4.4 CULTURAL RESOURCES

4.4.1 INTRODUCTION

The archeological analysis in this section is based on the Cultural Resources Technical Report prepared for the proposed project in July 2009 by the Federal Emergency Management Agency. The paleontological analysis in this section is based on the Custom Soil Resources Report prepared for the project site by the US Department of Agriculture Natural Resources Conservation Service. These reports are provided in **Appendix D** and **E**, respectively.

4.4.2 ENVIRONMENTAL SETTING

Geography and Geology

The project area is south of Ojai Valley and surrounded by three mountain ranges. To the north, the Nordhoff Ridge extents to approximately 5,000 feet above mean sea level (amsl). This ridge continues as the Topatopa Bluff east of the Ojai Valley and stands 6,000 feet amsl. To the north, the Sulphur Mountain bounds the Ojai Valley at slightly under 3,000 feet amsl. The structural geology of the area is described in California Geological Survey as follows:

> *The Ventura Basin is characterized by an unusually thick, nearly continuous sequence of Upper Cretaceous through Quaternary sedimentary rocks, which has been deformed into a series of east trending folds associated with thrust and reverse faults. The Tertiary formations in the Santa Ynez Mountains generally strike east-west and dip steeply south or are spectacularly overturned and dip moderately to steeply to the north. The prominent large fold in the Tertiary rocks … dissected by the Ventura River is a manifestation of the "Matilija Overturn" …This structure is part of the south limb of a faulted, 40-mile-long anticlinal fold with extensive areas of upside down sandstone and shale beds. The structural framework of the region is believed to be the result of both crustal-block rotation and north-south compression within a restraining bend of the San Andreas Fault … The main structural elements in the quadrangle include: the Matilija Overturn, the Arroyo Parida Fault, a series of down-to the-north faults called the Oak View faults east of Oak View, and numerous anticlinal and synclinal folds that have deformed Sespe Formation rocks in the Lake Casitas region.*

The Custom Soil Resources Report prepared for the project site indicates that soils units present within the project area consist of Diablo clay, 30 to 50 percent slopes; Mocho loam, 0 to 2 percent slopes, and Riverwash.[1]

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1 US Department of Agriculture, Natural Resources Conservation Service, *Custom Soil Resource Report for Ventura Area, California* (2013) 10.

Archaeological Setting

Ventura County has been occupied by humans since at least the early Holocene. Sites as early as 9,000 years before present (BP) are not uncommon in the region, and archaeological materials dating to the Clovis Period (ca. 12,000 BP) have been found in the surrounding counties. Early occupants were nomadic hunter/gatherers who are often referred to as Paleo-Indian Peoples. The hunting of large game and gathering of plant foods were important subsistence activities, but little else is known of these people.

Around 8,000 BP, milling stones used to grind the hard seeds of grasses into an edible form begin appearing in the archaeological record. This indicates a growing diversity of food and coincides with a decrease in mobility as residential bases began to be used for longer periods. Fish and shellfish consumption also increased during this time at coastal sites. Local populations continued to increase, a trend that would continue, with some interruptions, until the arrival of the Spanish.

Around 3,000 BP, the mortar and pestle begin to appear in the archaeological record, indicating a greater use of acorns as a staple food. This suggests a further broadening of the subsistence base and also coincides with further population growth and increased sedentism. The use of acorns as a staple food may also indicate that local peoples made more efficient use of the resources at hand because of the circumscription of foraging territory.

By 800 BP (AD 1200), evidence suggests that a simple chiefdom society with hereditary leadership, a shell-money based economy, permanent settlements, and extensive trade networks crossing numerous ecological zones were present among the direct ancestors of the Chumash, the ethnolinguistic group who occupied the region when the Spanish first arrived in California.

The project area falls in the traditional ethnographic territory of the Chumash ethno-linguistic group. The Chumash were a series of hunter-gatherer communities linked by at least six related languages. More specifically, the project area is located at the convergence of the traditional territories of three distinct Chumash linguistic subgroups: the Barbareño, Ventureño, and Ynezeño.

The Ventureño and Barbareño Chumash were coastal and inland dwelling people who lived along an exposed outer shore, as well as in the hills and forested areas, in order to take advantage of the abundance of game and fresh water resources. The Ynezeño occupied the inland Santa Ynez valley north of the Santa Ynez Mountains. The habitat included much variety at an interface of northern and southern plant associations and warm-water and cold-water marine life, yielding an abundance of wild plant foods, land and sea mammals, mollusks, fish, and birds, all of which were used from the earliest periods.

The Chumash had a high level of material culture and craftsmanship, including intricate basketry, woodcarving, fine stone objects, and well-developed rock art. Most Chumash lived in permanent villages composed of large round houses up to 50 feet in diameter, which could be home to as many as 10 families. The dietary staple for all Chumash groups was the acorn, though the addition of pine nuts (from the inland areas), soap root, berries, mushrooms, seeds, mollusks, fish, and game varied the diet.

4.4.3 REGULATORY FRAMEWORK

Federal

Federal Antiquities Act

Paleontological resources are classified as non-renewable scientific resources and are protected by several federal and state statutes, most notably by the 1906 Federal Antiquities Act,[2] which calls for protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal lands. Because the proposed project does not include any federal lands, this statutory scheme does not apply.

State

SB 18 Consultations

California Senate Bill (SB) 18[3] requires cities and counties to notify and consult with California Native American Tribes about proposed local land use planning decisions in order to protect Traditional Tribal Cultural Places.[4] Cities and counties must obtain a list of the California Native American tribes from the Native American Heritage Commission (NAHC) whose traditional lands within the agency's jurisdiction may be affected by a proposed adoption or amendment of a general plan or specific plan. Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes of the opportunity to conduct consultations on the proposed project. Prior to the adoption or substantial amendment of the general plan or specific plan, a local government must refer the proposed project to those tribes on the Native American contact list that have traditional lands within the agency's jurisdiction.

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2 Federal Antiquities Act of 1906, PL 59-209; 16 USC 431 et seq.; 34 Stat. 225.

3 California Government Code, Sec. 65040.2, 65092, 65351, 65352, and 65560 and California Civic Code, Sec. 815.3

4 California Senate Bill 18, Chapter 905, Statutes of 2004.

To help local officials meet these new obligations, SB 18 requires the Governor's Office of Planning and Research (OPR) to amend its General Plan Guidelines to include advice to local government on how to consult with California Native American tribes.

Developed in consultation with the NAHC, the OPR guidelines include advice for consulting with California Native American Tribes for[5]

- the preservation of, or the mitigation of impacts to, cultural places;
- procedures for identifying through the NAHC the appropriate California Native American tribes;
- procedures for continuing to protect the confidentiality of information concerning the specific identity, location, character, and use of cultural places; and
- procedures to facilitate voluntary landowner participation to preserve and protect the specific identity, location character, and use of cultural places.

Health and Safety Code

It should be noted that sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with the California Health and Safety Code and Public Resources Code as reviewed below:[6]

> *In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.*

4.4.4 ENVIRONMENTAL IMPACTS

Thresholds of Significance

Each applicable threshold of significance is listed below followed by analysis of the significance of any potential impacts and the identification of mitigation measures that would lessen or avoid potential

5 California Government Code, Section 65040.2(g).

6 California Health and Safety Code, Sections 7050.5 and 5097.98

impacts. Finally, the significance of potential impacts after implementation of all identified mitigation measures is presented.

Archaeological Resources

According to the Ventura County *Initial Study Assessment Guidelines*, and for the purposes of the California Environmental Quality Act (CEQA), a unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research question and that there is a demonstrable public interest in that information
- Has a special and particular quality such as oldest of its type or best available example of its type
- Is directly associated with a scientifically recognized important prehistoric or historic event or person
- Identified California "VEN" site: "Ven" means Ventura; A222 indicates the recorded archaeological investigation site number

The significance of an archaeological resource is materially impaired when a project: (1) demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of *historical resources* pursuant to Section 5020.1(k) requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not archaeologically or culturally significant; or (2) demolishes or materially alters in an adverse manner those physical characteristics of an archaeological resource that convey its archaeological significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Threshold 4.4-1 **Archaeological Resources are considered important if a resource**

- **Contains information needed to answer important scientific research question and that there is a demonstrable public interest in that information**
- **Has a special and particular quality such as oldest of its type or best available example of its type**

- **Is directly associated with a scientifically recognized important prehistoric or historic event or person**
- **Identified California "VEN" site: "Ven" means Ventura; A222 indicates the recorded archaeological investigation site number**

As part of preparation for the cultural resources report, FEMA conducted a literature review, Native American consultation, and a site survey.

Records Search

A literature review was conducted on August 16, 2007, at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. The SCCIC is the California Historical Resource Information System center for Los Angeles, Orange, and Ventura Counties.

Nine previous cultural resource surveys have been conducted within a 0.5-mile radius of the proposed project area, one of which partially covered the project site. One historic-era site has been recorded within a 0.5-mile radius of the project site:

- CA-VEN-1109H, the Ventura River & Ojai Valley Railroad, now the Ojai Valley Recreational Trail

The literature review indicated that no historical properties have been recorded in the proposed area.

Native American Consultation

On August 9, 2007, FEMA contacted the California Native American Heritage Commission (NAHC) to request a review of its Sacred Lands File for the existence of known traditional cultural properties in the vicinity of the project site and to request a list of the individuals and groups whom the NAHC believed should be contacted regarding information or concerns related to the project areas. The NAHC responded on August 13, 2007, with negative results of its search of the Sacred Lands File and a list of eight potentially interested individuals and groups.

On September 7, 2007, FEMA transmitted an informational letter to the potentially interested parties identified by the NAHC. Two responses were received. On September 12, 2007, Ms. Julie Lynn Tumamait responded to the letter and expressed concern that the project was already underway. She was notified that the current activity taking place in the vicinity was unrelated to the proposed project. On October 3, 2007, Qun-tan Shup of the Owl Clan left a voice message regarding the proposed project. His message was returned, and he was notified that the project was temporarily on hold.

Consultation was reinitiated with a second letter request to the NAHC on January 16, 2009. The NAHC responded on January 16, 2009, again with negative results of its search and a list of 15 potentially interested individuals and groups. On February 18, 2009, FEMA transmitted a second informational letter to the potentially interested parties identified by the NAHC.

To date, two responses to the most recent informational letter have been received. On February 18, 2009, Patrick Tumamait responded and stated that he had no further information to provide regarding archaeology in the area and thanked FEMA for the opportunity to comment. On March 19, 2009, Mr. Freddie Romero of the Santa Ynez Band of Chumash Indians commented that the project area was outside the group's area of concern, and therefore, the group would not issue any comments. See the project cultural resources report in **Appendix D** for copies of Native American correspondence.

Site Survey

A cultural resource field survey of the project site was conducted on January 22, 2009, by URS, FEMA's cultural resources consultant, specifically Brian Hatoff, Registered Professional Archaeologist; Maureen Kick, Registered Professional Archaeologist; and Jeremy Hollins, Architectural Historian. Mr. Hatoff and Ms. Kick meet the Secretary of the Interior's Standards for Archaeology and Mr. Hollins meet the Secretary of the Interior's Standards for Architectural History.

The cultural resource field survey was an intensive pedestrian survey using 5- to 10-meter-wide transect intervals in the areas that could be accessed. Ground-surface visibility of the area ranged from moderate to excellent. Portions of the project area are covered in vegetation and hardscape site. The eastern portion of the project area is a dirt access road and undeveloped lot with little vegetation cover and excellent surface visibility. Several clean 4- to 6-foot vertical exposures were present along the Fresno Canyon drainage, east of SR-33, and at the southern end of Edison Drive, west of SR-33.

No cultural resources, soil changes suggesting archaeological deposition, or other constituents such as charcoal or bone were observed during the pedestrian survey. The survey area was also examined for any evidence of historic artifacts, remnant foundations or other evidence of historic use. No evidence of historic use was observed in the project area.

Unknown Subsurface Resources

Because of the substantial amount of ground disturbance required to construct the proposed project, a consideration of the potential for encountering buried cultural resources is warranted. The deepest excavation would take place in the eastern portion of the proposed project, to the east and just west of

SR-33. Other project components, including maintenance roads, access ramps, and turnarounds, would be constructed largely on fill, with little or no subsurface disturbance.

The project area is located at the outflow of Fresno Canyon on the eastern bank of the Ventura River just north of its confluence with Coyote Creek. The setting, at or near the confluence of two watercourses, is a likely location for a prehistoric archaeological site. Buried archaeological sites are well documented in riverine environments in Ventura County. Perhaps the best studied is CA-VEN-110, a National Register site near Mugu Lagoon, approximately 25 miles southeast of the project site.

As discussed above, the project site for the proposed project straddles the contact between soils mapped as Diablo clay and Mocho loam. The Diablo soil series are soils formed in-place on residuum weathered from underlying shale and sandstone. Diablo soils are on complex undulating, rolling to steep uplands with slopes of 5 to 50 percent. Elevations are 25 to 3,000 feet. Depth to weathered bedrock parent material (the "Cr" horizon) ranges from 40 to 80 inches below surface. These soils are very old, weathered in-place from Tertiary bedrock, with no potential for paleosols or buried archaeological deposits.

In contrast, Mocho series soils are formed on nearly flat alluvial fans with slopes of 0 to 9 percent. The typical soil profile consists of an upper A-horizon overlying one or two C-horizons (parent material), with no evidence of any significant pedogenic development. This simple shallow soil profile is indicative of the very young age of the Mocho soils (i.e., latest Holocene to historic-era). Within the project area, the Mocho soils are formed on an upper alluvial terrace of the Ventura River, which likely has some sediment input from the intermittent Fresno Canyon drainage. It is highly likely that the alluvial terrace is composed of a series of successive alluvial deposits from Fresno Canyon and the Ventura River mantling and preserving one another. This geomorphic setting, and the young age of the upper alluvial deposits, suggests high potential for buried paleosols within this alluvial terrace.

A third soil series is mapped at the western edge of the project area. This area consists of the active riverwash of the Ventura River. Although there is the potential for some fine grain, low-energy alluvial deposition in this area, the deposits are largely young, temporary, and subject to disturbance and removal during high water flows and episodic meandering of the main river channel. This portion of the project area is considered to have little or no potential for preservation of buried archaeological sites that may be affected by the proposed project.

Based on these data, only a very small part of the northwestern portion of the proposed project area appears to be potentially sensitive for buried cultural resources. In this area, a Holocene terrace of the Ventura River is mapped as overlapping (mantling) the older hillslope to the south. Although it is likely that paleosols and associated buried archaeological deposits are present in the young alluvial terrace

bounding the northern side of the project area, it appears highly unlikely that any such buried deposits would be disturbed by the proposed project. Excavation would be almost entirely limited to the construction of the inlet, conveyance pipe, and outlet apron. These project components are almost entirely located in older Diablo hillslope residuum soils, which have no potential for buried archaeological deposits. Other project components, including maintenance roads, access ramps, and turn areas, that are located on the geoarchaeologically sensitive late Holocene alluvial terrace, would be constructed largely on fill with little or no subsurface disturbance and thus little potential for encountering buried archaeological deposits.

Notwithstanding the low likelihood of disturbance of previously unknown buried archaeological resources during project construction, should such resources be found during earthmoving activities, impacts could be potentially significant.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

4.4-1: In the event that archeological resources are unearthed during project construction, all earth-disturbing work within the vicinity of the find shall be temporarily suspended until a qualified archeologist has evaluated the nature and significance of the find.

4.4-2: If human remains are encountered during excavations associated with the proposed project, State Health and Safety Code 7050.5 states that no further disturbance shall occur until the Ventura County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The Ventura County Coroner must be notified within 24 hours.

If the coroner determines that the burial is not historic, but prehistoric, the Native American Heritage Commission (NAHC) must be contacted to determine the most likely descendent (MLD) for this area. The MLD may become involved with the disposition of the burial following scientific analysis.

Upon clearance by the coroner and the NAHC for Native American remains, construction (earthmoving) activities may resume.

Level of Significance After Mitigation

With implementation of the mitigation measures provided above, impacts would be less than significant.

Paleontological Resources

According to the *Ventura County Initial Study Assessment Guidelines*, the geologic formation in which proposed projects would be located can be used to establish the likelihood of paleontological resources being present and their relative importance.

Threshold 4.4-2 **Fossil remains are considered important if they are:**

- **well preserved**
- **identifiable**
- **type/topotypic specimens**
- **age diagnostic**
- **useful in environmental reconstruction**
- **represent rare and/or endemic taxa**
- **represent a diverse assemblage**
- **represent associated marine and nonmarine taxa**

Paleontological resources are the fossilized remains of organisms that have lived in the region in the geologic past and the accompanying geologic strata. Paleontological resources are more likely to occur at sites with little surface or subsurface disturbance and within sedimentary or metamorphic rock. The geologic formations that differentiate the project site are: Diablo clay (DbF), Mocho loam (MoA), and Riverwash (Rw). According to the *Initial Study Assessment Guidelines*, these soils are designated as Vaqueros Sandstone, Rincon Shale, and Holocene alluvial deposits for paleontological resources.[7] The Vaqueros Sandstone has been identified as having a moderate to high potential for paleontological resources.

Adverse impacts on paleontological resources result when rock units become unavailable for study and observation by scientists. The destruction of fossils as a result of ground disturbance has a significant impact as it makes biological records of ancient life permanently unavailable for study. While there are no known paleontological resources in the project area, the potential exists for the discovery of previously

7 County of Ventura, *Initial Study Assessment Guidelines*, 56.

unknown resources during ground-disturbing activities during project construction. Impacts are therefore considered potentially significant.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

4.4-3: In the event that paleontological resources are unearthed during project construction, all earth-disturbing work within the vicinity of the find shall be temporarily suspended until a qualified paleontologist has evaluated the nature and significance of the find.

Level of Significance After Mitigation

Impacts would be less than significant.

Historical Resources

The potential for the project to impact historical resources was evaluated in the project Initial Study and determined to be less than significant. The Initial Study is provided in **Appendix A**.

4.4.5 CUMULATIVE IMPACTS

Each related project has the potential to result in significant impacts to cultural resources and, as required by the *State CEQA Guidelines*, each project site would need to be surveyed prior to development during the environmental review process. As with the proposed project, the potential exists for other projects that involve earthmoving activities to uncover human remains, archeological and paleontological or unique geologic resources. Disturbance from such activities for the other projects in the area could have the potential to disturb or destroy buried Native American human remains, including those interred outside formal cemeteries, archeological and paleontological or unique geologic resources.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

4.5 FLOOD CONTROL FACILITIES

4.5.1 INTRODUCTION

The analysis of potential project impacts to flood control facilities provided in this section follows the methodology provided in the *Ventura County Initial Study Guidelines*.

4.5.2 ENVIRONMENTAL SETTING

Fresno Canyon is a tributary to the Ventura River, with a drainage area of almost 1,100 acres with a 100-year peak clear flow of 1,453 cubic feet per second (cfs). The upper half of this watershed is on steep, highly erodible slopes heavily grown with trees and brush. The bulking factor used for the 100-year flow is 1.57 bringing the bulked 100-year peak flow to 2,281 cfs.[1] The existing lower Fresno Canyon flood control channel, a 750-foot concrete channel, was built in the late 1960s to convey Fresno Canyon runoff from the natural channel to the Ventura River and was designed for a clear flow of 700 cfs, which was considered to be the 50-year event at the time.

The existing flood control channel in Casitas Springs is inadequate for the proper transport of water and debris associated with flood events. Storm water and debris flows from Fresno Canyon flooded the community of Casitas Springs three times between 1995 and 2005, damaging dozens of homes and requiring the closure of SR-33 for up to two days during each flood event. Residential areas on both sides of Fresno Canyon are subject to flooding at an estimated frequency of once every 10 years. In addition, the existing flood control channel clogs and overflows frequently, and water from the Ventura River frequently flows up the channel, creating a "backwater effect" that floods adjacent property.

4.5.3 REGULATORY FRAMEWORK

Federal Regulations

Flood Disaster Protection Act of 1973

Congress acted to reduce the costs of disaster relief by passing the Flood Disaster Protection Act of 1973.[2] The act's aim was to expand the national flood insurance program by substantially increasing limits of coverage and the total amount of insurance authorized to be outstanding. The act also required known

1 Fresno Canyon Flood Mitigation Pre-Design Study Final Report, Hawks & Associates, September 11, 2007

2 US Code, Title 42, Section 4002, The Flood Disaster Protection Act of 1973.

flood-prone communities to participate in the program. Other purposes of the program include substantially increasing the limits of coverage authorized under the national flood insurance program; provide for the expeditious identification of, and the dissemination of information concerning, flood-prone areas; require state or local communities, as a condition of future federal financial assistance, to participate in the flood insurance program and to adopt adequate flood plan ordinances with effective enforcement provisions consistent with federal standards to reduce or avoid future flood losses; and require the purchase of flood insurance by property owners who are being assisted by federal programs or by federally supervised, regulated, or insured agencies or institutions in the acquisition or improvement of land or facilities located or to be located in identified areas having special flood hazards.

National Flood Insurance Act

Congress acted to reduce the costs of disaster relief by passing the National Flood Insurance Act of 1968[3]. The intent of this act was to reduce the need for large, publicly funded flood control structures and disaster relief efforts by restricting development in floodplains.

The Department of Homeland Security Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program[4] (NFIP), which provides subsidized flood insurance to communities that comply with FEMA regulations limiting development in a floodplain. FEMA issues Flood Insurance Rate Maps (FIRMs) of communities participating in the NFIP. These maps delineate flood hazard zones in each participating community.

State Regulations

Cobey-Alquist Flood Control Act

The Cobey-Alquist Flood Control Act[5] states that a large portion of land resources of the State of California is subject to recurrent flooding. The public interest necessitates sound development of land use, as land is a limited, valuable, and irreplaceable resource, and the floodplains of the state are a land resource to be developed in a manner that, in conjunction with economically justified structural measures for flood control, will prevent loss of life and economic loss caused by excessive flooding. The primary responsibility for planning, adoption, and enforcement of land use regulations to accomplish floodplain

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3 US Code, Title 42, Section 4001 *et. seq. The National Flood Insurance Act of 1968.*

4 National Flood Insurance Program, Federal Emergency and Management Agency, http://www.fema.gov/library/viewRecord.do?id=1480, 2002.

5 California Water Code, Cobey-Alquist Flood Plain Management Act, (1965 as amended), Sec. 8400-8401.

management rests with local levels of government. It is the State of California policy to encourage local levels of government to plan land use regulations to accomplish floodplain management and to provide state assistance and guidance.

Local Regulations

County of Ventura

Ventura County Watershed Protection District

The Ventura County Watershed Protection District ("VCWPD," previously known as the Ventura County Flood Control District) was formed, in part, to provide for the control and conservation of flood and storm waters and for the protection of watercourses, watersheds, public highways, life, and property in the district from damage or destruction caused by these waters. The goals of the district include:

- Comprehensive, long-range watershed planning
- Collaboration with watershed stakeholders
- Administration of adopted regulations, policies, and resolutions
- Responsible and accountable use of public resources
- Excellence in public service

Ventura County Watershed Protection District Ordinances

Various ordinances relating to the protection and regulation of flood control facilities and watercourses provide VCWPD the authority and the requirement to obtain permits for any encroachment into VCWPD jurisdictional channels, including rights of way.

Floodplain Management Ordinance 3841

VCWPD also implements the Flood Plain Management Ordinance 3841 on behalf of the County of Ventura to ensure compliance with the National Flood Insurance Program. This includes permit review for structures built in the floodplain and evaluation of site plans for developments that include identified floodplains. For incorporated jurisdictions, each city serves as the floodplain manager for its sphere of

influence. The purpose of Floodplain Management Ordinance 3841[6] is to promote the public health, safety, and general welfare, as well as to minimize public and private losses due to flood conditions within Special Flood Hazard Areas, also referred to as the 1 percent annual chance floodplain (formerly referred to as the 100-year floodplain). The ordinance is intended to achieve the following:

1. to restrict or prohibit land uses and activities that are dangerous to health, safety, and property due to water, erosion, flood height, or velocities;

2. to require land uses and activities that are vulnerable to floods, including facilities that serve such uses and activities, to be protected against flood damage at the time of initial construction;

3. to control the alteration of natural floodplains, stream channels, and natural protective barriers which help accommodate or channel flood waters; and

4. to control filling, grading, dredging, and other types of development in order to prevent increasing the risk of flooding to other areas within and outside of the floodplain.

Ventura County General Plan

The *Ventura County General Plan Goals, Policies, and Programs* provide the following goal and policy intended to support adequate flood control facilities:

Goal 4.6.1: Provide adequate and appropriate flood control and drainage facilities to protect life and property from damage or destruction from flood and storm waters.

Policy 4.6.2-1: All necessary flood control and drainage facilities shall be constructed to meet the minimum standards of the Public Works Agency and the County Flood Control District consistent with the goals, policies, and programs of the General Plan.

Policy 4.6.2-2: Discretionary development shall be conditioned to provide flood control and drainage facilities deemed by the Public Works Agency and Flood Control District as necessary for the development, and shall be required to contribute toward flood control facilities necessitated by cumulative development.

6 Ventura County Subdivision Ordinance, Division 8, Chapter 2, "Ventura County Flood Plain Management Ordinance."

4.5.4 IMPACT ANALYSIS

Thresholds of Significance

According to the Ventura County *Initial Study Assessment Guidelines*, a project will be considered to have a significant impact associated with VCWPD flood control facilities/watercourses if one of the criteria listed below is met during project construction or operation.

- Any project that will, either directly or indirectly, impact flood control facilities and watercourses by obstructing, impairing, diverting, impeding, or altering the characteristics of the flow of water, resulting in exposing adjacent property and the community to increased risk for flood hazards, shall be considered to have a potentially significant impact. Examples are listed below.
  - Reducing the capacity of flood control facilities and watercourses. This includes the planting of any vegetation within the watercourse or on the banks thereof.
  - Eroding watercourse bed and banks due to high velocities, changes in adjacent land use, encroachments into the channel such as bridges, and loading the top of the channel embankment with structures.
  - Deposition of any material of any kind in a watercourse.
  - Placement of a structure that encroaches on a flood control facility or that does not have sufficient setback from a watercourse.

Threshold 4.5-1 **Any project that will, either directly or indirectly, impact flood control facilities and watercourses by obstructing, impairing, diverting, impeding, or altering the characteristics of the flow of water, resulting in exposing adjacent property and the community to increased risk for flood hazards, shall be considered to have a potentially significant impact.**

As discussed previously, Fresno Canyon is a tributary to the Ventura River, with a drainage area of almost 1,100 acres with a 100-year peak clear flow of 1,453 cubic feet per second (cfs). The bulking factor used for the 100-year flow is 1.57 bringing the bulked 100-year peak flow to 2,281 cfs. The existing lower Fresno Canyon flood control channel, a 750-foot concrete channel, was built in the late 1960s to convey Fresno Canyon runoff from the natural channel to the Ventura River and was designed for a clear flow of 700 cfs, which was considered to be the 50-year event at the time. Thus, there is an existing deficiency of approximately 1,581 cfs in the flood control facilities present in the project area.

VCWPD is proposing to construct a storm drain diversion facility to transport floodwaters, sediment, and debris from Fresno Canyon to the Ventura River to reduce the risk of flooding in the community of Casitas Springs. The facility will be designed to convey the fully bulked flows resulting from the 100-year flood event. The proposed project includes a 12-foot-diameter reinforced concrete (RC) conveyance pipe

installed via horizontal boring beneath SR-33 and via open trench method for the remaining approximately 395 linear feet.

The proposed storm drain facility would transport floodwater, sediments, and debris from Fresno Canyon to the Ventura River to reduce the risk of flooding in the community of Casitas Springs. Future storm events in the Casitas Springs area are likely to result in more severe flooding, should the proposed storm drain project not be undertaken. The Final Fresno Canyon Flood Mitigation Pre-Design Study Final Report, Hawks & Associates, 2007, determined that an area of 25 acres would be flooded in the 100-year storm, with 56 parcels flooded to a depth of 1 to 3 feet. The cost of repairing the damage from 100- or 50-year flood events to residences and other property in Casitas Springs is projected to exceed $2 million if storm drain improvements are not undertaken. Implementation of the proposed project would greatly reduce flood-related property damage and reduce the likelihood of temporary closure of SR-33 due to flood inundation.

The proposed project would not obstruct, impair, divert, impede, or otherwise alter the characteristics of the flow of water in a way that would expose adjacent properties or the community to increased flood risk. The proposed project would ameliorate an existing deficiency in current flood control facilities, and would therefore have a beneficial impact.

Level of Significance Before Mitigation

Impacts would be beneficial.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be beneficial.

4.5.5 CUMULATIVE IMPACTS

Related projects have the potential to result in significant impacts to flood control facilities. Each related project would be subject to the regulations related to flood control facilities discussed above, and would be required to assess and mitigate such impacts to the extent feasible. Since the project would result in a beneficial impact by providing additional capacity for peak stormwater flows from the Fresno Canyon watershed, it would not contribute to any potentially significant cumulative impact.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

4.6 GEOLOGY AND SOILS

4.6.1 INTRODUCTION

The analysis of potential geotechnical and soils hazards in this section is based on the Geotechnical Investigation prepared for the proposed project by Geocon West, Inc., in 2013 and the Custom Soil Resource Report prepared by the US Department of Agriculture Natural Resource Conservation Service in 2013. Both studies are provided in **Appendix E** of this EIR.

4.6.2 ENVIRONMENTAL SETTING

Topography and Drainage

The project area is situated between the east bank of the Ventura River and the mouth of the Fresno Canyon drainage area. The proposed project is intended to direct stormwater flow from Fresno Canyon through the drainage structure and outlet to the Ventura River. Currently, stormwater enters the project site from Fresno Canyon and passes through a debris basin where the majority of the sediment load is dropped, then directed to the Ventura River via a series of culverts and channels.

Topographically, the site can be divided into two areas, with SR-33 acting as a general boundary. The area east of SR-33 consists of a fairly large natural/graded hillside area surrounding a debris basin and the existing Fresno Canyon drainage. The slopes in this area are generally inclined at approximate gradients of 8:1 to locally 2:1 (horizontal to vertical) towards the north and northwest towards the drainage basin or SR-33. North of the drainage, the site generally slopes gently toward the west at gradients of 6:1 or flatter.

