

September 2020 | Geologic and Environmental Hazards Assessment

# RICHMOND ELEMENTARY SCHOOL REPLACEMENT PROJECT

Sierra Sands Unified School District

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## Abbreviations and Acronyms

AICUZ	Air Installations Compatible Use Zones
CCR	California Code of Regulations
CDE	California Department of Education
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
DOD	Department of Defense
DSA	Department of the State Architect
DTSC	Department of Substances Control
Ed. Code	Code of Education
FIRM	Flood Insurance Map
IWVWD	Indian Wells Valley Water District
kV	kilovolt
NAWS	Naval Air Weapons Station
PRC	Public Resources Code
SCE	Southern California Edison



## Abbreviations and Acronyms

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# 1. Introduction

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## 1.1 INTRODUCTION

Sierra Sands Unified School District (the District) is planning to build a new elementary school on a vacant 77-acre parcel for the replacement of Richmond Elementary School, which is located inside the Naval Air Weapons Station (NAWS) China Lake military base in Kern County, California. The State of California's standards for school site selection are found in Title 5 of the California Code of Regulations (CCR) Section 14010, and additional codes and regulations applicable to school facilities that are found in the Education, Government and Public Resources Codes (Ed. Code, Gov't Code and PRC, respectively). This study provides an assessment and supporting documentation of State school facility standards applicable to State-funded new school sites.

In addition to the standards addressed herein, other health and safety requirements are under the purview of the Department of Toxic Substances Control (DTSC). Also, the California Environmental Quality Act (CEQA) requires lead agencies to address the environmental impacts of a project on the environment. These are separate and distinct from the issues addressed in this study, which deal with a site's ability to provide a safe and healthy environment for school use. Documentation of the project's environmental impacts under CEQA and the health and safety evaluation per DTSC are provided under separate cover.

## 1.2 PROJECT LOCATION

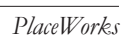
The site is located on the east side of Gateway Boulevard, south of North Gold Canyon Street in Ridgecrest, within NAWS China Lake but outside the secured part of the base. Figure 1, *Regional Location*, Figure 2, *Local Vicinity*, and Figure 3, *Aerial Photograph*, show the project site from regional, local, and aerial perspectives.

## 1.3 PROJECT DESCRIPTION

The proposed project is the replacement of the existing Richmond Elementary School campus, located in the secured area of the NAWS China Lake, to the project site. The District would lease the project site from the US Department of Defense (DOD).

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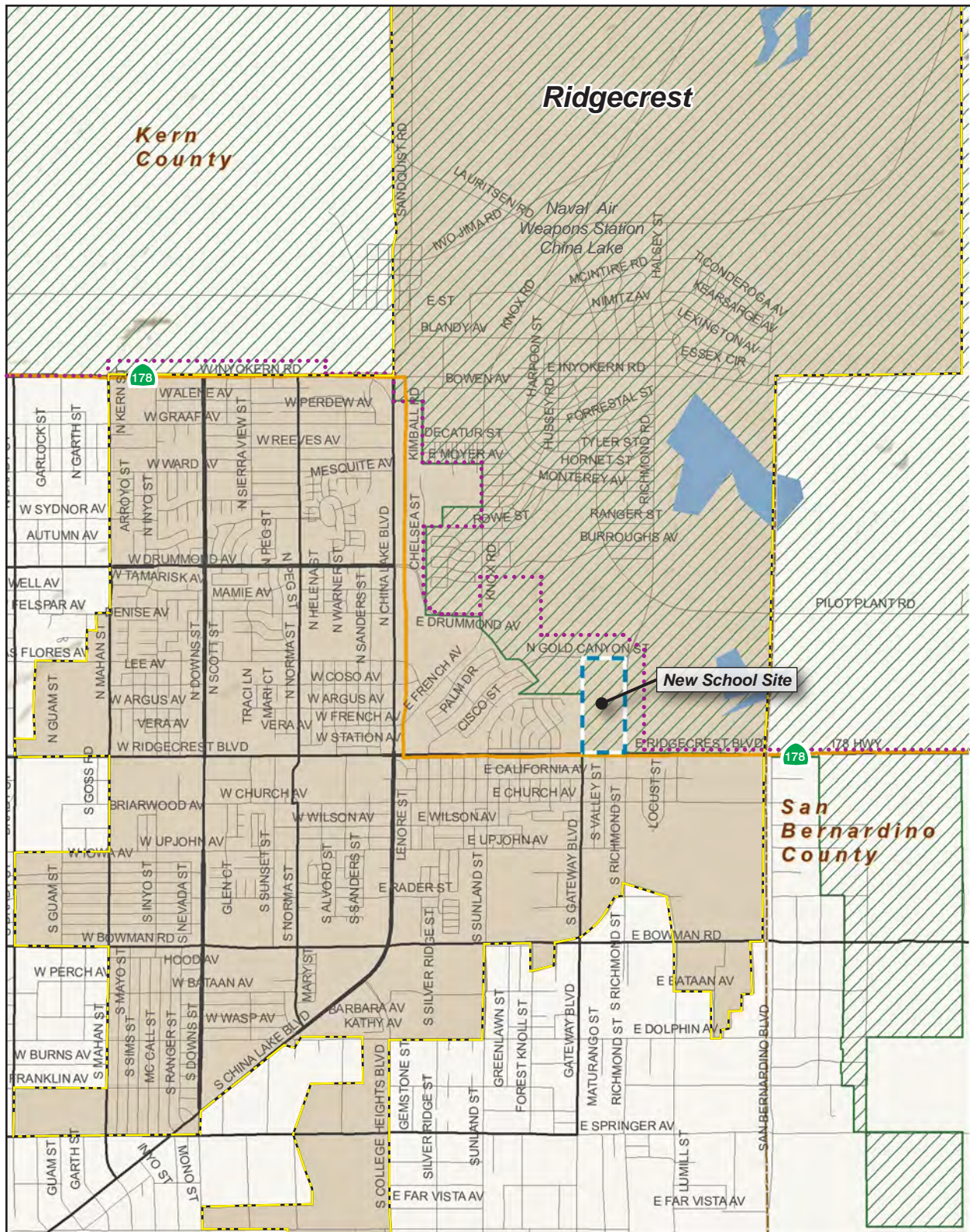


## 1. Introduction

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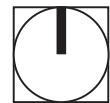
Figure 2 - Local Vicinity



City Boundary  
 State Route  
 Source: ESRI, 2020

Naval Air Weapons Station China Lake  
 Secured Boundary

0 1  
 Scale (Miles)



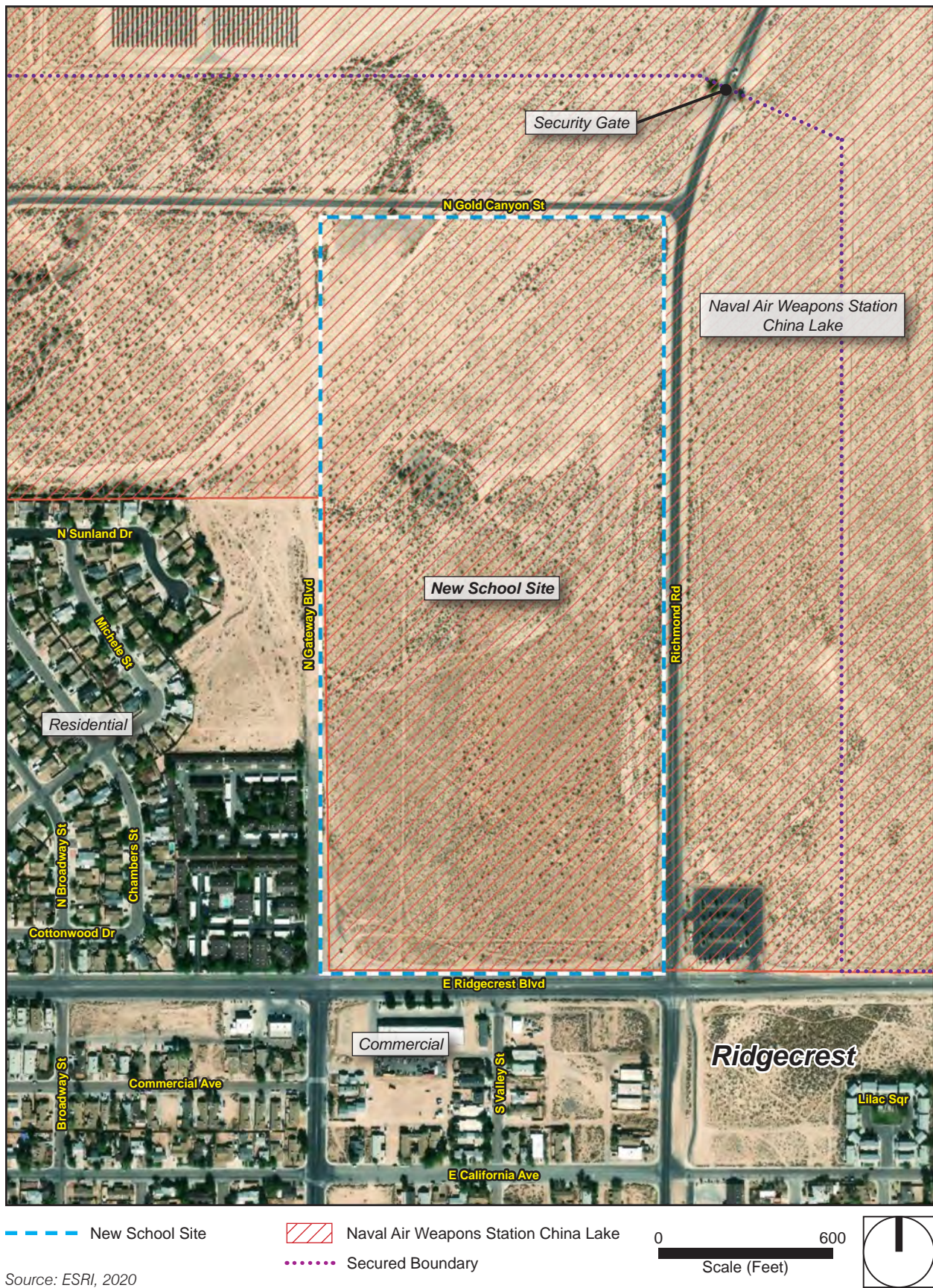
PlaceWorks

## 1. Introduction

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Figure 3 - Aerial Photograph





## 1. Introduction

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## 2. State Standards for School Facilities

The State of California's standards for school site selection are found in 5 CCR Section 14010, and additional codes and regulations applicable to school facilities are found in the Education, Government and Public Resources Codes. The following table is a checklist of questions and code citations related to state-funded new school site and new construction approvals. This list is abbreviated for the purpose of this preliminary investigation. Once a preferred site is selected, a complete geological and environmental hazards assessment will be prepared for that site.

