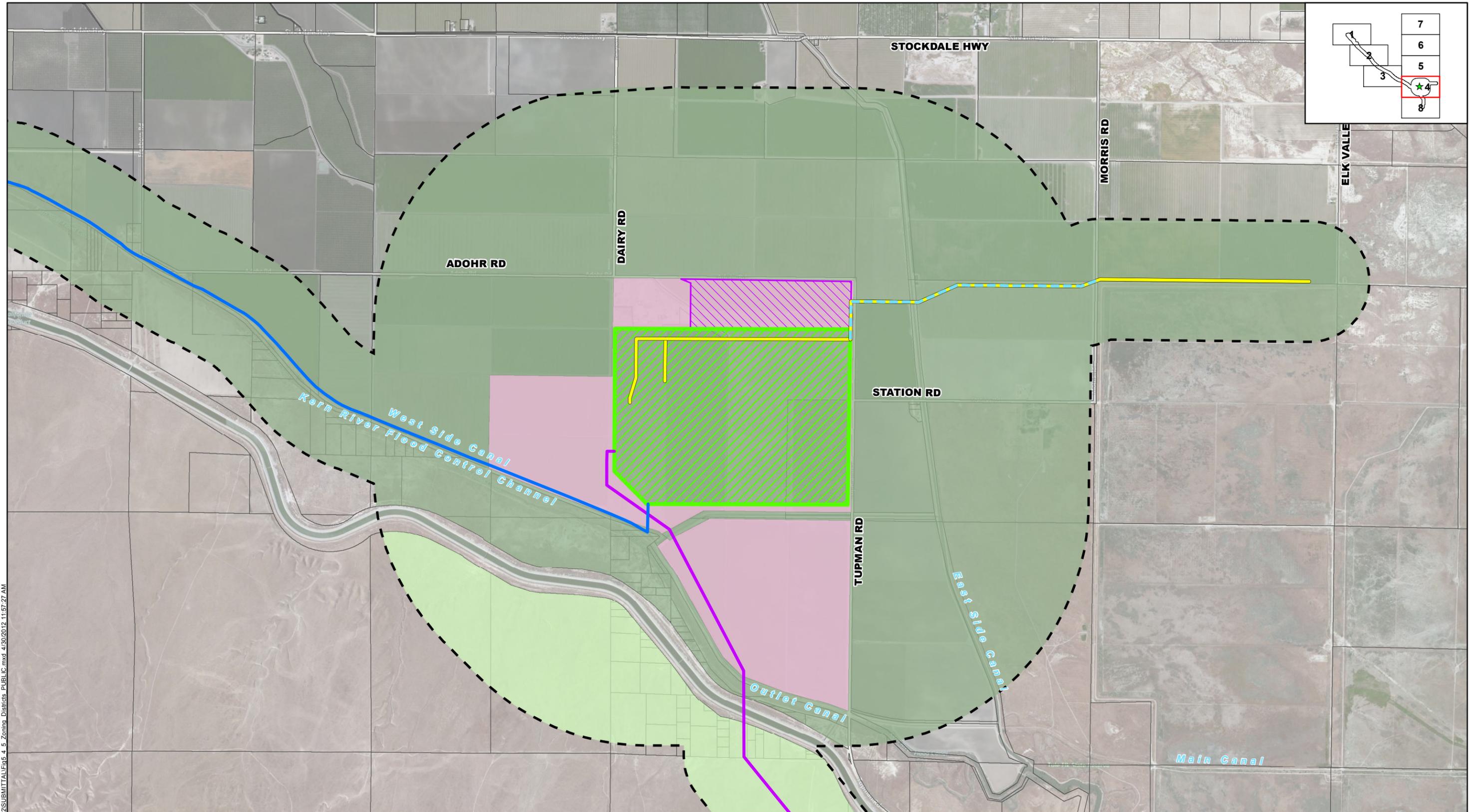
**ZONING DISTRICTS**

April 2012  
 28068052

Hydrogen Energy California (HECA)  
 Kern County, California

**FIGURE 5.4-5(3)**

Source: Aerial Imagery, Bing Maps, 2009; Zoning: Kern County, 2012

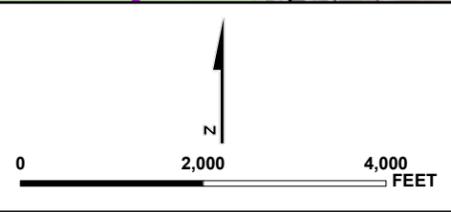


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Project Site	Carbon Dioxide	<b>Zoning Districts</b>	Airport Approach Height (H)
Construction Staging Area	Natural Gas <sup>2</sup>	Exclusive Agriculture (A)	Mobile Home (MH)