West of SR-33, the alignment is proposed along the toe of a relatively large north-facing slope. To the north of the slope, the site is relatively flat alluvial floodplain. The slope ascends up to 90 feet from the relatively flat floodplain at gradients of 3:1 to locally as steep as 1:1. South of the alignment, between Stations 14+50 and Station 15+50, the slope ascends to a large retaining wall, which supports an existing Southern California Edison (SCE) substation pad. In addition, a series of stacked retaining walls are located between the southern terminus of Edison Drive and the existing SCE substation (Station 15+73 and Station 16+00).

Geologic Setting

The project area is located at the southern end of the community of Casitas Springs. The Casitas Springs area is a north-south trending alluvial filled valley along the Ventura River. The area formed as a result of meandering of the Ventura River during Early Holocene to Late Pleistocene period (10,000 to 40,000 years

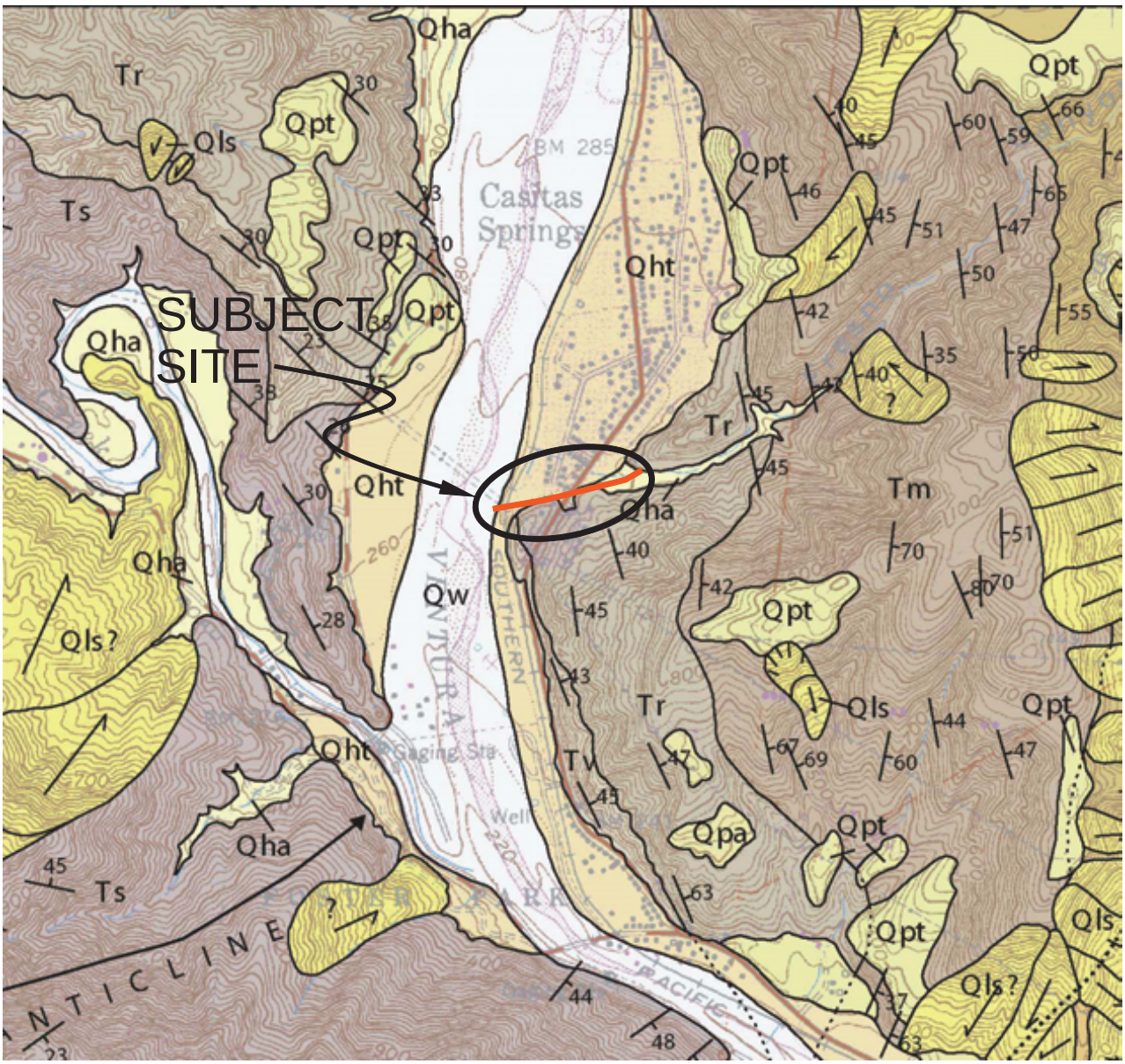
before present). More recent uplift of the Transverse Ranges due to regional tectonics has shifted the river to its current position with respect to the project site.

The site is located within the northern Ventura River Valley. The Ventura River Valley is a long, narrow, north-south trending alluvial filled valley extending from Matilija Reservoir and Ojai Valley to the north to the Oxnard Plain and Pacific Ocean to the south. The Ventura River Valley has been continually formed through the episodic periods of erosion and deposition of sediments by the Ventura River. The alluvial sediments within the Ventura River Valley are derived from the many tributary streams that drain the surrounding Santa Ana Mountains, Sulfur Mountain Range, and adjoining Ojai Valley. Rock units underlying the alluvial sediments and surrounding areas consist primarily of uplifted late Eocene to early Miocene age sedimentary bedrock.

Regionally the site is located within the Transverse Ranges geomorphic province. The province is characterized by east-west trending mountain ranges and valleys that extend from Point Conception and the Pacific Ocean to the Cajon Pass. These mountain ranges include the Santa Ynez, Topa Topa, Santa Susana, San Gabriel, San Bernardino, and Santa Monica Mountains. The regional east-west trend of the range is reflected by the nearby San Cayetano Fault and Santa Paula River Valley.

Geologic Materials

Based on field investigation and published geologic maps of the area, the earth materials underlying the site consist of artificial fill, debris basin slough, active wash deposits, colluvium, and terrace deposits underlain by sedimentary bedrock units of the Miocene Age Rincon Shale. The site is shown with respect to local geologic conditions on **Figure 4.6-1, Local Geologic Map**. The soil and geologic units encountered at the site are discussed below.



LEGEND

Qw - (Holocene) Active river wash deposits
Qha - (Holocene) Alluvium
Qls - (Holocene to Pleistocene) Landslide deposits
Qht - (Hlocene) Stream terrace deposits
Qpa - (Pleistocene) Older alluvium
Qpt - (Pleistocene) Older stream terrace deposits
Tm - (Miocene) Monterey Formation
Tr - (Miocene) Rincon Shale
Tv - (Miocene) Vaqueros Sandstone
Ts - (Oligocene) Sespe Formation
- LANDSLIDE
- STRIKE AND DIP OF BEDDING

1,500 750 0 1,500

APPROXIMATE SCALE IN FEET

SOURCE: Geocon West, Inc., 2013

FIGURE **4.6-1**

Local Geologic Map

Artificial Fill (af)

Various amounts of artificial fill were encountered throughout the area of the proposed development. The artificial fill was observed in field explorations to depths between 3.5 and 13.5 feet below the ground surface. However, a review of the as-built sewer plans indicates that deeper artificial fill may be present in areas surrounding a buried 21-inch sewer line, as well as other utilities which run adjacent to and which traverse the proposed drainage structure. Based on a comparison of the invert elevation indicated on the as-built sewer plans with the current ground surface elevation at manhole 27-A, located at the end of Edison Drive, there appears to be artificial fill on the order of 15 to 18 feet in depth below the existing ground surface. Furthermore, artificial fill on the order of 14 feet in depth below the ground surface may be present along the proposed alignment.

The artificial fill generally consists of varying amounts of yellowish brown silty sand and clay with varied amounts of gravel, cobbles, and boulders. Debris, such as concrete, clay pipe, glass, and metal were commonly observed in the fill between Station 12+75 and Station 15+50. The artificial fill is characterized as dry to moist and loose to medium dense or very soft to hard. The fill is likely derived from a combination of utility line backfill as well as soil and debris dumped over the slope from the adjacent SCE substation. The thickest accumulations of fill were encountered along the graded hillside slope between Stations 18+00 and Station 21+00 and along the buried 21-inch sewer line west of Edison Drive. However, deeper fill may exist between excavations and in other portions of the site that were not directly explored.

Debris Basin Slough

Debris basin slough was encountered within the graded stormwater debris basin along the western portion of the drainage facility alignment between Station 20+75 and Station 22+00. The debris basin slough was encountered during field exploration to depths between 6 and 7 feet below the ground surface. The slough generally consists of brown to reddish brown silt with sand and sandy clay with varied amounts of gravel and decomposing organic material. The slough is characterized as moist to wet and soft to firm. The debris basin slough is the result of the accumulation of soils, plants, and debris from Fresno Canyon and surrounding slopes that have washed into the debris basin.

Active Wash Deposits (Qw)

Based on a review of available geologic maps and on-site observations of the surficial geology along the Ventura River, active wash deposits are expected to be encountered along the western most extent of the drainage facility alignment. The active wash deposits consist of unconsolidated sand and silt with varied

amounts of gravel, cobbles and boulders primarily composed of sedimentary bedrock such as sandstone, siltstone, and shale that have been transported from upstream sources.

Colluvium (Qcol)

The artificial fill is partially underlain by colluvial deposits derived from the in-situ weathering of the underlying bedrock and slow downhill movement due to gravity. The colluvium was encountered along the sloped area east of SR-33 at depths ranging between 3.5 and 12 feet beneath the existing ground surface. The colluvium generally consists of dark brown to dark gray sandy silt and clay. The soils are primarily slightly moist to moist and stiff.

Terrace Deposits (Qht)

Holocene Age stream terrace deposits were encountered along alignment west of SR-33 at depths between 3 and 18 feet below the existing ground surface. These deposits generally consist of light yellowish brown to grayish brown unconsolidated sand and silt with abundant gravel, cobbles, and boulders. These clasts are composed of well-cemented sedimentary bedrock (sandstone, siltstone, and shale) originating from the Red Mountain Range, Sulfur Mountain Range and various drainages up river from the site. The terrace deposits are primarily unbedded, dry to slightly moist and loose. The terrace deposits are expected to be encountered within the open trench portion of the drainage conveyance structure and within the western portion of the pipe- jacking portion of the alignment.

Older Terrace Deposits (Qpt)

Pleistocene Age older stream terrace deposits were encountered along the eastern portion of the alignment between Stations 17+50 and 21+00 at depths between 12.5 and 27 feet below the existing ground surface. These deposits generally consist of dark yellowish brown clayey sand and silty sand with varied amounts of gravel, cobbles, and boulders composed of sedimentary bedrock. The soils are primarily unbedded, dry to slightly moist and medium dense to dense. The Pleistocene terrace deposits are remnant sediment material deposited from an eastern meander if the ancestral Ventura River. The older terrace deposits are expected to be encountered along the pipe- jacked portion of the drainage conveyance structure.

Rincon Shale

The artificial fill and surficial deposits are underlain by sedimentary bedrock units of the Miocene Age Rincon shale. The Rincon shale is exposed on the slopes adjacent to the alignment and underlies the entire project site. The bedrock was encountered at depths ranging between 6 to 28 feet below the existing

ground surface. As observed during the field investigation, the upper portion of the bedrock consists of light gray to gray shale and siltstone which can be characterized as poorly bedded, thinly to thickly bedded, moderately to highly weathered and fractured, soft to moderately hard and brittle. Below about 4 to 6 feet of the bedrock contact, the shale was observed to be dark grey, poorly bedded, moderately hard and brittle as the amount of oxidation, weathering, and fracturing of the bedrock decreased significantly.

The Rincon shale is expected to be encountered throughout portions of the alignment. The bedrock will likely exhibit neutral bedding conditions with respect to the proposed north and south facing excavations so long as the bedrock follows observed and regional trends. Proposed excavations into the bedrock should be observed by a licensed geologist during construction to verify the existing bedding conditions at the site.

It should be noted that localized zones of mild petroliferous odor from gasses within the bedrock were observed during the downhole inspection of the large diameter borings. The presence of the localized gases in the bedrock may impact the health and safety of personnel assigned to conduct the pipe- jacking portion of the project.

4.6.3 REGULATORY FRAMEWORK

State

California Geological Survey

The California Geological Survey (CGS) is responsible for enforcing the Alquist-Priolo Earthquake Fault Zoning Act and enforcing the Seismic Hazards Mapping Act. Both are described below.

Alquist-Priolo Earthquake Fault Zoning Act

The purpose of Alquist-Priolo Earthquake Fault Zoning Act (formerly called the Alquist-Priolo Special Studies Zones Act)[1] is to prohibit the location of most structures for human occupancy across the traces of active surface faults, which are faults that have ruptured the ground surface in the past 11,000 years, and to mitigate the hazard of fault rupture. The act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. Under the act, the State Geologist (Chief of the CGS), is required to delineate "earthquake fault zones" (EFZs) along known active faults in California.

1 California Public Resources Code, Sec. 2621 et seq. The Alquist-Priolo Special Studies Zones Act was signed into law in 1972. In 1994, it was renamed the Alquist-Priolo Earthquake Fault Zoning Act. The act has been amended ten times.

The boundary of an EFZ is generally approximately 500 feet from major active faults, and 200 to 300 feet from well-defined minor faults. Cities and counties affected by the EFZs must withhold development permits for certain construction projects proposed within the zones until geologic investigations demonstrate that the sites are not significantly threatened by surface displacement from future faulting. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet).

Seismic Hazards Mapping Act

Under the CGS's Seismic Hazards Mapping Act,[2] which was passed in 1990, seismic hazard zones are to be identified and mapped to assist local governments for planning and development purposes. The Seismic Hazards Mapping Act differs from the Alquist-Priolo Earthquake Fault Zoning Act in that it addresses non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, landslides, other types of ground failure, and other hazards caused by earthquakes. The CGS provides guidance for evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations.[3]

California Building Code

The State of California provides a minimum standard for building design through the California Building Code (CBC). The 2010 edition of the CBC is based on the 2009 International Building Code (IBC) as published by the International Code Council, together with other amendments provided in local/municipal codes, and is adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in the California Occupational Safety and Health Administration (Cal-OSHA) regulations[4] and in Section A33 of the CBC.

Standard residential, commercial, and light industrial construction is governed by the CBC, to which cities and counties add amendments. Due to the type, quality, and age of some of the buildings, the 2001 State Historical Building Code[5] (SHBC) applies to the strengthening of unreinforced historic structures, while the 1986 Unreinforced Masonry Law[6] applies to the identification, reporting, and retrofit of

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2 California Public Resources Code, Sec. 2690 et seq.

3 California Geological Survey, "Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California," 1997.

4 California Code of Regulations, Title 24, Part 8, "California Historical Building Code."

5 California Code of Regulations, Title 24, Part 8, "California Historical Building Code."

6 California Government Code, Section 8875 et seq.

non-historic unreinforced masonry buildings. The 2007 California Building Code[7] includes additions to the previous building code that make it more stringent, in particular with regard to seismic and earthquake conditions for critical structures such as essential facilities, public schools, and hospitals. The CBC, which is included in Title 24 of the California Administrative Code, is a compilation of three types of building standards from three different origins:

- Those adopted by state agencies without change from building standards contained in national model codes (e.g., the IBC).
- Those adopted and adapted from the national model code standards to meet California conditions (e.g., most of California is in Seismic Design Categories D and E).
- Those authorized by the California legislature that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns (e.g., the specification of Certified Engineering Geologist rather than engineering geologist).

The seismic performance objectives for both buildings and non-building structures addressed in the previous (1997) Uniform Building Code (UBC), Seismic Zones 3 and 4 are now Seismic Design Category D, E, or F under the 2007 CBC. Most of the residential projects in California will fall into Seismic Design Category D or E. For the proposed planning area, the seismic objectives are to:

- sustain minimal or no damage under minor earthquake ground motion,
- limit damage to non-structural features under moderate level earthquake ground motion, and
- limit damage to structural and non-structural features without collapse under major level earthquake ground motion.

In addition, the CBC regulates excavation, foundations, and retaining walls; contains specific requirements pertaining to site demolition, excavation, and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials; and regulates grading activities, including drainage and erosion control. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in the Cal-OSHA regulations.

7 California Code of Regulations, Title 24, Part 2, "California Building Code."

Local

The *Ventura County General Plan* provides the following goals and policies intended to address potential geological hazards:

Liquefaction

Goal 2.4.1: Minimize the risk of loss of life, injury, collapse of habitable structures, and economic and social dislocations resulting from liquefaction.

Policy 2.4.2: Prior to the issuance of building or grading permits for essential facilities, special occupancy structures, two-story single-family residences, or hazardous materials storage facilities located within areas prone to liquefaction, a geotechnical report that includes a seismic analysis and evaluation of liquefaction in accordance with the State of California Guidelines shall be prepared in order to assess the liquefaction potential and provide recommendations for mitigation.

Landslides/Mudslides

Goal 2.7.1: Minimize the risk of life, injury, collapse of habitable structures, and economic and social dislocations resulting from landslides/mudslides.

Policy 2.7.2-1: Development in mapped landslide/mudslide hazard areas shall not be permitted unless adequate geotechnical engineering investigations are performed, and appropriate and sufficient safeguards are incorporated into the project design.

Policy 2.7.2-2: In landslide/mudslide hazard areas, there shall be no alteration of the land which is likely to increase the hazard, including concentration of water through drainage, irrigation or septic systems, removal of vegetative cover, and no undercutting of the bases of slopes or other improper grading methods.

Policy 2.7.2-3: Drainage plans that direct runoff and drainage away from slopes shall be required for construction in hillside areas.

Subsidence

Goal 2.9.1: Minimize the risk of damage to structures, transportation corridors, and infrastructure from the effects of subsidence.

Policy 2.9.2-1: Potential subsidence shall be evaluated prior to approval of new oil, gas, water or other extraction well drilling permits.

Policy 2.9.2-2: Structural design of buildings and other structures shall recognize the potential for hydrocompaction subsidence and provide mitigation recommendations for structures that may be affected.

Policy 2.9.2-3: No structure which is needed for public safety or emergency services shall be located where an interruption in service could result from structural failure due to subsidence. If such location in an area subject to potential subsidence is unavoidable, the structure shall be designed to mitigate the hazard.

4.6.4 IMPACT ANALYSIS

Thresholds of Significance

The following thresholds of significance for geological hazards are provided in the *Ventura County Initial Study Assessment Guidelines*. Impacts related to fault rupture and subsidence were determined to be less than significant in the Initial Study prepared for the proposed project and are therefore discussed in **Section 8.0, Effects Found Not to Be Significant**.

Ground Shaking

Is the proposed structure designed to be built in accordance with all applicable requirements of the Ventura County Building Code? If the answer is no, then the project has the potential to expose people or other structures to potential significant adverse effects, including the risk of loss, injury or death involving ground shaking hazards. If the answer is yes, then the project design will reduce the adverse effects of ground shaking to less than significant.

Liquefaction

The State of California, based on the Quaternary Geology of Ventura County, water well records for material type and density, and highest groundwater elevations, has produced the Seismic Hazards Zone Maps including potential for liquefaction. The State of California Seismic Hazard Zones Maps are utilized for all determinations for liquefaction potential. A proposed project will expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving liquefaction if it is located within a Seismic Hazards Zone.

Landslide/Mudflow

The threshold for landslide/mudflow hazard is determined by the Public Works Agency Certified Engineering Geologist based on the location of the site or project within, or outside of mapped landslides, potential earthquake induced landslide zones, and geomorphology of hillside terrain.

Expansive Soils

The determination of a significant soils expansion effect shall be based upon an inquiry of whether a proposed project will expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving soil expansion if it is located within a soils expansive hazard zone or where soils with an expansion index greater than 20 are present.

Ground Shaking

Threshold 4.6-1 **Ground Shaking: Is the proposed structure designed to be built in accordance with all applicable requirements of the Ventura County Building Code?**

The proposed project is not a building; therefore it is not subject to the requirements of the Ventura County Building Code.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

Liquefaction

Threshold 4.6-2 **Liquefaction: A proposed project will expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving liquefaction if it is located within a Seismic Hazards Zone.**

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations. A structure that is located within a liquefaction zone may lose support under its foundation, which could cause the structure to tilt or settle into the ground surface and potentially collapse.

The proposed project does not involve the construction or modification of any habitable structures, although it does include construction of retaining walls that could be susceptible to damage from liquefaction. Based on a review of the State of California Seismic Hazard Zone, Ventura Quadrangle Map, as well as the Ventura County General Plan, the site is located in an area designated as "liquefiable." However, as previously stated, the earth materials underlying the proposed drainage facility consist of dense terrace deposits and Miocene Age sedimentary bedrock units.[8] Bedrock by its nature is not subject to liquefaction. Based on these considerations, the geotechnical report prepared for the proposed project concludes that the potential for liquefaction of the site soils is very low. Further, no surface manifestations of liquefaction are evident at the subject site. Since the potential for liquefaction is low and the construction of project facilities would follow County of Ventura Building Code Requirements, the potential impacts associated with liquefaction would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

8 Geocon West, Inc., *Geotechnical Investigation, Fresno Canyon Flood Mitigation Project* (2013) 13.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

Landslide/Mudflow

Threshold 4.6-3 **Landslide/Mudflow: The threshold for landslide/mudflow hazard is determined by the Public Works Agency Certified Engineering Geologist based on the location of the site or project within, or outside of mapped landslides, potential earthquake induced landslide zones, and geomorphology of hillside terrain.**

A landslide is defined by the California Geological Survey (CGS) as "the movement of a mass of rock, debris, or earth down a slope" and the County of Ventura defines a landslide as a natural or man-induced dislodging and fall of a mass of soil or rocks along a sloped surface, or the dislodged mass itself. The CGS definition of landslide includes any type of down slope movement or mass movement of soil and rock under the direct influence of gravity and includes events such as rock falls, topples, slides, spreads, and flows, such as debris flows commonly referred to as mudslides or mudflows. The Final Fresno Canyon Food Mitigation Pre-Design Study 2007, page 4 acknowledged that the project traverses "through steep and highly erodible terrain." As is shown in **Table 4.6-1, Sediment Yields and Bulking Factors for Fresno Canyon**, the project area contributes to a large sediment factor after the burn:

Table 4.6-1
Sediment Yields and Bulking Factors for Fresno Canyon

Frequency (yrs)	Sediment Before Burn (cu/yds)	Bulking Factor	Sediment After Burn (cu/yds.)	Bulking Factor
2	2,708	1.42	3,929	1.43
5	7,034	1.44	10,203	1.46
10	11,450	1.46	16,607	1.49
50	26,676	1.53	38,692	1.58
100	35,255	1.57	51,136	1.63

Final Fresno Canyon Flood Mitigation Pre-Design Study, page 5, 2007

The County of Ventura further defines a mudslide individually; a mudslide is a flow of very wet rock and soil. For determination of landslide/mudslide hazards for the purposes of conducted environmental assessments, the County of Ventura has included a number of different slope movement and mass wasting processes that range from very slow (a few inches in a hundred years) to extremely rapid (70 or more miles per hour), which include the following phenomena: rockfall, soil creep, soil failures, dry raveling, rotational and transitional slides, flows, slumps and any complex combinations of the above phenomena. The hazard applies to both natural and constructed slopes.

According to the Hazards Appendix of the Ventura County General Plan, and the State of California Seismic Hazard Zone, Ventura Quadrangle Map, the site is not located within an area identified as having a potential for slope instability. No on-site landslides were observed during field explorations. Exhibit 9A from the 2007 Hawks Predesign Study depict several possible landslide areas above the project site and near the new inlet facilities.

The project site is located along the toe of two north to north-northwest facing slopes situated between the east bank of the Ventura River and the mouth of the Fresno Canyon drainage and bisected by SR-33. The area east of SR-33 consists of a large natural/graded hillside area surrounding a debris basin and the existing Fresno Canyon drainage. The north and north-northwest facing slopes in this area are generally inclined at approximate gradients of 8:1 to locally 2:1 (horizontal to vertical) with approximately 670 feet of vertical relief from the bottom of the drainage basin to the top of the first intermediate ridge southeast of the site. North of the drainage, the site generally slopes gently toward the west at gradients of 6:1 or flatter.

West of SR-33, the alignment is situated along the toe of a relatively large north-facing slope. The slope ascends up to 90 feet from the relatively flat floodplain at gradients of 3:1 to locally as steep as 1:1. South of the alignment, between Stations 14+50 and 15+50, the slope ascends to a large retaining wall which supports the SCE substation pad. In addition, a series of stacked retaining walls are located between the southern terminus of Edison Drive and the existing SCE substation (Stations 15+73 and Station 16+00).

Based on review of available geologic maps and field exploration, the earth material underlying the site slopes consists of varying thicknesses of artificial fill, colluvium and terrace deposits over Rincon Shale bedrock. As observed during field investigation, the artificial fill, colluvium and terrace deposits along the slope face consist primarily of interlayered sands, silts and clays with varying amounts gravel, cobbles, and boulders. The underlying bedrock consists of well-bedded to massive shale and siltstone. On-site observations of the geologic structure and a review of available geologic maps indicate that the bedding is oriented from N27°W and N3°E with dips of 40° to 53° to the east and northeast. Soil and

bedrock contacts likely follow general slope topography at the site and are inclined to the north and northwest.

Based on this information, the bedrock will likely exhibit neutral bedding conditions with respect to proposed north and south facing excavations so long as the bedrock follows observed and regional trends. However, proposed north and south facing excavations will remove lateral support of the overlying surficial soils which may become susceptible to raveling and sloughing. Proposed north facing excavations will also expose an unfavorable bedding condition that exists along the soil and bedrock contact. In addition, erosion and minor surficial stability may be encountered along the adjacent slopes steeper than 2:1 during construction. Excavations within the surficial soil will likely require special excavation measures to maintain stability during construction.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

4.6-1: Project plans and specifications, and other pertinent documents, shall be prepared in accordance with the recommendations provided in the project geotechnical report prepared by Geocon West, Inc., with particular regard to subsidence mitigation as follows:

4.6-1.1 The in-situ soils and bedrock can be excavated with moderate effort using conventional excavation equipment. The upper portions of the bedrock are moderately weathered and highly fractured. Medium to heavy-duty excavation equipment may be required if thick zones of well-cemented bedrock or clasts over 4-feet in size are encountered. Caving and sloughing should be anticipated in unshored vertical excavations, especially where loose, granular, or uncemented soils are encountered.

4.6-1.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored in accordance with applicable OSHA rules and regulations to maintain safety and stability of adjacent existing improvements.

4.6-1.3 All on-site excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping and shoring. Temporary sloping and shoring recommendations Geocon West, Inc. report, January 17, 2013.

Level of Significance After Mitigation

Impacts would be less than significant.

Expansive Soils

Threshold 4.6-4 **Expansive Soils: The determination of a significant soils expansion effect shall be based upon an inquiry of whether a proposed project will expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving soil expansion if it is located within a soils expansive hazard zone or where soils with an expansion index greater than 20 are present.**

Expansive soils are characterized by their ability to undergo significant volume change (shrink and swell) due to variation in soil moisture content. Changes in soil moisture could result from a number of factors, including rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soils are typically very fine grained with a high to very high percentage of clay. The amount and type of clay minerals in the soil influence volume change. Shrinking and swelling of expansive soils can cause damage to buildings, roads, and other structures. Special design is commonly needed in areas with expansive soils.

During site surveys for the preparation of the project geotechnical report, soil samples were collected for evaluation of various factors, including expansion potential. Laboratory testing was performed on representative samples of site soils to generally evaluate the soil expansive potential. The 2010 California Building Code (CBC) Section 1803.5.3 defines soils with an expansive potential of less than 20 as "non-expansive," and greater than 20 as "expansive." Based on the laboratory test results, the existing site soils and bedrock have a "low" to "very high" expansive potential and are classified as "expansive." The recommendations in the geotechnical report are based on consideration that the existing soils are expansive at proposed slab and foundation locations. The possibility that foundations and slabs may derive support in engineered fill comprised of a blend of soils and bedrock has also been accounted for.

Level of Significance Before Mitigation

Impacts would be potentially significant.

Mitigation Measures

4.6-2 Project plans and specifications, and other pertinent documents, shall be prepared in accordance with the recommendations provided in the project geotechnical report prepared by Geocon West Inc., 2013 with particular regard to expansive soil mitigation as follows:

4.6-2.1 To aid in earthwork quantity estimates, estimates were made of the amount of volume shrinkage and bulking expected from on-site, in-situ volumes to compacted soil volumes. Average in-situ soil density and moisture content and maximum dry density were based on American Society for Testing and Materials (ASTM) D1557 test procedure. The following table presents the shrinkage and bulking factors to be anticipated when excavating and compacting the earth materials per the recommendations of the Geocon West Inc., 2013 report.

Material	**Shrinkage (-)/Bulking (+) Factors**
Artificial Fill (Af)	-5% to -10%
Colluvium (Qcol)	-4% to +6%
Holocene Age Terrace Deposits (Qht)	+5% to +10%
Pleistocene Age Terrace Deposits (Qht)	-5% to -10%
Rincon Shale (Tr)	-10% to +10%

4.6-2.2 It should be understood that volume shrinkage factors presented above are estimates only and are based on a limited number of soil samples. Actual volume changes can vary from our estimates due to variations in soil density, moisture content, and the degree of compaction achieved during grading. Removal of oversize materials and deleterious materials may result in a higher shrinkage factor based on loss of material.

Level of Significance After Mitigation

Impacts would be less than significant.