### ABBREVIATED STATE STANDARDS CHECKLIST FOR STATE-FUNDED SCHOOL FACILITIES – SCHOOL SITE APPROVAL

(Documentation for SFPD 4.0, 4.01–4.03, School Site Approval)

Topic	Code References
<b>Air Quality</b>	
Is the boundary of the proposed school site within 500 feet of the edge of the closest traffic lane of a freeway or busy traffic corridor? If yes, would the project create an air quality health risk due to the placement of the school?	Ed. Code § 17213(c)(2)(C); CCR Title 5 § 14010(q)
Would the project create an air quality hazard due to the placement of a school within one-quarter mile of: (a) permitted and non-permitted facilities identified by the jurisdictional air quality control board or air pollution control district; (b) freeways and other busy traffic corridors; (c) large agricultural operations; and/or (d) a rail yard, which might reasonably be anticipated to emit hazardous air emissions, or handle hazardous or acutely hazardous material, substances, or waste?	Ed. Code § 17213(b); CCR Title 5 § 14010(q)
<b>Geology and Soils</b>	
Does the site contain an active earthquake fault or fault trace, or is the site located within the boundaries of any special studies zone or within an area designated as geologically hazardous in the safety element of the local general plan?	Ed. Code, §§ 17212 and 17212.5; CCR Title 5 § 14010(f)
Would the project involve the construction, reconstruction, or relocation of any school building on the trace of a geological fault along which surface rupture can reasonably be expected to occur within the life of the school building?	Ed. Code § 17212.5
Would the project involve the construction, reconstruction, or relocation of any school building on a site subject to moderate-to-high liquefaction, landslides, or expansive soils?	CCR, Title 5 § 14010(i) School Site Selection and Approval Guide, Appendix H
<b>Hazards and Hazardous Materials</b>	
Does the proposed school site contain one or more pipelines, situated underground or aboveground, which carry hazardous substances, acutely hazardous materials, or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood?	Ed. Code § 17213(a)(3)
Is the proposed school site located near an aboveground water or fuel storage tank or within 1,500 feet of an easement of an aboveground or underground pipeline that can pose a safety hazard to the site?	CCR, Title 5 § 14010 (h)
Is the school site in an area designated in a city, county, or city and county general plan for agricultural use and zoned for agricultural production, and if so, do neighboring agricultural uses have the potential to result in any public health and safety issues that may affect the pupils and employees at the school site? <i>(Does not apply to school sites approved by CDE prior to January 1, 1997.)</i>	Ed. Code § 17215.5

## 2. Environmental Checklist

### ABBREVIATED STATE STANDARDS CHECKLIST FOR STATE-FUNDED SCHOOL FACILITIES – SCHOOL SITE APPROVAL

(Documentation for SFPD 4.0, 4.01–4.03, School Site Approval)

Topic	Code References
Is the property line of the proposed school site less than the following distances from the edge of respective power line easements: (1) 100 feet of a 50–133 kV line; (2) 150 feet of a 220–230 kV line; or (3) 350 feet of a 500–550 kV line?	CCR, Title 5 § 14010 (c)
Does the project site contain a current or former hazardous waste disposal site or solid waste disposal site and, if so, have the wastes been removed?	Ed. Code § 17213(a)(1)
Is the project site a hazardous substance release site identified by the state Department of Health Services in a current list adopted pursuant to § 25356 for removal or remedial action pursuant to Chapter 6.8 of Division 20 of the Health and Safety Code?	PRC § 21151.8 (a)(1)(B); Ed. Code § 17213(a)(2)
If prepared, has the risk assessment been performed with a focus on children's health posed by a hazardous materials release or threatened release, or the presence of naturally occurring hazardous materials on the school site?	Ed. Code § 17210.1(a)(3)
If a response action is necessary and proposed as part of this project, has it been developed to be protective of children's health, with an ample margin of safety?	Ed. Code § 17210.1(a)(4)
Is the proposed school site situated within 2,000 feet of a significant disposal of hazardous waste?	CCR, Title 5 § 14010 (t)
Is the site within 300 feet of an active oil or natural gas well?	Fire Code § 3406.3.1
<b>Hydrology and Flooding</b>	
Is the project site subject to flooding or dam/tank inundation or street flooding?	Ed. Code §§ 17212 and 17212.5 CCR, Title 5 § 14010 (g) School Site Selection and Approval Guide, Appendix H
<b>Land Use and Planning</b>	
Would the proposed school conflict with any existing or proposed land uses, such that a potential health or safety risk to students would be created?	Ed. Code § 17213 Gov't. Code § 65402 CCR, Title 5 § 14010 (m)
Is the site within a designated Farmland Security Zone?	Government Code § 51296.5
<b>Transportation/Traffic</b>	
Is the site easily accessible from arterials and is the minimum peripheral visibility maintained for driveways per Caltrans' Highway Design Manual?	CCR, Title 5 § 14010 (k)
Is the proposed school site within 1,500 feet of a railroad track easement?	CCR, Title 5 § 14010 (d)
Is the proposed school site within two nautical miles, measured by air line, of that point on an airport runway or potential runway included in an airport master plan that is nearest to the site? (Does not apply to school sites acquired prior to January 1, 1966.)	Ed. Code §§ 17215 (a)&(b)
Note: Any documentation related to the California Environmental Quality Act is provided under separate cover. This checklist is also applicable to property additions to existing school sites.	

## 3. Environmental Analysis

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Section 2 provided a checklist of the State of California's health and safety standards for school sites. This section provides documentation and an evaluation of applicable standards, and mitigation measures where appropriate.

### 3.1 AIR QUALITY

- 3.1.1 Is the boundary of the proposed school site within 500 feet of the edge of the closest traffic lane of a freeway or busy traffic corridor? If yes, would the project create an air quality health risk due to the placement of the school?

**No Significant Hazard.** There are no freeways or busy traffic corridors within 500 feet of the site (Kern Council of Governments 2020).<sup>1</sup> The traffic count of Ridgecrest Boulevard (State Route 178) at the intersection with Richmond Road was 9,650 trips in 2017 (Caltrans 2020). Public Resources Code Section 21151.8(b)(9) and Education Code Section 17213(d)(9) define a "freeway or other busy traffic corridors" as roadways that on an average day have traffic in excess of 50,000 vehicles in a rural area or 100,000 vehicles in an urban area.

- 3.1.2 Would the project create an air quality hazard due to the placement of a school within one-quarter mile of: (a) permitted and non-permitted facilities identified by the jurisdictional air quality control board or air pollution control district; (b) freeways and other busy traffic corridors; (c) large agricultural operations; and/or (d) a rail yard, which might reasonably be anticipated to emit hazardous air emissions, or handle hazardous or acutely hazardous material, substances, or waste?

**No Significant Hazard.** The Eastern Kern Air Pollution Control District recorded NAWS China Lake as being a permitted facility. Therefore, even though the Site is vacant, the site is technically considered a permitted facility since it is located within the boundaries of NAWS China Lake. However, the Site is also within a quarter mile of a permitted source that has the potential to emit toxic air contaminants. A gasoline station is located at the southwest corner of Ridgecrest Boulevard and Gateway Boulevard, southwest of the Site. A Health Risk Assessment was conducted by PlaceWorks (2020a) to assess the potential of this facility to impact the project site and found that the both carcinogenic risks and chronic, acute (1-hour) and 8-hour non-carcinogenic hazards are less than significant. No nonpermitted sources were identified within a quarter mile of the site. There are no rail yards or agricultural uses nearby, and the site is not within a quarter mile of a freeway or busy traffic corridor (see 3.1.1).

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<sup>1</sup> A freeway or busy traffic corridor is defined as "Roadways with an average daily traffic in excess of 50,000 vehicles in a rural area and 100,000 daily vehicles in an urban area" (Education Code Section 17213(d)(9); Public Resources Code Section 21151.8(b)(9)).

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## 3.2 GEOLOGY AND SOILS

### 3.2.1 Does the site contain an active earthquake fault or fault trace, or is the site located within the boundaries of any special studies zone or within an area designated as geologically hazardous in the safety element of the local general plan?

**No Significant Hazard.** A northeast-trending fault that is part of the Little Lake Fault Zone is mapped at the northwest corner of Richmond Road and Ridgecrest Boulevard, which is on the extreme southeast corner of the Site. Based on the site plan, the distance from planned school buildings and the orientation of the fault, it is unlikely that the presence of the fault would cause any surface rupture through school buildings. Based on the recommendations of BSK Associates (2020), avoidance of placing occupied structures near the southeast corner of the Site would be expected by California Geological Survey, and this condition seems to be already in place based on a review of the site plan (IBI 2020). In addition, the Site is not within or immediately adjacent to (i.e., within a few hundred feet) an Alquist-Priolo Earthquake Fault Zone (California Geological Survey 2020).

### 3.2.2 Would the project involve the construction, reconstruction, or relocation of any school building on the trace of a geological fault along which surface rupture can reasonably be expected to occur within the life of the school building?

**No Significant Hazard.** A northeast-trending fault is mapped at the northwest corner of Richmond Road and Ridgecrest Boulevard approximately 950 feet south-southeast of the Site. Based on the distance from the site and the orientation of the fault, it is unlikely that the presence of the fault would cause any surface rupture on the Site. In addition, the Site is not within or immediately adjacent to (i.e., within a few hundred feet) an Alquist-Priolo Earthquake Fault Zone (California Geological Survey 2020).