Controlled Area	Potable Water	General Commercial (K-2)	Precise Development (PD)
BVWSD Well Field	Process Water	Limited Agriculture (A-1)	
Project Study Area <sup>1</sup>	Transmission	Medium Industrial (M-2)	
Parcel Boundary	Railroad <sup>2</sup>		

Notes:

- 1 mile from project site and 1/4 mile radius from linear facilities
- Feature temporarily designated as confidential



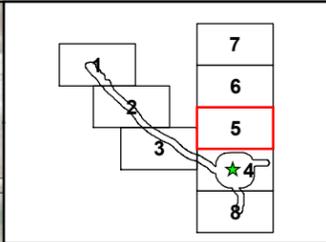
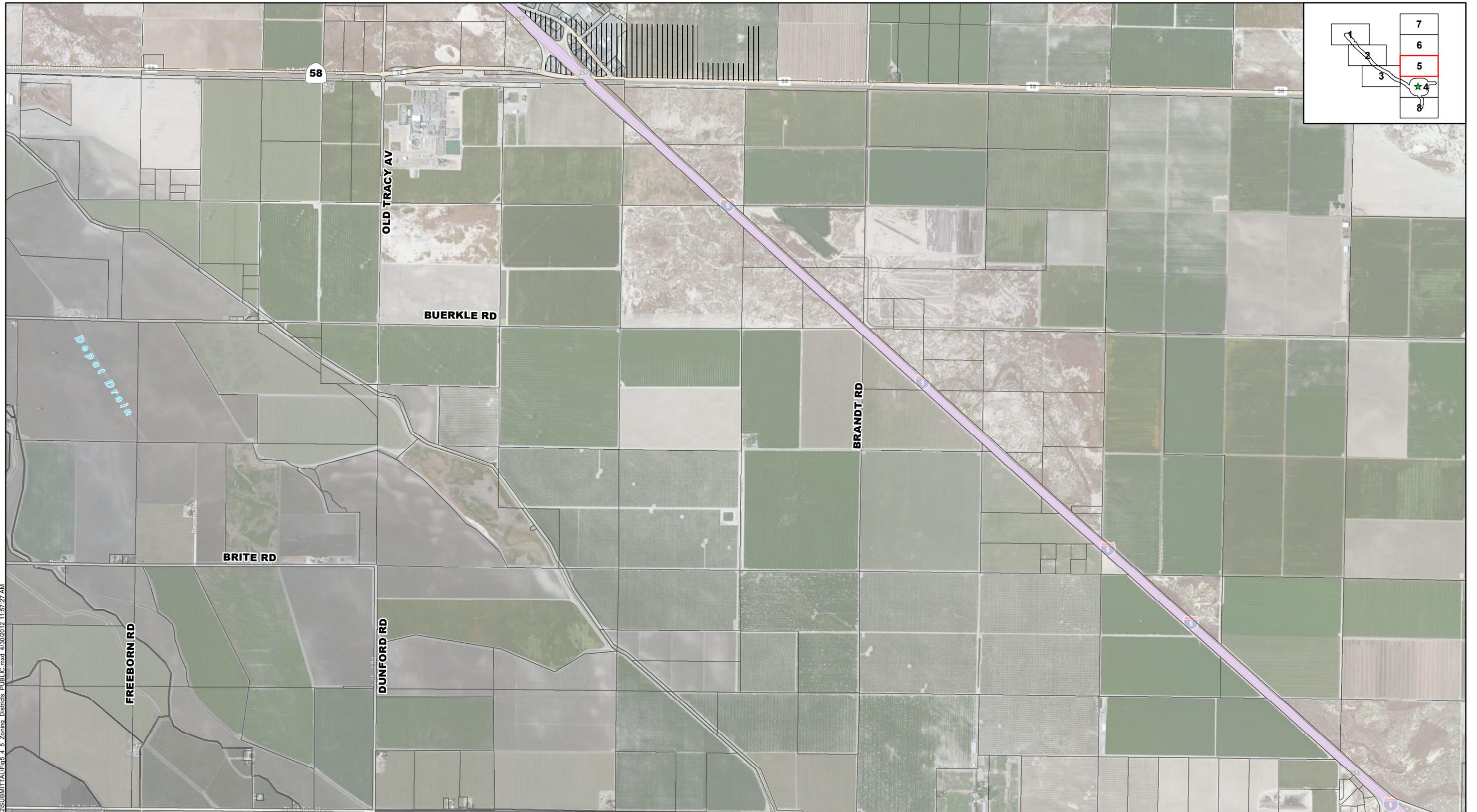
**ZONING DISTRICTS**