4.6.5 CUMULATIVE IMPACTS

The related projects discussed in **Section 3.0, Project Description**, are distant from the proposed project site (i.e., Matilija Dam, approximately 8 miles north of the project site, and San Antonio Creek, approximately 5 miles northeast of the project site) and would not be expected to result in significant cumulative impacts related to geologic and seismic hazards. Therefore, there is no potential for a cumulative geotechnical or seismic impact.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.7 GREENHOUSE GASES

4.7.1 INTRODUCTION

This section describes the existing setting for climate change in the local and regional area and provides a summary of existing applicable state and federal greenhouse gas (GHG) standards. This section also identifies the plans and policies developed in efforts to reduce GHG emissions. Finally, this section evaluates potential GHG impacts associated with construction and operation of the proposed project. Sources utilized in this discussion include the *Ventura County Air Pollution Control District (VCAPCD) Air Quality Management Plan*, air quality data from the California Air Resources Board (CARB), and the *Ventura County Air Quality Assessment Guidelines*. GHG emission calculations conducted for the proposed project are contained within **Appendix F** of this environmental impact report (EIR).

4.7.2 ENVIRONMENTAL SETTING

Climate Change and Greenhouse Gas Background

Global climate change refers to any significant change in climate measurements, such as temperature, precipitation, or wind, lasting for an extended period (i.e., decades or longer).[1] Climate change may result from:

- natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- natural processes within the climate system (e.g., changes in ocean circulation, reduction in sunlight from the addition of GHG and other gases to the atmosphere from volcanic eruptions); and
- human activities that change the atmosphere's composition (e.g., burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification).

The natural process through which heat is retained in the troposphere[2] is called the greenhouse effect. The greenhouse effect traps heat in the troposphere through a three-fold process as follows: (1) short-wave radiation in the form of visible light emitted by the Sun is absorbed by the Earth as heat; (2) long-wave radiation re-emitted by the Earth; and (3) GHGs in the atmosphere absorbing or trapping the long-wave radiation and re-emitting it back towards the Earth and into space. This third process is the focus of current climate change actions.

1 US Environmental Protection Agency, "Glossary of Climate Change Terms," http://www.epa.gov /climatechange/glossary.html#Climate_change. 2008.

2 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

While water vapor and carbon dioxide (CO_2) are the most abundant GHG, other trace GHGs have a greater ability to absorb and re-radiate long-wave radiation. To gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-emit long-wave radiation over a specific period. The GWP of a gas is determined using CO_2 as the reference gas with a GWP of 1 over 100 years. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. The use of GWP allows GHG emissions to be reported using CO_2 as a baseline. The sum of each GHG multiplied by its associated GWP is referred to as carbon dioxide equivalents (CO_2e). This essentially means that 1 metric ton of a GHG with a GWP of 10 has the same climate change impacts as 10 metric tons of CO_2.

State law defines GHGs to include the following compounds:[3]

- **Carbon Dioxide (CO_2).** CO_2 is primarily generated from fossil fuel combustion from stationary and mobile sources. CO_2 is the most widely emitted GHG and is the reference gas (GWP of 1) for determining the GWPs of other GHGs.

- **Methane (CH_4).** Methane is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The GWP of methane is 21.

- **Nitrous Oxide (N_2O).** Is produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.

- **Hydrofluorocarbons (HFCs).** HFCs typically are used as refrigerants in both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing particularly as the continued phase-out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWPs of HFCs ranges from 140 for HFC-152a to 11,700 for HFC-23.

- **Perfluorocarbons (PFCs).** Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a Global Warming Potential several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years).[4] The GWPs of PFCs range from 5,700 to 11,900.

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3 All Global Warming Potentials are given as 100-year values. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. *Climate Change 1995: The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge (UK): Cambridge University Press, 1996.

4 Energy Information Administration, "Other Gases: Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride," http://www.eia.doe.gov/oiaf/1605/gg00rpt/other_gases.html. n.d.

- **Sulfur Hexafluoride (SF_6).** Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride has a GWP of 23,900. However, it is not prevalent in the atmosphere (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm] of CO_2).[5]

The primary GHGs of concern relative to the proposed project are CO_2, CH_4, and N_2O. These three GHGs are generally emitted from combustion activities. HFCs are associated with refrigeration and air conditioning and are accounted for in this analysis with respect to motor vehicle air conditioning system leakage. The other GHGs listed above are related to specific industrial uses and not anticipated to be emitted in measurable or substantial quantities by the proposed project.

State of California Greenhouse Gas Emissions Inventory

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2008 GHG inventory data (the latest year for which data are available), California emitted 474 million metric tons of CO_2e ($MMTCO_2e$) ***including*** emissions resulting from imported electrical power in 2008.[6] Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute, California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 417 $MMTCO_2e$ ***excluding*** emissions related to imported electrical power.[7]

The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities. **Table 4.7-1, GHG Emissions in California**, provides a summary of GHG emissions reported in California in 1990 and 2008 separated by categories defined by the United Nations Intergovernmental Panel on Climate Change (IPCC).

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5 US Environmental Protection Agency, "High GWP Gases and Climate Change," http://www epa gov /highgwp/scientific.html#sf6. n.d.

6 California Air Resources Board, "California Greenhouse Gas 2000-2008 Inventory by Scoping Plan Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. 2010.

7 California Air Resources Board, "California Greenhouse Gas 2000-2008 Inventory by Scoping Plan Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. 2010.

Table 4.7-1
GHG Emissions in California

Source Category	1990 ($MMTCO_2e$)	Percent of Total	2008 ($MMTCO_2e$)	Percent of Total
ENERGY	**386.41**	**89.2%**	**413.80**	**86.6%**
Energy Industries	157.33	36.3%	171.23	35.8%
Manufacturing Industries & Construction	24.24	5.6%	16.67	3.5%
Transport	150.02	34.6%	173.94	36.4%
Other (Residential/Commercial/Institutional)	48.19	11.1%	46.59	9.8%
Non-Specified	1.38	0.3%	0.00	0.0%
Fugitive Emissions from Oil & Natural Gas	2.94	0.7%	3.28	0.7%
Fugitive Emissions from Other Energy Production	2.31	0.5%	2.09	0.4%
INDUSTRIAL PROCESSES & PRODUCT USE	**18.34**	**4.2%**	**30.11**	**6.3%**
Mineral Industry	4.85	1.1%	5.35	1.1%
Chemical Industry	2.34	0.5%	0.06	0.0%
Non-Energy Products from Fuels & Solvent Use	2.29	0.5%	1.97	0.4%
Electronics Industry	0.59	0.1%	0.80	0.2%
Substitutes for Ozone Depleting Substances	0.04	0.0%	13.89	2.9%
Other Product Manufacture and Use	3.18	0.7%	1.66	0.3%
Other	5.05	1.2%	6.39	1.3%
AGRICULTURE, FORESTRY, & OTHER LAND USE	**19.11**	**4.4%**	**24.42**	**5.1%**
Livestock	11.67	2.7%	16.28	3.4%
Land	0.19	0.0%	0.19	0.0%
Aggregate Sources & Non-CO_2 Sources on Land	7.26	1.7%	7.95	1.7%
WASTE	**9.42**	**2.2%**	**9.41**	**2.0%**
Solid Waste Disposal	6.26	1.4%	6.71	1.4%
Wastewater Treatment & Discharge	3.17	0.7%	2.70	0.6%
EMISSIONS SUMMARY				
Gross California Emissions	433.29		477.74	
Sinks from Forests and Rangelands	-6.69		-3.98	
Net California Emissions	426.60		473.76	

Sources:

[1] *California Air Resources Board, "California Greenhouse Gas 1990–2004 Inventory by IPCC Category - Summary," http://www.arb.ca.gov/cc/inventory/archive/archive.htm. 2010.*

[2] *California Air Resources Board, "California Greenhouse Gas 2000–2008 Inventory by IPCC Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. 2010.*

Between 1990 and 2008, the population of California grew by approximately 8.1 million (from 29.8 to 37.9 million).[8] This represents an increase of approximately 27.2 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $788 billion in 1990 to $1.8 trillion in 2008 representing an increase of approximately 128 percent (over twice the 1990 gross state product).[9] Despite the population and economic growth, California's net GHG emissions only grew by approximately 11 percent. The California Energy Commission (CEC) attributes the slow rate of growth to the success of California's renewable energy programs and its commitment to clean air and clean energy.[10]

Global Ambient CO_2, CH_4, and N_2O Concentrations

Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of carbon dioxide, methane, and nitrous oxide from before the start of the industrialization, around 1750, to over 650,000 years ago. For that period, it was found that carbon dioxide concentrations ranged from 180 ppm to 300 ppm. For the period from around 1750 to the present, global carbon dioxide concentrations increased from a pre-industrialization period concentration of 280 ppm to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range.[11] Recent values continue this upward trend. Global methane and nitrous oxide concentrations show similar increases for the same period (see **Table 4.7-2, Comparison of Global Pre-Industrial and Current GHG Concentrations**).

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8 US Census Bureau, "Data Finders," http://www.census.gov/. 2009; California Department of Finance, "E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-1008, with 2000 Benchmark," http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2009/. 2010.

9 California Department of Finance, "Financial & Economic Data: Gross Domestic Product, California," http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Misc.htm. 2010. Amounts are based on current dollars as of the data of the report (June 2, 2009).

10 California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, (2006).

11 California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, (2006).

Table 4.7-2
Comparison of Global Pre-Industrial and Current GHG Concentrations

Greenhouse Gas	Natural Range for Last 650,000 Years[1] (ppm)	Year 1750 Concentrations (Early Industrial Period)[1] (ppm)	Year 2005 Concentrations[1] (ppm)	Year 2010 Concentrations[2,3] (ppm)
Carbon Dioxide (CO_2)	180 to 300	280	379	390
Methane (CH_4)	0.320 to 0.790	0.715	1.774	1.870/1.745
Nitrous Oxide (N_2O)	0.180 to 0.260	0.270	0.319	0.323/0.322

Sources:

[1] *Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis, (2007) 3, 100.*

[2] *Dr. Pieter Tans, National Oceanic and Atmospheric Administration (NOAA)/Earth System Research Laboratory (ESRL), "Trends in Atmospheric Carbon Dioxide," http://www.esrl.noaa.gov/gmd/ccgg/trends. 2011.*

[3] *Carbon Dioxide Information Analysis Center, "Recent Greenhouse Gas Concentrations," http://cdiac.ornl.gov/pns/current_ghg.html. 2011. The first value for CH_4 and N_2O represents Mace Head, Ireland, a mid-latitude Northern-Hemisphere site, and the second value represents Cape Grim, Tasmania, a mid-latitude Southern-Hemisphere site.*

Effects of Global Climate Change

The primary effect of global climate change has been a rise in the average global tropospheric temperature of 0.2° Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005.[12] Climate change modeling using 2000 emission rates shows that further warming is likely to occur, which would induce further changes in the global climate system during the current century.[13] Changes to the global climate system, ecosystems, and to California could include:

- declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;[14]
- rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[15]

12 Intergovernmental Panel on Climate Change, "Climate Change 2007: The Physical Science Basis, Summary for Policymakers," http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf. 2007.

13 IPCC, "Climate Change 2007" http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf. 2007.

14 IPCC, "Climate Change 2007" http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf. 2007.

15 IPCC, "Climate Change 2007" http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf. 2007.

- changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[16]
- declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;[17]
- increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century;[18]
- increasing the potential for erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Delta and associated levee systems due to the rise in sea level;[19]
- increasing pest infestation making California more susceptible to forest fires;[20] and
- increasing the demand for electricity by 1 to 3 percent by 2020 due to rising temperatures resulting in hundreds of millions of dollars in extra expenditures.[21]

In June 2010, CARB released a report, *Climate Change Impact on Air Quality in California*, which studied how climate change will influence air quality in California through changes to meteorology and emissions.[22] The report analyzed the effect of temperature and other meteorological changes consistent with future predicted meteorological conditions from Global Climate Models (GCMs) on ozone and particulate matter concentrations with a focus on the South Coast Air Basin and the San Joaquin Valley Air Basin. According to the modeling results, by 2050, temperature and other meteorological changes predicted to occur due to a changing climate could increase the number of days with conditions likely to encourage ozone concentrations greater than 90 parts per billion (equal to the state 1-hour average ozone ambient air quality standard) anywhere from 6 to 30 days per year under various GCM scenarios.[23] This climate-change increase is referred to as a climate penalty. The results of the report indicate that warmer

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16 Intergovernmental Panel on Climate Change, "Climate Change 2007: The Physical Science Basis, Summary for Policymakers," http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf. 2007.

17 California Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, (2006).

18 California EPA, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger*, (2006).

19 California EPA, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger*, (2006).

20 California EPA, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger*, (2006).

21 California EPA, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger*, (2006).

22 Kleeman, M. J., Chen, S., and Harley, R.A., *Climate Change Impact on Air Quality in California: Report to the California Air Resources Board*, (2010).

23 Kleeman, M. J., Chen, S., and Harley, R.A., *Climate Change Impact on Air Quality in California: Report to the California Air Resources Board*, (2010).

future temperatures would require air quality management districts and air pollution control districts to implement additional emissions control regulations in affected air basins in California to offset the climate penalty, particularly for ozone.

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy*[24] as a response to the Governor's Executive Order S-13-2008. The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the California Energy Commission (CEC) was directed to develop a web site on climate change scenarios and impacts that would be beneficial for local decision makers.[25] The website, known as Cal-Adapt, became operational in 2011.[26] According to the Cal-Adapt website, the project region could result in an average increase in temperature of approximately 6 to 10 percent (about 3.5 to 5.8° Fahrenheit) by 2070–2090, compared to the baseline 1961-1990 period. According to the Cal-Adapt website, this represents a projection of potential future climate scenarios. The data are comprised of the average values from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors.

4.7.3 REGULATORY FRAMEWORK

Federal

On September 15, 2009, the US EPA and the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. In 2012, passenger cars and light-duty trucks would have to meet an average emissions standard of 295 grams of CO_2 per mile and 30.1 miles per gallon.[27] By 2016, the vehicles would have to meet an average standard of 250 grams of CO_2 per mile and 35.5 miles per gallon.[28] The final standards were adopted by the US EPA and DOT on April 1, 2010.

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24 California Natural Resources Agency, Climate Action Team, *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*, (2009).

25 California Natural Resources Agency, Climate Action Team, *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*, (2009). Page 9.

26 The Cal-Adapt website address is: http://cal-adapt.org.

27 US Environmental Protection Agency, "EPA and NHTSA Propose Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks," http://epa.gov/otaq/climate /regulations/420f09047a.htm. 2009.

28 US EPA, "EPA and NHTSA Propose Historic Nation Program," 2009.

On December 7, 2009, the US EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

While these findings do not impose additional requirements on industry or other entities, this action was a prerequisite to finalizing the US EPA's proposed GHG emissions standards for light-duty vehicles, as discussed above.

State

The State of California has enacted regulations that target reductions in GHG emissions. The major regulations, policies, and legislation are provided below in approximate chronological order.

Title 24 Building Standards Code

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[29] The CALGreen Code is not intended to substitute for or be identified as meeting the certification

29 California Building Standards Commission, 2008 California Green Building Standards Code, (2009) 3.

requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). Part 11 of the Title 24 Building Standards Code became effective on January 1, 2011. Unless otherwise noted in the regulation, all newly constructed buildings in California are subject to the requirements of the CALGreen Code.

Renewables Portfolio Standard

In 2002, Senate Bill 1078 (SB 1078, Sher) established California's Renewables Portfolio Standard (RPS) which requires investor-owned utilities, such as Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric, to increase energy production from renewable sources by 1 percent per year, up to a minimum of 20 percent of total energy generation by 2017. SB 107 (Simitian), signed by the Governor on September 26, 2008, accelerated the Renewable Portfolio Standard by requiring investor-owned utilities to meet the 20 percent target by 2010.

On September 15, 2009, the Governor issued Executive Order S-21-0911 requiring CARB, under its AB 32 authority, to adopt regulations to meet a 33 percent RPS target by 2020. The CARB regulations would use a phased-in or tiered requirement to increase the amount of electricity from eligible renewable sources over an eight-year period beginning in 2012. CARB adopted the regulation in September 2010. In March 2011, the Legislature passed SB X1-2, which was signed into law by the Governor. SB X1-2 requires utilities to procure renewable energy products equal to 33 percent of retail sales by December 31, 2020 and also established interim targets: 20 percent by December 31, 2013 and 25 percent by December 31, 2016. SB X1-2 also includes publicly owned utilities in California.

Assembly Bill 1493

Assembly Bill 1493 (AB 1493, Pavley) was enacted on July 22, 2002 to reduce CO_2 emissions from the transportation sector. Under AB 1493, CARB set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles whose primary use is noncommercial personal transportation. The standards were adopted in September 2004 and were to be phased in during the 2009 through 2016 model years. However, before the regulation could go into effect, the US EPA had to grant California a waiver under the Federal Clean Air Act (CAA), which ordinarily preempts state regulation of motor vehicle emission standards. The US EPA did not issue the waiver until June 30, 2009.

On September 15, 2009, the US EPA and the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles. The proposed standards would be phased in and would require passenger cars and light-duty trucks to comply with a declining CO_2

emissions standard. In 2012, passenger cars and light-duty trucks would have to meet an average emissions standard of 295 grams of CO_2 per mile and 30.1 miles per gallon.[30] By 2016, the vehicles would have to meet an average standard of 250 grams of CO_2 per mile and 35.5 miles per gallon.[31] These standards were formally adopted by the US EPA and DOT on April 1, 2010. In light of the US EPA and NHTSA standards, California—and states adopting California emissions standards—have agreed to defer to the proposed national standard through model year 2016. The 2016 endpoint of the federal and state standards is similar, although the federal standard ramps up slightly more slowly than required under the state standard. The state standards (called the Pavley standards) require additional reductions in CO_2 emissions beyond 2016 (referred to as Pavley Phase II standards), which have not yet been adopted.

Executive Order S-3-05 and the Climate Action Team

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The Secretary of California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agency representatives involved in the GHG reduction plan include the Secretary of the Business, Transportation, and Housing Agency, the Secretary of the Department of Food and Agriculture, the Secretary of the Resources Agency, the Chairperson of CARB, the Chairperson of the CEC, and the President of the Public Utilities Commission. Representatives from these agencies comprise the Climate Action Team.

Assembly Bill 32

To further the goals established in Executive Order S-3-05, the Legislature enacted Assembly Bill 32 (AB 32, Nuñez and Pavley), the California Global Warming Solutions Act of 2006, which was signed into law on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. AB 32 requires the state to undertake several actions – the major requirements are discussed below.

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30 US Environmental Protection Agency, "EPA and NHTSA Propose Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks," http://epa.gov/otaq/climate /regulations/420f09047a.htm. 2009.

31 US EPA, "EPA and NHTSA Propose Historic Nation Program," 2009.

CARB Early Action Measures

CARB is responsible for carrying out and developing the programs and requirements necessary to achieve the goals of AB 32—the reduction of California's GHG emissions to 1990 levels by 2020. The first action under AB 32 resulted in CARB's adoption of a report listing three specific early action greenhouse gas emission reduction measures on June 21, 2007. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32. CARB has adopted regulations for all early action measures. The original three adopted early action regulations meeting the narrow legal definition of "discrete early action GHG reduction measures" include:

- A low-carbon fuel standard to reduce the "carbon intensity" of California fuels;
- Reduction of refrigerant losses from motor vehicle air conditioning system maintenance to restrict the sale of "do-it-yourself" automotive refrigerants; and
- Increased methane capture from landfills to require broader use of state-of-the-art methane capture technologies.

The additional six early action regulations adopted on October 25, 2007, also meeting the narrow legal definition of "discrete early action GHG reduction measures," include:

- Reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology;
- Reduction of auxiliary engine emissions of docked ships by requiring port electrification;
- Reduction of perfluorocarbons from the semiconductor industry;
- Reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products);
- Require that all tune-up, smog check and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency; and
- Restriction on the use of sulfur hexafluoride (SF_6) from non-electricity sectors if viable alternatives are available.

State of California 1990 Greenhouse Gas Inventory

As required under AB 32, on December 6, 2007, CARB approved the 1990 greenhouse gas emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 $MMTCO_2e$. The inventory revealed that in 1990 transportation, with 35 percent of the state's total emissions, was the largest single sector generating carbon dioxide, followed by industrial emissions,

24 percent; imported electricity, 14 percent; in-state electricity generation, 11 percent; residential use, 7 percent; agriculture, 5 percent; commercial uses, 3 percent; and forestry emissions (excluding sinks) less than 1 percent. These figures represent the 1990 values. AB 32 does not require individual sectors to meet their individual 1990 GHG emissions inventory; the total statewide emissions are required to meet the 1990 threshold by 2020.

Climate Change Scoping Plan

As indicated above, AB 32 requires CARB to adopt a scoping plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions. CARB released the *Climate Change Scoping Plan* in October 2008, which contained an outline of the proposed state strategies to achieve the 2020 GHG emission limits. The CARB Governing Board approved the *Climate Change Scoping Plan* on December 11, 2008. The *Climate Change Scoping Plan* indicates how emissions reductions will be achieved from significant sources of GHGs via regulations, market mechanism, and other actions. The *Climate Change Scoping Plan* identifies 18 recommended strategies the state should implement to achieve AB 32. CARB has identified ongoing programs and has adopted regulations for a number of individual measures to reduce GHG emissions in accordance with the *Climate Change Scoping Plan* strategies. CARB will continue to draft additional rule language, conduct public workshops and rulemaking procedures through 2011, and is scheduled to finalize regulations by January 1, 2012.

Key elements of the *Climate Change Scoping Plan* include the following recommendations:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
- Achieving a statewide renewables energy mix of 33 percent
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation

Under the *Climate Change Scoping Plan*, approximately 85 percent of the state's emissions are subject to a cap-and-trade program where covered sectors are placed under a declining emissions cap. The emissions cap incorporates a margin of safety whereby the 2020 emissions limit will still be achieved even in the event that uncapped sectors do not fully meet their anticipated emission reductions. Emissions reductions will be achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance obligations. It is expected that emission reductions from the cap-and-trade program will account for a significant portion of the reductions required by AB 32.

Executive Order S-1-07

On January 18, 2007, California set a new Low Carbon Fuel Standard (LCFS) for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO_2-equivalent grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The LCFS will apply to refiners, blenders, producers, and importers of transportation fuels and will use market-based mechanisms to allow these providers to choose how they reduce emissions during the fuel cycle using the most economically feasible methods. CARB identified the LCFS as an early action item under AB 32 and the final regulation was adopted on April 23, 2009.

Senate Bill 375

The California Legislature passed SB 375 (Steinberg) on September 1, 2008. SB 375 requires CARB, working in consultation with the metropolitan planning organizations (MPOs), to set regional greenhouse gas reduction targets for the automobile and light truck sector for 2020 and 2035. The target must then be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., General Plan) are not required to be consistent with either the RTP or SCS.

On August 9, 2010, CARB staff issued the *Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant To Senate Bill 375*.[32] CARB staff proposed draft per capita reduction targets for the four largest MPOs (Bay Area, Sacramento, Southern California, and San Diego) of 7 to 8 percent for 2020 and reduction targets between 13 to 16 percent for 2035. For the Southern California

[32] California Air Resources Board (CARB), *Staff Report: Proposed Regional Greenhouse Gas Emission Reduction Targets For Automobiles And Light Trucks Pursuant To Senate Bill 375*, (2010).

Association of Governments (SCAG), which is the MPO for the region in which the proposed project is located, CARB established a draft per capita reduction target of 8 percent for 2020 and 13 percent for 2035. Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations. CARB adopted the final targets (the same targets as the proposed draft targets) on September 23, 2010.

4.7.4 IMPACT ANALYSIS

Thresholds of Significance

The VCAPCD has not yet adopted a significance threshold for assessing impacts related to global climate change or GHG emissions. On November 8, 2011, the VCAPCD published the revised "Greenhouse Gas Thresholds of Significance Options for Land Use Development Projects in Ventura County."[33] However, while this paper does list potential options for establishing significance thresholds, it does not include specific significance threshold recommendations for land use development projects or any other project types. Several air quality management and air pollution control districts have adopted guidance documents for evaluating the significance of GHG emissions. Other districts have published draft guidance documents that have not yet been formally adopted. As listed below, the guidance documents do not provide a set of consistent thresholds for evaluating the significance of GHGs on the global climate.

Potentially Applicable Air District Thresholds

California Air Resources Board

On October 24, 2008, CARB issued a *Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act* (Preliminary Draft Staff Proposal). In the Preliminary Draft Staff Proposal, CARB proposed a tiered approach to determine the significance of two types of projects: (1) industrial; and (2) commercial/residential. With respect to commercial/residential projects, CARB proposed a four-tiered threshold:

- Tier 1: Is the project exempt from further analysis under existing statutory or categorical exemptions? If yes, there is a presumption of less than significant impacts with respect to climate change.

33 Ventura County Air Pollution Control District (VCAPCD). Greenhouse Gas Thresholds of Significance Options for Land Use Development Projects in Ventura County. [online]: http://www.vcapcd.org/pubs/Planning/GHGThresholdReportRevised.pdf. 2008.

- Tier 2: Does the project comply with a previously approved plan that addresses GHG emissions? (The plan must satisfy certain requirements (e.g., be consistent with AB 32 and/or SB 375).) If yes, there is a presumption of less than significant impacts with respect to climate change.

- Tier 3: Does the project satisfy certain minimum performance standards relating to construction and operational activities, or include equivalent mitigation measures, and emit no more than a yet to be determined quantity of emissions? If yes, there is a presumption of less than significant impacts with respect to climate change.

- Tier 4: The project will have significant climate change impacts.

CARB staff received public comments on the draft thresholds; however, as of this writing, the thresholds remain draft recommendations and CARB has ceased any further development of the threshold. CARB has not indicated when or if it will resume development of the threshold.

South Coast Air Quality Management District

At present time, the South Coast Air Quality Management District (SCAQMD) has not adopted thresholds for projects such as the one analyzed in this technical report. The SCAQMD is considering a tiered approach to determine the significance of residential and commercial projects. The draft approach that was published in October 2008 is as follows:[34]

- **Tier 1:** Is the project exempt from further analysis under existing statutory or categorical exemptions? If yes, there is a presumption of less than significant impacts with respect to climate change.

- **Tier 2:** Is the project's GHG emissions within the GHG budgets in an approved regional plan? (The plan must be consistent with *California Environmental Quality Act (CEQA) Guidelines* Sections 15064(h)(3), 15125(d), or 15152(s).) If yes, there is a presumption of less than significant impacts with respect to climate change.

- **Tier 3:** Is the project's incremental increase in GHG emissions below or mitigated to less than the significance screening level (10,000 metric tons of CO_2e ($MTCO_2e$) per year for industrial projects and 3,000 $MTCO_2e$ for commercial/residential projects) and is the project X percent beyond the Title 24 standard and achieve Y percent reduction in water use (the X and Y values were not determined at the time the draft approach was published)? If yes, there is a presumption of less than significant impacts with respect to climate change.

- **Tier 4:** Does the project meet one of the following performance standards (the performance standards were not well defined at the time the draft approach was published)? If yes, there is a presumption of less than significant impacts with respect to climate change.

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34 South Coast Air Quality Management District, "Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting #6," http://www.aqmd.gov/ceqa/handbook/GHG/2008/oct22mtg/oct22.html. 2008.

  - Option #1: Uniform Percent Emission Reduction Target Objective (e.g., 30 percent) from business as usual (BAU) by incorporating project design features and/or implementing emission reduction measures.

  - Option #2: Early implementation of applicable AB 32 Scoping Plan Measures.

  - Option #3: Achieve sector-based standard (e.g., pounds per person, pounds per square foot, etc.).

- **Tier 5:** Does the project obtain offsets alone or in combination with the above to achieve the target significance screening level (offsets provided for 30-year project life, unless project life limited by permit, lease, or other legally binding conditions)? If yes, there is a presumption of less than significant impacts with respect to climate change. Otherwise, the project is significant.

In November 2009, the following revisions were proposed for Tiers 3 and 4:[35]

- **Tier 3:** Is the project's incremental increase in GHG emissions below or mitigated to less than the significance screening level (10,000 $MTCO_2e$ per year for industrial projects; 3,500 $MTCO_2e$ for residential projects; 1,400 $MTCO_2e$ for commercial projects; 3,000 $MTCO_2e$ for mixed-use or all land use projects)? If yes, there is a presumption of less than significant impacts with respect to climate change.

- **Tier 4:** Does the project meet one of the following performance standards? If yes, there is a presumption of less than significant impacts with respect to climate change.

  - Option #1: Achieve a 28 percent reduction from a base case scenario, including land use sector reductions from AB 32 (total emissions not to exceed 25,000 MTCO2e).

  - Option #2: Achieve a project-level efficiency target of 4.6 $MTCO_2e$ per service population (total emissions not to exceed 25,000 $MTCO_2e$) or plan-level efficiency target of 6.6 $MTCO_2e$.

- The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the Governing Board.

Other Air Districts

- The San Joaquin Valley Air Pollution Control District (SJVAPCD) adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* in late 2009. According to the guidance, the SJVAPCD guidance recommends the use of best performance standards to assess the significance of GHG emissions. The SJVAPCD expects that compliance with the recommended best performance standards would reduce a project's GHG emissions by a target of 29 percent or more, compared to BAU conditions. The 29 percent reduction target is based on the goal of AB 32, which is to reduce the state's GHG emissions to 1990 levels by 2020.

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35 South Coast Air Quality Management District, "Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting #14," http://www.aqmd.gov/ceqa/handbook/GHG/2009/nov19mtg/nov19.html. 2009.

- The Sacramento Metropolitan Air Quality Management District (SMAQMD) has also adopted guidance recommending that project achieve a 29 percent reduction from BAU conditions.

- The Bay Area Air Quality Management District (BAAQMD) published draft revisions to its CEQA Guidelines in March 2010 that recommends a significance threshold of 1,100 $MTCO_2e$ for residential and commercial projects or a project-level efficiency target of 4.6 $MTCO_2e$ per service population or plan-level efficiency target of 6.6 $MTCO_2e$.