### 3.2.3 Would the project involve the construction, reconstruction, or relocation of any school building on a site subject to moderate-to-high liquefaction, landslides, or expansive soils?

**No Significant Hazard.** Liquefaction refers to loose, saturated sand, or gravel deposits that lose their load-supporting capability when subjected to intense shaking. Liquefaction potential varies based upon three main contributing factors: 1) cohesionless, granular soils having relatively low densities (usually of Holocene age); 2) shallow groundwater (generally less than 50 feet); and 3) moderate to high seismic ground shaking. Based on the depth to groundwater, the Site has a very low susceptibility to liquefaction. BSK Associates (2020) also states that the potential for liquefaction is low.

A landslide is a type of erosion in which masses of earth and rock move downslope as a single unit. Susceptibility of slopes to landslides and other forms of slope failure depend on several factors. These are usually present in combination and include steep slopes, condition of rock and soil materials, presence of water, formational contacts, geologic shear zones, and seismic activity. The project sites and their adjoining properties are relatively level and exhibit no substantial elevation changes or unusual geographic features. In the absence of significant ground slopes, the potential for landslides at the site is very low. BSK Associates (2020) states that the potential hazard from landslides from adjoining properties is “not applicable.”

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Therefore, the project would not expose people or the new school buildings to adverse effects associated with landslides.

Expansive soils swell when they become wet and shrink when they dry out, resulting in the potential for cracked building foundations and in some cases, structural distress of the buildings themselves. In each case, minor to severe damage to overlying structures is possible. BSK Associates (2020) states that the upper 5 feet of material is anticipated to have a very low expansion potential based on their preliminary testing. All improvements would be performed in compliance with the California Building Code and requirements of the Division of the State Architect. Therefore, the project would not expose people or the new school buildings to adverse effects associated with expansive soils.

### 3.3 HAZARDS AND HAZARDOUS MATERIALS

#### 3.3.1 Does the proposed school site contain one or more pipelines, situated underground or aboveground, which carry hazardous substances, acutely hazardous materials, or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood?

**No Significant Hazard.** Natural gas pipeline data were obtained from Pacific Gas & Electric Company (see Appendix A). No high-pressure natural gas pipelines were identified within 1,500 feet of the Site. There are no chemical or petroleum pipelines within a 1,500-foot radius according to the National Pipeline Mapping System online mapping database (NPMS 2020).

#### 3.3.2 Is the proposed school site located near an aboveground water or fuel storage tank or within 1,500 feet of an easement of an aboveground or underground pipeline that can pose a safety hazard to the site?

##### Aboveground Water or Fuel Storage Tank

**No Significant Hazard.** No aboveground water or fuel storage tanks were identified within a 1,500-foot radius of the site based on a site reconnaissance, a review of Google Earth Pro (2020) and topographic maps (USGS 2018a and 2018b). The development of the project will not create a new hazard or exacerbate the current conditions.

##### Hazardous Substance Pipelines

**No Significant Hazard.** Natural gas pipeline data were obtained from Pacific Gas & Electric Company (see Appendix A). No high-pressure natural gas pipelines were identified within 1,500 feet of the Site. There are no chemical or petroleum pipelines within a 1,500-foot radius according to the National Pipeline Mapping System online mapping database (NPMS 2020).

##### Sewer and Water Pipelines

**No Significant Hazard.** Based on the response from Indian Wells Valley Water District (IWVWD), Searles Valley Minerals operates a large-volume pipeline along Ridgecrest Boulevard, which could potentially affect

### 3. Environmental Analysis

the Site (see Appendix A). Searles Valley Minerals responded that they have a 12-inch water pipeline under Ridgecrest Boulevard south of the Site. Based on a Water Pipeline Analysis (see Appendix A), the full flow rupture of the pipeline would be contained within existing street drainage systems.

Based on the response from the City of Ridgecrest, there are no pressurized sewer lines within 1,500 feet of the Site (see Appendix A).

- 3.3.3** Is the school site in an area designated in a city, county, or city and county general plan for agricultural use and zoned for agricultural production, and if so, do neighboring agricultural uses have the potential to result in any public health and safety issues that may affect the pupils and employees at the school site? (Does not apply to school sites approved by CDE prior to January 1, 1997.)

**No Significant Hazard.** Based on a review of the City of Ridgecrest General Plan (2009) and a review of the California Important Farmland Finder maintained by the Division of Land Resource Protection (DLRP 2020), the site and adjoining areas are not zoned for agricultural production.

- 3.3.4** Is the property line of the proposed school site less than the following distances from the edge of respective power line easements: (1) 100 feet of a 50–133 kV line; (2) 150 feet of a 220–230 kV line; or (3) 350 feet of a 500–550 kV line?

**No Significant Hazard.** Southern California Edison (SCE) provides electrical service to the project area and was contacted to determine the existence and location of power lines and power-line easements within the immediate vicinity of the site. There are no SCE facilities of 50kV or higher within 350 feet of the site. Project implementation would not expose people to adverse effects associated with high-voltage power lines.

- 3.3.5** Does the project site contain a current or former hazardous waste disposal site or solid waste disposal site and, if so, have the wastes been removed?

**No Significant Hazard.** Based on a review of GeoTracker, EnviroStor, EnviroMapper and SWIS databases, the site is not located on a current or former hazardous waste disposal site or solid waste disposal site (DTSC 2020; SWRCB 2020; USEPA 2020; CalRecycle 2020).

- 3.3.6** Is the project site a hazardous substance release site identified by the state Department of Health Services in a current list adopted pursuant to § 25356 for removal or remedial action pursuant to Chapter 6.8 of Division 20 of the Health and Safety Code?

**No Significant Hazard.** Based on a review of the EnviroStor and GeoTracker databases, no hazardous substance release sites were identified on the site (DTSC 2020; SWRCB 2020).

- 3.3.7** If prepared, has the risk assessment been performed with a focus on children's health posed by a hazardous materials release or threatened release, or the presence of naturally occurring hazardous materials on the school site?

**No Significant Hazard.** The Site appears to be undeveloped, vacant land. A Phase I Environmental Site Assessment is being prepared for the Site. Should state funding be used for construction, DTSC would need to review the investigation of the Site.

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#### 3.3.8 If a response action is necessary and proposed as part of this project, has it been developed to be protective of children's health, with an ample margin of safety?

**No Significant Hazard.** Based on the Phase I Environmental Site Assessment currently in preparation by PlaceWorks (2020b), there is no need for a response action on the Site. Therefore, there is no significant hazard.

#### 3.3.9 Is the proposed school site situated within 2,000 feet of a significant disposal of hazardous waste?

**No Significant Hazard.** Based on a 2020 review of the EnviroStor and GeoTracker databases, the Site is not within 2,000 feet of a significant disposal of hazardous waste (DTSC 2020; SWRCB 2020).

#### 3.3.10 Is the site within 300 feet of an active oil or natural gas well?

**No Significant Hazard.** Based on a review of the California Geologic Energy Management Division's Well Finder website, the Site is not within 300 feet of any active oil or natural gas well.

### 3.4 HYDROLOGY AND FLOODING

#### 3.4.1 Is the project site subject to flooding or tank/dam inundation or street flooding?

**No Significant Hazard.** According to the 2008 FEMA Flood Insurance Rate Maps, the northeast corner of the Site is within a 100-year flood zone. The remainder of the Site is within a 500-year flood zone, and there is a flood control channel located about a quarter mile to the west which directs flow across the northwestern portion of the Site. Based on the 2015 maps from the California Office of Emergency Services the Site is not within a dam inundation zone.

A seiche is an oscillating surface wave in a restricted or enclosed body of water, generated by ground motion, usually during an earthquake. Seiches are of concern relative to water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. No water storage facilities are in the immediate vicinity of the four sites that could potentially result in flooding at the site. The closest water body is Satellite Lake, a playa downgradient of the Site. Due to its distance, the ephemeral nature of the playa, and the topography that separates the Site from Satellite Lake, impacts from a seiche are not of concern. Project implementation would not expose people or structures to adverse effects associated with flooding or inundation.

### 3.5 LAND USE AND PLANNING

#### 3.5.1 Would the proposed school conflict with any existing or proposed land uses, such that a potential health or safety risk to students would be created?

**No Significant Hazard.** The Site is vacant land surrounded by vacant land on all sides as well as residential development to the west and southwest.

Additionally, based on the "Final Air Installations Compatible Use Zones [AICUZ] Study Naval Air Weapons Station China Lake, California" (April 2011), the site is within the 2007 AICUZ Military Influence Area and



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2011 AICUZ footprint for Armitage Airfield, which is approximately 3.6 miles northwest of the Site. According to the AICUZ, the affected areas of the sites are within the airfield's designated "approach clearance surface," which is the horizontal air space designated for aircraft arrival. These portions of the sites are also within the outer limits of the airfield's Noise Zone 1, which is the area with aircraft noise levels between 60 to 65 dB CNEL. These designations do not preclude a school. The Site is within the conditionally acceptable noise level of 70 dB CNEL.

Therefore, land uses as prescribed by the City of Ridgecrest and AICUZ do not preclude the development of the site with the proposed school use.

#### 3.5.2 Is the site within a designated Farmland Security Zone?

**No Significant Hazard.** The Site is not within an agricultural preserve or 100 acres in size. A review of the California Important Farmland Finder maintained by the Division of Land Resource Protection (DLRP 2020) showed that the Site is mapped as Natural Vegetation. No agricultural uses exist on the Site. According to the Farmland Mapping and Monitoring Program, the site and surrounding area contain no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DLRP 2020).

### 3.6 TRANSPORTATION/TRAFFIC

#### 3.6.1 Is the site easily accessible from arterials and is the minimum peripheral visibility maintained for driveways per Caltrans' Highway Design Manual?