April 2012  
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 Kern County, California

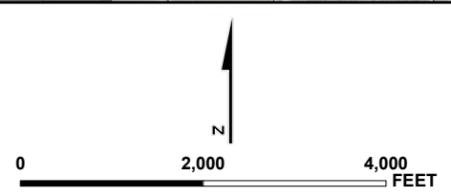
**FIGURE 5.4-5(4)**

Source: Aerial Imagery, Bing Maps, 2009; Zoning: Kern County, 2012



- Project Site
- Construction Staging Area
- Controlled Area
- BVWSD Well Field
- Project Study Area<sup>1</sup>
- Parcel Boundary
- Carbon Dioxide
- Natural Gas<sup>2</sup>
- Potable Water
- Process Water
- Transmission
- Railroad<sup>2</sup>

- Zoning Districts**
- Exclusive Agriculture (A)
  - General Commercial (K-2)
  - Limited Agriculture (A-1)
  - Medium Industrial (M-2)
- Zoning Combining Districts**
- Airport Approach Height (H)
  - Mobile Home (MH)
  - Precise Development (PD)
- Notes:
1. 1 mile from project site and 1/4 mile radius from linear facilities
  2. Feature temporarily designated as confidential



**ZONING DISTRICTS**

April 2012  
28068052

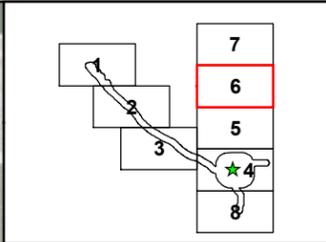
Hydrogen Energy California (HECA)  
Kern County, California

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**FIGURE 5.4-5(5)**

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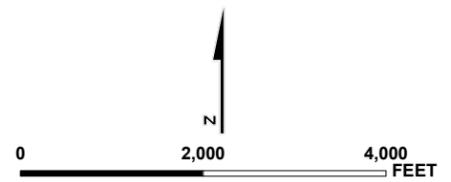
Source: Aerial Imagery, Bing Maps, 2009; Zoning: Kern County, 2012



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- |                                 |                          |                           |
|---------------------------------|--------------------------|---------------------------|
| Project Site                    | Carbon Dioxide           | <b>Zoning Districts</b>   |
| Construction Staging Area       | Natural Gas <sup>2</sup> | Exclusive Agriculture (A) |
| Controlled Area                 | Potable Water            | General Commercial (K-2)  |
| BVWSD Well Field                | Process Water            | Limited Agriculture (A-1) |
| Project Study Area <sup>1</sup> | Transmission             | Medium Industrial (M-2)   |
| Parcel Boundary                 | Railroad <sup>2</sup>    |                           |