Project- and Cumulative-level Thresholds

While a wide array of thresholds and standards have been presented, the amendments to the *State CEQA Guidelines* reaffirm that the lead agency has the discretion to determine how to evaluate a project's significance under CEQA. The *State CEQA Guidelines* includes a new Section 15064.4, which states that, when making a determination of the significance of GHG emissions, a lead agency shall have discretion to determine whether to:

- Use a model or methodology to quantify greenhouse gas emissions; and/or

- Rely on a qualitative analysis or performance-based standards.

The primary issue is that most air districts focus on operational GHG emissions as they typically far outweigh GHG emissions resulting from construction. The BAAQMD recommends that GHG emissions from construction are reported, but they should not be included in comparisons to the significance thresholds. The SCAQMD asks that construction emissions be included in significance calculations, but amortized over 30 years (under the assumption that 30 years is the typical project lifetime). For the purposes of this analysis, GHG emissions from construction will be totaled, amortized over 30 years, and compared to the SCAQMD draft thresholds.

Methodology

Emissions modeling was conducted using the California Emissions Estimator Model (CalEEMod) and information provided in the CalEEMod *User's Guide*.[36] CalEEMod is a program that calculates air pollutant emissions from land use sources and incorporates the CARB on-road and off-road vehicle emissions models. The model also incorporates factors specific to air basins in California, such as vehicle fleet mixes. Air quality impacts are also estimated based on information and estimated activity levels of project operation. The potential for the project to cause health impacts is assessed in accordance with land

[36] South Coast Air Quality Management District, *California Emissions Estimator Model User's Guide*, (2011). The model and User's Guide may be downloaded from the following website: http://www.caleemod.com.

use planning recommendations described in CARB's *Air Quality and Land Use Handbook*.[37] Other sources of information relied upon are provided as footnote citations where applicable.

Analysis, Mitigation Measures, and Residual Impacts

The activities required to facilitate construction of the proposed project would include the use of heavy-duty construction equipment. The vast majority of construction equipment (*e.g.*, backhoes, cranes, rubber-tired loaders, scrapers, and haul trucks) relies on fossil fuels, primarily diesel, as an energy source. The combustion of fossil fuels in construction equipment results in GHG emissions of CO_2 and much smaller amounts of CH_4 and N_2O. Emissions of GHG would also result from the combustion of fossil fuels from haul trucks and vendor trucks delivering materials, and construction worker vehicles commuting, to and from the project site. Typically, light-duty and medium-duty automobiles and trucks would be used for worker trips and heavy-duty trucks would be used for vendor trips. The vast majority of motor vehicles used for worker trips rely on gasoline as an energy source while motor vehicles used for vendor trips relies on diesel as an energy source. The combustion of gasoline in motor vehicles results in GHG emissions of CO_2 and smaller amounts of CH_4 and N_2O. The combustion of diesel in heavy-duty trucks results in GHG emissions of CO_2 and much smaller amounts of CH_4 and N_2O.

Construction GHG emissions would be short-term – that is, the emissions would occur only during active construction and would cease after the proposed project has been built out. The other primary GHGs (hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are typically associated with specific industrial sources and are not expected to be emitted during construction.

The construction-related GHG emissions were estimated using the CalEEMod model. Construction activity was modeled based on the construction schedule, equipment types, and construction activity levels. The GHG emissions associated with construction of the proposed project are presented below in **Table 4.7-3, Proposed Project Estimated Construction Greenhouse Gas Emissions.**

[37] California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, (2005). The document may be downloaded from the following website: http://www.arb.ca.gov/ch/landuse.htm.

Table 4.7-3
Proposed Project Estimated Construction Greenhouse Gas Emissions

Construction Activity	Emissions in Metric Tons CO_2e Per Year
2015	274.18
Amortized over 30 years	9.14
SCAQMD Threshold	3,000
Exceeds Threshold?	NO

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix F****.*

The CalEEMod model shows that total emissions for the eight-month construction project in 2015 would be approximately 274.18 metric tons CO_{2e}. This total amount amortized over 30 years is only 9.14 metric tons CO_{2e} per year, which is well below the SCAQMD comparison threshold of 3,000 metric tons CO_{2e} per year. Thus, GHG emissions impacts for project construction would be less than significant.

The proposed project would not have any substantial emissions during operation. While there would be a few vehicle trips and other sources of emissions associated with inspection and operation, these would be infrequent and minor and too small to have any effect on significance calculations. Consequently, GHG emissions resulting from the proposed project would have a less than significant impact.

4.7.5 CUMULATIVE IMPACTS

Greenhouse Gas Reduction Plans

The VCAPCD has not established significance thresholds or guidance for assessing impacts from GHG emissions. However, AB 32 requires that statewide GHG emissions be reduced by approximately 29 percent by from BAU levels by 2020, based on emissions from 2002 to 2004. In other words, to be consistent with AB 32 requirements a proposed project should produce GHG emissions approximately 29 percent less than a similar project built in 2002 to 2004. This target has been incorporated into the SCAQMD draft thresholds, so that a project that is less than significant on a project basis according to the SCAQMD thresholds would enable the region to meet AB 32 requirements. This project is less than significant under those thresholds, and so would not hinder progress towards achieving the goals of AB 32. Additionally, the proposed project has effectively no operational emissions and would therefore not add to the 2020 state GHG emissions inventory. Consequently, the proposed project has a less than significant cumulative impact for GHG emissions.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

4.8 HYDRAULIC HAZARDS

4.8.1 INTRODUCTION

This section evaluates the project's potential effects on hydraulic hazards. Hazards discussed in this section include flooding hazards under the jurisdiction of the Federal Emergency Management Agency (FEMA) and flooding and erosion/siltation hazards under local jurisdiction.

4.8.2 ENVIRONMENTAL SETTING

Ventura River Watershed

The project site is located within the Ventura River Watershed. The Ventura River Watershed comprises an area of approximately 223 square miles with a little less than half of it within the Los Padres National Forest. The Ventura River outlets into the Pacific Ocean and has several major tributaries including Matilija Creek, North Fork Matilija Creek, San Antonio Creek, Coyote Creek, and Canada Larga.

The watershed topography is characterized by rugged mountains in the upper basins transitioning to relatively flat valleys in the lower downstream areas. Over 75 percent of the Ventura River Watershed is classified as rangeland covered with shrub and brush and 20 percent of the basin is classified as forested. In general, the highest sediment-producing parts of the watershed are those covered in shrub and brush and are located in the upper parts of the watershed where slopes are greater and annual rainfall is larger. Nearly 45 percent of the watershed can be classified as mountainous, 40 percent as foothill, and 15 percent as valley area. Two major reservoirs lie within the watershed, Lake Casitas and Matilija Reservoir. Both serve as water supply reservoirs, with Casitas Dam located on Coyote Creek about 2 miles upstream of its confluence with the Ventura River.

The Ventura Watershed lies within the western Transverse Ranges in California, an active tectonic region that contributes some of the highest sediment yields in the United States. The range is composed almost entirely of highly folded and faulted marine sedimentary rocks. Steep slopes in the upper portion of the watershed produce a large portion of sediment supplied to the Ventura River. Mass wasting from erodible, colluvial soils on hillsides, including slides, slumps, debris flows, and earthflows, is a common mechanism by which sediment is transported to the river channels. Sediment production in the area is also impacted by the occurrence of forest fires that clear the normally dense vegetation and greatly increase the erodibility of land surfaces.

Fresno Canyon

Fresno Canyon is a tributary to the Ventura River, with a drainage area of almost 1,100 acres with a 100-year peak clear flow of 1,453 cubic feet per second (cfs). The upper half of this watershed is on steep, highly erodible slopes heavily grown with trees and brush. The bulking factor used for the 100-year flow is 1.57, bringing the bulked 100-year peak flow to 2,281 cfs. The existing lower Fresno Canyon flood control channel, a 750-foot concrete channel, was built in the late 1960s to convey Fresno Canyon runoff from the natural channel to the Ventura River and was designed for a clear flow of 700 cfs, which was considered to be the 50-year event at the time.

Flood Hazards

Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area. According to the FIRM, the a portion of the proposed project site is located within Zone AE, a 100-year floodplain and Zone X having a moderate flood risk. The FIRM for the project area is shown in **Figure 4.8-1, FEMA Flood Insurance Rate Map**.

4.8.3 REGULATORY FRAMEWORK

Flood Disaster Protection Act of 1973

A description of the Flood Disaster Protection Act of 1973 can be found in Draft EIR **Section 4.5, Flood Control Facilities**.

National Flood Insurance Act

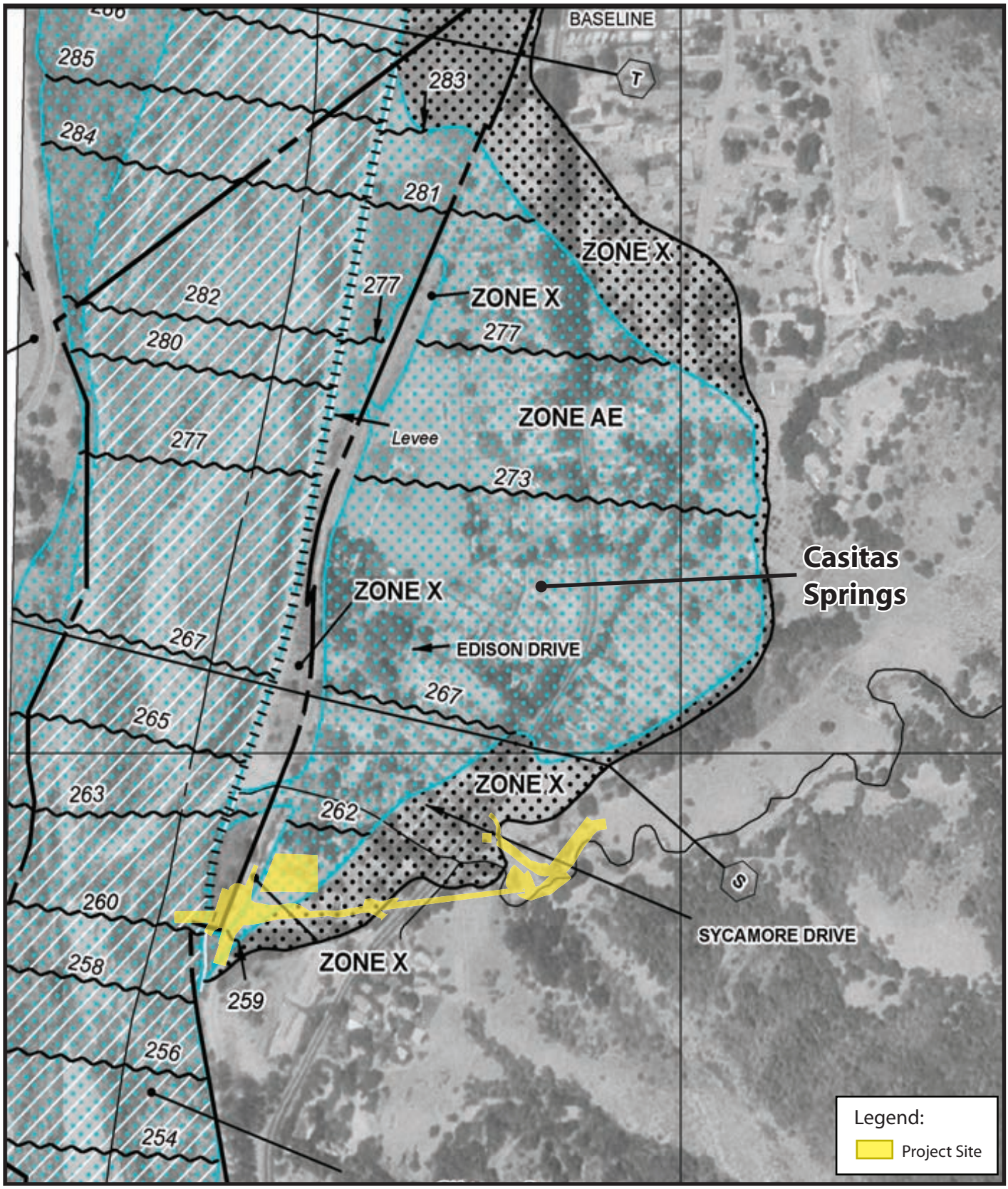
A description of the National Flood Insurance Act can be found in Draft EIR **Section 4.5, Flood Control Facilities**.

State

Colby-Alquist Flood Control Act

The Colby-Alquist Flood Control Act[1] establishes how local governments are to develop and implement floodplain management plans. Among other things, the Colby-Alquist Flood Control Act makes a number of separate legislative findings and requires regulation as a condition for state assistance on federally authorized flood control projects.

1 California Water Code, Section 8590 et seq.



SOURCE: Federal Emergency Management Agency, January, 2010

FIGURE **4.8-1**

FEMA Flood Insurance Rate Map

County

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures

The 2010 Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures (2010 TGM) provides the following principles of Integrated Water Resource Management (IWRM) and Low Impact Development (LID) to help mitigate the impacts of development.[2]

The 2010 TGM advises to design for the largest hydrologic controls (such as matching post development 100-year flows with pre-project 100-year flows for flood mitigation requirements), according to the appropriate County drainage requirements first. Second, the 2010 TGM advises to check if flood mitigation will reduce or satisfy the stormwater management requirements. If it does not, then add more controls as necessary. Flood mitigation may provide the necessary sediment and pollution control, thereby reducing maintenance requirements for the stormwater management best management practices (BMPs). A sequence of hydrologic controls should be considered, such as site design, flood drainage mitigation, and retention BMPs. Bioinfiltration BMPs and treatment control measures can be considered when the use of retention BMPs is technically infeasible. Each of these controls will have an influence on stormwater runoff from the new development or redevelopment project.

LID falls under the concept of IWRM. IWRM is a process, which promotes the coordinated development and management of water, land, and related resources. IWRM links land use, water supply, wastewater treatment/reclamation, flood control/drainage, water quality, and hydromodification management into a cohesive hydrologic system that recognizes their interdependencies and minimizes their potentially negative effects on the environment. IWRM includes recharging groundwater with reclaimed wastewater to support the water supply. It combines stormwater treatment, hydromodification control, and flood control in a single regional infiltration basin that recharges groundwater, incorporates recreation, and provides habitat. IWRM also uses smart growth principles to help reduce the environmental footprint while still accommodating growth.

Similar to source control measures, which prevent pollutant sources from contacting stormwater runoff, retention BMPs use techniques to infiltrate, store, use and evaporate runoff on-site to mimic pre-development hydrology. The goal of LID is to increase groundwater recharge, enhance water quality, and prevent degradation of downstream natural drainage channels. This goal may be accomplished with creative site planning and incorporation of localized, naturally functioning BMPs into a project. Implementation of retention BMPs will reduce the size of additional hydromodification control measures

2 Ventura Countywide Stormwater Quality Management Program, *Technical Guidance Manual for Storm Quality Control Measures*, 2010.

that may be required for a new development or redevelopment project, and, in many circumstances, may be used to satisfy all stormwater management requirements.

4.8.4 IMPACT ANALYSIS

Thresholds of Significance

Non-FEMA

Potential erosion/siltation hazards and flooding hazards are common throughout Ventura County and are addressed by the Ventura County Public Works Agency-Watershed Protection District's Standards and Specifications Design Manual.

Erosion/siltation hazards and the effects of flooding hazards are required to be considered within the existing framework of grading and building code ordinances, which apply to all sites and projects. Threshold criteria therefore are determined on a case-by-case basis pursuant to the following documents (individually, collectively, or in combination with one another):

- 2007 Ventura County Building Code Ordinance No. 4369 (Adopted November 20, 2007)
- Ventura County Land Development Manual
- Ventura County Subdivision Ordinance
- Ventura County Coastal Zoning Ordinance
- Ventura County Non-Coastal Zoning Ordinance
- Ventura County Standard Land Development Specifications
- Ventura County Road Standards
- Ventura County Watershed Protection District Hydrology Manual, as amended
- County of Ventura Stormwater Quality Ordinance, Ordinance No. 4142 (Adopted July 22, 1997)
- Ventura County Hillside Erosion Control Ordinance, Ordinance No. 3539 (Adopted April 7, 1981) and Ordinance No. 3683 (Adopted March 20, 1984)
- Ventura County Municipal Storm Water NPDES Permit
- State General Construction Permit
- State General Industrial Permit
- National Pollutant Discharge Elimination System (NPDES)

If the project is found to have the potential to increase flooding, erosion or siltation (e.g., construction that may change the existing drainage patterns of the site) and the development is regulated under the above referenced laws and ordinances, a determination of Less Than Significant Impact will be made.

FEMA

Potential flooding hazards are common throughout unincorporated Ventura County. The effects of flooding hazards are required to be considered through building design and construction standards set forth in the following regulations which apply to all public and privately owned lands and projects (individually, collectively or in combination with one another):

- Title 44, Code of Federal Regulations, Sections 59, 60, 65, and 70.
- Federal Emergency Management Agency (FEMA) Digital Flood Insurance Rate Maps (DFIRMs); both 'Effective' and latest available DFIRMs as provided by FEMA.
- Ventura County Floodplain Management Ordinance.
- Ventura County General Plan, Chapter 2 (Hazards), Section 2.10 (Flood Hazards).
- County of Ventura Building Code adopted from the California Building Code, dated 2007, Chapter 16, Section 1612A (Flood Loads).
- Ventura County Flood Control District Design Manual, as amended.
- Ventura County Watershed Protection District Hydrology Manual, as amended.

Non-FEMA Hydraulic Hazards

The proposed project has been designed to convey the peak stormwater flow generated by the projected 100-year storm event from the Fresno Canyon watershed to the Ventura River. As discussed above, the projected clear flow during the 100-year storm event is 1,453 cubic feet per second (cfs). Stormwater flows also convey debris and sediments from upstream areas, requiring the use of a bulking factor to determine the total capacity required to contain the peak flow. The bulking factor used for the 100-year flow is 1.57, bringing the bulked 100-year peak flow to 2,281 cfs.

With implementation of the proposed project, stormwater flows, including debris and sediment, would be conveyed from the Fresno Canyon watershed through the proposed flood control facility to the Ventura River. The proposed project, by increasing the capacity of the flood control facilities in the area, would reduce the potential for flooding to occur in the community of Casitas Springs. As a result of the project, additional debris and sediment would be conveyed to the Ventura River.

The proposed project would require occasional maintenance for upkeep and to remove accumulations of sediment and debris from the flood control channel. As discussed in **Section 3.0, Project Description**, the project includes a number of best management practices (BMPs) intended to reduce the amount of sediment deposited in the Ventura River during construction and operation, including:

- BMP 1 Avoid Channel Work during the Rainy Season
- BMP 2 Prevent Discharge of Silt-Laden Water during Concrete Channel Cleaning
- BMP 3 Location of Temporary Stockpiles
- BMP 12 Leave Herbaceous Wetland Vegetation in Channel Bottom (Not Applicable in Concrete Box or Concrete Channel Sections)
- BMP 13 Maximum 15-foot Vegetation-Free Zone at the Toe of the Bank
- BMP 14 Avoid Road Base Discharge
- BMP 17 Concrete Wash-Out Protocols
- BMP 18 Water Diversion Guide

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

FEMA Hydraulic Hazards

As discussed previously, the proposed project is located in an area designated on FEMA Flood Insurance Rate Map as subject to flooding during the projected 100-year storm event. The existing lower Fresno Canyon flood control channel was designed for a clear flow of 700 cfs, which is considered to be the 50-year event. The 100-year peak clear flow of the Fresno Canyon watershed is 1,453 cubic feet per second (cfs). The upper half of this watershed is on steep, highly erodible slopes heavily grown with trees and brush. The bulking factor used for the 100-year flow is 1.57, bringing the bulked 100-year peak flow to 2,281 cfs. Thus, there is not enough existing capacity to safely convey 100-year stormwater flows, which

has historically resulted in flooding in Casitas Springs. This deficiency is the reason for the proposed project.

The proposed project does not include any residential development, and would not divert or redirect stormwater flows in a way that would increase hazards to residential development. The project is designed to accommodate the 100-year storm's bulked peak-year flow of 2,281 cfs, and to safely convey stormwater flows away from developed areas to the Ventura River, ameliorating an existing flood hazard to the community of Casitas Springs.

The purpose of the project is to reduce existing flood hazards in the community of Casitas Springs and across SR-33 by providing improved stormwater conveyance facilities that link Fresno Canyon to the Ventura River. The proposed project is considered a development project as defined in the Initial Study Assessment Guidelines. As the project is located within boundaries of a designated floodway, potentially significant impacts may occur. For the portion of the project that traverses the 1 percent annual chance (100-year) Special Flood Hazard Area, as illustrated on the FEMA digital Flood Insurance Rate Map 06111C0731 of 1275, effective date January 20, 2010, and as show in **Figure 4.8-1**, development should meet flood proofing and flood protection requirements as set out in the County of Ventura's Floodplain Management Ordinance 3841 and amendments thereto.

Level of Significance Before Mitigation

Impacts would be beneficial.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be beneficial.

4.8.5 CUMULATIVE IMPACTS

Related projects that would involve development in the 100-year floodplain or that would result in the transport of debris and sediment to the Ventura River would be required to implement mitigation measures that would reduce these impacts to the extent feasible. As the proposed project would result in less than significant impacts related to debris and sedimentation and beneficial impacts related to flooding, the project would not contribute to any potentially significant cumulative impact.

It is reasonably assumed that other projects identified in the cumulative scenario above would include the use of some of the same types of equipment and vehicles as the proposed project, and would have the potential to result in similar impacts to surface water quality as the proposed project. However, as described above, potential surface water quality impacts of the proposed project would be localized and of short duration. Potential cumulative impacts to surface water quality would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

4.9 NOISE AND VIBRATION

4.9.1 INTRODUCTION

Introduction to Noise

Noise is ordinarily described as unwanted sound. Sound is generally undesirable when it interferes with normal activities, causes actual physical harm, or has an adverse effect on health. The definition of "noise" as unwanted sound implies that it has an adverse effect on, or causes a substantial annoyance to, people and their environment.

Sound-pressure level alone is not a reliable indicator of loudness because the human ear does not respond uniformly to sounds at all frequencies. For example, the human ear is less sensitive to low and high frequencies than to the medium frequencies that more closely correspond to human speech. In response to the human ear's sensitivity, or lack thereof, to different frequencies, the A-weighted noise level, referenced in units of dB(A), was developed to better correspond with people's subjective judgment of sound levels. In general, changes in a noise level of less than 3 dB(A) are not noticed by the human ear.[1]

Changes from 3 to 5 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. An increase of greater than 5 dB(A) is readily noticeable, while the human ear perceives a 10 dB(A) increase in sound level to be a doubling of sound volume. A doubling of sound energy results in a 3 dB(A) increase in sound, which means that a doubling of sound wave energy (e.g., doubling the volume of traffic on a roadway), would result in a barely perceptible change in sound level. Common noise levels associated with certain activities are shown on **Figure 4.9-1, Common Noise Levels.**

Noise sources occur in two forms: (1) point sources, such as stationary equipment or individual motor vehicles; and (2) line sources, such as a roadway with a large number of mobile point sources (motor vehicles). Sound generated by a stationary point source typically diminishes (attenuates) at a rate of 6 dB(A) for each doubling of distance from the source to the receptor at acoustically hard sites and at a rate of 7.5 dB(A) at acoustically soft sites.[2]

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1 US Department of Transportation, Federal Highway Administration, *Highway Noise Fundamentals*, (Springfield, Virginia: Federal Highway Administration, 1980) 81.

2 US Department of Transportation, *Highway Noise Fundamentals*, 97.

A hard or reflective site does not provide any excess ground-effect attenuation and is characteristic of asphalt, concrete, and very hard-packed soil. An acoustically soft or absorptive site is characteristic of normal earth and most ground with vegetation. As an example, a 60 dB(A) noise level measured at 50 feet from a point source at an acoustically hard site would be 54 dB(A) at 100 feet from the source and it would be 48 dB(A) at 200 feet from the source. Noise from the same point source at an acoustically soft site would be 52.5 dB(A) at 100 feet and 45 dB(A) at 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3 dB(A) and 4.5 dB(A) per doubling distance from the source to the receptor for hard and soft sites, respectively.[3] Artificial or natural barriers can also attenuate sound levels, as illustrated in **Figure 4.9-2, Noise Attenuation by Barriers.** Solid walls and berms may reduce noise levels by 5 to 10 dB(A).[4]

The minimum attenuation of exterior to interior noise provided by typical structures in California is provided in **Table 4.9-1, Outside to Inside Noise Attenuation (dB(A)).**

Table 4.9-1
Outside to Inside Noise Attenuation (dB(A))

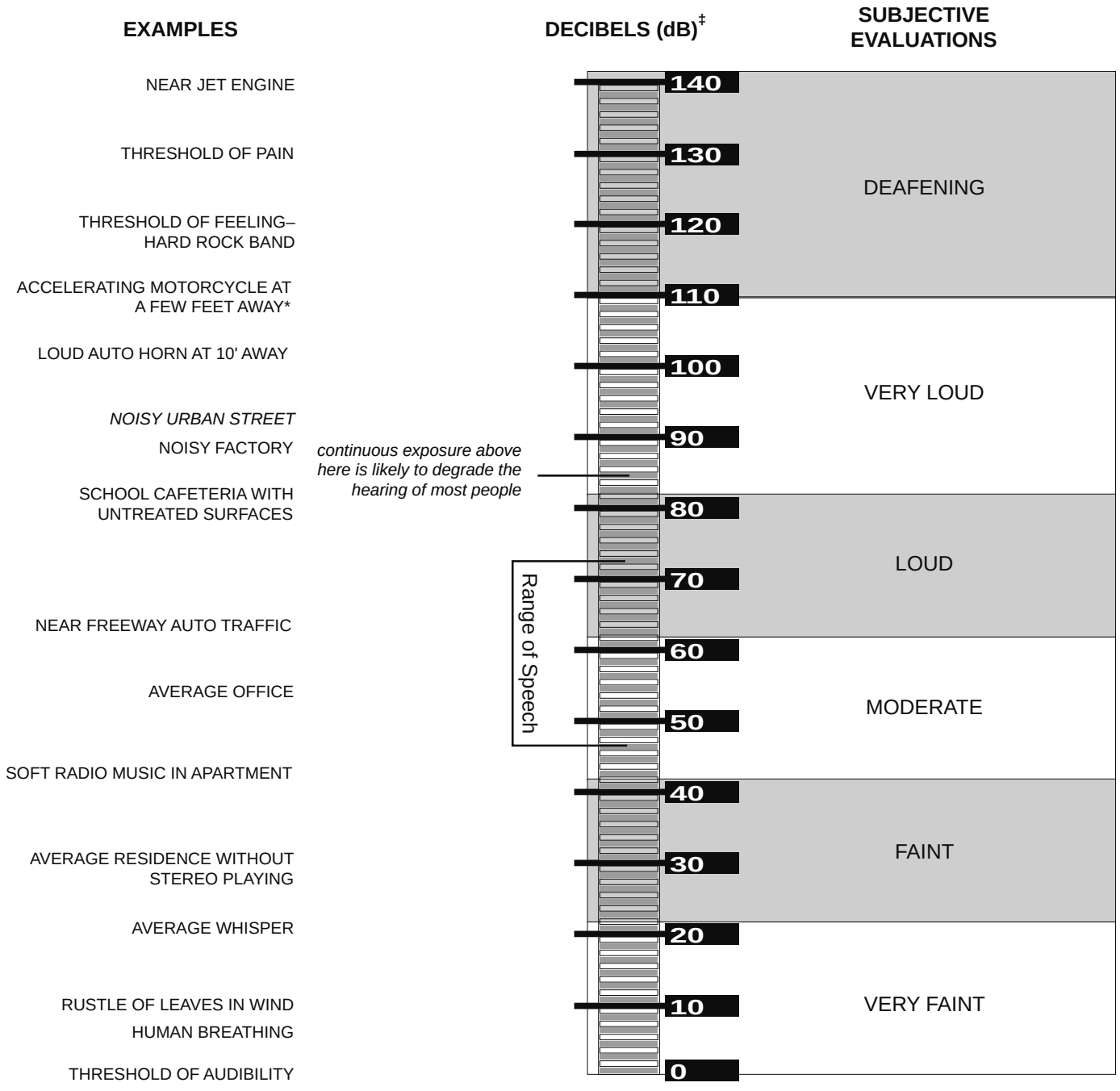
Building Type	Open Windows	Closed Windows[1]
Residences	17	25
Schools	17	25
Places of Worship	20	30
Hospitals/Convalescent	17	25
Offices	17	25
Theaters	20	30
Hotels/Motels	17	25

Source: Transportation Research Board, National Research Council, Highway Noise: A Design Guide for Highway Engineers, National Cooperative Highway Research Program Report 117.