**No Significant Hazard.** The Site is accessible from Gateway Boulevard, Gold Canyon Street, and Ridgecrest Boulevard in the unsecured portion of NAWS China Lake. Ridgecrest Boulevard is designated State Route 178 (SR-178) and receives the most traffic of the four streets surrounding the Site. Due to high speeds and volumes on SR-178. Given the straight roads surrounding the Site, future driveways can be designed to meet the required peripheral visibility designated in the Caltrans Highway Design Manual.

Marked crosswalks with push button detectors and pedestrian crossing signals are already in place at the intersection of Ridgecrest Boulevard and Richmond Road adjacent to the Site. Additional planning and documentation for pedestrian routes to school would be necessary for the Site. Traffic and pedestrian hazards will be mitigated accordingly and in conformance to Caltrans' School Area Pedestrian Safety Manual.

#### 3.6.2 Is the proposed school site within 1,500 feet of a railroad track easement?

**No Significant Hazard.** Based on a review of Google Earth Pro (2020), the Site is not within 1,500 feet of a railroad track easement. The nearest railroad easement is two miles northwest of the Site, and the tracks have been removed. Project implementation would not expose people to adverse risks associated with railroad safety.

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- 3.6.3 Is the proposed school site within two nautical miles, measured by air line, of that point on an airport runway or potential runway included in an airport master plan that is nearest to the site? (Does not apply to school sites acquired prior to January 1, 1966.)

**No Significant Hazard.** Based on information obtained from the California Department of Transportation, Division of Aeronautics (2005), and a review of area maps and Google Earth Pro (2020), the Site is not within two nautical miles of an existing airport or proposed airport runway. The closest airport is Armitage Airfield, which is a part of NAWS China Lake.

### 3.7 EXEMPTIONS TO SITING STANDARDS

- 3.7.1 Is the district seeking any exemptions to the standards found in CCR, Title 5, § 14010(c-i), (l), (m), (q), (c), (t)?

**No Significant Hazard.** The District is not seeking any exemptions to the standards found in CCR, Title 5 § 14010(c) through (t).

### 3. Environmental Analysis

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## 4. References

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- United States Geological Survey (USGS). 2018b. Ridgecrest South, California Quadrangle Map. 7.5' Topographic Series. Scale 1:24,000.
- Van Gosen, B. S., and J. P. Clinkenbeard. 2011. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. USGS Open-File Report 2011-1188. Scale 1:990,000.

## 5. List of Preparers

---

### 5.1 LEAD AGENCY

Sierra Sands Unified School District  
113 West Felspar Avenue  
Ridgecrest, California 93555  
Tel: 760.499.1600

### 5.2 PLACEWORKS

PlaceWorks  
2850 Inland Empire Boulevard, Suite B  
Ontario, CA 91764  
Tel: 909.989.4449  
Fax: 909.989.4447

Michael Watson, PG  
Associate Geologist

PlaceWorks  
3 MacArthur Place, #1100  
Santa Ana, CA 92707  
Tel: 714.966.9221

Dwayne Mears, AICP  
Principal

## Appendix

*This page intentionally left blank.*

**Table A**  
**Water Pipeline Analysis**  
**Richmond Elementary School Replacement Project**

<b>Street Flow</b>							
Pipeline Diameter (in)	Pipeline Location	Release Rate (cfs)	Street Width (ft)	Longitudinal Slope	Depth of Flow in Street (in)	Curb Height (in)	Exceeds Street Capacity?
12	Ridgecrest Blvd.	3.93	83	0.008	3.3	6	No



Inlet on Grade
✕

**Modified Manning's Equation Solver**  
 Version: 3.0 < 4/30/2019 11:44:43 AM

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Print Save Quit

Parameters | Composite Triangular Sections | Head - Discharge Table | Assumptions | Inlet Geometry | Disclaimer

Flow line - Lateral boundary to half-street flow

Crown Line - Lateral boundary to half-street flow

Flowline offset: 41.5 ft to top face

Spread: 12.35 ft

W - lip to flowline: 17.0 in.

Sx: 2.00 %

Crown: 0.86 ft

Depth: d: 0.27 ft (3.3 in.)

Long. slope: 0.0083 (ft/ft)

N value: 0.016

Sw: 4.16 % a: 0.031 ft

Gutter Depression - lip to flowline: 0.059 ft

**Street Parameters:**  
 Q: 3.93 cfs  
 K: 43.1  
 Vel: 2.54 ft/s  
 Eo: 30.0 %  
 W/T: 0.1147

**Standard Manning's:**  
 Q: 3.23 cfs  
 K: 35.4  
 Vel: 2.09 ft/s  
 Rh: 0.12 ft  
 Area: 1.55 sf

**Local Parameters:**  
 Local inlet flow line depression: 2.0 in.  
**Curb Opening Parameters:**  
 C-O Apron wider than gutter: 0 in.  
 S'w 13.9 % Se: 6.17 %  
 Length of curb opening inlet: 12.0 ft  
 Lt: 16.10 ft  
 80 % Clear Efficiency  
 Curb opening flowby: 0.77 cfs

P-1-7/8-4  
Print Chart 7  
**Grate Parameters:**  
 Apron wider than grate: 2 in.  
 Width: 22 in.  
 Length: 48 in.  
 % Factor: 50  
 Splash-over Vel: 7.41 ft/s  
 Rs: 10.72 %  
 Side flow captured: 0.04 cfs  
 Vel over grate: 2.63 ft/s  
 Eo: 98.72 %  
 Rf: 100.00 %  
 Frontal captured: 0.38 cfs  
 Total combined CB flowby: 0.35 cfs

**From:** [Danielle Clendening](#)  
**To:** [Mike Watson](#)  
**Subject:** RE: Title 5 Pipeline Request  
**Date:** Wednesday, September 4, 2019 9:25:00 AM

---

Hi Mike,

I talked to a representative from Searles Valley Mineral and they reported that they have a 12 inch water pipeline (made out of C900) running under Ridgecrest Boulevard (SR 178) towards Trona, CA that is within the 1,500 ft radius of Site 3.

They do not have anything near the other sites.

-Danielle

---

**From:** Mike Watson <mwatson@placeworks.com>  
**Sent:** Tuesday, September 3, 2019 11:15 AM  
**To:** Danielle Clendening <dbclendening@placeworks.com>  
**Subject:** FW: Title 5 Pipeline Request

This is the address we sent the request to for Murray Middle School.

Thanks,

**MICHAEL J. WATSON, PG**  
**Associate Geologist**  
Professional Geologist CA #8177

2850 Inland Empire Boulevard, Suite B | Ontario, California 91764  
909.989.4449 | [mwatson@placeworks.com](mailto:mwatson@placeworks.com) | [placeworks.com](http://placeworks.com)

---

**From:** Mike Watson  
**Sent:** Tuesday, October 30, 2012 11:09 AM  
**To:** 'generalinfo@svminerals.com' <[generalinfo@svminerals.com](mailto:generalinfo@svminerals.com)>  
**Subject:** Title 5 Pipeline Request

To Whom It May Concern,

In compliance with CCR Title V Section 14010 (h), the District has contracted the services of The Planning Center|DC&E to complete safety hazard assessments related to any pipelines located **within 1,500 feet** of the school property lines. The Planning Center|DC&E requests information regarding water or brine pipelines, canals and aqueducts in the vicinity (approximately 1,500 feet

radius) of the following proposed school sites:

Proposed Murray Middle School

Northwest Corner of Drummond Ave & French Ave, Ridgecrest, CA 93555

Proposed Burroughs High School Expansion

500 East French Ave, Ridgecrest, CA 93555

The sites are located adjacent to each other in Kern County (Please see attached map for exact location.) French Avenue/Knox Road forms the boundary between the two sites. The client for this project is:

Sierra Sands Unified School District

Attn: Elaine Janson

113 Felspar Ave

Ridgecrest, CA 93555-3589

Please contact me at (909) 989-4449 ext. 206 or by e-mail at [mwatson@planningcenter.com](mailto:mwatson@planningcenter.com), with any questions you may have. Thank you for your time.

**Michael Watson, PG**

**Associate Geologist, PG 8177**

THE PLANNING CENTER | DC&E

2850 Inland Empire Boulevard Suite B | Ontario CA 91764

909.989.4449 | 909.989.4447 (f) | 909.579.9161 (m)

[mwatson@planningcenter.com](mailto:mwatson@planningcenter.com)

[www.planningcenter.com](http://www.planningcenter.com) | [www.dceplanning.com](http://www.dceplanning.com)



**Think environment before printing.**

**From:** [Renee Morquecho\(IMAP\)](#)  
**To:** [Danielle Clendening](#)  
**Cc:** ["Randy Coit"](#)  
**Subject:** RE: Title 5 Information Request for School Sites in Ridgecrest, CA.  
**Date:** Thursday, August 1, 2019 9:20:28 AM

---

For the Richmond site: The District has no facilities in the area. It is served by the Navy.  
Vieweg Site and Site 2: The District has a 12" PVC pipeline in Chelsea Ave  
For Site 3: The District has 12" pipeline in Gateway Blvd (asbestos-cement both N. and S. Gateway),  
E. Ridgecrest Blvd (PVC), and N. Sunland St. (asbestos-cement). You may be unaware that Searles  
Valley has a large pipeline in E. Ridgecrest Blvd also. It is either a 12" or 16", I'm not sure.

Renee

\*\*\*\*\*

*[Renee E. Morquecho, Ph.D., P.E.](#)*

Chief Engineer  
Indian Wells Valley Water District  
PO BOX 1329 (mailing address)  
500 W. Ridgecrest Blvd.  
Ridgecrest, CA 93556-1329  
Phone: 760-384-5520  
Fax: 760-371-2447  
[reneem@iwvwd.com](mailto:reneem@iwvwd.com)  
[www.iwvwd.com](http://www.iwvwd.com)



---

**From:** Danielle Clendening <[dbclendening@placeworks.com](mailto:dbclendening@placeworks.com)>  
**Sent:** Monday, July 29, 2019 10:59 AM  
**To:** [reneem@iwvwd.com](mailto:reneem@iwvwd.com)  
**Subject:** Title 5 Information Request for School Sites in Ridgecrest, CA.