- Zoning Combining Districts**
- |                             |
|-----------------------------|
| Airport Approach Height (H) |
| Mobile Home (MH)            |
| Precise Development (PD)    |
- Notes:
- 1 mile from project site and 1/4 mile radius from linear facilities
  - Feature temporarily designated as confidential



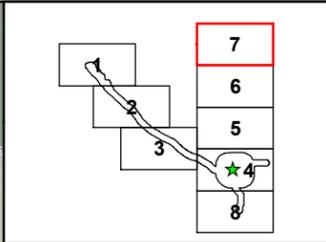
**ZONING DISTRICTS**

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 Kern County, California

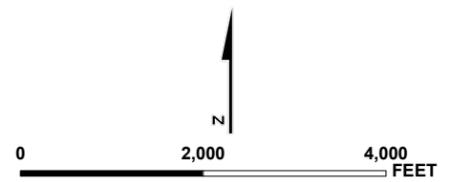
**FIGURE 5.4-5(6)**

Source: Aerial Imagery, Bing Maps, 2009; Zoning: Kern County, 2012



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- |                                 |                          |                           |                                   |
|---------------------------------|--------------------------|---------------------------|-----------------------------------|
| Project Site                    | Carbon Dioxide           | <b>Zoning Districts</b>   | <b>Zoning Combining Districts</b> |
| Construction Staging Area       | Natural Gas <sup>2</sup> | Exclusive Agriculture (A) | Airport Approach Height (H)       |
| Controlled Area                 | Potable Water            | General Commercial (K-2)  | Mobile Home (MH)                  |
| BVWSD Well Field                | Process Water            | Limited Agriculture (A-1) | Precise Development (PD)          |
| Project Study Area <sup>1</sup> | Transmission             | Medium Industrial (M-2)   |                                   |
| Parcel Boundary                 | Railroad <sup>2</sup>    |                           |                                   |
- Notes:
- 1 mile from project site and 1/4 mile radius from linear facilities
  - Feature temporarily designated as confidential