[1] *As shown, structures with closed windows can attenuate exterior noise by a minimum of 25 to 30 dB(A).*

3 US Department of Transportation, *Highway Noise Fundamentals*, 97.

4 US Department of Transportation, *Highway Noise Fundamentals*, 18.

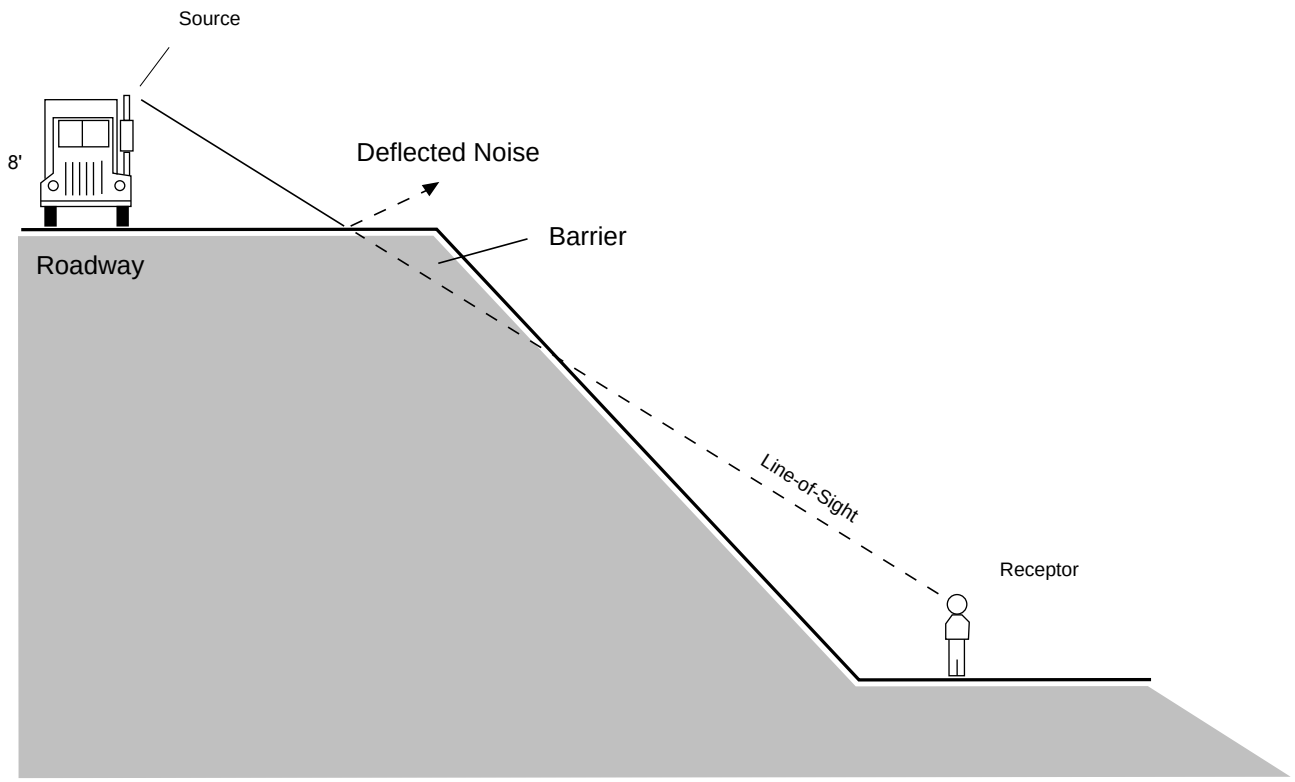


** NOTE: 50' from motorcycle equals noise at about 2000' from a four-engine jet aircraft.*

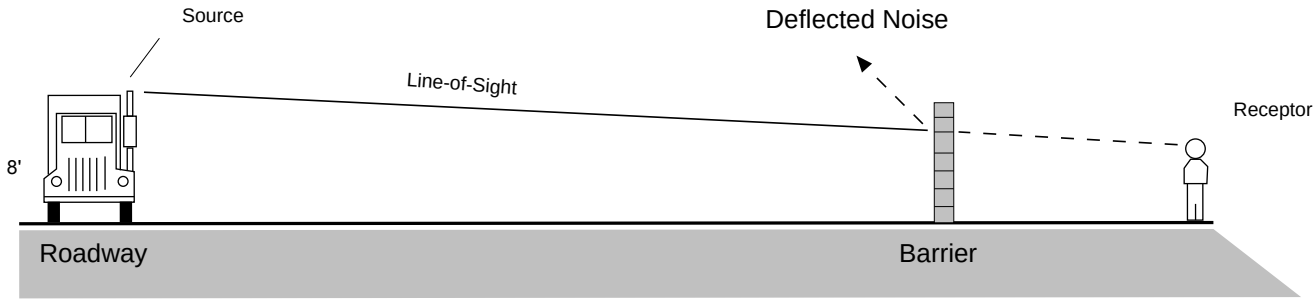
‡ *NOTE: dB are "average" values as measured on the A–scale of a sound–level meter.*

FIGURE **4.9-1**

Common Noise Levels



"Barrier Effect" Resulting from Differences in Elevation.



"Barrier Effect" Resulting from Typical Soundwall.

SOURCE: Impact Sciences, Inc., August 2013

FIGURE **4.9-2**

Noise Attenuation by Barriers

When assessing community reaction to noise, there is an obvious need for a scale that averages sound-pressure levels over time and quantifies the result in terms of a single numerical descriptor. Several scales have been developed that address community noise levels. Those that are applicable to this analysis are the equivalent continuous noise level (Leq) and community noise equivalent level (CNEL). Leq is the average A-weighted sound level measured over a given time interval. Leq can be measured over any period, but is typically measured for 1-minute, 15-minute, 1-hour, or 24-hour periods. CNEL is another average A-weighted sound level measured over a 24-hour period. However, this noise scale is adjusted to account for some individuals' increased sensitivity to noise levels during the evening and nighttime hours. A CNEL noise measurement is obtained by adding 5 decibels to sound levels occurring during the evening from 7:00 PM to 10:00 PM, and 10 decibels to sound levels occurring during the nighttime from 10:00 PM to 7:00 AM. The 5 and 10 decibel penalties are applied to account for increased noise sensitivity during the evening and nighttime hours. The logarithmic effect of adding these penalties to the 1-hour Leq measurements typically results in a CNEL measurement that is within approximately 3 dB(A) of the peak-hour Leq.[5]

Introduction to Vibration

Vibration consists of waves transmitted through solid material. The solid medium can be excited by forces, movements, or pressure fields. Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may comprise a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in hertz (Hz). Most environmental vibrations consist of a composite, or a "spectrum" of many frequencies, and generally are classified as broadband or random vibrations. The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz. Vibration often is measured in terms of the peak particle velocity (PPV)[6]

Vibration energy spread out as it travels through the ground, causing the vibration amplitude to attenuate with distance from the source. High-frequency vibrations reduce much more rapidly than low-frequency vibrations, so that in the far-field from a source, the low frequencies tend to dominate. An example of high-frequency vibration would be the ultrasound used in medicine, while sources of low-frequency vibration include pumps, boilers, electrical installations, fans, and road and rail traffic. Soil properties also affect the propagation of vibration. When groundborne vibration interacts with a building, there is usually a ground-to-foundation coupling loss, but the vibration can also be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows or items on shelves, or the motion of building surfaces.

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5 California Department of Transportation, *Technical Noise Supplement: A Technical Supplement to the Traffic Noise Analysis Protocol*, (Sacramento, California: October 1998), N51–N54.

6 Particle velocity is the velocity of a particle (real or imagined) in a medium as it transmits a wave.

Groundborne vibration can be perceived without instrumentation within a few hundred feet of certain types of construction activities, especially pile driving. Road vehicles rarely create enough groundborne vibration to be perceptible to humans unless the road surface is poorly maintained and there are potholes or bumps. If traffic, typically heavy trucks, induces perceptible vibration in buildings, such as window rattling or shaking of small loose items, then it is most likely an effect of low-frequency airborne noise or ground characteristics. Human annoyance by vibration is related to the number and duration of events. The more events or the greater the duration, the more annoying it will be to humans. **Figure 4.9-3, Typical Levels of Groundborne Vibration**, identifies the typical groundborne vibration levels in inches/second peak particle velocity (PPV) used to describe construction vibration and human response to different levels of vibration.

4.9.2 ENVIRONMENTAL SETTING

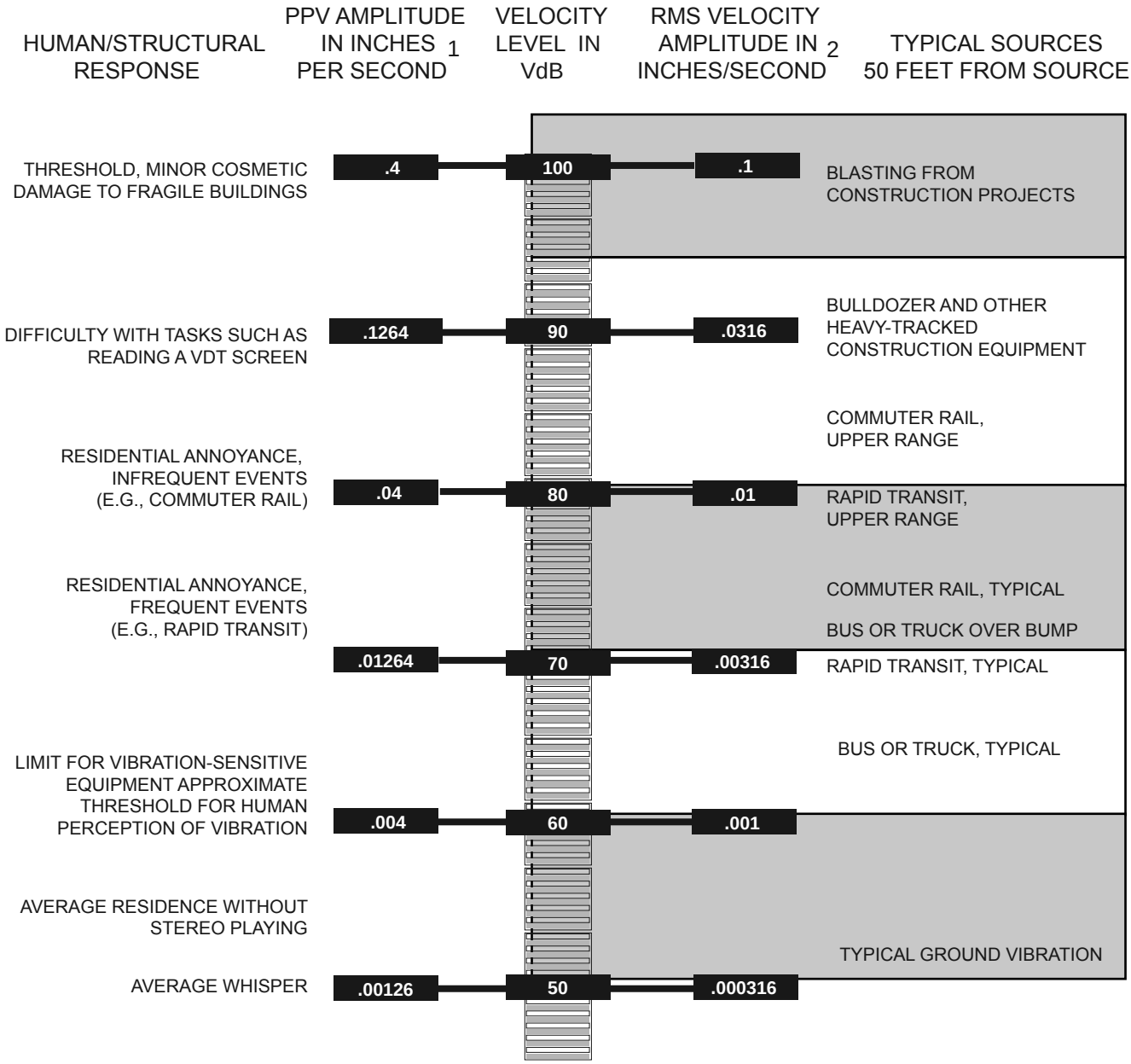
The project site is located in the community of Casitas Springs in unincorporated Ventura County. SR-33 traverses the project site in a northeasterly direction. Noise-sensitive uses near the project site consist of residential development to the east and west of SR-33. No schools, hospitals, or churches are located within 0.25 mile of the project site. The nearest school to the project site is Sunset Elementary School (Ventura Unified School District) located approximately 1.75 miles to the north. The First Baptist Church is located in Casitas Springs about 0.5 mile north of the project, but outside of the 0.25 mile radius. The closest hospital is located in Ojai. The Ojai Valley Trail is located adjacent to the proposed project's outlet facility approximately 400 feet west of SR-33.

Impact Sciences staff conducted 24-hour noise measurements at four sensitive receptor locations near the project site on June 5 through 7, 2013. These locations are indicated in **Figure 4.9-4, Noise Monitoring Locations**. The measured 24-hour noise levels at the monitoring locations are provided in **Table 4.9-2, Existing Noise Levels at Sensitive Receptors**.

Table 4.9-2
Existing Noise Levels at Sensitive Receptors

Map Reference	Location	Noise Level (db(A))
1	Parkview Drive	54.3
2	Edison Drive	53.4
3	Ojai Valley Trail	62.8
4	VCWPD Facility	57.6

Source: Impact Sciences, Inc. 2013
VCWPD = Ventura County Watershed Protection District.



[1] PPV is typically a factor 1.7 to 6 times greater than RMS vibration velocity. A factor of 4 was used to calculate noise levels.

[2] Vibration levels in terms of velocity levels are defined as: $V=20 \times \log_{10} (a/r)$
V=velocity levels in decibels
a=RMS velocity amplitude
r=reference amplitude (accepted reference quantities for vibration velocity are 1×10^{-6} inches/second in the United States)

FIGURE **4.9-3**

Typical Levels of Groundbourne Vibration

SOURCE: Impact Sciences, Inc., August 2013

FIGURE **4.9-4**

Noise Monitoring Locations

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Observed sources of noise at the noise measurement locations include vehicle traffic on SR-33 and surface streets, operation of power tools by area residents, dogs barking, car doors slamming, and other noises typical of residential neighborhoods. At Location 3, adjacent to the Ojai Valley Trail, additional observed noise sources included bicyclists and hikers along the trail. Based on the County of Ventura's noise level standards (discussed in **Regulatory Framework**, below), the County 24-hour noise level standard of 60 dB(A) is currently exceeded at Location 3. All other locations currently comply with the County's 24-hour outdoor noise level standard.

4.9.3 REGULATORY FRAMEWORK

Federal

Department of Housing and Urban Development

The US Department of Housing and Urban Development (HUD) has set a goal of 65 dB(A) Ldn (a 24-hour noise measurement equivalent to CNEL) as a desirable maximum exterior standard for residential units developed under HUD funding. While HUD does not specify acceptable interior noise levels, standard construction of residential dwellings constructed under Title 24 standards typically provides in excess of 20 dB(A) of attenuation with the windows closed. Based on this premise, a residence's interior Ldn should not exceed 45 dB(A) Ldn.[7]

Federal Transit Administration

The Federal Transit Administration has published guidelines for assessing the impacts of groundborne vibration associated with construction activities The Federal Transit Administration measure of the threshold of architectural damage for conventional sensitive structures (e.g., residential units) is 0.2 inch/second PPV.[8] The vibration threshold of perception is 0.01 inch/second PPV, which is approximately equal to 94 velocity decibels (VdB).[9]

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7 24 Code of Federal Regulations 51, Housing and Urban Development, Environmental Criteria and Standards, revised April 1, 2004.

8 US Department of Transportation, Federal transit Administration, Office of Planning and Environment, *Transit and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006.

9 Federal Transit Administration, Office of Planning and Environment, *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06, 2006, 12–13. The Federal Transit Administration recommends that these limits be viewed as "criteria that should be used during the environmental impact assessment phase to identify problem locations that must be addressed during final design."

State

California Code of Regulations

The California Noise Insulation Standards of 1988[10] require that interior noise levels from exterior sources be reduced to 45 dB(A) or less in any habitable room of a multi-residential use facility (e.g., hotels, motels, dormitories, long-term care facilities, and apartment houses and other dwellings, except detached single-family dwellings) with doors and windows closed. Measurements are based on Ldn or CNEL. Where exterior noise levels exceed 60 dB(A) Ldn CNEL, an acoustical analysis is required to show that the proposed construction will reduce interior noise levels to 45 dB(A) Ldn CNEL.

California Department of Health

Noise

The State of California Department of Health Services, Environmental Health Division, has published *Guidelines for Noise and Land Use Compatibility* (the *State Guidelines*).[11] The *State Guidelines*, illustrated in **Figure 4.9-5, State Land Use Compatibility Guidelines for Noise**, indicate that residential land uses and other noise-sensitive receptors should generally be located in areas where outdoor ambient noise levels do not exceed 65 to 70 dB(A) (CNEL or Ldn). The Department of Health Services does not mandate application of this compatibility matrix to development projects; however, each jurisdiction is required to consider the *State Guidelines* when developing its general plan noise element and when determining acceptable noise levels within its community. However, the State Department of Housing and Community Development does require that new multi-family units not be exposed to outdoor ambient noise levels in excess of 65 dB(A) (CNEL or Ldn), and that, if necessary, sufficient noise insulation be provided to reduce interior ambient levels to 45 dB(A) Ldn/CNEL. The US EPA identified a maximum indoor noise level of 45 dB(A) as necessary to protect against sleep interference. Assuming a conservative structural noise insulation of 20 dB for typical dwellings, 45 dB(A) corresponds to an outdoor CNEL of 65 dB(A) as minimizing sleep interference.

Under the *State Guidelines*, an exterior noise level of 70 dB(A) Ldn/CNEL is typically the dividing line between an acceptable and unacceptable exterior noise environment for all noise-sensitive uses, including schools, libraries, places of worship, hospitals, day care centers, and nursing homes of conventional construction.

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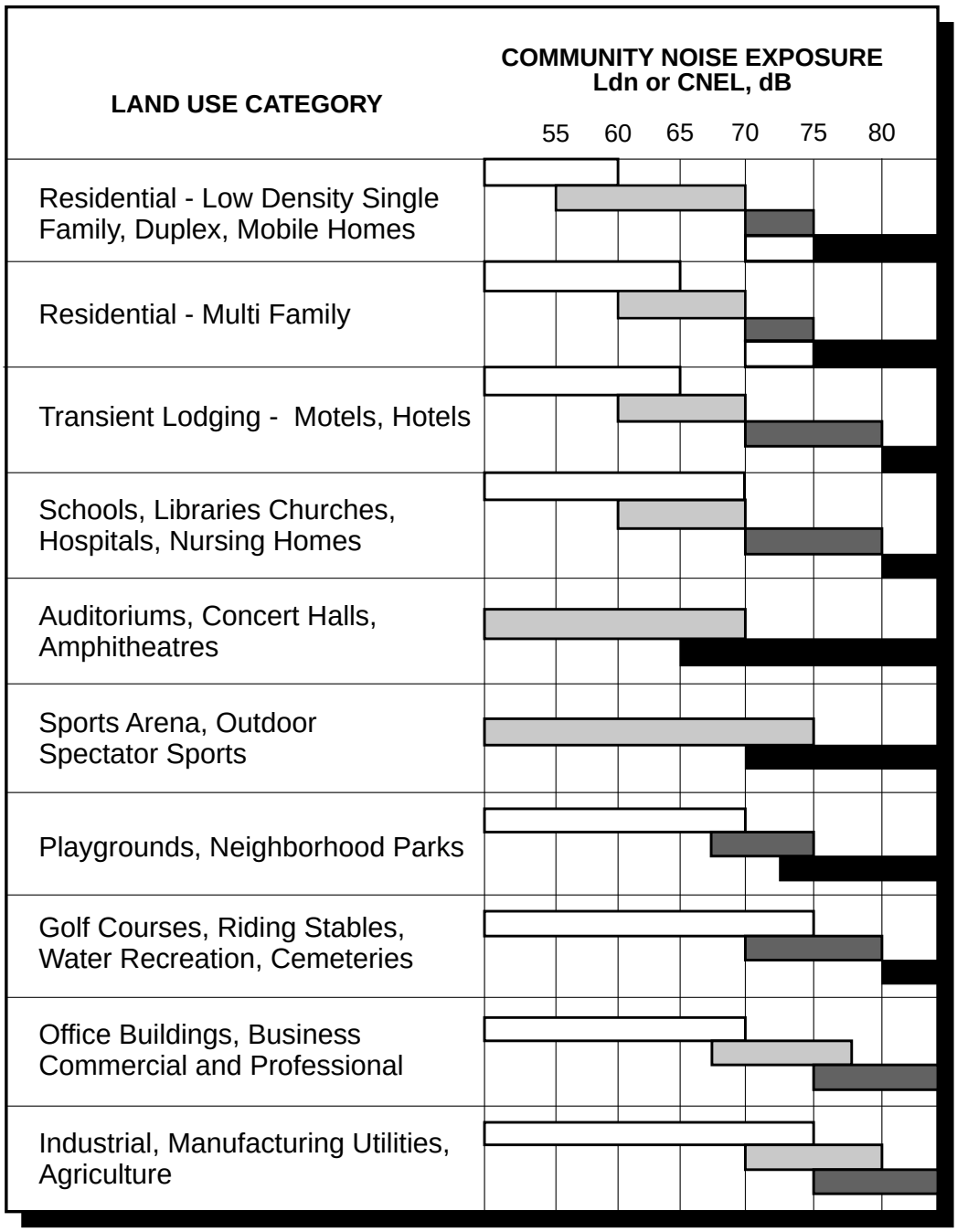
10 California Code of Regulations Title 24, Section 3501 et seq.

11 These guidelines are also published in *State of California General Plan Guidelines*, Appendix C: Guidelines for the Preparation and Content of the Noise Element of the General Plan (Sacramento, California: Governor's Office of Planning and Research, October 2003).



NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise reduction features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

SOURCE: California Governor's Office of Planning and Research, State of California General Plan Guidelines, Appendix C: Guidelines for the Preparation and Content of Noise Elements of the General Plan, October 2003.

FIGURE **4.9-5**

State Land Use Compatibility Guidelines for Noise

Noise levels below 75 dB(A) Ldn/CNEL are typically acceptable for office and commercial buildings, while levels up to 80 dB(A) Ldn/CNEL are typically acceptable for industrial uses. In unacceptable interior noise environments, additional noise insulation features, such as extra batting or resilient channels[12] in exterior walls, double-paned windows, air conditioners to enable occupants to keep their windows closed without compromising their comfort, solid wood doors, and noise baffles on exterior vents, are typically needed to provide acceptable interior noise levels. The best type of noise insulation is based on detailed acoustical analyses that identify all practical noise insulation features and that confirm their effectiveness.

Local

Ventura County General Plan

Section 2.16 of the *Ventura County General Plan* Goals, Policies, and Programs document provides goals and policies developed by the County for the control of noise-related hazards. The following goal and policies would apply to the proposed project.

Goal: To protect the health, safety and general welfare of County residents by elimination or avoidance of adverse noise impacts on existing and future noise sensitive uses.

Policy 2.16.2-1: All discretionary development shall be reviewed for noise compatibility with surrounding uses. Noise compatibility shall be determined from a consistent set of criteria based on the standards listed below. An acoustical analysis by a qualified acoustical engineer shall be required of discretionary developments involving noise exposure or noise generation in excess of the established standards. The analysis shall provide documentation of existing and projected noise levels at on-site and off-site receptors, and shall recommend noise control measures for mitigating adverse impacts.

(1) Noise sensitive uses proposed to be located near highways, truck routes, heavy industrial activities and other relatively

[12] A resilient channel is a pre-formed section of sheet metal approximately 0.5 inch deep by 2.5 inches wide by 12 inches long that is installed between wallboard panels and framing to reduce sound transmission through walls. By preventing the wallboard from lying against the studs, the channel inhibits the transmission of sound through the framing.

continuous noise sources shall incorporate noise control measures so that:

a. Indoor noise levels in habitable rooms do not exceed CNEL 45.

b. Outdoor noise levels do not exceed CNEL 60 or Leq1H of 65 dB(A) during any hour.

(2) Noise sensitive uses proposed to be located near railroads shall incorporate noise control measures so that:

a. Guidelines (1)a. and (1)b. above are adhered to.

b. Outdoor noise levels do not exceed L10 of 60 dB(A).

(3) Noise sensitive uses proposed to be located near airports:

a. Shall be prohibited if they are in a CNEL 65 or greater, noise contour.

b. Shall be permitted in the CNEL 60 to CNEL 65 noise contour area only if means will be taken to ensure interior noise levels of CNEL 45 or less.

(4) Noise generators, proposed to be located near any noise sensitive use, shall incorporate noise control measures so that ongoing outdoor noise levels received by the noise sensitive receptor, measured at the exterior wall of the building, does not exceed any of the following standards:

a. Leq1H of 55 dB(A) or ambient noise level plus 3 dB(A), whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.

b. Leq1H of 50 dB(A) or ambient noise level plus 3 dB(A), whichever is greater, during any hour from 7:00 p.m. to 10:00 p.m.

c. Leq1H of 45 dB(A) or ambient noise level plus 3 dB(A), whichever is greater, during any hour from 10:00 p.m. to 6:00 a.m.

Section 2.16.2(4) is not applicable to increased traffic noise along any of the roads identified within the 2020 Regional Roadway Network (Figure 4.2.3) Public Facilities Appendix of the Ventura County General Plan (see 2.16.2-1(1)). In addition, State and Federal highways, all railroad line operations, aircraft in flight, and public utility facilities are

noise generators having Federal and State regulations that preempt local regulations.

(5) Construction noise shall be evaluated and, if necessary, mitigated in accordance with the County Construction Noise Threshold Criteria and Control Plan.

Policy 2.16.2-2: Discretionary development which would be impacted by noise, or generate project related noise which cannot be reduced to meet the standards prescribed in Policy 2.16.2-1., shall be prohibited. This policy does not apply to noise generated during the construction phase of a project.

Policy 2.16.2-3: The priorities for noise control shall be as follows:

(1) Reduction of noise emissions at the source.

(2) Attenuation of sound transmission along its path, using barriers, landforms modification, dense plantings, and the like.

(3) Rejection of noise at the reception point via noise control building construction, hearing protection or other means.

Ventura County Construction Noise Threshold Criteria and Control Plan

The *Ventura County Construction Noise Threshold Criteria and Control Plan* provides specific construction noise limits for noise-sensitive locations. During daytime hours, construction work should comply with the County of Ventura construction noise threshold criteria. Normally, no evening or nighttime construction activity is permitted in areas having noise-sensitive receptors. However, in the event such activity is deemed necessary and is permitted, reduced noise threshold criteria are provided for construction that must occur during evening and/or nighttime hours. Emergency construction work is exempt from these construction noise thresholds.

The *Ventura County Construction Noise Threshold Criteria and Control Plan* defines noise-sensitive receptors and their periods of greatest sensitivity to construction noise as follows:

- Hospitals, Nursing Homes (quasi-residential): Typical sensitive time period – 24 hours
- Single-Family and Multi-Family Dwellings (residential): Typical sensitive time period – Evening/Night
- Hotels/Motels (quasi-residential): Typical sensitive time period – Evening/Night
- Schools, Churches, Libraries (when in use) – Daytime/Evening

Daytime Construction

Daytime (7:00 AM to 7:00 PM Monday through Friday, and from 9:00 AM to 7:00 PM Saturday, Sunday and local holidays) generally means any period not specifically defined as a more noise-sensitive period. The daytime construction noise threshold for projects with a construction period of more than eight weeks is 55 dB(A) or the measured ambient Leq plus 3 dB, whichever is higher.

Evening Construction

Evening hours (7:00 PM to 10:00 PM) are more noise-sensitive periods. Therefore, evening construction noise threshold criteria differ from the daytime criteria. Overall project construction noise, for the noise-sensitive hours specified, shall not exceed 50 dB(A) or the measured ambient Leq plus 3 dB, whichever is higher.

Nighttime Construction

Nighttime hours (10:00 PM to 7:00 AM Monday through Friday, and from 10:00 PM to 9:00 AM Saturday, Sunday and local holidays) are the most noise-sensitive periods. Therefore, nighttime and holiday construction noise threshold criteria differ from the daytime and evening criteria. Overall project construction noise, for the noise-sensitive hours specified, shall not exceed 45 dB(A) or the measured ambient Leq plus 3 dB, whichever is higher.

Maximum Construction Noise

In addition, the construction-related, slow response, instantaneous maximum noise (Lmax) shall not exceed the noise threshold criteria by 20 dB(A) more than eight times per daytime hour, more than six times per evening hour, and more than four times per nighttime hour.

4.9.4 IMPACT ANALYSIS

Thresholds of Significance

Any project that produces noise in excess of the standards for noise in the Ventura County General Plan Goals, Policies, and Programs (Section 2.16), has the potential to cause a significant noise impact. Noise-generating uses that either individually or when combined with other recently approved, pending, and probable future projects, exceeds the noise thresholds of General Plan Noise Policy 2.16.2-1(4) are considered to have a potentially significant impact.

Analysis, Mitigation Measures, and Residual Impacts

Construction

The proposed project would be constructed during daytime hours only (7:00 AM to 7:00 PM Monday through Friday. No work activities would be conducted on weekends or holidays. The daytime construction noise threshold for projects with a construction period of more than 8 weeks is 55 dB(A) or the measured ambient Leq plus 3 dB, whichever is higher. As shown in **Table 4.9-2** above, existing ambient noise levels at receptor monitoring locations near the project site range from 53.4 to 62.8 dB(A). Based on the *Ventura County Construction Noise Threshold Criteria and Control Plan*, construction activity resulting in noise levels in excess of existing levels plus 3 dB(A) would exceed the County noise threshold criteria. Thus the threshold for construction noise impacts would range from 56.4 to 65.8 dB(A).

Project construction would occur within 50 feet of currently occupied residences, the noise-sensitive uses nearest to the project site. **Table 4.9-3, Noise Levels of Typical Construction Equipment**, shows the noise levels that can be expected during project construction at sensitive receptors near the project site based on the construction equipment to be used. According to **Table 4.9-3**, noise levels as high as 88 dB(A) are expected to occur at noise-sensitive uses 50 feet from the project site when loaded trucks are in use at the project site.

Table 4.9-3
Noise Levels of Typical Construction Equipment

Equipment	Noise Level at 50 Feet (dB[A])
Trucks (under load)	88
Excavator	87
Backhoe	85
Cement truck	85
Grader	85
Chainsaw	85
Forklift	84
Crane	83
Augers	82
Concrete pump	82
Compactor	82
Loader	79
Loader	79
Generator	78
Concrete vibrator	76
Roller	74

Source: Ventura County Construction Noise Threshold Criteria and Control Plan, 2010.

Due to the linear configuration of the project site, construction the location of construction activity would change over the course of the projected eight-month construction schedule. Thus, project construction of the proposed inlet facilities would not affect the Ojai Valley Trail, located near the proposed outfall structure. Additionally, the location of noise-generating construction equipment within the project site would vary from day to day, depending on the type and location of the work being done. In most cases, it is expected that construction activity would not exceed the County's maximum noise threshold, which requires that construction noise not exceed the noise threshold criteria by 20 dB(A) more than eight times per daytime hour.

The operation of construction equipment within 50 feet of noise-sensitive residential development would result in exceedances of the County's construction noise threshold criteria. Depending on the type of construction equipment being operated, the number of pieces of equipment operating simultaneously, noise levels at sensitive receptors could exceed the County threshold criteria by as much as 26 dB(A).