Good morning,

Sierra Sands Unified School District, in compliance with CCR Title V Section 14010, has contracted the services of PlaceWorks to conduct a safety hazard assessment related to water pipelines that are 12-inches in diameter or greater located within a 1,500-foot radius of four potential project sites in Ridgecrest, Kern County, CA

The four sites are:

- Richmond Elementary School at 1206 Kearsarge Avenue
- Vieweg Adult Education Center at 348 Rowe Street
- Site 2 which is the 35.2-acre parcel located at the southwest corner of S. Knox Road at Rowe Street

Site 3 which is the 75.6-acre parcel located at the southwest corner of S. Richmond Road at N. Golden Canyon Street

I have attached pdf maps showing the exact location of the four sites with their boundaries outlined in red (Site 2 is outlined in green) and an approximately 1,500-foot radius marked around the sites in yellow.

This email is requesting information about any water pipelines 12-inches in diameter or greater operated by Indian Wells Valley Water District located within a 1,500-foot radius of the sites. If there are no water lines that meet those specifications within the radius of the site, could I get a response stating such for the school district's safety hazard report.

If this not the correct email to be sending such a request, could you please help direct this inquiry to the proper division.

Thank you so much for your help, please contact me if you have any questions or need additional information!

**DANIELLE CLENDENING**

**Planner**

2850 Inland Empire Boulevard, Suite B | Ontario, California 91764  
909.989.4449 | [dbclendening@placeworks.com](mailto:dbclendening@placeworks.com) | [placeworks.com](http://placeworks.com)



This email has been checked for viruses by AVG antivirus software.  
[www.avg.com](http://www.avg.com)

**From:** [Michael Winters](#)  
**To:** [Danielle Clendening](#)  
**Subject:** RE: Title 5 Information Request Regarding Sewers in Ridgecrest, CA  
**Date:** Monday, July 29, 2019 5:30:28 PM

---

Good evening,

The City of Ridgecrest only has gravity lines. There are some lift stations having pressurized lines that are privately owned.

Best,

--

**Michael Winters, EIT**

*Engineer I*

Public Works Department

Monday-Thursday 7AM-6PM

City of Ridgecrest  
100 W California Ave, Ridgecrest, CA 93555  
P: (760) 499-5087  
E: [mwinters@ridgecrest-ca.gov](mailto:mwinters@ridgecrest-ca.gov)

---

**From:** Danielle Clendening [mailto:[dbclendening@placeworks.com](mailto:dbclendening@placeworks.com)]

**Sent:** Monday, July 29, 2019 10:59 AM

**To:** Michael Winters

**Subject:** Title 5 Information Request Regarding Sewers in Ridgecrest, CA

Good morning,

Sierra Sands Unified School District, in compliance with CCR Title V Section 14010, has contracted the services of PlaceWorks to complete a safety hazard assessments related to pressurized sewer lines potentially located around potential school sites in the city of Ridgecrest.

For the safety hazard assessment I need to know if there are any pressurized sewer lines in Ridgecrest?

If this not the correct email to be sending such a request, could you please help direct this inquiry to the proper division.

Thank you so much for your help, please contact me if you have any questions or need additional information!

**DANIELLE CLENDENING**

**Planner**

2850 Inland Empire Boulevard, Suite B | Ontario, California 91764  
909.989.4449 | [dbclendening@placeworks.com](mailto:dbclendening@placeworks.com) | [placeworks.com](http://placeworks.com)

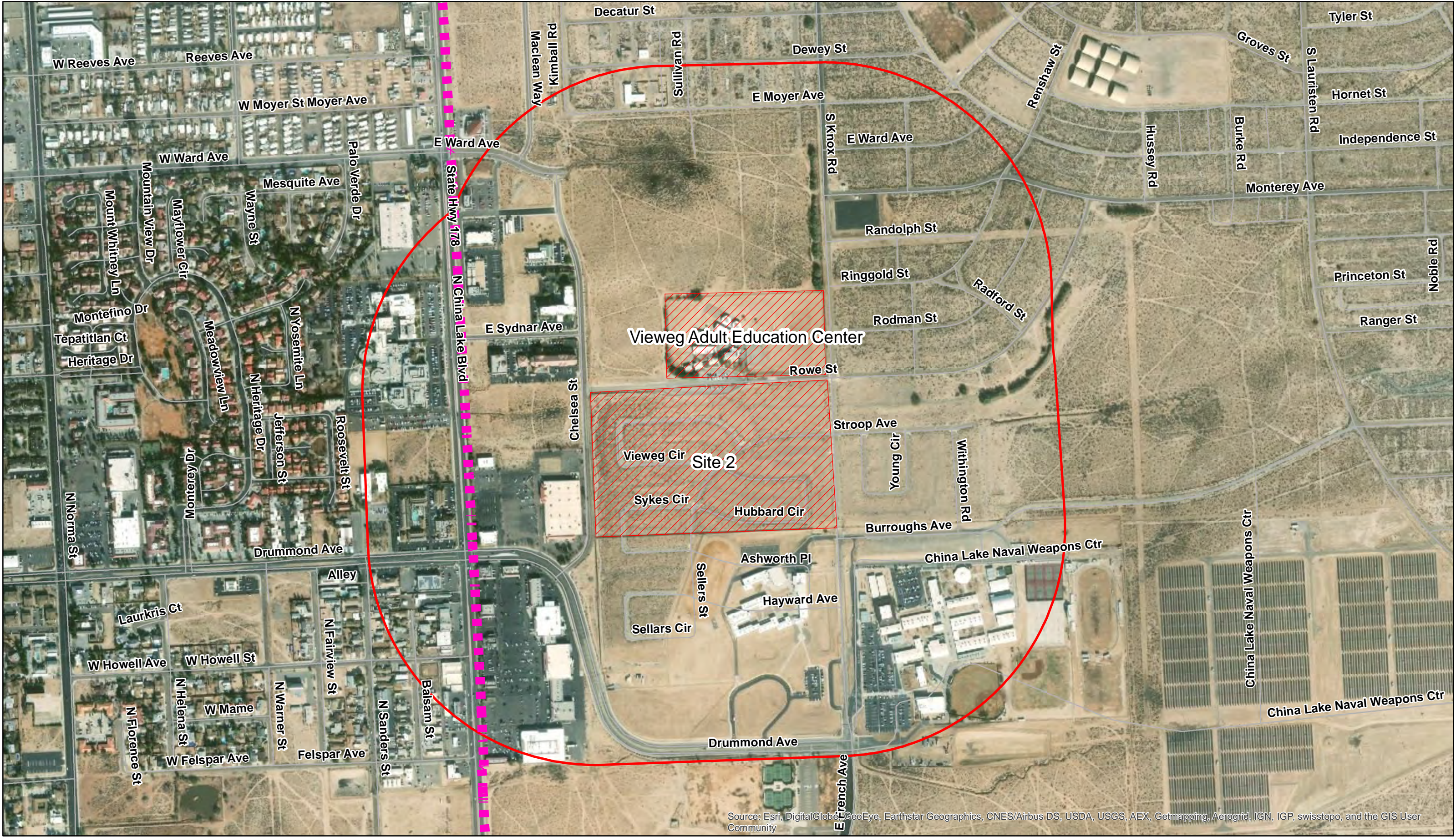
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The preceding e-mail message (including any attachments) contains

information that may be confidential, be protected by the attorney-client or other applicable privileges, or constitute non-public information.

It is intended to be conveyed only to the designated recipient(s). If you are not an intended recipient of this message, please notify the sender by replying to this message and then delete it from your system. Use, dissemination, distribution, or reproduction of this message by unintended recipients is not authorized and may be unlawful.





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



07/29/2019  
PG&E Critical Infrastructure Information  
Must Be Held In Confidence  
Facilities to be Operated by PG&E Personnel Only  
Call 811 Before You Dig

- Transmission Main
- School Site Buffer
- School Site

**School Site Map**  
**Vieweg Adult Education Center and Site 2, Ridgecrest CA 93555**

E-36

Gas Engineering & Operations  
Geographic Information Services

By: S5HQ

1 inch = 575 feet (approx.)

0 0.25



Miles





**From:** [Helton, Sasha](#)  
**To:** [Danielle Clendening](#)  
**Subject:** RE: Title 5 Information Request for School Sites in Ridgecrest, CA  
**Date:** Monday, July 29, 2019 4:30:52 PM  
**Attachments:** [Ridgecrest Questionnaire.xlsx](#)  
[Ridgecrest1.pdf](#)

---

Hey Danielle,

No transmission pipeline was found within 1,500 feet of Richmond Elementary or of Site 3.

Due to proximity, I combined site 2 and the Vieweg Adult Education Center. A map and an excel document with the pipe information within the requested area is attached above.

Thank you!

**Sasha Helton**

Gas Technical Specialist  
Gas Transmission Data & Analytics – Pipeline Patrol  
Mobile: (925)951-3168 | Office: (925)328-6290



---

**From:** Danielle Clendening <dbclendening@placeworks.com>  
**Sent:** Monday, July 29, 2019 1:41 PM  
**To:** Helton, Sasha <S5HQ@pge.com>  
**Subject:** RE: Title 5 Information Request for School Sites in Ridgecrest, CA

**\*\*\*\*\*CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.\*\*\*\*\***

Hi Sasha,

As long as the reports fulfill the 1,500 foot radius search for each site, either way would work.

Thank you,

Danielle

---

**From:** Helton, Sasha <[S5HQ@pge.com](mailto:S5HQ@pge.com)>  
**Sent:** Monday, July 29, 2019 1:37 PM  
**To:** Danielle Clendening <[dbclendening@placeworks.com](mailto:dbclendening@placeworks.com)>  
**Subject:** RE: Title 5 Information Request for School Sites in Ridgecrest, CA

Hello Danielle,

Some of these locations are very close to each other. Would you like four separate reports for these sites or would you like the sites that are close to each other to be provided in one single report?

Thanks!