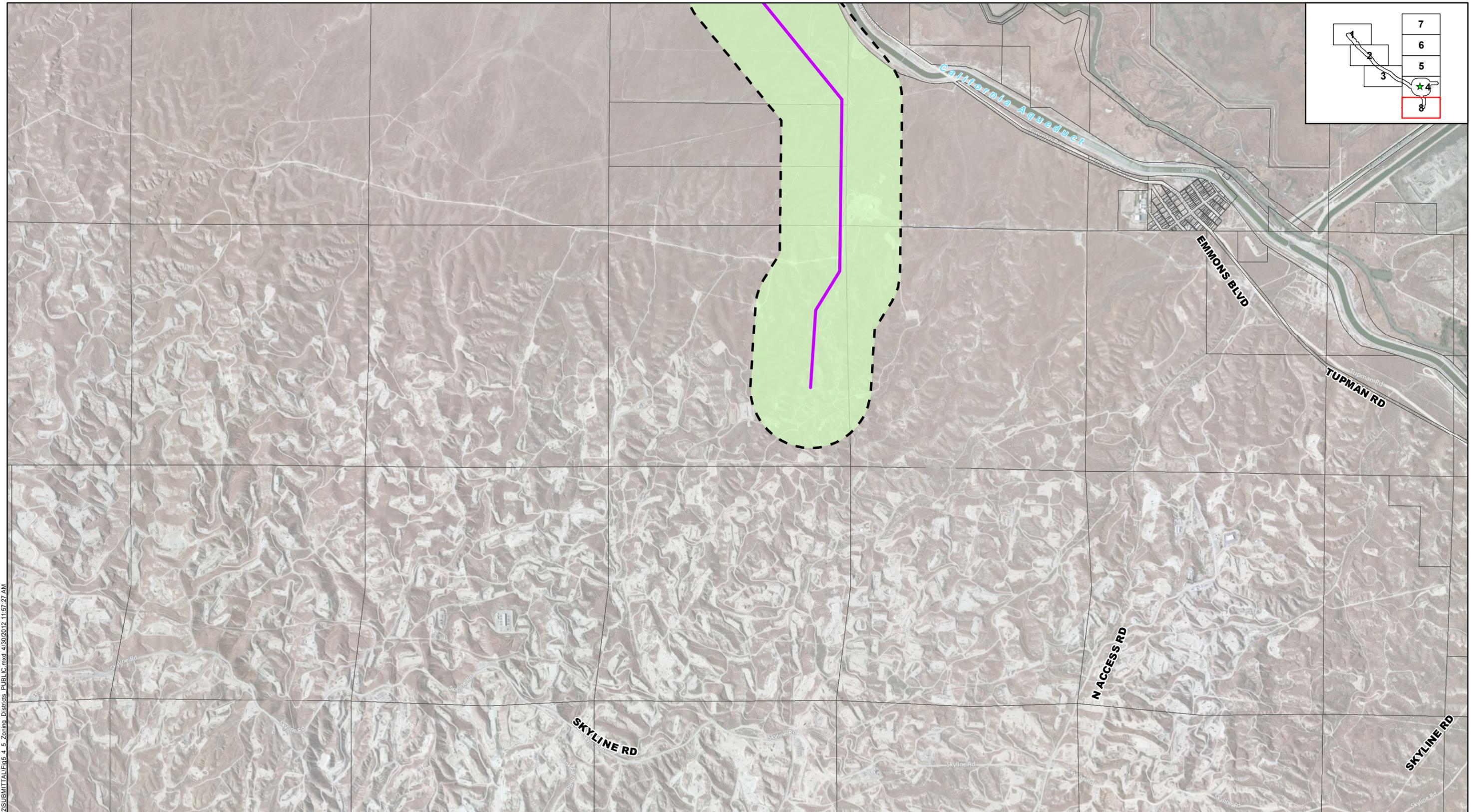
**ZONING DISTRICTS**

April 2012  
 28068052

Hydrogen Energy California (HECA)  
 Kern County, California

**FIGURE 5.4-5(7)**

Source: Aerial Imagery, Bing Maps, 2009; Zoning: Kern County, 2012

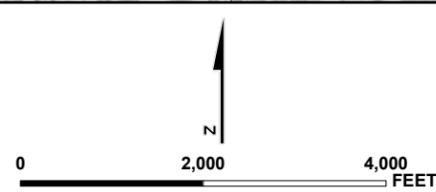


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- |                                 |                          |                           |
|---------------------------------|--------------------------|---------------------------|
| Project Site                    | Carbon Dioxide           | <b>Zoning Districts</b>   |
| Construction Staging Area       | Natural Gas <sup>2</sup> | Exclusive Agriculture (A) |
| Controlled Area                 | Potable Water            | General Commercial (K-2)  |
| BVWSD Well Field                | Process Water            | Limited Agriculture (A-1) |
| Project Study Area <sup>1</sup> | Transmission             | Medium Industrial (M-2)   |
| Parcel Boundary                 | Railroad <sup>2</sup>    |                           |

- Zoning Combining Districts**
- |                             |
|-----------------------------|
| Airport Approach Height (H) |
| Mobile Home (MH)            |
| Precise Development (PD)    |

Notes:  
 1. 1 mile from project site and 1/4 mile radius from linear facilities  
 2. Feature temporarily designated as confidential