As discussed in the Environmental Setting section above, noise-sensitive receptors in the project area are limited to residential homes to the east and west of SR-33. No schools, hospitals, or churches are located within 0.25 mile of the project site. However, residential dwellings are defined as typically noise sensitive according to the *Ventura County Construction Noise Threshold Criteria and Control Plan* only if construction would occur during evening hours (7:00 PM to 10:00 PM) or nighttime hours (10:00 PM to 7:00 AM Monday through Friday, and from 10:00 PM to 9:00 AM Saturday, Sunday and local holidays). Since the proposed project would be constructed during daytime hours only (7:00 AM to 7:00 PM Monday through Friday, construction noise impacts would be less than significant.

Vibration Impacts

Construction Vibration Impacts

Ground vibrations from construction activities very rarely reach the levels that can damage structures, but they can achieve the audible range and could be felt in buildings very close to the project site. The primary and most intensive vibration source associated with the development of the proposed project would be the use of bulldozers, rollers, and loaded haul trucks. These types of equipment can create intense noise that can result in ground vibrations.

The result from vibration can range from no perceptible effects at the lowest vibration levels to low rumbling sounds and perceptible vibrations at moderate levels, and to slight structural damage at the highest levels. **Table 4.9-4, Vibration Levels for Construction Equipment**, lists vibration levels of the construction equipment that will be used on the project site and typically produce groundborne vibration. A significant impact would occur, should construction activity cause a PPV of above 0.2 PPV.

Existing land uses surrounding the project site primarily consist of residential uses. These residential uses would be considered sensitive receptors.

Bulldozers would be used to move dirt and materials around the site. As indicated in **Table 4.9-4,** loaded trucks and large bulldozers are capable of producing vibration levels of approximately 0.076 and 0.089 PPV, respectively, at 25 feet from the source, which is below the threshold of 0.2 PPV; therefore, these activities would not result in significant vibration impacts to nearby sensitive receptors.

Table 4.9-4
Vibration Levels for Construction Equipment

Equipment	PPV at 25 feet (in/sec)
Loaded Truck	0.076
Large bulldozer	0.089
Roller (vibratory)	0.210

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, (2006) 12-9.

Excavation and construction would occur along the boundary of the project site, and near these existing residential areas. As shown in **Table 4.9-4**, the highest levels of vibration would be generated by vibratory rollers. This equipment, which has the potential to cause vibration levels that exceed the 0.2 PPV standard, would not be used in close proximity to residential structures. Therefore, no impacts related to vibration are expected to occur.

Operation

Project operation would require occasional trips by Ventura County Watershed Protection District (VCWPD) staff for maintenance of the proposed project facilities. As discussed above, doubling of sound energy results in a 3 dB(A) increase in sound, which means that a doubling of sound wave energy (e.g., doubling the volume of traffic on a roadway), would result in a barely perceptible change in sound level. Vehicle trips to the project site for maintenance would not cause a doubling in traffic volumes on SR-33. Therefore, noise impacts during project operation would not cause a noticeable increase in ambient noise levels. Operational impacts would thus be less than significant.

Level of Significance Before Mitigation

Construction impacts would be less than significant as it will be consistent with the noise construction parameters of the Ventura County Construction Noise Threshold Criteria and Control Plan. Operational impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.9.5 CUMULATIVE IMPACTS

Project construction would occur over approximately seven months. During the construction phase, the proposed project would substantially increase noise levels at sensitive receptors in the project vicinity. Cumulative projects constructed during this period would also result in construction-related noise increases. However, none of the related projects are located in the immediate vicinity of the proposed project site, and therefore construction of the proposed project, in combination with related projects, would not result in a significant noise impact.

The proposed project would not result in operational noise increases other than those related to vehicle trips for maintenance of the proposed facilities. While related projects could result in increased noise as a result of increased traffic volumes on SR-33, the proposed project would not substantively contribute to any future cumulative noise impact.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

4.10 TRANSPORTATION AND CIRCULATION

4.10.1 INTRODUCTION

The analysis in this section is based on the Traffic and Circulation Study prepared for the proposed project by Associated Transportation Engineers (ATE) in 2013. The full study is provided in **Appendix G**.

4.10.2 ENVIRONMENTAL SETTING

Street Network

Regional access to the project site is provided by US Highway 101 to the south and the study-area roadway network comprising of SR-33, as well as local streets Sycamore Drive and Edison Drive. ATE conducted a field review of the study-area roadway network. **Figure 4.10-1, Roadways in the Project Area**, shows the area street network and the following text provides a brief discussion of the study-area roadways.

US Highway 101 is the principal route along the Pacific Coast. Although US Highway 101 runs mostly north-south in California, it runs east-west within the Ventura area. It is a 6-lane freeway within the Ventura area. US Highway 101 connects to the study-area street network via an interchange at SR-33.

SR-33, located east of the project site, is the major north-south roadway within the study-area. SR-33 extends as a four-lane freeway from US Highway 101 in the City of Ventura to Foster Park. Between the community of Casitas Spring and the City of Ojai the highway is primarily two lanes.

Sycamore Drive is a two-lane residential roadway extending west from SR-33 to Edison Drive. The SR-33/Edison Drive and Sycamore/Edison Drive intersections are controlled by stop signs. Sycamore Drive would be utilized by construction traffic.

Edison Drive is a north-south residential roadway that extends south from Ranch Road to just south of Sycamore Drive. The Sycamore Drive/Edison Drive intersection is uncontrolled. Based on the construction traffic model used in the project traffic study, Edison Drive would be utilized by construction traffic.

Ranch Road is an east-west residential roadway that extends west from SR-33 to Edison Drive. Ranch Road transitions into Edison Drive. Based on the construction traffic model used in the project traffic study, Ranch Road would be utilized by construction trucks and trucks with trailers.

Roadway Operations

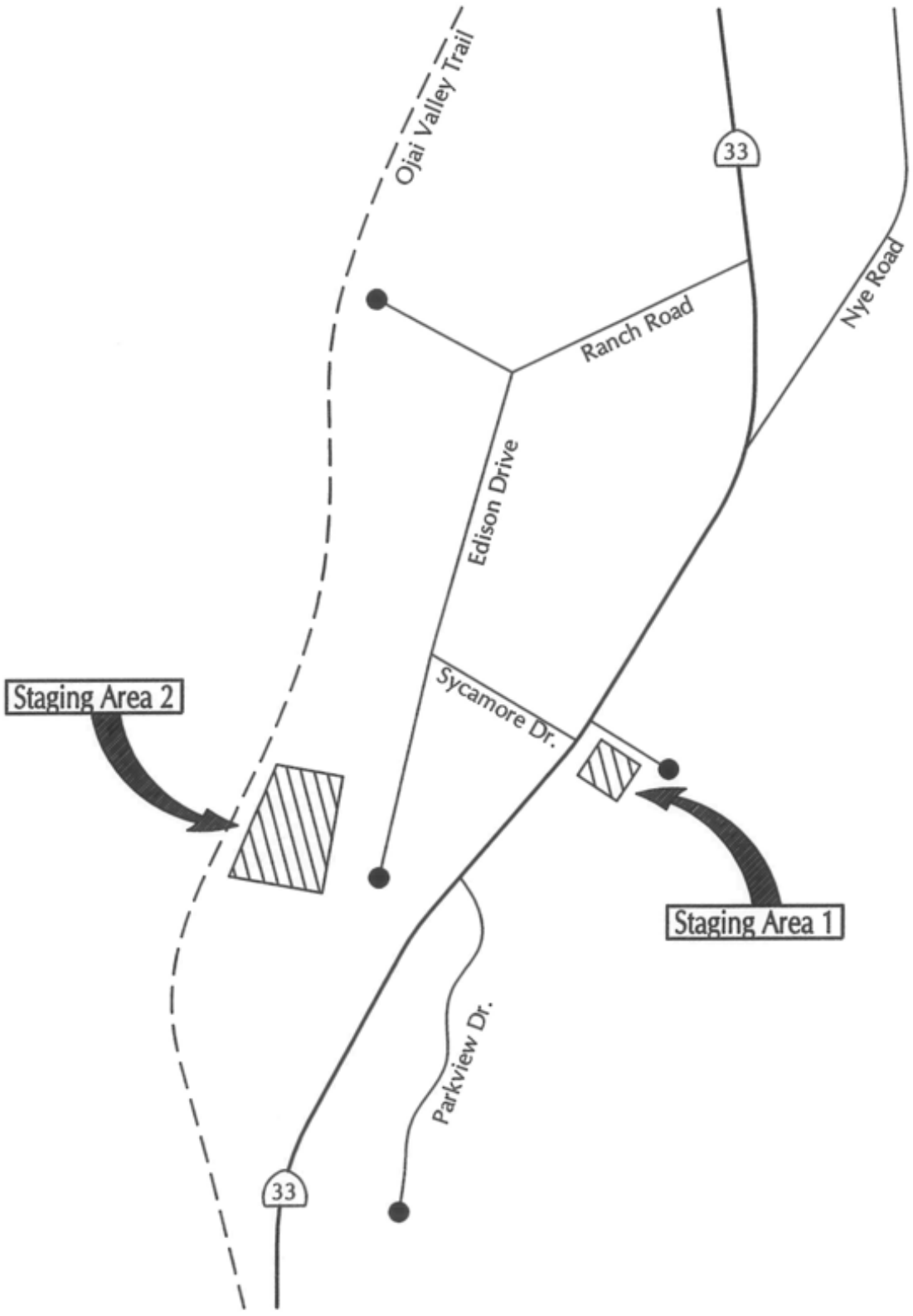
Level of Service (LOS) A through F are used to rate roadway operations, with LOS A indicating very good operating conditions and LOS F indicating poor conditions. LOS A through LOS C are generally considered acceptable, while LOS D through LOS F indicate poor conditions. Generally, the County of Ventura considers LOS C or better as acceptable for roadway operations, however LOS E is acceptable for SR-33. (See *Ventura County General Plan* policies in **Section 4.10.2** below.)

Existing average daily traffic (ADT) volumes for the street network were obtained from count data on file at ATE and Caltrans. **Figure 4.10-2, Existing Traffic Volumes**, shows the Existing ADT volumes on the key roadway segments of the study-area street network. The existing roadway operations are presented in **Table 4.10-1, Existing Roadway Levels of Service**. Levels of service are based on Ventura County engineering design capacities for roadways. The volumes indicate that the study-area roadways operate at LOS A to E, based on Ventura County engineering design capacities. In the vicinity of the project site, SR-33 has been designated as an impacted location on the Ventura County regional roadway system.

Table 4.10-1
Existing Roadway Levels of Service

Roadway	Geometry	ADT	Level of Service	LOS Rating
State Route 33	2 Lanes	24,000	E	Acceptable
Edison Drive	2 Lanes	80	A	Acceptable

Source: Caltrans, 2012.

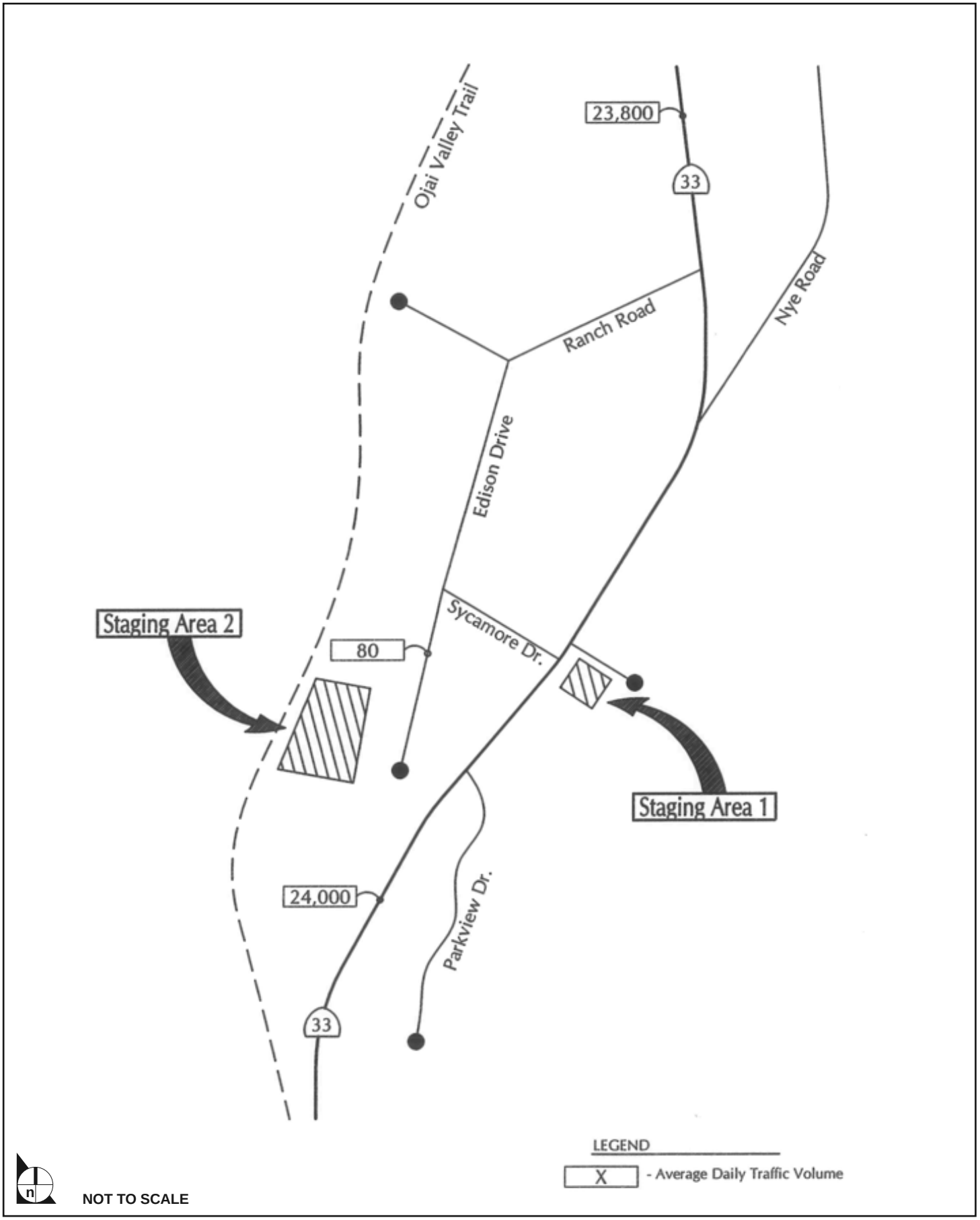


NOT TO SCALE

SOURCE: Associated Transportation Engineers, Inc., 2013

FIGURE **4.10-1**

Roadways in the Project Area



SOURCE: Associated Transportation Engineers, Inc., 2013

FIGURE **4.10-2**

Existing Traffic Volumes

4.10.3 REGULATORY FRAMEWORK

County

Ventura County Congestion Management Program

The Congestion Management Plan (CMP) was enacted by the California Legislature in 1989 to improve traffic congestion in urban areas. The program became effective with the passage of Proposition 111 in 1990, which also increased the state gas tax. Funds generated by Proposition 111 are available to cities and counties for regional road improvements, provided these agencies are in compliance with CMP requirements. The intent of the legislation was to link transportation, land use, and air quality decisions by addressing the impact of local growth on the regional transportation system. State statute requires that a congestion management program be developed, adopted, and updated biennially for every county that includes an urbanized area, which shall include every city and county government within that county. Therefore, the County of Ventura must comply with CMP requirements in developing a circulation plan for the County area.

Under this legislation, regional agencies are designated within each county to prepare and administer the CMP for agencies within that county. Each local planning agency included in the CMP has the following responsibilities:

- Assisting in monitoring the roadways designated within the CMP system
- Adopting and implementing a trip reduction and travel demand ordinance
- Analyzing the impacts of local land use decisions on the regional transportation system
- Preparing annual deficiency plans for portions of the CMP system where LOS standards are not maintained

The Ventura County Transportation Commission is the CMP agency for Ventura County.

Ventura County General Plan

Section 4.2 of the *Ventura County General Plan Goals, Policies, and Programs* provides the following goals and policies that would apply to the proposed project:

Goal 4.2.1-1: Facilitate the safe and efficient movement of persons and goods by encouraging the design, construction, and maintenance of an integrated transportation and

circulation system consisting of regional and local roads, bus transit, bike paths, ridesharing, rail transit and freight service, airports and harbors.

Goal 4.2.1-2: Facilitate the safe and efficient movement of persons and goods by designing, constructing, and maintaining a Regional Road Network and Local Road Network that is consistent with the County road standards and that will function at an acceptable Level of Service (LOS).

Goal 4.2.1-3: Ensure that the design, sequencing and timing of road widening projects are consistent with the goals, policies and programs of the General Plan, and that County road widening projects have adequate public review.

Goal 4.2.1-4: Ensure that as discretionary development creates the need, existing roads within the Regional Road Network and Local Road Network are improved, and additional roads needed to complement the Regional Road Network and Local Road Network are constructed, so as to keep all such roads safe and functioning at an acceptable LOS.

Goal 4.2.1-5: Ensure that development which would contribute to the cumulative need for improvements or additions to the Regional Road Network bears its pro-rata share of the costs of all such improvements or additions.

Goal 4.2.1-6: Promote measures to reduce vehicle miles traveled and disperse peak traffic to better utilize the existing transportation infrastructure.

Goal 4.2.1-7: Promote the expansion of a safe, efficient, convenient, integrated, and economical community, intercommunity and countywide bus transit system.

Goal 4.2.1-8: Encourage transit providers and the Ventura County Transportation Commission to increase ridership and meet the needs of the commuting public and the special transportation needs of the elderly, schoolchildren, low income, physically handicapped, other low mobility groups, and bicyclists.

Goal 4.2.1-9: Encourage the use of bicycling and ridesharing (e.g., carpooling, vanpooling, and bus pooling) as a percentage of total employee commute trips throughout the County in order to reduce vehicular trips and miles traveled and consequently vehicular emissions, traffic congestion, energy usage, and ambient noise levels.

Goal 4.2.1-10: In cooperation with the 10 cities and the Ventura County Transportation Commission, plan a system of bicycle lanes and trails linking all county cities, unincorporated communities, and CSUCI.

Goal 4.2.1-11: Support the continued expanded operation and use of a rail system that offers efficient, safe, convenient, and economical transport of people and commodities throughout the region.

Policy 4.2.2-1: County thoroughfares and County maintained local roads shall be designed and constructed in accordance with County road standards or better and should primarily serve in-county transportation needs. County roads should not be widened for the purpose of relieving congestion on Federal or State highways or accommodate interregional traffic that is more appropriately served by the Federal and State highway systems.

Policy 4.2.2-2: The County road standards, five-year capital improvement programs, and road-improvement design, sequencing and timing shall be consistent with the goals, policies, and programs of the General Plan. County road improvement design for safety and level-of-service capacity should, if possible, avoid increasing the number of travel lanes, and the improvements should not be constructed before the need has been demonstrated based on evaluation of current and projected traffic conditions.

Policy 4.2.2-3: The minimum acceptable Level of Service (LOS) for road segments and intersections within the Regional Road Network and Local Road Network shall be as follows:

(a) LOS-'D' for all County thoroughfares and Federal highways and State highways in the unincorporated area of the County, except as otherwise provided in subparagraph (b);

(b) LOS-'E' for State Route 33 between the northerly end of the Ojai Freeway and the City of Ojai, Santa Rosa Road, Moorpark Road north of Santa Rosa Road, State Route 34 north of the City of Camarillo and State Route 118 between Santa Clara Avenue and the City of Moorpark;

(c) LOS-'C' for all County-maintained local roads; and

(d) The LOS prescribed by the applicable city for all Federal highways, State highways, city thoroughfares and city-maintained local roads located within that city, if the city has formally adopted General Plan policies, ordinances, or a reciprocal agreement with the County (similar to Policies 4.2.2-3 through 4.2.2-6) respecting development in the city that would individually or cumulatively affect the LOS of Federal highways, State highways, County thoroughfares and County-maintained local roads in the unincorporated area of the County.

At any intersection between two roads, each of which has a prescribed minimum acceptable LOS, the lower LOS of the two shall be the minimum acceptable LOS for that intersection.

Policy 4.2.2-4: Except as otherwise provided in the Ojai Area Plan, County General Plan land use designation changes and zone changes shall be evaluated for their individual and cumulative impacts, and discretionary development shall be evaluated for its individual impact, on existing and future roads, with special emphasis on the following:

(a) Whether the project would cause existing roads within the Regional Road Network or Local Road Network that are currently functioning at an acceptable LOS to function below an acceptable LOS;

(b) Whether the project would add traffic to existing roads within the Regional Road Network or the Local Road Network that are currently functioning below an acceptable LOS; and

(c) Whether the project could cause future roads planned for addition to the Regional Road Network or the Local Road Network to function below an acceptable LOS.

Policy 4.2.2-5: Except as otherwise provided in the Ojai Area Plan and below, County General Plan land use designation changes and zone changes that would cumulatively cause any of the impacts identified in subparagraphs (a) through (c) of Policy 4.2.2-4 shall be prohibited unless the Board of Supervisors adopts a Statement of Overriding Considerations. County General Plan

land use designation changes, zone changes and discretionary development that would individually cause any of the impacts identified in subparagraphs (a) through (c) of Policy 4.2.2-4 shall be prohibited unless feasible mitigation measures are adopted that would ensure that the impact does not occur or unless a project completion schedule and full funding commitment for road improvements are adopted which ensure that the impact will be eliminated within a reasonable period of time. This policy does not apply to city thoroughfares, city-maintained local roads, or Federal or State highways located within a city unless the applicable city has formally adopted General Plan policies, ordinances, or a reciprocal agreement with the County (similar to Policies 4.2.2-3 through 4.2.2-6) respecting development in the city that would affect the LOS of County thoroughfares, County-maintained local roads, and Federal and State highways located within the unincorporated area of the County. If a Specific Plan for a project has been determined to be consistent with this policy, any subsequent development that is consistent with the Specific Plan will also be determined to be consistent with this policy. Exceptions to the prohibitions of this policy include the following:

(a) Farmworker Housing Complexes, Affordable Housing development per Article 16 of the Non-Coastal Zoning Ordinance, and other housing exclusively for lower-income households, where such developments are served by roads that are currently operating at LOS "E" or better.

(b) Additional dwellings and lots on Cultural Heritage Sites as permitted in the Non-Coastal Zoning Ordinance.

(c) Agriculture and Agricultural Operations as permitted in the Coastal and Non-Coastal Zoning Ordinances, where such developments are served by roads that are currently operating at LOS "E" or better.

Policy 4.2.2-6: Development that would generate additional traffic shall pay its pro rata share of the costs of necessary improvements to the

Regional Road Network per the County's Traffic Impact Mitigation Fee Ordinance as amended time to time.

Policy 4.2.2-7: The County shall oppose discretionary development within cities, and annexation to cities for the purposes of development, where such development would individually or cumulatively cause:

(a) Any existing road within the Regional Road Network, or any existing County-maintained local road, that is currently functioning at an acceptable LOS to function below an acceptable LOS;

(b) Any existing road within the Regional Road Network, or any existing County-maintained local road, that is currently operating below an acceptable LOS to have a worsening of traffic conditions; or

(c) Any future road planned for addition to the Regional Road Network, or any planned future County-maintained local road, to function below an acceptable LOS.

This policy does not apply to those cities which have formally adopted General Plan policies, ordinances, or a reciprocal agreement with the County similar to Policies 4.2.2-3 through 4.2.2-6.

Policy 4.2.2-8: Discretionary development shall be conditioned, where feasible, to minimize traffic impacts by incorporating pedestrian and bicycle pathways, bicycle racks and lockers, ridesharing programs, transit improvements (bus turnouts, shelters, benches), and/or transit subsidies for employees or residents of the proposed development.

Policy 4.2.2-9: In the event that any railroad right-of-way within Ventura County is abandoned in the future, the County Public Works Agency and the General Services Agency shall evaluate the feasibility of acquiring such land for public use such as transit, bicycle, and equestrian paths.

Policy 4.2.2-10: Discretionary development that would endanger the efficient, safe operation of an airport or would result in significant land use incompatibility with an airport shall be prohibited.

Policy 4.2.2-11: The Ventura County General Plan shall remain consistent with the Ventura County Transportation Commission's Airport Comprehensive Land Use Plan for Ventura County.

Ojai Valley Area Plan

Section 4.1 of the *Ojai Valley Area Plan* provides the following goals and policies that would apply to the proposed project:

Goal 4.1.1-1: Promote a safe road system throughout the Ojai Valley without encouraging population growth and development.

Goal 4.1.1-2: Encourage alternatives to single occupancy motor vehicle trips by promoting carpools, vanpools and expanded bus service.

Goal 4.1.1-3: Encourage the expansion of the Ojai Valley Trail

Policy 4.1.2-1: The County Road Standards and Five-Year Capital Improvement Programs shall be consistent with the goals, policies, and programs of the Area Plan.

Policy 4.1.2-2: For the area covered by this plan, the minimum acceptable Level of Service (LOS) for road segments and intersections within the Regional Road Network and Local Road Network shall be as follows:

(a) LOS - 'D' for all County thoroughfares and State highways within the unincorporated area of the County, except as otherwise provided in Subparagraph (b);

(b) LOS - 'E' for Highway 33 between the end of the freeway and the City of Ojai;

(c) LOS - 'C' for all County maintained local roads; and

(d) The LOS prescribed by the City of Ojai's General Plan for all city thoroughfares and city-maintained local roads located

within that city, if the city has formally adopted policies (similar to Policies 4.1.2-2 through 4) respecting discretionary development in the city that would affect the LOS of County thoroughfares, County-maintained local roads, and State highways within the unincorporated area of the County.

At any intersection between two roads, each of which has prescribed minimum acceptable LOS, the lower LOS of the two shall be the minimum acceptable LOS for that intersection.

Policy 4.1.2-3: Area Plan land use designation changes, zone changes and discretionary development shall be evaluated for individual and cumulative impacts on existing and future roads, with special emphasis on the following:

(a) Whether they would cause existing roads within the Regional Road Network or Local Road Network that are currently functioning at an acceptable LOS to function below an acceptable LOS;

(b) Whether they would worsen traffic conditions on existing roads within the Regional Road Network that are currently functioning below an acceptable LOS; and

(c) Whether they could cause future roads planned for addition to the Regional Road Network or the Local Road Network to function below an acceptable LOS.

Policy 4.1.2-4: Area Plan land use designation changes, zone changes and discretionary development that would individually or cumulatively cause any of the impacts identified in subparagraphs (a) through (c) of Policy 4.1.2-3 (above) shall be prohibited unless feasible mitigation measures are adopted that would ensure that the impact does not occur or unless a project completion schedule and full funding commitment for road improvements are adopted that ensure that the impact will be eliminated within a reasonable period of time. This policy does not apply to city thoroughfares, city-maintained local roads, or Federal or State highways located within the city unless the City of Ojai has formally adopted General Plan policies, ordinances,

or a reciprocal agreement with the County (similar to Policies 4.1.2-2 through 4.2.2-4) respecting development in the city that would affect the LOS of the County thoroughfares, County-maintained local roads, and Federal and State highways located within the unincorporated area of the County. Exceptions to the prohibitions of this policy include the following:

(a) Farmworker Housing Complexes, Affordable Housing development per Article 16 of the Non-Coastal Zoning Ordinance, and other housing exclusively for lower-income households, where such developments are served by roads that are currently operating at LOS "E" or better.

(b) Additional dwellings and lots on Cultural Heritage Sites as permitted in the Non Coastal Zoning Ordinance.

(c) Agriculture and Agricultural Operations as permitted in the Coastal and Non-Coastal Zoning Ordinances, where such developments are served by roads that are currently operating at LOS "E" or better.

Policy 4.1.2-5: Highway 33 shall be limited to two lanes between Oak View and the City of Ojai. Highway 33 south of Oak View shall be limited to as few lanes as necessary to accommodate the traffic projected to occur under the City of Ojai General Plan and this Area Plan at the prescribed LOS in Policy 4.1.2-2 above. Highway 33 shall not be constructed to freeway standards.

Policy 4.1.2-6: All public roads within the Ojai Valley shall be maintained and improved in a manner which preserves their scenic qualities.

4.10.4 IMPACT ANALYSIS

Thresholds of Significance

Roads and Highways – Level of Service

The determination of the significance of traffic impacts to a road segment or intersection LOS is based on Policies 4.2.2-4 and 4.2.2-5 of the *Ventura County General Plan Goals, Policies and Programs* and Policy 4.1.2-4 of the *Ojai Valley Area Plan*. **Table 4.10-2, Minimum Acceptable Level of Service for Roadway Segments**,

summarizes the levels of service deemed acceptable for County roadways in the *Ventura County General Plan*.

Table 4.10-2
Minimum Acceptable Level of Service for Roadway Segments

Case	Minimum LOS	Description
a	D	All County thoroughfares within the unincorporated area of the County, except as provided in case b.
b	E	State Route 33 between the end of the freeway and the City of Ojai.
c	C	All County-maintained local roads.
d	Varies	The LOS prescribed by the applicable city for all state highways, city thoroughfares, and city-maintained local roads located within that city, if the city has formerly adopted General Plan policies, ordinances, or a reciprocal agreement with the County, pertaining to development in the city that would individually or cumulatively affect the LOS of state highways, county thoroughfares, and County-maintained local roads in the unincorporated area of the County.
e		County LOS standards are applicable for any city that has not adopted its own standards.

At any intersection between two roads, each of which has a prescribed minimum acceptable LOS, the less stringent LOS of the two shall be the minimum acceptable LOS of that intersection.

Source: Associated Traffic Engineers, Inc. 2013.

If the proposed project would generate new traffic to a road segment or intersection that is currently operating at an unacceptable LOS, the project shall be denied unless:

1. The project's traffic impact is fully mitigated;

2. A full funding commitment for road improvements is reasonably available to ensure that the impacts will be eliminated within a reasonable period of time.

As discussed above, the LOS E is acceptable for the portion of SR-33 between US Highway 101 and the City of Ojai.