**Sasha Helton**

Gas Technical Specialist  
Gas Transmission Data & Analytics – Pipeline Patrol  
Mobile: (925)951-3168 | Office: (925)328-6290



---

**From:** Danielle Clendening <[dbclendening@placeworks.com](mailto:dbclendening@placeworks.com)>  
**Sent:** Monday, July 29, 2019 10:59 AM  
**To:** Helton, Sasha <[S5HQ@pge.com](mailto:S5HQ@pge.com)>  
**Subject:** Title 5 Information Request for School Sites in Ridgecrest, CA

**\*\*\*\*\*CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.\*\*\*\*\***

Good morning,

Sierra Sands Unified School District, in compliance with CCR Title V Section 14010, has contracted the services of PlaceWorks to conduct a safety hazard assessment related to high pressure (over 80 psig) natural gas pipelines located within a 1,500-foot radius of four potential project sites in Ridgecrest, Kern County, CA

The four sites are:

- Richmond Elementary School at 1206 Kearsarge Avenue
- Vieweg Adult Education Center at 348 Rowe Street
- Site 2 which is the 35.2-acre parcel located at the southwest corner of S. Knox Road at Rowe Street
- Site 3 which is the 75.6-acre parcel located at the southwest corner of S. Richmond Road at N. Golden Canyon Street

I have attached pdf maps showing the exact location of the four sites with their boundaries outlined in red (Site 2 is outlined in green) and an approximately 1,500-foot radius marked around the sites in yellow.

This email is requesting information about any high pressure natural gas pipelines located within a 1,500-foot radius of the sites. If there are no high pressure natural gas pipelines within the radius of the sites, could I get a response stating such for the school district's safety hazard report.

If this not the correct email to be sending such a request, could you please help direct this inquiry to the proper division.

Thank you so much for your help, please contact me if you have any questions or need additional information!

**DANIELLE CLENDENING**

**Planner**

2850 Inland Empire Boulevard, Suite B | Ontario, California 91764

909.989.4449 | [dbclendening@placeworks.com](mailto:dbclendening@placeworks.com) | [placeworks.com](http://placeworks.com)

**Phil Hung, P.E.**  
EMF Program Manager  
6042 N. Irwindale Ave  
Irwindale CA 91702  
Phone: (626) 633-3415  
E-mail: phil.hung@sce.com

---

## **SCE Voltage Identification Report of Proposed or Existing School Site**

---

Request Received:      **07/29/2019**      Received By:      **Phil Hung**

Requesting Entity:      ☐ School      ☐ District      ☒ Consultant      ☐ School Representative:

**Danielle Clendening**  
**dbclendening@placeworks.com**  
**The Planning Center**  
**2850 Inland Empire Boulevard, Suite B**  
**Ontario, California 91764**  
**(909) 989-4449**

Nature of Request:      Voltage ID ☒      Msmt. Req. ☐      Information ☐

Other: \_\_\_\_\_

Site Name:              **Site 3**  
Site Address:          **N. Richmond Road at N. Golden Canyon Street**  
City:                    **Ridgecrest, CA 93555**  
County:                **Kern**  
Cross Street:          **N. Gateway Blvd.**

Client:                  **Sierra Sands Unified School District**  
                              **113 W. Felspar Avenue**  
                              **Ridgecrest, CA 93555**

**Photo(s):**

**Aerial View**





## Street Views

Looking South from N Gold Canyon Street



Looking East from N. Gateway Blvd.



Date of Site Visit:    **08/12/2019 (Bing Maps)**  
Support Action(s) Taken:    **SCE system database lookup**

SCE Facilities Identified Within California Code of Regulations (CCR) Title 5 Prescribed Distances:

- **There are no SCE facilities of 50 kV or higher within the CDE Title 5 setback distances**

Date(s) responded to Requestor:

**07/29/19: Acknowledged, (E-mail)**

**08/12/19: Supplied Information (E-mail)**

## Mike Watson

---

**From:** Eastern Kern Air Pollution Control District <ekapcd@kerncounty.com>  
**Sent:** Tuesday, August 20, 2019 3:57 PM  
**To:** Mike Watson  
**Subject:** RE: Grid searches

The entire base is the permitted facility for Title V purposes.

As far as permitted sources with the potential to emit toxic air contaminants within ¼ mile of the proposed site boundaries, the sources I can identify are:

- Diesel engine driving emergency firewater pump at Burroughs High School (Site #2)
- Gasoline station at the SW corner of E. Ridgecrest Blvd. & S. Gateway Blvd (Site #3)

---

**From:** Mike Watson <mwatson@placeworks.com>  
**Sent:** Tuesday, August 20, 2019 12:50 PM  
**To:** Eastern Kern Air Pollution Control District <ekapcd@kerncounty.com>  
**Subject:** RE: Grid searches

Hi Gary,


3 of the 4 sites are located on NAWS China Lake. Do you know if there are any sources within a quarter mile of these sites, or is the entire base considered as the permitted facility?

Thanks,

**MICHAEL J. WATSON, PG**  
**Associate Geologist**  
Professional Geologist CA #8177

2850 Inland Empire Boulevard, Suite B | Ontario, California 91764  
909.989.4449 | mwatson@placeworks.com | placeworks.com

---

**From:** Eastern Kern Air Pollution Control District <[ekapcd@kerncounty.com](mailto:ekapcd@kerncounty.com)>  
 **PLACEWORKS** **Sent:** Tuesday, August 20, 2019 12:06 PM  
**To:** Mike Watson <[mwatson@placeworks.com](mailto:mwatson@placeworks.com)>  
**Subject:** RE: Grid searches

There are two Title V permitted facilities in the Ridgecrest area. One is the Naval Air Weapons Station (China Lake) and the other is the municipal sanitary landfill (Ridgecrest Sanitary Landfill). The landfill is located about 4 miles south west of your proposed sites (near corner of Bowman Rd and Hwy 395). NAWS China Lake is within a mile of all four of your sites. Please let me know if you desire further information.



## Gary Ray, Jr.

Air Quality Administrative Manager  
Eastern Kern Air Pollution Control District  
[rayg@kerncounty.com](mailto:rayg@kerncounty.com)  
661 862-8694

---

**From:** Mike Watson <[mwatson@placeworks.com](mailto:mwatson@placeworks.com)>  
**Sent:** Tuesday, August 20, 2019 11:41 AM  
**To:** Eastern Kern Air Pollution Control District <[ekapcd@kerncounty.com](mailto:ekapcd@kerncounty.com)>  
**Subject:** Grid searches

Hi,

I am working on behalf of Sierra Sands Unified School District, who are currently doing research to site the replacement of the existing Richmond Elementary School (see attached figure). We are currently looking at the existing Richmond Elementary School campus, in addition to the three proposed new sites, in order to give them a comparison for them to choose the best one. We are looking at Title 5 issues for them, which includes air quality.

Could you provide a list of (or verify there are not any) permitted facilities that emit toxic substances into the atmosphere within a quarter mile of each of the four sites?

Feel free to contact me with any questions.

Thank you,

**MICHAEL J. WATSON, PG**  
**Associate Geologist**  
Professional Geologist CA #8177

2850 Inland Empire Boulevard, Suite B | Ontario, California 91764  
909.989.4449 | [mwatson@placeworks.com](mailto:mwatson@placeworks.com) | [placeworks.com](http://placeworks.com)





# PERMIT TO OPERATE

## EASTERN KERN AIR POLLUTION CONTROL DISTRICT

Administrative Office: 2700 "M" Street Suite 302, Bakersfield, CA 93301  
Phone: (661) 862-5250 • Fax: (661) 862-5251 • [ekapcd@kerncounty.com](mailto:ekapcd@kerncounty.com)  
Tehachapi Field Office: Phone: (661) 823-9264 • Fax: (661) 823-0167

PERMIT NUMBER: 8096114C, 115A-116A

PERMIT TO OPERATE IS HEREBY GRANTED TO: JACO OIL COMPANY/JACO HILL  
DBA MINIT SHOP #349

FOR EQUIPMENT LOCATED AT: 843 E. RIDGECREST BLVD., RIDGECREST

EQUIPMENT OR PROCESS DESCRIPTION: GASOLINE STORAGE & DISPENSING SYSTEM

OPERATIONAL CONDITIONS LISTED BELOW.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR LOCATION, OR ANY ALTERATION. EQUIPMENT MODIFICATION REQUIRES AN APPLICATION FOR AUTHORITY TO CONSTRUCT.

**TESTING:** Permittee may be required to provide adequate sampling and testing facilities.

GLEN E. STEPHENS, P.E.  
AIR POLLUTION CONTROL OFFICER

**REVOCABLE:** This permit does not authorize emission of air contaminants in excess of those allowed by Rules and Regulations of .

By:  \_\_\_\_\_

For Period: 04-30-20 To 04-30-21

### CONDITIONS OF APPROVAL:

Pursuant to Rule 209, "conditional approval" is hereby granted. Please be aware compliance with all conditions of approval imposed by any applicable Authority to Construct remain in effect for life of project, unless modified by application.