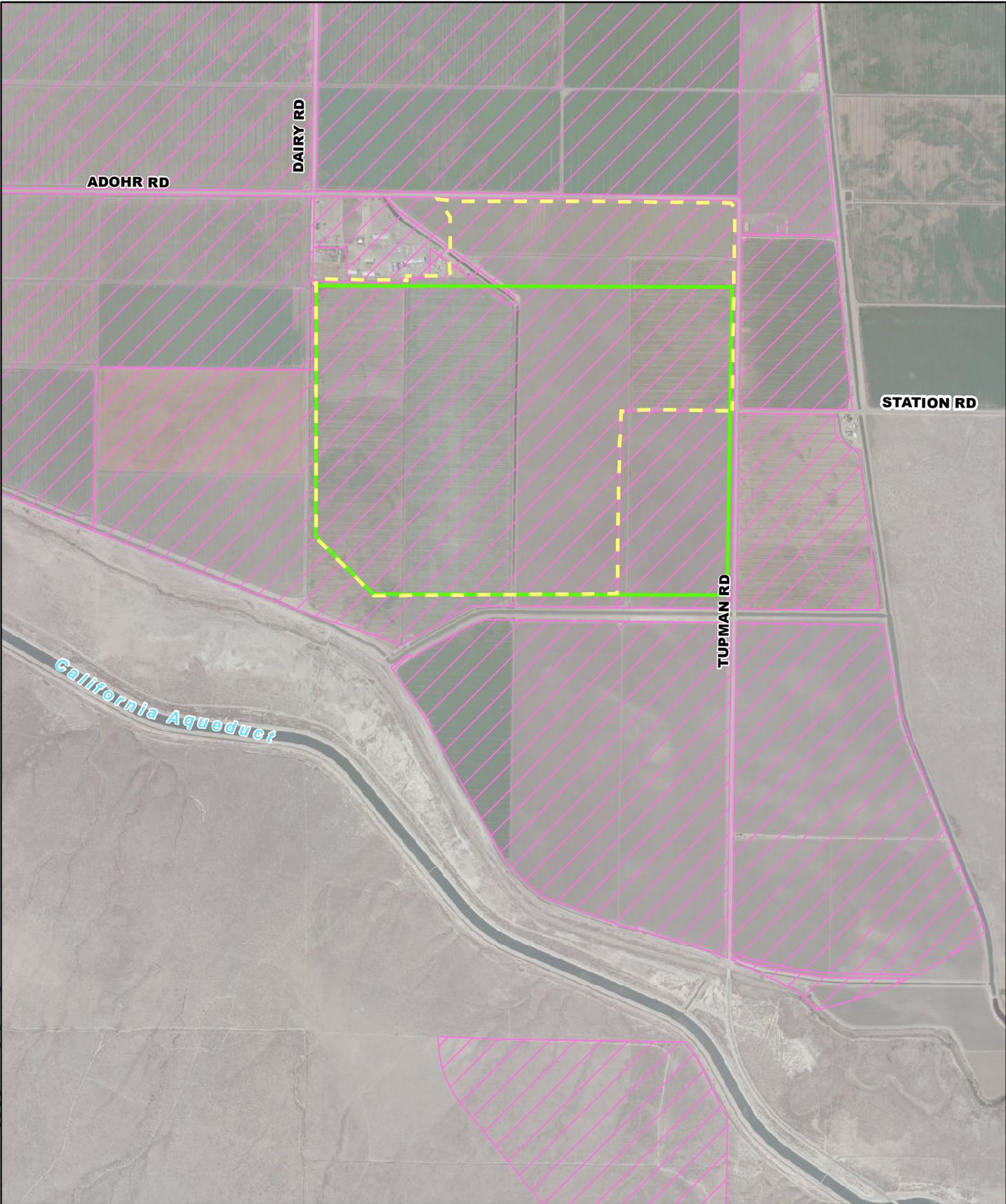
**ZONING DISTRICTS**

April 2012  
 28068052

Hydrogen Energy California (HECA)  
 Kern County, California

**FIGURE 5.4-5(8)**

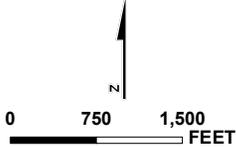
Source: Aerial Imagery, Bing Maps, 2009; Zoning: Kern County, 2012



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- Project Site
- Tentatively Cancelled Williamson Act Contracted Land<sup>1</sup>
- Williamson Act Contracted Land

Note:  
 1. The Kern County Board of Supervisors adopted Resolution 2010-168 on June 29, 2010, approving the tentative cancellation of 491 acres of Williamson Act contracted lands.



**HECA WILLIAMSON ACT  
 CONTRACT CANCELLATIONS**

April 2012 Hydrogen Energy California (HECA)  
 28068052 Kern County, California



**FIGURE 5.4-6**