Furthermore, Ventura County's Initial Study Assessment Guidelines state that the addition of one peak hour trip to SR-33 in the southbound direction in the AM commute period (6:30 AM to 9:00 AM) and northbound direction in the PM commute period (3:30 PM to 6:30 PM) would be considered a significant impact.

Methodology

The following analysis is based on the traffic impact report prepared for the proposed project by ATE. This report is consistent with the County of Ventura's recommended traffic impact assessment methodology.

Analysis, Mitigation Measures, and Residual Impacts

Tactical Access

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a project would have a significant impact if there is a single access and the access road exceeds 800 feet in length.

The proposed new maintenance access roads would not exceed 800 feet in length and would comply with Ventura County Fire Protection District Private Road Guidelines. As such, there would be no impact to the tactical access of the proposed project.

Construction Impacts

The proposed project will be designed to convey flows from the 100-year flood event by constructing a 12-foot diameter reinforced concrete pipe (RCP) installed via horizontal boring beneath SR-33 and via an open trench. The proposed project avoids the need to detour traffic on SR-33 by installing the RCP using a horizontal boring method.

The project includes two construction staging areas. One staging area is on the eastern side of SR-33 near the existing Fresno Canyon flood control channel inlet and the other staging area on undeveloped property north of the proposed pipeline alignment west of Edison Drive. The project would also include two maintenance roads. A 15-foot-wide maintenance access road would extend west from SR-33 to the outlet structure with turnaround area on uplands immediately west of the Ojai Valley Trail. A second maintenance access road would be constructed at the eastern end of the facility. It would connect to an existing access road at SR-33 and extend north to the proposed flood wall.

Project construction is estimated to be eight months in duration and is planned to occur between the hours of 7:00 AM and 7:00 PM, Monday through Friday, no Saturdays, Sundays or holidays. The traffic generated during the construction project would include truck and employee trips to/from the site. Trucks will import/export equipment, raw and finished material to the project site. The import of raw and finished material will be hauled to the site from sources to the south via US Highway 101 and from sources north of Ojai via the two-lane highway section of SR-33. Truck and employee traffic will access to

the project site via Ranch Road, Edison Drive, Sycamore Drive, and an existing maintenance road from SR-33.

An average of approximately seven truck trips per day would occur during construction of the project. Parking of heavy construction equipment would occur within the two designated staging areas. An average of five and a peak of 15 construction workers would be at the site daily. At the upstream end of the project (east of SR-33), construction workers would park their vehicles in the staging area adjacent to the existing detention basin. West of SR-33, it is anticipated that construction worker vehicle parking would occur in the staging area on private property west of Edison Drive. On-street neighborhood parking of worker vehicles should not be necessary. Additional parking may be provided within the lot at the Casitas Springs Community Center located at 8437 Edison Drive, as needed.

A significant adverse project specific traffic impact is assumed to occur at any intersections if the project will change the V/C ratio or add peak-hour trips to impacted intersections that exceed the thresholds established in **Table 4.10-2**.

Trip Generation

Trip generation estimates were calculated based on anticipated truck trips and construction employees. The trip generation calculations assume that construction will generally be limited to the hours of 7:00 AM to 3:30 PM, Monday through Friday.

The calculations were completed for weekday daily and peak hour activity levels. The five to 15 on-site employees would generate an estimated nine to 28 daily trips over the entire construction period. The project will import 500 cubic yards of fill material, 360 cubic yards of concrete and 1,579 cubic yards of rock rip rap via trucks with a 10 cubic yard capacity. The import of raw material will require a total of 488 truck trips (244 truck loads) over the entire eight-month (166 days) construction schedule. This results in three average daily truck trips over the entire 166 days. This is in addition to general daily truck deliveries estimated to be four daily trips. Adding the employee and truck trips together would represent the project daily trip generation. The project workday would result in a total of 28 daily employee trips and seven daily truck trips. **Table 4.10-3, Trip Generation Estimates**, summarizes the trip generation calculations completed for the project.

Table 4.10-3
Trip Generation Estimates

Traffic Generator	Number/Day	Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips
Truck Loads (Fill, Concrete, Rock)	1.5/day	3 trips	0 trips	0 trips
Truck Loads (General Deliveries)	2/day	4 trips	0 trips	0 trips
Employees	15/day	28 trips	14 trips	14 trips
Total	**15/day**	**35 trips**	**14 trips**	**14 trips**

Source: Associated Traffic Engineers, 2013.

Truck Routing

A field review was completed to determine the existing conditions along these routes, constraints for trucks, and the most appropriate route for trucks transporting materials to/from the project site. Generally, construction trucks will travel from the south via US Highway 101 and SR-33 to import/export raw materials from Ventura/Oxnard. US Highway 101 and SR-33 are designated as truck routes in the County of Ventura. Construction trucks will also travel to/from the north via SR-33 to import/export raw and finished materials from sources north of the project site in Casitas Springs and Ojai via the two-lane highway section of SR-33. The two-lane section of SR-33 through Casitas Springs is designated as an impacted roadway by the Ventura County General Plan. The two-lane section of SR-33 is lined with residential and small commercial units. The section of SR-33 through Casitas Springs is somewhat narrow (± 12 feet wide). Ventura County General Plan policy would restrict the periods which construction traffic could use the route without impacting the two-lane section of SR-33. The project specifications limit hauling from the north to occur only during non-peak hours outside the 6:30 AM to 9:00 AM southbound commute period and hauling from the south will only occur outside the 3:30 PM to 6:30 PM northbound commute period.

SR-33 to Ranch Road or to the existing maintenance road would be the truck route to the project site and project staging areas on both sides of SR-33. SR-33 provides direct access to the project site for trucks destined to/from the south on US Highway 101. Inbound trucks from US Highway 101 would exit at SR-33, travel north to Ranch Road or the maintenance road, then on to the project site. The route would be the same in reverse for outbound trucks. The route provides the most direct access for trucks and trucks with trailers to the project site. The SR-33/Ranch Road intersection is presently used by Ventura County Watershed Protection District (VCWPD) vehicles to access the project site. There is a northbound left turn lane from SR-33 to Ranch Road.

Potential Roadway Impacts

As shown in **Table 4.10-3**, the project would result in a maximum of 35 daily trips using the roadway segments serving the project site. This additional traffic would not degrade roadway operations from a capacity standpoint, thus the project would not generate significant capacity impacts to the study-area roadways since the roadways would continue to operate in the LOS A through E range. **Table 4.10-4, Existing Plus Project Roadway Operations**, shows the levels of service with the addition of project trips, and **Figure 4.10-3, Existing Plus Project Traffic Volumes**, illustrates the effect of project trips on the circulation network in the project area.

Table 4.10-4
Existing Plus Project Roadway Operations

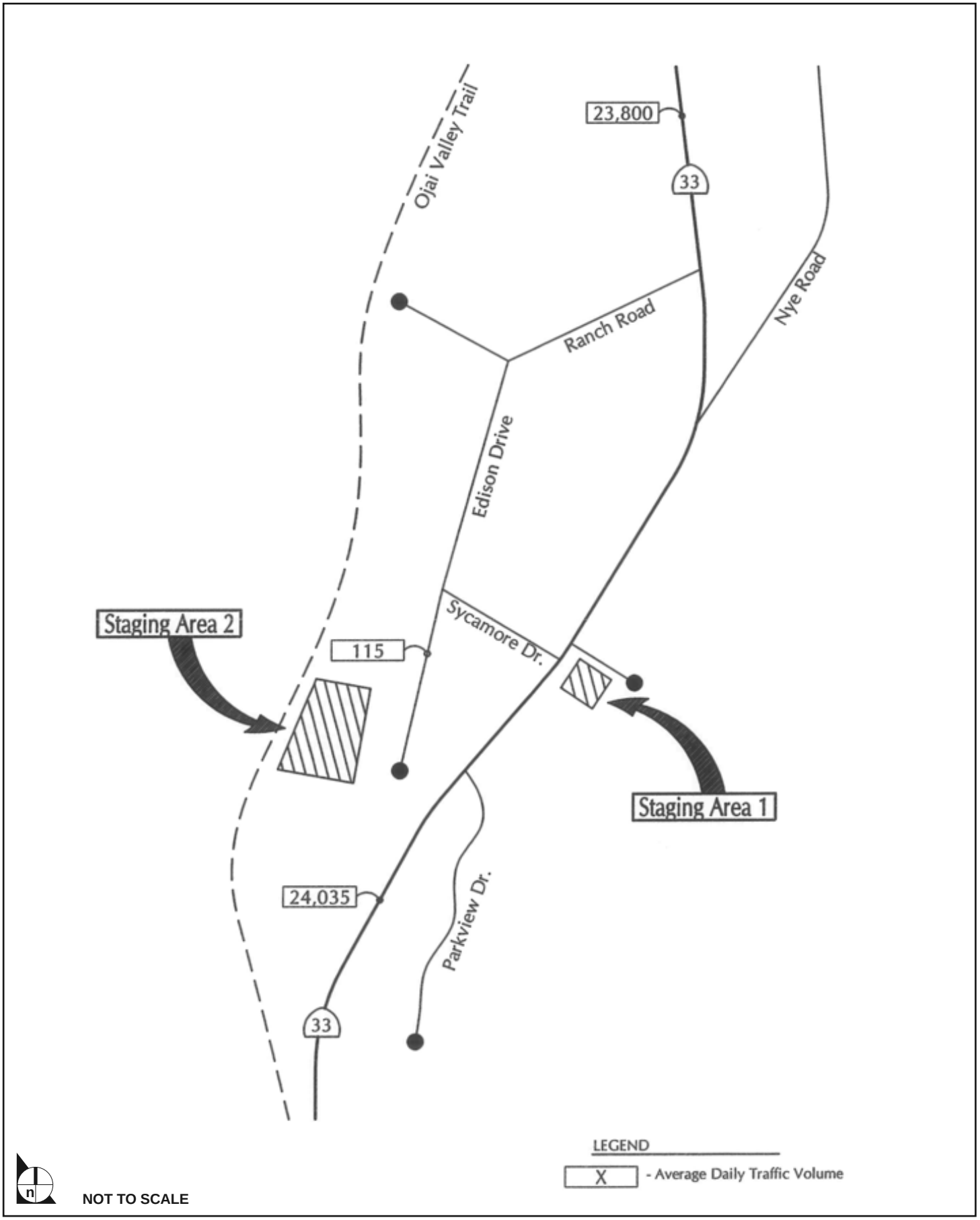
Roadway	Geometry	ADT	LOS	LOS Rating
State Route 33	two lanes	24,035	E	Acceptable
Edison Drive	two lanes	115	A	Acceptable

Source: Associated Transportation Engineers, 2013.

The information shown in **Table 4.10-3** indicates that because of the project hours of construction, the project has the potential to generate a significant impact at SR-33 during the AM and PM peak hour periods. This roadway section operates at LOS "E" during the AM and PM peak hour period. Based on the project description, the project could add one or more southbound AM peak hour trips and one or more northbound PM peak hour trips which exceeds the County's threshold for the two-lane section of SR-33 through Casitas Springs. However, this impact would be temporary, occurring during the eight-month construction period only. Implementation of the following project design features would reduce transportation and circulation impacts to less than significant:

- Prior to the commencement of construction, a photo record and inventory of the condition of the study-area roadways and intersections along the truck route shall be made. During construction, periodic inspections shall be made to note any changes in the condition of the study-area roadways and intersections. After construction is completed, the study-area roadways shall be inspected and repairs made to return the roadway to the condition prior to construction if necessary.

- The access route for construction trucks and employees arriving to the site shall be properly signed during periods of construction activity.



SOURCE: Associated Transportation Engineers, Inc., 2013

FIGURE **4.10-3**

Existing Plus Project Traffic Volumes

- Construction hauling will be limited from the north to occur only during non-peak hours outside the 6:30 AM to 9:00 AM southbound commute period and hauling from the south will only occur outside the 3:30 PM to 6:30 PM northbound commute period. VCWPD would hire local contractors with employees that live south of the project site or that have employees which already travel south from Ojai to work which would mitigate the potential impact to SR-33. Since this is a temporary impact, employees that live in Ojai already travel southbound on SR-33 to work and would not be considered new trips added to the impacted section.

Operational Impacts

At the conclusion of the construction phase, the proposed project would not generate any new peak-hour trips. No substantial increase in traffic would result from the project over the long term because the proposed infrastructure would require only occasional maintenance and no new employees would be hired for ongoing operations.

Level of Significance Before Mitigation

Construction impacts would be less than significant with the implementation of the project design features outlined above. Operational impacts would be less than significant.

Mitigation Measures

There are no significant impacts associated with transportation and circulation; therefore, no mitigation measures are required.

Residual Impacts

Impacts would be less than significant.

4.9.5 CUMULATIVE IMPACTS

Cumulative projects in the area are located at Matilija Dam, approximately 8 miles north of the project site, and San Antonio Creek, approximately 5 miles northeast of the project site. The cumulative projects are expected to operate north of the community of Casitas Springs using equipment based in the City of Ojai. Thus, cumulative projects are not expected to use the reach of SR-33 located south of the project site, and therefore would not cause a cumulative impact in combination with project construction traffic.

Traffic generated by the project is a result of construction only and is short-term in nature. No long-term substantial increase in traffic would result from the project over the long term because the proposed

infrastructure would require only occasional maintenance and no new employees would be hired for ongoing operations. Therefore the proposed project would not contribute to cumulative traffic impacts.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

4.11 UTILITIES

4.11.1 INTRODUCTION

This section evaluates the potential for the proposed project to cause significant impacts to utility services based on thresholds of significance provided in the *Ventura County Initial Study Assessment Guidelines*.

4.11.2 ENVIRONMENTAL SETTING

The project site is located the community of Casitas Springs in unincorporated Ventura County, and is served by the following utility providers: Southern California Edison (electric), The Gas Company (natural gas), Ojai Valley Sanitary District (wastewater), and Casitas Municipal Water District (water). As discussed in **Section 3.0, Project Description**, the project site contains existing utility lines. A buried 42-inch water line, a 21-inch sewer trunk line, and 6-, 10-, and 20-inch gas lines intersect the proposed project alignment. The 42-inch water line would be protected in place, as would the 6-, 10-, and 20-inch gas lines. The 21-inch sewer trunk line, operated by the Ojai Valley Sanitary District, would require relocation under the proposed project.

4.11.3 REGULATORY FRAMEWORK

Local Regulations

Ojai Valley Sanitary District

Ojai Valley Sanitary District's (OVSD) *District Code of Regulations* sets fees and design requirements for development projects within the district's service area. The proposed project is located outside of OVSD's service area, but is in the near vicinity of District Division 1 (Central) which includes several parcels in Casitas Springs.

4.11.4 IMPACT ANALYSIS

Thresholds of Significance

The Ventura County *Initial Study Assessment Guidelines* provide the following threshold for impacts related to utilities:

- Any project that would individually or cumulatively (1) cause a disruption or re-routing of an existing utility facility or (2) increase demand on a utility that results in expansion of an existing utility facility which has the potential for secondary environmental impacts has the potential for significant impacts.

Each applicable threshold of significance is listed below followed by analysis of the significance of any potential impacts and the identification of mitigation measures that would lessen or avoid potential impacts. Finally, the significance of potential impacts after implementation of all identified mitigation measures is presented.

Threshold 4.11-1 **Any project that would individually or cumulatively (1) cause a disruption or re-routing of an existing utility facility or (2) increase demand on a utility that results in expansion of an existing utility facility which has the potential for secondary environmental impacts has the potential for significant impacts.**

The proposed project consists of expanded flood control facilities, and would not cause an increase in demand for water, wastewater, electric, gas, or other utility. As discussed above, existing water, gas, and wastewater lines intersect the alignment of the proposed project. The existing water 42-inch water line is located near the western end of the project site and would not be disturbed by project construction or operation. Three natural gas transmission lines are located near the middle of the project alignment. These 6-, 10-, and 20-inch gas lines would similarly be avoided during project construction and operation. Therefore the proposed project would not cause any significant impacts with respect to these utilities.

The existing 21-inch sewer line presently located near the center of the proposed project, and would need to be relocated. A new 21-inch sewer line would be constructed 1 to 2 feet north of the existing line to allow for OVSD access and maintenance. The existing line would remain functional until the newly relocated line is complete, reducing potential disruption to service; then the old line would be abandoned in place. New sewer manholes would be added at the end of Edison Drive and along the sewer line just west of the Ojai Valley Trail and south of the new outlet. As the proposed project would not result in any interruption of sewer service, and would not increase demand for sewer service provided by OVSD, impacts would be less than significant.

In addition, the project would require the removal of the individual sewage disposal systems which currently serve two County-owned single-family residences located at 8195 N. Ventura Avenue and 8220 Edison Drive. Replacement sewer service is proposed to be provided by OVSD via connection to the sanitary district's trunk sewer. As the lots are currently located outside of the boundary and service area of OVSD, sewer service may not be initiated unless the Ventura Local Agency Formation Commission approves a request for annexation.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.11.5 CUMULATIVE IMPACTS

Related projects would have the potential to result in significant impacts to utilities if they would result in increased demand for utility services or result in the disruption of utility service. Each individual project would be required under the California Environmental Quality Act to assess potential project impacts and provide measures to mitigate significant impacts to the extent feasible. As discussed above, the proposed project would not result in any significant impacts related to utilities, and therefore would not contribute to any significant cumulative impacts.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

4.12 SURFACE WATER QUALITY

4.12.1 INTRODUCTION

This section evaluates the project's potential effects on surface water quality. The potential for the project to impact surface water quantity and groundwater resources was evaluated in the project Initial Study and determined to be less than significant. The Initial Study is provided in **Appendix A**.

4.12.2 ENVIRONMENTAL SETTING

Fresno Canyon is a tributary to the Ventura River, with a drainage area of almost 1,100 acres with a 100-year peak clear flow of 1,453 cubic feet per second (cfs). The upper half of this watershed is on steep, highly erodible slopes heavily grown with trees and brush. The bulking factor used for the 100-year flow is 1.57 bringing the bulked 100-year peak flow to 2,281 cfs.[1]

4.12.3 REGULATORY FRAMEWORK

Federal Regulations

Clean Water Act

The Federal Pollution Control Act,[2] commonly known as the Clean Water Act (CWA), was originally enacted in 1948. The primary purpose of the act is restoring and maintaining the chemical, physical, and biological integrity of the nation's water in order to achieve a level of water quality that provides for recreation in and on the water and the propagation of fish and wildlife. Section 208 of the CWA and the requirements of the Code of Federal Regulations require local water management plans. Preparation of these water management plans has been delegated to the individual states by the US EPA, which is charged with implementing the CWA.

Pursuant to Section 404 of the federal CWA, the United States Army Corps of Engineers (USACE) regulates discharges of dredged and/or fill material into waters of the United States.[3] "Waters of the United States" is defined in USACE regulations such that navigable waters of the United States are those waters of the United States that are navigable in the traditional sense.[4] "Waters of the United States" is a broader term than "navigable waters of the United States" and includes adjacent wetlands and tributaries

1 Fresno Canyon Flood Mitigation Pre-Design Study Final Report, Hawks & Associates, September 11, 2007

2 US Code, Title 33, Federal Pollution Control Act, (1972 as amended), Sec. 1251–1387.

3 US Code, Title 33, Federal Pollution Control Act, (1972 as amended), Sec. 1344.

4 US Code, Title 33, Federal Pollution Control Act, (1972 as amended), Chapter II, Part 328.3, Definitions.

to navigable waters of the United States and other waters, the degradation or destruction of which could affect interstate or foreign commerce.

The CWA requires states to adopt water quality standards for all surface waters of the United States. The CWA requires the US EPA to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. The CWA requires states to adopt numerical water quality standards for toxic pollutants for which the US EPA has published water quality criteria that reasonably could be expected to interfere with designated uses in a water body.[5] The water bodies that do not meet water quality standards are placed on a list of impaired waters pursuant to the requirements of Section 303(d) of the CWA. Stormwater discharges to waters of the US are regulated under the CWA. The stormwater discharges for the Westside Community Planning Project area are collected by the multiple inlets to the storm drain system.

The National Pollutant Discharge Elimination System (NPDES) permit system was established in the CWA to regulate both point-source discharges (a municipal or industrial discharge at a specific location or pipe) and non-point-source discharges (diffuse runoff of water from adjacent land uses) to surface waters of the United States. For point-source discharges, each NPDES Phase II permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. For non-point-source discharges, the NPDES program establishes a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The NPDES program consists of (1) characterizing receiving water quality, (2) identifying harmful constituents, (3) targeting potential sources of pollutants, and (4) implementing a comprehensive stormwater management program.

The Ventura County Watershed Protection District (VCWPD), County of Ventura, and Cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, Ventura, Santa Paula, Simi Valley, and Thousand Oaks have joined to form the Ventura Countywide Stormwater Quality Management Program and are named as co-permittees under a revised Countywide municipal NPDES permit for stormwater discharges issued by the State Regional Water Quality Control Board in 2010 (Order R4-2010-0108). The program requires new development/redevelopment to control urban runoff pollution on-site during and after construction.

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5 US Code, Title 42, Clean Water Act, Section 303(c)(2)(b).

National Pollutant Discharge Elimination System

In 1972, the CWA was amended to prohibit the discharge of pollutants to waters of the United States unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The CWA focused on tracking point sources, primarily from wastewater treatment facilities and industrial waste dischargers, and required implementation of control measures to minimize pollutant discharges. The CWA was amended again in 1987, adding Section 402(p) to provide a framework for regulating municipal and industrial storm water discharges. In November 1990, the US EPA published final regulations that established requirements for specific categories of industries, including construction projects that encompass greater than or equal to 5 acres of land. The Phase II Rule became final in December 1999, expanding regulated construction sites to those greater than or equal to 1 acre. The regulations require that stormwater and non-stormwater runoff associated with construction activity, which discharges either directly to surface waters or indirectly through municipal separate storm sewer systems (MS4), must be regulated by an NPDES permit.

The US EPA has delegated management of California's NPDES program to the State Water Resources Control Board (SWRCB) and the nine regional board offices; the project site is located within the Los Angeles Regional Water Quality Control Board (RWQCB), or Region 4. The NPDES program was established in 1972 to regulate the quality of effluent discharged from easily detected point sources of pollution such as wastewater treatment plants and industrial discharges. The 1987 amendments to the CWA[6] recognized the need to address non-point-source stormwater runoff pollution and expanded the NPDES program to operators of MS4s, construction projects, and industrial facilities.

The State of California is required by Section 303(d) of the CWA[7] to provide the US EPA with a list of water bodies considered by the state to be impaired (i.e., not meeting water quality standards and not supporting their beneficial uses). The list also identifies the pollutant or stressor causing impairment, and establishes a schedule for developing a control plan to address the impairment, typically a total maximum daily load (TMDL). The TMDL specifies the amount of the target pollutant that the water body can sustain on a daily or annual basis and is established by amending the water quality control plan. TMDLs are prepared by the RWQCBs and result in amendments to the Water Quality Control Plan (WQCP), which must be approved by the US EPA. The 303(d) list is used by the US EPA to prepare the biennial federal CWA Section 305(b) Report on Water Quality.

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6 US Code, Title 33, Section 402(p), Clean Water Act, National Pollution Discharge Elimination System, Municipal and Industrial Stormwater Discharges, (2008).

7 US Code, Title 33, Section 303(d), Clean Water Act, Water Quality Standard and Implementation Plans, (1972).

State Regulations

California Water Code

All projects resulting in discharges, whether to land or water, are subject to the California Water Code[8] and are required to obtain approval of Waste Discharge Requirements (WDRs) by the RWQCBs. Land- and groundwater-related WDRs (i.e., non-NPDES WDRs) regulate discharges of process and wash-down wastewater and privately or publicly treated domestic wastewater. WDRs for discharges to surface waters also serve as NPDES permits.[9]

Prior to the issuance of any construction/grading permit—and/or the commencement of any clearing, grading, or excavation—owners of projects with construction activities that require a grading permit must prepare and submit a stormwater pollution prevention plan (SWPPP). Landowners are responsible for obtaining and complying with the General Construction NPDES Permit, but may delegate specific duties to developers and contractors by mutual consent. The purpose of the SWPPP is to identify potential pollutant sources that may affect the quality of discharges and to design the use and placement of best management practices (BMPs) to effectively prohibit the entry of pollutants from the construction site into the storm drain system. An SWPPP prepared in compliance with the General Construction NPDES Permit describes the site, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of post-construction stormwater management measures and maintenance responsibilities, training of staff, a list of contractors and subcontractors, and non-stormwater management controls. Dischargers are also required to inspect construction sites before and after storms to identify stormwater discharge from construction activity, and to identify and implement controls where necessary.

Porter-Cologne Water Quality Control Act

The California Porter-Cologne Act of 1970[10] is largely responsible for creating the state's extensive regulatory program for water pollution control. As discussed above, preparation of water management plans has been delegated to the individual states by the US EPA. Pursuant to the Porter-Cologne Act, the responsibility for protection of water quality in California rests with the SWRCB. In turn, the SWRCB has delegated the regulation of the hydrologic basin to nine RWQCBs to regulate the nine hydrologic basins in the state. The Porter-Cologne Act gives the SWRCB and RWQCB broad powers to protect water quality by regulating waste discharges to water and land and by requiring cleanup of hazardous conditions.

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8 California Water Code, et seq.

9 California Water Code, Section 13263.

10 California Water Code, Porter-Cologne Water Quality Act, (1970 as amended), Sec. 13000-14958.

State Water Quality Control Board

The SWRCB administers the NPDES General Permit for Storm Water Discharges associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ; as amended by Order No. 2010-0014-DWQ; NPDES General Permit No. CAS000002).[11] To obtain coverage under this General Permit, dischargers shall electronically file the Permit Registration Documents (PRDs), which include a notice of intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other compliance-related documents required by this General Permit, and mail the appropriate permit fee to the SWRCB. It is expected that as the storm water program develops, the RWQCBs may issue General Permits or Individual Permits containing more specific permit provisions. When this occurs, the Statewide General Permit will no longer regulate those dischargers.

The PRDs must be submitted to the SWRCB prior to the beginning of construction for projects disturbing 1 acre or more of land, or whose projects disturb less than 1 acre but are part of a larger common plant of development that in total disturbs one or more acres, to be covered under the General Permit. The General Permit requires that a SWPPP identify potential sources of pollution and specify runoff controls, or best management practices (BMPs), during construction for the purpose of minimizing the discharge of pollutants in stormwater from the construction area. In addition, the SWPPP must identify post-construction control measures and a monitoring plan.

Los Angeles Regional Water Quality Control Board

The project site is located within the Los Angeles Region, which is governed by the Los Angeles RWQCB, also known as Region 4. The Los Angeles RWQCB has jurisdiction over the majority of the Ventura and Los Angeles Counties. The Los Angeles RWQCB has adopted a Water Quality Control Plan[12] (Basin Plan) in accordance with criteria contained in the CWA, California Porter-Cologne Water Quality Control Act, and other pertinent state and federal rules and regulations. The intent of the Basin Plan is to provide definitive guidelines and give direction to the scope of Los Angeles RWQCB activities that will optimize the beneficial uses of the state waters within the Los Angeles Basin by preserving and protecting the quality of these waters. The intended beneficial use of water determines the water quality objectives. For example, drinking water must be of higher quality than the water used to irrigate pastures. Both of these are beneficial water uses, but the quality requirements for irrigation water are different from those for drinking water.

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11 California Environmental Protection Agency, State Water Resources Control Board, General Permit For Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2010-0014-DWQ, NPDES No. CAS000002.

12 Los Angeles Regional Water Quality Control Board, *Water Quality Control Plan*, 1994.

The Los Angeles RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements for appropriate persons and groups; these can include individuals, communities, or businesses whose waste discharges may affect water quality. These requirements can be either State Waste Discharge Requirements for discharge to land, or federally delegated NPDES permits for discharges to surface water. Dischargers are required to meet water quality objectives and thus protect beneficial uses. Additional information regarding these approvals is summarized above under the NPDES subsection.

In response to the US EPA's finding that surface waters in the Calleguas Creek watershed were impaired for salts, the Los Angeles RWQCB adopted Basin Plan Amendment Resolution R4-2007-016 which imposes TMDL limits for boron, chloride, sulfate, and TDS (salts) in the Calleguas Creek Watershed.[13] With Los Angeles RWQCB and US EPA approval of Resolution R4-2007-016, watershed stakeholders must develop a work plan to manage salts by June 2009. Due to the surface water influence on groundwater quality, any successful work plan must include groundwater management as an element of the plan. The SWRCB subsequently approved the amendment to the Water Quality Control Plan for the Los Angeles Basin Plan.[14]

Local Regulations

County of Ventura

Ventura County Stormwater Quality Management Plan

The Ventura County Stormwater Quality Management Plan[15] defines the requirements of the Ventura County Municipal Storm Water NPDES Permit adopted by the Los Angeles RWQCB, pursuant to Division 7 of the California Water Code. Program elements included in the Stormwater Management Plan (SMP) include NPDES permit coverage and provisions, institutional arrangements, program structure, monitoring and reporting, fiscal resources, and legal authority. The Ventura County Stormwater Quality Management Plan addresses specific stormwater pollution requirements for new developments. The City is responsible for ensuring that new developments are in compliance with the Ventura County Stormwater Quality Management Plan.

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13 Los Angeles Regional Water Quality Control Board, *Resolution No. R4-2007-016*, October 4, 2007.

14 State Water Resources Control Board, *Resolution No. 2008-0033*, 2008.

15 Regional Water Quality Control Board, Los Angeles Region, *Ventura County Stormwater Quality Management Plan*, 2001.

Ventura County Water Management Plan

The Ventura County Water Management Plan[16] addresses water supply sources including groundwater, surface, imported, and reclaimed water, as well as alternative resources. This plan includes demand management programs and discusses the County's water quality issues. The plan is part of an ongoing County effort to maintain and improve the management and quality of County water resources. It contains recommendations for water quality programs that address abandoned water wells, seawater intrusion, individual septic tanks, urban stormwater runoff, agricultural runoff, and other water quality issues of priority as identified by the County. The City is responsible for assuring that new developments are in compliance with the goals and policies contained in the Ventura County Water Management Plan.