**EQUIPMENT DESCRIPTION:** Gasoline Storage & Dispensing System, including following equipment:

- A. One – 12,000 gallon regular unleaded gasoline storage tanks with a permanently affixed fill tube termination no more than six inches from bottom of tank and provisions for collection of gasoline vapors during filling (8096114C);
- B. One – 12,000 gallon regular unleaded gasoline storage tanks with a permanently affixed fill tube termination no more than six inches from bottom of tank and provisions for collection of gasoline vapors during filling (8096115A);
- C. One – 12,000 gallon premium unleaded gasoline storage tank with a permanently affixed fill tube termination no more than six inches from bottom of tank and provisions for collection of gasoline vapors during filling (8096016A);
- D. Phase I (Filling of storage tank) 2-point vapor collection system (VR-101-G) including separate vapor riser with:

**JACO OIL COMPANY DBA MINIT SHOP #349**

**Permit #8096114C, 115A, 116A**

**Page 2**

	<u><b>Component</b></u>	<u><b>Manufacturer/Model Number</b></u>
1.	Liquid Fill Adapter	Phil-Tite SWF100-B
2.	Liquid Fill Cap	Morrison Brothers 305C-0100ACEVR
3.	Vapor Adapter	Phil-Tite SWV101-B
4.	Vapor Cap	Morrison Brothers 323C-0100ACEVR
5.	Drop Tube	Phil-Tite 61SO-PT
6.	Extractor Assembly	OPW 233VM
7.	Float Vent Valve	OPW 53 VML
8.	Pressure Vacuum Relief Valve	Husky 4885
9.	Overfill Protection	OPW 53 VML
E.	Four – Gilbarco Encore 500 model dispensers each equipped with two product nozzles for a total of 8 coaxial vapor assist certified vapor recovery nozzles; and	
F.	Vapor-assist type Phase II (fueling of vehicle tank) vapor collection system (VR-202-A) with 8 nozzles, onboard refueling vapor recovery (ORVR) compatible certified vapor recovery nozzles with in-station-diagnostics (ISD), including the following CARB certified components:	
	<u><b>Component</b></u>	<u><b>Manufacturer/Model Number</b></u>
1.	Nozzle	Healy Model 900
2.	Swivel	None
3.	Flow Limiter	Healy Model 1301
4.	Vapor Check Valve	Included with nozzle
5.	Coaxial Hose	Healy 75B
6.	Breakaway Fitting	Healy Model 8701VV
7.	Dispenser	Gilbarco Encore 500 (NG0 and NG1)
8.	Vapor Processor	Healy Model 9961 Clean Air Separator

**OPERATIONAL CONDITIONS:**

1. Storage/dispensing facility shall be equipped with California Air Resources Board "certified" Phase I (filling of storage tanks) and Phase II (fueling of vehicle) gasoline vapor control systems. (Rules 209, 412 and 412.1)
2. Gasoline storage tanks shall be equipped with two-point Phase I vapor control system. (Rule 412.)
3. Tank shall be equipped with pressure/vacuum relief valve set to within 10% of maximum working pressure of tank. (Rule 412)
4. Vapor control system shall be of California Air Resources Board (CARB) certified design and installed, operated, and maintained in accordance with manufacturer's recommendation to prevent at least 98% by weight of all gasoline vapors from entering atmosphere. (Rules 209, 412, and 412.1)
5. All Phase I (filling of storage tank) vapor collection equipment shall be used when tanks are filled. (Rule 412)
6. Phase II (filling of vehicle tank) vapor collection equipment shall be maintained according to manufacturer's recommendations and used when vehicles tanks are filled. (Rules 209 and 412)
7. Gasoline flow through any nozzle shall not exceed 10 gallons per minute. (Rule 412.1)
8. Retail stations shall post following: Illustrated instructions for dispensing fuel to vehicle; warning that topping off is prohibited; and toll-free number for registering complaints regarding operation of vapor recovery system. (Rule 209)
9. Tanks shall be equipped with permanently submerged fill pipe terminating no more than six inches from bottom of tank. (Rule 412)
10. The Phase II Vapor Recovery System and In-Station Diagnostics (ISD) System shall be installed, started up, maintained and repaired only by person(s) certified by the system manufacturer(s) to perform such work. A copy of such person's certification shall be kept in the facility's repair log. (Rule 412.1)

11. The vapor recovery systems and their components shall be operated and maintained in accordance with the State certification requirements. (Rules 412 and 412.1) N
12. No gasoline delivery vessel shall be operated or be allowed to operate unless valid State of California decals are displayed on the cargo tank which attests to the vapor integrity of the tank. (Rule 412)
13. Vapor recovery systems and gasoline dispensing equipment shall be maintained leak-free. A "leak" is defined as the dripping of liquid volatile organic compounds at a rate of three or more drops per minute, or vapor volatile organic compounds in excess of 10,000 ppm as equivalent methane as determined by EPA Test Method 21. (Rule 412.1)
14. The permittee shall perform the required maintenance as specified in ARB-Approved Installation and Maintenance Manual for the Phase I Vapor Recovery System. (Rule 412)
15. The permittee shall install, operate and maintain the Phase II Vapor Recovery System including In-Station Diagnostics System as specified in the ARB-approved Installation, Operation and Maintenance Manual for the Phase II Vapor Recovery System including In-Station Diagnostics System. (Rule 412.1)
16. The permittee shall perform and pass a Static Leak Test for Underground Tanks using ARB TP-201.3 in accordance with Exhibit 8 of Executive Order VR-202-A at least once every 12 months. (Rule 412.1)
17. The permittee shall perform and pass a Dynamic Back Pressure Test using ARB TP-201.4 at least once every 12 months. (Rule 412)
18. The permittee shall perform and pass a Vapor-to-Liquid Volume Ratio Test using the test procedure from Exhibit 5 of Executive Order VR-202-A at least once every twelve (12) months from the date of the last successfully passed test. (Rule 412.1)
19. The permittee shall perform and pass a Static Pressure Test for the Healy Clean Air Separator using the test procedure from Exhibit 4 of Executive Order VR-202-A at least once every 12 months. (Rule 412.1)
20. The permittee shall perform and pass a Nozzle Bag Test using the test procedure from Exhibit 7 of Executive Order VR-202-A at least once every 12 months. (Rule 412.1)
21. The permittee shall perform and pass a Pressure Integrity of Drop Tube Drain Valve Assembly Test using ARB TP-201.1C or a Pressure Integrity of Drop Tube Overfill Protection Devices Test using ARB TP-201.1D if an overfill protection device is installed, at least once every twelve (12) months. (Rule 412)
22. The permittee shall perform and pass a "Static Torque of Rotatable Phase I Adaptors" test using ARB procedure TP-201.1B at least once every three years. (Rule 412)
23. The permittee shall perform and pass an ISD Operability Test using the test procedure from Exhibit 9 of Executive Order VR-202-A at least once every 12 months. (Rule 412.1)
24. The permittee shall perform and pass a pressure integrity test on all pressure/vent (PV) valves at the facility in accordance with ARB Test Procedure TP-201.2B at least once every 12 months. (Rule 210.1)
25. The operator shall implement a periodic maintenance inspection program for the certified Phase II vapor recovery system in accordance with ARB approved Installation, Operation and Maintenance Manual for the Healy Phase II EVR System Including Veeder-Root ISD System. The program shall be documented in an operation and maintenance (O&M) manual and shall at a minimum contain the following information:
  - a. All applicable ARB Executive Orders, Approval Letters, and District Permits;
  - b. The manufacturer's specifications and instructions for installation, operation, repair, and maintenance required pursuant to ARB Certification Procedure CP-201, and any additional instruction provided by the manufacturer;
  - c. System and/or component testing requirements, including test schedules and passing criteria for each of the standard tests. The owner/operator may include any non-ARB required diagnostic and other tests as part of the testing requirements;
  - d. Protocol for performing periodic maintenance inspections including the components to be inspected and the defects requiring repair; and
  - e. Additional O&M instructions, if any, that are designed to ensure compliance with the applicable rules, regulations, ARB Executive Orders, and District permit conditions, including replacement schedules for failure or wear prone components. (Rule 412.1)



26. The operator shall conduct periodic maintenance inspections based on the amount of gasoline dispensed by the facility in a calendar month as follows:
  - a. Less than 25,000 gallons per month - one day per week; and
  - b. Greater than or equal to 25,000 gallons per month - five days per week.All inspections shall be documented within the O&M manual. (Rule 412.1)
27. The operator shall maintain monthly gasoline throughput records. (Rule 412.1)
28. All records required by this permit shall be retained on-site for a period of at least five years, and shall be made available for inspection upon request. (Rule 412.1)
29. Any tank with vapor recovery system having defect shall not be operated until defect has been repaired, replaced, or adjusted as necessary to correct defect, and District has re-inspected system or has authorized its use pending re-inspection. All such defects shall be tagged "out of service" upon detection. (Rules 412 and 412.1)
30. The operator shall maintain on the premises a log of any repairs made to the certified Phase I or Phase II vapor recovery system. The repair log shall include the following:
  - a. Date and time of each repair;
  - b. Name of the person(s) who performed the repair, and if applicable, the name, address and phone number of the person's employer;
  - c. Description of service performed;
  - d. Each component that was repaired, serviced, or removed;
  - e. Each component that was installed as replacement, if applicable; and
  - f. Receipts or other documents for parts used in the repair and, if applicable, work orders which shall include the name and signature of the person responsible for performing the repairs. (Rule 412.1)
31. The District shall be notified by the permittee 30 days prior to each test. The test results shall be submitted to the District no later than 30 days after each test. (District Rule 108.1)
32. The District shall be notified within 24 hours of the facility's pass/fail status after the performance of each test. (District Rule 108.1)
33. No emission resulting from use of this equipment shall cause injury, detriment, nuisance, annoyance to or endanger comfort, repose, health, or safety of any considerable number of persons or public. (Rule 419 and CH&SC Sec 41700)

**STATE OF CALIFORNIA AIR TOXICS HOT SPOTS REQUIREMENTS:**

Facility shall comply with California Health and Safety Code Sections 44300 through 44384. (Rule 208.1)

**COMPLIANCE TESTING REQUIREMENTS:**

Should inspection reveal conditions indicative of non-compliance, compliance with any emission limitations shall be verified, within 60 days of District request. Test results shall be submitted to District within 30 days after test completion. (Rule 108.1 and 210.1)

**SPECIAL CONDITIONS:**

- aa. Gasoline usage for gasoline storage tanks shall not exceed 1,000,000 gallons per year without prior District approval. (Rule 210.1)
- bb. Vapor-return and/or vapor control systems used to comply with requirements of this Permit to Operate shall comply with all safety, fire, weights and measures, and other applicable codes and/or regulations. (Rule 412)
- cc. Equipment shall be installed and tested in accordance with attached CARB Executive Orders VR-101-G and VR-202-A. (Rule 412.1)
- dd. System and components shall be of California Air Resources Board "certified" design, any component changes shall be approved in advance by . (Rule 412)
- ee. Owner\operator shall perform and pass tests of Phase I and Phase II systems as required by the California Air Resources Board Executive Orders for the Phase I and Phase II vapor control system that was approved. These tests shall be conducted at the minimum frequency specified in the subject Executive Orders. (Rules 412 and 412.1)
- ff. Owner/operator of this facility shall comply with ARB Special Advisory No. 405 and subsequent amendments regarding response to ISD Alarms. (Rule 412.1)

Facility Name	Permit Nos.	Facility Location	PERMITTED THRU-PUT LIMIT (GAL/YR)
Jaco Hill #3349_MINIT_STOP	8096114,115-116	843 E. Ridgecrest Blvd., Ridgecrest	1,400,000

Actual Gallons per Year

2019	2018	2017	2016	2015
1,128,523	1,182,666	1,078,815	927,257	867,799



## NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services  
NOAA, NNGS12  
National Geodetic Survey  
SSMC-3, #9202  
1315 East-West Highway  
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

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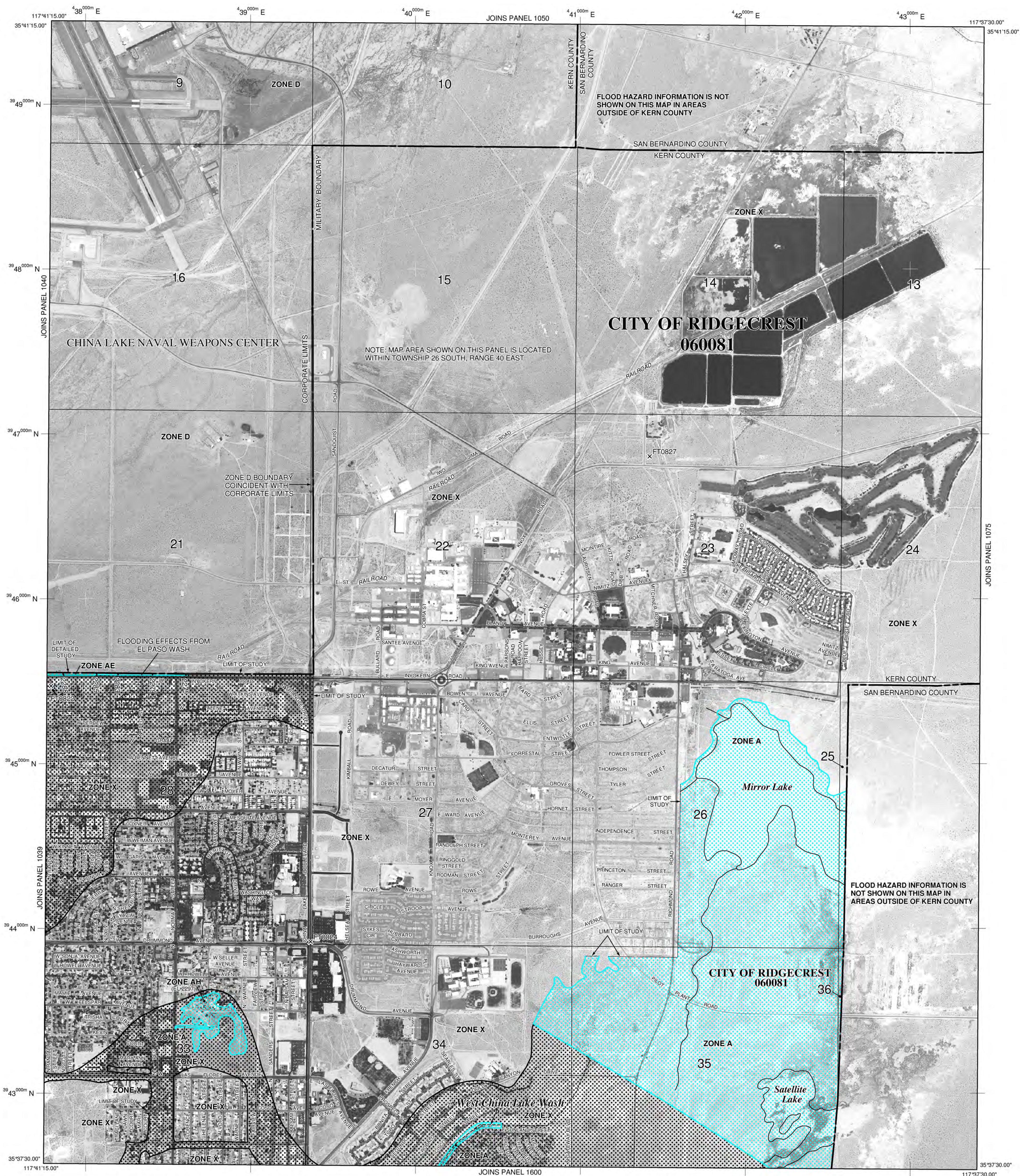
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the *Flood Insurance Study report* (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

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Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a *Flood Insurance Study report*, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.fema.gov/>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/>.





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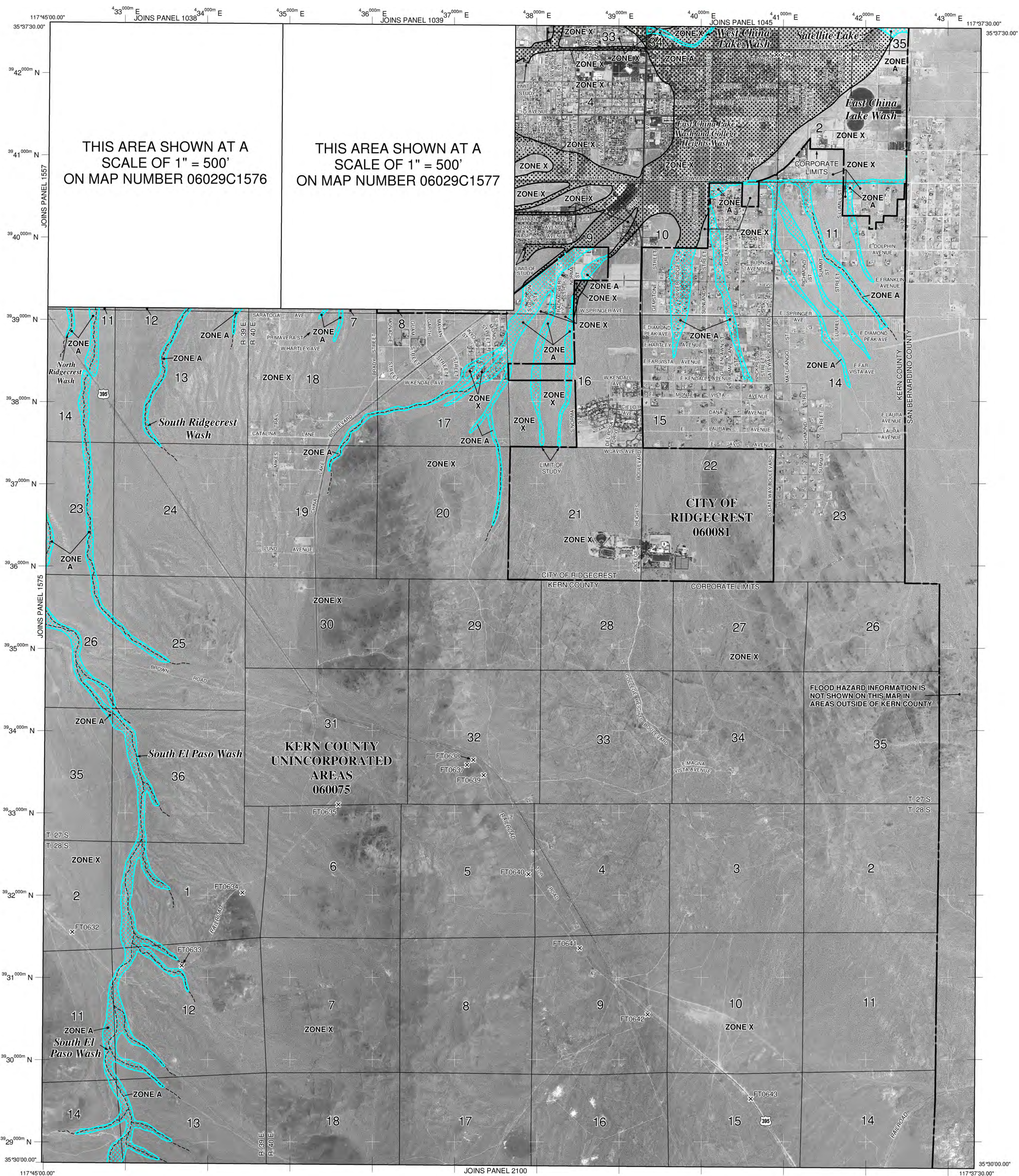
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## LEGEND

**SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

**ZONE A** No Base Flood Elevations determined.  
**ZONE AE** Base Flood Elevations determined.  
**ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.  
**ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.  
**ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently deteriorated. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.  
**ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.  
**ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.  
**ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.  
**ZONE D** Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

**OTHER AREAS**

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary  
0.2% annual chance floodplain boundary  
Floodway boundary  
Zone D boundary  
CBRS and OPA boundary  
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.  
Base Flood Elevation line and value; elevation in feet\*  
(EL 987)  
Base Flood Elevation value where uniform within zone; elevation in feet

\* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

Cross section line  
Transect line  
Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)  
1000-meter Universal Transverse Mercator grid ticks, zone 11  
5000-foot grid ticks: California State Plane coordinate system, V zone (FIPSZONE 0405), Lambert Conformal Conic

Bench mark (see explanation in Notes to Users section of this FIRM panel)  
River Mile

MAP REPOSITORIES  
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP  
September 26, 2008  
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 2000'  
0 2000 4000 FEET  
600 0 600 1200 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1600E

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**KERN COUNTY,**  
**CALIFORNIA**  
**AND INCORPORATED AREAS**

PANEL 1600 OF 4125

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:  
COMMUNITY NUMBER PANEL SUFFIX  
KERN COUNTY 060075 1600  
RIDGECREST, CITY OF 060081 1600 E

Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER  
06029C1600E  
EFFECTIVE DATE  
SEPTEMBER 26, 2008

Federal Emergency Management Agency