Municipal Stormwater Permit

Ventura County is subject to Municipal Stormwater Permit No. CAS004002[17] for stormwater discharges and urban runoff. As part of the permit application, the Countywide Stormwater Quality Management Plan (SQMP)[18] was prepared to describe in detail all activities subject to regulation, management measures, schedules for implementation of measures, and specific standards against which success is measured within Ventura County.

Ventura County General Plan

The *Ventura County General Plan Goals, Policies, and Programs* provide the following goals and policies relating to surface water quality.

1.3.1 Applicable Goals

1. Inventory and monitor the quantity and quality of the County's water resources.

2. Effectively manage the water resources of the County by adequately planning for the development, *conservation* and protection of water resources for present and future generations.

3. Maintain and, where feasible, restore the chemical, physical and biological integrity of surface and groundwater resources.

6. Promote reclamation and reuse of wastewater for recreation, irrigation and to recharge aquifers.

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16 Ventura County Resource Management Agency, *Ventura County Water Management Plan*, 1994.

17 Ventura Countywide Stormwater Quality Urban Impact Mitigation Plan, http://www.vcstormwater.org/documents/programs_planninglanddevelopment/squimp.pdf, 2001.

18 Ventura Countywide Stormwater Quality Urban Impact Mitigation Plan, 2001.

1.3.2 Applicable Policies

2. *Discretionary development* shall comply with all applicable County and State water regulations.

4.12.4 IMPACT ANALYSIS

Thresholds of Significance

According to the Ventura County *Initial Study Assessment Guidelines*, any project that meets one of the criteria listed below would result in a significant impact to surface water quality.

- Individually or cumulatively degrade the quality of surface water and cause it to exceed water quality objectives contained in Chapter 3 of the three Basin Plans.
- Directly or indirectly cause stormwater quality to exceed water quality objectives or standards in the applicable MS4 Permit or any other NPDES Permits.

The State Water Resources Control Board (SWRCB) administers the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ; as amended by Order No. 2010-0014-DWQ; NPDES General Permit No. CAS000002).[19] Construction activities associated with small linear underground/overhead projects that result in land disturbances greater than 1 acre, but less than 5 acres (hereafter referred to as small LUPs [land use plans]), are not like traditional construction projects.[20] Small LUPs have a lower potential to impact receiving waters because these projects are typically short duration and constructed within or around hard paved surfaces that result in minimal disturbed land areas being exposed at the close of the construction day. Therefore, this General Permit has been adopted statewide, and it is applicable to construction activities associated with small LUPs.

Tier II projects are all other small LUPs that do not meet the definition of Tier I projects. Tier II projects may have a higher potential to impact storm water quality, and they need to be regulated with a higher level of review and oversight. Like Tier I projects, Tier II projects are typically constructed over a short period of time. However, these projects have a higher potential to impact water quality because (1) typically they occur outside the more urban/developed areas, (2) they have larger areas of soil disturbance that are not closed or restored at the end of the day; (3) they may have on-site stockpiles of soil, spoil and other materials; (4) they cross or occur in close proximity to a wide variety of sensitive

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19 California Environmental Protection Agency, State Water Resources Control Board, General Permit For Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2010-0014-DWQ, NPDES No. CAS000002.

20 State Water Resources Control Board, Water Quality Order 2003-0007-DWQ, *NPDES General Permit for Storm Water Discharges associated with Construction Activity from Small Linear Underground/Overhead Projects*.

resources which may include, but are not limited to, steep topography and/or water bodies; and (5) they have larger areas of disturbed soils that may be exposed for a longer time interval before final stabilization, cleanup and/or reclamation occurs. Due to its location and design, the proposed project would be considered a Tier II project.

The General Permit requires the discharger or its authorized representative to develop and implement an SWPPP for these construction activities that are specific for project type, location, and characteristics. The SWPPP would provide BMPs that would ensure that potential contaminants used during construction (e.g., fuel, lubricants, sealants) would be stored away from areas where they could potentially affect water quality, and would provide measures for managing flows during accidental spills or storm events that would ensure that contaminants are conveyed away from the Ventura River. Implementation of the SWPPP requirements would ensure that impacts during construction would be less than significant.

In addition to the NPDES General Permit No. CAS000002 requirements discussed above, the Los Angeles Regional Water Quality Control Board NPDES Municipal Stormwater Permit No. CAS004002 contains additional construction requirements for surface water quality and storm water runoff in Part 4.F.I.4., *"Development Construction Program."* Because the project site is located within 200 feet of the Ventura River, Part 4.F.I.4 requires additional inspections to be conducted by the Qualified SWPPP Developer, Qualified SWPPP Practitioner, or Certified Professionals in Erosion and Sediment Control (CPESC). The Municipal Stormwater Permit No. CAS004002 requires completion of a Local SWPPP and Enhanced BMP Construction for High Risk Sites (SW-HR form – Best Management Practices for Construction at High Risk Sites), which can be found at http://onestoppermit.ventur.org/. Inspectors are required to conduct Local SWPPP inspections during construction to ensure effective installation of the required SW-HR Enhanced BMPs and keep records of required inspections by the project Qualified SWPPP Developer, Qualified SWPPP Practitioner, or CPESC.

The proposed project would create approximately 6,730 square feet of new impervious surface from construction of the proposed flood control structures. The post-construction requirements of the Los Angeles Regional Water Quality Control Board NPDES Municipal Stormwater Permit No. CAS004002 are applicable to projects that create 10,000 square feet of new impervious surface and increase the hydraulic capacity of drainage facilities. Therefore, the post-construction requirements laid out in NPDES Permit No. CAS004002 would not apply to the proposed project.

Operation of the proposed project would redirect stormwater flows originating in Fresno Canyon away from the community of Casitas Springs and toward the Ventura River. These flows currently reach the Ventura River through existing stormwater conveyance facilities or as sheet flow during severe rain events that cause flooding in the community of Casitas Springs. Conveying these stormwater flows through the proposed project facilities would not degrade surface water quality in the Ventura River. Because the project is designed primarily to facilitate flood flow from Fresno Canyon to the Ventura

River, it is not expected to increase or decrease sediment disposition or scouring in the Ventura River. [21] Impacts related to surface water quality would be less than significant.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.12.5 CUMULATIVE IMPACTS

Related projects have the potential to discharge to the Ventura River, after implementation of project design features, both during construction and post-development. It is assumed that all projects would comply with adopted regulatory requirements that are designed by the RWQCB to assure that regional development does not adversely affect water quality, including MS4 Permit requirements; Construction General Permit requirements; General Dewatering Permit requirements; and benchmark water quality objectives. Any future urban development occurring in the project area watershed must also comply with these requirements. Therefore, cumulative impacts on surface water quality from the proposed project and future urban development in the Ventura River area are addressed through compliance with the MS4 Permit requirements, Construction General Permit requirements, General Dewatering Permit requirements, and water quality objectives, which are intended to be protective of beneficial uses of the surface and ground water. Based on compliance with these requirements designed to protect beneficial uses, cumulative water quality impacts would be mitigated to a level that is less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

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21 Fresno Canyon Flood Mitigation Pre-Design Study Final Report, Hawks & Associates, September 11, 2007

4.13 RECREATION

4.13.1 INTRODUCTION

This section evaluates the potential for the proposed project to cause significant impacts to recreation based on thresholds of significance provided in the *Ventura County Initial Study Assessment Guidelines*.

4.13.2 ENVIRONMENTAL SETTING

A segment of the Ojai Valley Trail traverses the western portion of the project site. The Ojai Valley Trail extends about 9.5 miles north of Ventura from Foster Park in Oak View to the southwestern outskirts of Ojai. The trail is accessible to the public from 7:00 AM to sunset. Trail users include bicyclists, walkers, joggers, and equestrians. The trailhead for the Ojai Valley Trail is located in Foster Park.

Foster Park is the nearest park to the project site located approximately 0.25 mile to the south and is located at 438 Casitas Vista Road. The park contains a full size parking lot, restrooms, water, picnic tables, BBQ, fire rings, playground and horseshoe pits.

4.13.3 REGULATORY FRAMEWORK

Local Regulations

Ventura County General Plan Goals and Policies applicable to the project include:

4.10.1 Goals

1. Acquire, develop, and operate a system of recreation facilities to meet the recreation needs of County residents.

2. Pursue an equitable, independent, and reliable method of financing the planning, acquisition, *development*, operation, and maintenance of recreation facilities.

3. Promote a coordinated effort by all government entities to assure the provision of a complete range of recreational opportunities for all ages and interests in all areas of Ventura County.

4. Promote the multi-use of existing physical resources through coordination with other public and quasi-public agencies (i.e., utility easements, flood control easements, school district facilities, etc.).

5. Establish or assist in the establishment of a Countywide network of trails which will meet the needs of equestrians, bicyclists, hikers and other trail user groups.

6. Provide, or encourage the provision of, *local park* and recreation facilities and *programs* to serve the residents of the unincorporated territory of Ventura County where an equitable financing plan can be established with minimal use of County General Fund revenues.

7. Ensure compatibility between recreation facilities and adjoining land uses.

4.10.2 Policies

1. Discretionary development which would obstruct or adversely impact access to a public recreation resource shall be conditioned to provide public access as appropriate.

2. The County shall require reservation of land for public purchase, pursuant to the County Subdivision Ordinance, where requested by a recreation agency.

3. County facilities (e.g., flood control channels and easements) shall be made available for recreational use as appropriate.

4.13.4 IMPACT ANALYSIS

Thresholds of Significance

As described in the *Ventura County Initial Study Assessment Guidelines*, a project will have a significant impact on recreation if it would cause an increase in the demand for recreation, parks, and/or trails and corridors or would cause a decrease in recreation, parks, and/or trails or corridors when measured against the standards discussed below.

Threshold 4.13-1 **A project would result in a significant impact if it would cause an increase in the demand for recreation when measured against the following standards:**

- **Local Parks/Facilities - 5 acres of developable land (less than 15 percent slope) per 1,000 population.**
- **Regional Parks/Facilities - 5 acres of developable land per 1,000 population.**
- **Regional Trails/Corridors - 2.5 miles per 1,000 population.**

The proposed project is a public infrastructure improvement project which would not generate additional population growth within the County and therefore would not increase the demand for recreation facilities or parks. The proposed project would not impede future development of Recreation Parks/Facilities and/or Regional Trails/Corridors.

Construction of the proposed storm flow conveyance structure would require a temporary detour of the segment of the Ojai Valley Trail within the project site. The trail would be temporarily detoured around the active construction area along adjacent private property for a distance of approximately 300 feet. The detour would last approximately 6 weeks and would occur toward the end of project construction to accommodate installation of the outlet structure and flood conveyance features nearest to the trail. A 120-foot-long by 6-inch-wide RC retaining wall would be installed underground along the western edge of the Ojai Valley Trail beginning about 70 feet north of and ending about 35 feet south of the conveyance pipe. The retaining wall would be required to support the Ojai Valley Trail.

In order to clear the proposed 12-foot-diameter pipe that will pass perpendicularly underneath the Ojai Valley Trail, the trail will be elevated approximately 10 feet above the existing grade at this point. The change in elevation of the trail will start approximately 150 feet to the south of the crossing and will increase at a gradual 5-percent slope, and will similarly decrease in gradient at a gradual 5-percent slope for approximately 150 feet to the north. The gradual change in grade for the finished trail to pass over the buried conveyance pipe would not create an impediment to trail users. There is currently a gradual dip in the trail at this point, which would be changed to a longer, more gradual rise in the trail after construction is complete. It should be noted that there are several sections along the Ojai Valley Trail where the elevational grade changes currently exceed 5- to 9-percent slope.

It is anticipated that the Ojai Valley Trail would remain open to users during the initial six and a half months of project construction, with temporary security fencing erected along the perimeter of the trail to maintain public safety during this time. As such, there would be temporary, but less than significant

impacts to the use of the Ojai Valley Trail and to recreational resources. Temporary visual impacts from the Ojai Valley Trail are discussed in **Section 4.1, Scenic Resources**.

Level of Significance Before Mitigation

Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Impacts would be less than significant.

4.13.5 CUMULATIVE IMPACTS

Related projects would have the potential to result in significant impacts to recreation if they would result in an increase in the demand for recreation, parks, and/or trails and corridors. Each individual project would be required under the California Environmental Quality Act to assess potential project impacts and provide measures to mitigate significant impacts to the extent feasible. As discussed above, the proposed project would not result in any significant impacts related to recreation, and therefore would not contribute to any significant cumulative impacts.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

5.0 ALTERNATIVES

5.1 INTRODUCTION

The identification and analysis of alternatives is a requirement under the California Environmental Quality Act (CEQA). This is evident in that the role of alternatives in an Environmental Impact Report (EIR) is set forth clearly and forthrightly within the CEQA statutes. Specifically, CEQA Sec. 21002.1(a) states:

> *The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided.*

The *State CEQA Guidelines* require an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (*State CEQA Guidelines* Sec. 15126.6(a)). The *State CEQA Guidelines* direct that selection of alternatives focus on those alternatives capable of eliminating any significant environmental effects of the project or of reducing them to a less than significant level, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly. In cases where a project is not expected to result in significant impacts after implementation of recommended mitigation, review of project alternatives is still appropriate.

The range of alternatives required within an EIR is governed by the "rule of reason" which requires an EIR to include only those alternatives necessary to permit a reasoned choice. The discussion of alternatives need not be exhaustive. Furthermore, an EIR need not consider an alternative whose implementation is remote and speculative or whose effects cannot be reasonable ascertained. Alternatives that were considered but were rejected as infeasible during the scoping process should be identified along with a reasonable detailed discussion of the reasons and facts supporting the conclusion that such alternatives were infeasible.

Based on the alternatives analysis, an environmentally superior alternative is designated among the alternatives. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives (*State CEQA Guidelines* Sec. 15126.6(e)(2)).

5.2 CRITERIA FOR ALTERNATIVES ANALYSIS

The purpose of the Fresno Canyon Flood Mitigation Project is to provide flood control protection for the residents and properties located in Casitas Springs from a 100-year flood. The primary objectives of the project are:

- Flood protection – improve storm flow conveyance from Fresno Canyon to provide capacity for 100-year fully bulked flood flows to protect residents and properties in Casitas Springs;
- Minimize impacts to SR-33, both emergency closings due to flooding and potential temporary impacts during project construction, since SR-33 is a major arterial between the Ojai Valley and Highway 101 in Ventura;
- Minimize effects on water quality of the Ventura River and minimize potential adverse impacts to special-status species, especially Endangered steelhead (*Oncorhynchus mykiss*).

The following analysis focuses on identifying alternatives that can reduce or avoid the identified significant impacts. Significant but mitigated impacts have been identified for biological resources, cultural resources, and geology and seismic hazards. There are no significant and unmitigated impacts identified for the project. Several different design alternatives were considered for the project and are identified in **Subsections 5.3** and **5.4**, below. All of these alternatives would require construction of some type that would result in temporary construction-related impacts.

5.3 ALTERNATIVES ELIMINATED FROM FUTURE CONSIDERATION

In addition to specifying that the EIR evaluate "a range of reasonable alternatives" to the project, Section 15126.6(c) of the *State CEQA Guidelines* requires that an EIR identify any alternatives that were considered but were rejected as infeasible. The initial planning study Fresno Canyon Flood Mitigation Pre-Design Study Final Report (Hawks & Associates, 2007) developed a range of conceptual alternatives. The objective of the pre-design study was to conceptually identify a range of potential alternatives that would be screened to the most feasible alternatives. The following is a description of the conceptual alternatives identified in the study and a brief discussion of why they were rejected from further consideration.

Purchase of at-risk properties – Approximately 46 residences in the community of Casitas Springs would be affected by the Fresno Canyon floodplain during a 100-year storm event. These parcels could be purchased in order to remove residents from the danger of flooding, or residents could choose to relocate voluntarily. However, this alternative would not be economically feasible (estimated cost is over $20 million) and it lacks community support and was removed from further consideration.

Elevate Residences – Instead of purchasing the properties, at-risk homes could be raised to elevations higher than the Fresno Canyon and Ventura River 100-year floodplain elevations. Elevating a house means raising its lowest floor above the flood protection elevation (FPE), a level at which the chances of flooding are greatly diminished or eliminated. The FPE includes 1 additional foot of elevation to compensate for the uncertainties that exist in expected flood elevations. At a cost of approximately $50,000 per house for a total of $2.3 million, this may be the least expensive alternative. However, it does nothing to eliminate potential road closures resulting from flood events. It would not meet the project objective of minimizing impacts to SR-33 since the highway would still be subject to frequent flooding events. Debris cleanup on streets and properties would remain an ongoing maintenance problem; consequently, this alternative was removed from further consideration.

Floodwall System in place of Existing Channel – A 50-foot bottom width trapezoidal earthen channel would replace the existing concrete channel and floodwalls constructed to augment capacity, allowing open channel drainage from SR-33 directly out to the Ventura River. The use of a large open channel and floodwalls in this alternative would eliminate the need for an upstream debris basin. The floodwalls would be 100 feet apart and approximately 6 feet tall. This route would require purchasing three to four residential lots for right-of-way and would require the construction of a new longer and higher bridge on SR-33 (60-feet wide with a free span of 50 feet) and a new road from SR-33 to the south end of Edison Drive. The Ojai Valley Trail crossing would also have to be modified. The estimated cost of this alternative is $5.8 million. This alternative was eliminated from further consideration primarily since the floodwall system would create a permanent, physical division within the established community.

Alternative Debris Basin Locations – Several debris basin locations were explored, using field observations, aerial photography, and topographic mapping, as shown in **Figure 5.0-2**, later in this section. Based on engineering, geotechnical, and environmental considerations, two of the three following sites were eliminated from further consideration:

- **Site "A"** situated just upstream of SR-33, was eliminated due to its lack of sufficient volume, proximity to a major gas pipeline, and the need to acquire a residential property.

- **Site "B"** situated approximately 1,400 feet upstream of the Ventura River (and approximately 600 feet east of SR-33) was considered the best location for a debris basin. It is far enough away from residential areas, yet close enough to SR-33 that maintenance access is not too difficult. However, the location only allows for approximately 78 percent of the ideal sediment storage capacity, but this is a tradeoff that could be accommodated in the system design. This site was selected for the alternative analyzed in detail that includes a debris basin (i.e., Alternative 3).

- **Site "C"** situated 2,500 feet upstream from the Ventura River is the only location that could provide 21.85 acre-feet of storage capacity, or 100 percent of the 100-year frequency unburned sediment design volume. However, it was eliminated from further consideration because the remote location

would have difficult access, increased environmental impact, and provide no protection from debris slides downstream of this location. A geotechnical investigation concluded that there is a large area of unstable hillside downstream of this location.

Small Debris Detention Basins with Sediment Control Structures – A series of approximately 10 small debris basins could be used as sediment control structures along the unimproved portion of Fresno Canyon to reduce the amount of sediment that currently enters Casitas Springs. The sediment control structures could be constructed from grouted rock, and would be placed incrementally in the canyon upstream of SR-33. However, this alternative was eliminated from further consideration because access to these basins would be difficult, as both sides of the canyon are unstable and unsuitable for road construction. Furthermore, debris from the large area of unstable hillside mentioned above would easily overwhelm a smaller debris basin. Thus, this alternative was determined to be infeasible.

5.4 SUMMARY OF ALTERNATIVES CONSIDERED

Alternative 1 - No Project/No Development

Under the No Project Alternative, the proposed project would not be constructed, and no development would occur within the project site.

Alternative 2 – Extended Box Culvert and Open Channel

This alternative would convey flow in a 625-foot-long closed box culvert, taking a direct route through a hillside and under SR-33 to a point west of Edison Drive. From there an open concrete lined channel would convey flow to the Ventura River following a route similar to the proposed project. The existing Fresno Canyon channel would be preserved and used for local drainage and as a secondary path for flood flows.

Alternative 3 – Debris Basin Alternative

Alternative 3 would replace the proposed flood control facility with a debris basin located approximately 600 feet upstream of the entrance to the existing concrete channel at SR-33. A small dam and spillway would be designed to create the basin. The height of the dam would be less than 25 feet (measured from the toe to the spillway crest) in order to keep it below "state-size" jurisdiction. Because of this height and other topographical limitations, the basin would have a storage capacity of 17 acre-feet or 27,400 cubic yards, which would not meet the design storage capacity of 35,255 cubic yards required for the Q100 unburned sediment yield. Since this basin volume would be only 78 percent of the needed capacity, the outlet structure for the basin would be a 13-foot tall, 30-foot by 10-foot concrete box riser designed to allow passage of approximately 22 percent of the sediment to the downstream reaches. The pressure pipe

outlet at the base of the riser structure would need to accommodate the passage of the bypassed sediment.

5.5 ALTERNATIVE IMPACT ANALYSIS

This subsection presents an analysis of the project alternatives and provides a comparison of the impacts of these alternatives to those of the proposed project for the environmental issues addressed in this document. In all cases, the comparison of impacts assumes that all feasible mitigation measures as identified in this document would be implemented the proposed project's resulting impacts. Similarly, in all cases where it can be safely assumed that there are feasible mitigation measures for impacts caused by the alternative, it is assumed that those mitigation measures would be implemented. In accordance with the *State CEQA Guidelines*, the discussion of the environmental effects of the alternatives may be less detailed than that provided for the proposed project.[1]

5.5.1 Alternative 1: No Project/No Development Alternative

Description and Analysis

The *State CEQA Guidelines* require the analysis of a No Project Alternative.[2] This no-project analysis must discuss existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not to be approved based on current plans, site zoning, and consistency with available infrastructure and community services. Because the proposed project is a development project, the *State CEQA Guidelines* are directly applicable to the project.[3]

If the project is a development project on an identifiable property, the No Project Alternative is the circumstance under which the project does not proceed. Discussion of this alternative would compare the environmental effects of the property remaining in its existing state to the environmental effects that would result if the project were approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this no-project consequence should be discussed. In certain instances, the No Project Alternative means "no build," wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical

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1 California Public Resources Code, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines*, Section 15126.6(d).

2 California Public Resources Code, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines*, Section 15126.6(e).

3 California Public Resources Code, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines*, Section 15126.6(e).(3)(B).

results of not approving the project rather than create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.[4]

Under the No Project Alternative, the proposed project would not be constructed. Existing flood control facilities would continue to operate, but no new facilities would be constructed.

Scenic Resources

As no construction would occur under this alternative, it would avoid the temporary construction changes in the visual environment that the proposed project would cause. As discussed in **Section 4.1, Scenic Resources**, the proposed project would not result in significant and unavoidable impacts related to scenic resources. Nonetheless, Alternative 1 would result in less impacts than those of the proposed project.

Air Quality

Under Alternative 1 no construction would occur, and therefore no potential impacts to air quality would result. The impacts under Alternative 1 would be less than under the proposed project.

Biological Resources

Alternative 1 would not require ground-disturbing activities or cause changes in stormwater flows in the project area. As discussed in **Section 4.3, Biological Resources**, mitigation measures provided in this Draft EIR would be adequate to reduce all impacts to a less than significant level. However, Alternative 1 would not require the provision of mitigation measures. This would result in fewer impacts to biological resources compared to the proposed project.

Cultural Resources

Alternative 1 would not require ground-disturbing activities within the project site, and therefore would have no potential to disturb previously unknown archaeological and paleontological resources. While mitigation measures provided in **Section 4.4, Cultural Resources**, of this Draft EIR would reduce project impacts to a less than significant level, Alternative 1 would not require the provision of mitigation measures. This would result in fewer impacts to cultural resources compared to the proposed project.

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4 California Public Resources Code, Title 14, Division 6, Chapter 3, California Environmental Quality Act Guidelines, Section 15126.6.

Flood Control Facilities

Alternative 1 would not construct the proposed flood control facilities. Under this alternative, existing facilities would continue to provide some flood protection for the community of Casitas Springs, but the existing facilities would be inadequate to safely convey the full 100-year flood away from residences and SR-33. As discussed in **Section 4.5, Flood Control Facilities**, the proposed project, by providing expanded flood control infrastructure, would result in a beneficial impact. This alternative would result in greater impacts related to flood control facilities when compared to the proposed project.

Geology and Seismic Hazards

Alternative 1 would not require ground-disturbing activities within the project site, and therefore would have no potential to result in significant impacts related to geology and soils. While mitigation measures provided in **Section 4.6, Geology and Soils**, of this Draft EIR would reduce project impacts to a less than significant level, Alternative 1 would not require the provision of mitigation measures. This would result in fewer impacts when compared to the proposed project.

Greenhouse Gas Emissions

Under Alternative 1 no construction would occur, and there would be no construction-related emissions of greenhouse gases. The impact would be less than under the proposed project.

Hydrology and Flooding

Alternative 1 would not construct the proposed flood control facilities. Under this alternative, existing facilities would continue to provide some flood protection for the community of Casitas Springs, but the existing facilities would inadequate to safely convey the full 100-year flood away from residences and SR-33. Consequently, this alternative would result in greater impacts related to flood control facilities when compared to the proposed project.

Noise and Vibration

This alternative would not require construction activity within the project site and would therefore not result in construction noise at sensitive receptors near the site. As discussed in **Section 4.9, Noise and Vibration**, the mitigation measures provided in this Draft EIR would reduce noise impacts to a less than significant level. However, since Alternative 1 would result in no construction noise or vibration, impacts under this alternative would be less than those of the proposed project.

Transportation and Circulation

Alternative 1 would involve no construction at the project site, and would therefore not result in the addition of peak-hour construction worker vehicle trips on SR-33, which is identified in the *Ventura County General Plan* as an impacted roadway. This alternative would therefore cause fewer impacts when compared to the proposed project.

Utilities

The proposed project would require the relocation of a 21-inch sewer line in order to accommodate the proposed flood control channel. Implementation of Alternative 1 would maintain the existing flood control facilities in their current location, and would not require relocation of the sewer line. Therefore, while the proposed project would not cause significant impacts as a result of the sewer line relocation, impacts under this alternative would be less than those of the proposed project.

Surface Water Quality

Conveying stormwater flow through the proposed project facilities would not degrade surface water quality in the Ventura River. Because the project is designed primarily to facilitate flood flow from Fresno Canyon to the Ventura River, it is not expected to increase or decrease sediment disposition or scouring in the Ventura River. Potential water quality impacts to the Ventura River from construction of the proposed project (e.g., potential spills of fuel, lubricants, sealants, etc.) would be avoided with implementation of Alternative 1. Consequently, impacts would be reduced when compared to the proposed project.

Recreation

Alternative 1 would not construct new flood control facilities. No disruption to trail users would occur under the No Project Alternative. Consequently, impacts to recreation would be less than the proposed project.

Conclusion and Relationship to Project Objectives

Alternative 1 – No Project would reduce project impacts related to scenic resources, biological resources, cultural resources, geology and seismic hazards, noise and vibration, transportation and circulation, utilities, surface water quality, and recreation. Alternative 1 would cause impacts greater than the proposed project for flood control facilities and hydraulic hazards.

This alternative would not achieve the following objectives identified for the proposed project:

- Flood protection – improve storm flow conveyance from Fresno Canyon to provide capacity for 100-year fully bulked flood flows to protect residents and properties in Casitas Springs;
- Minimize emergency closings due to flooding impacts to SR-33, since SR-33 is a major arterial between the Ojai Valley and Hwy 101 in Ventura.

5.5.2 Alternative 2: Extended Box Culvert and Open Channel

Description and Analysis

This alternative would convey flow in a 625-foot-long closed box culvert, taking a direct route through a hillside and under SR-33 to a point west of Edison Drive. From there an open concrete lined channel would convey flow to the Ventura River following a route similar to the proposed project. The existing Fresno Canyon channel would be preserved and used for local drainage and as a secondary path for flood flows. **Figure 5.0-1, Alternative 2 Design**, illustrates the location and orientation of this alternative.

The entire length of the facility under Alternative 2 would be approximately 1,400 feet and would comprise (from upstream to downstream) an entrance structure approximately 300 feet long, a box culvert approximately 625 feet long, a 12-foot-wide rectangular channel approximately 270 feet long, an approximately 40-foot-long ungrouted rock riprap outlet to the Ventura River, and a graded flow path approximately 70 feet long. Alternative 2 would require traffic detour during open trench method installation of the concrete box culvert under SR-33.

The channel would discharge into the Ventura River just west of the Ojai Valley Trail. A 30-foot-long (12 feet wide by 9 feet high) box culvert would be constructed below the Ojai Valley Trail. A 120-foot-long by 5-foot-deep by 6-inch-wide reinforced concrete cutoff wall would be installed along the western edge of the Ojai Valley Trail beginning about 70 feet north of and ending about 35 feet south of the conveyance structure.

Alternative 2 would also include two maintenance roads. One maintenance road would be approximately 500 feet long and located immediately north of the open rectangular channel. An additional 100 feet of the maintenance road would be constructed on top of the culvert and then run north where it would terminate in an access ramp approximately 100 feet long with a 10 percent grade. The maintenance road would be 15 feet wide for most of its length and would culminate at the Ojai Valley Trail at its western end. A private access road would be incorporated into the maintenance road for use by a neighboring property owner. A fence would be built around the access road to prevent public access to the facility. The second maintenance road would be constructed at the eastern end of the facility and immediately

north of the entrance structure. It would be approximately 400 feet long and connect to an existing access route from SR-33.

Gas, water, electricity, sewer, and drainage conduits that cross Alternative 2 would be relocated or avoided as part of the proposed project. A 20-inch-diameter high-pressure gas line runs parallel to and east of SR-33 where it crosses Fresno Canyon. The box culvert would pass under this conduit with approximately 6 feet of clearance. Two smaller gas lines (6-inch-diameter and 10-inch-diameter) within the SR-33 right-of-way would require relocation. The water lines that exist in the area would be avoided. The most costly utility relocation would involve approximately 307 linear feet of 21-inch trunk sewer operated by the Ojai Valley Sanitary District. This sewer line would be relocated approximately 12 feet northward and the materials would be upgraded to ensure future access and reduce the risk of maintenance problems.

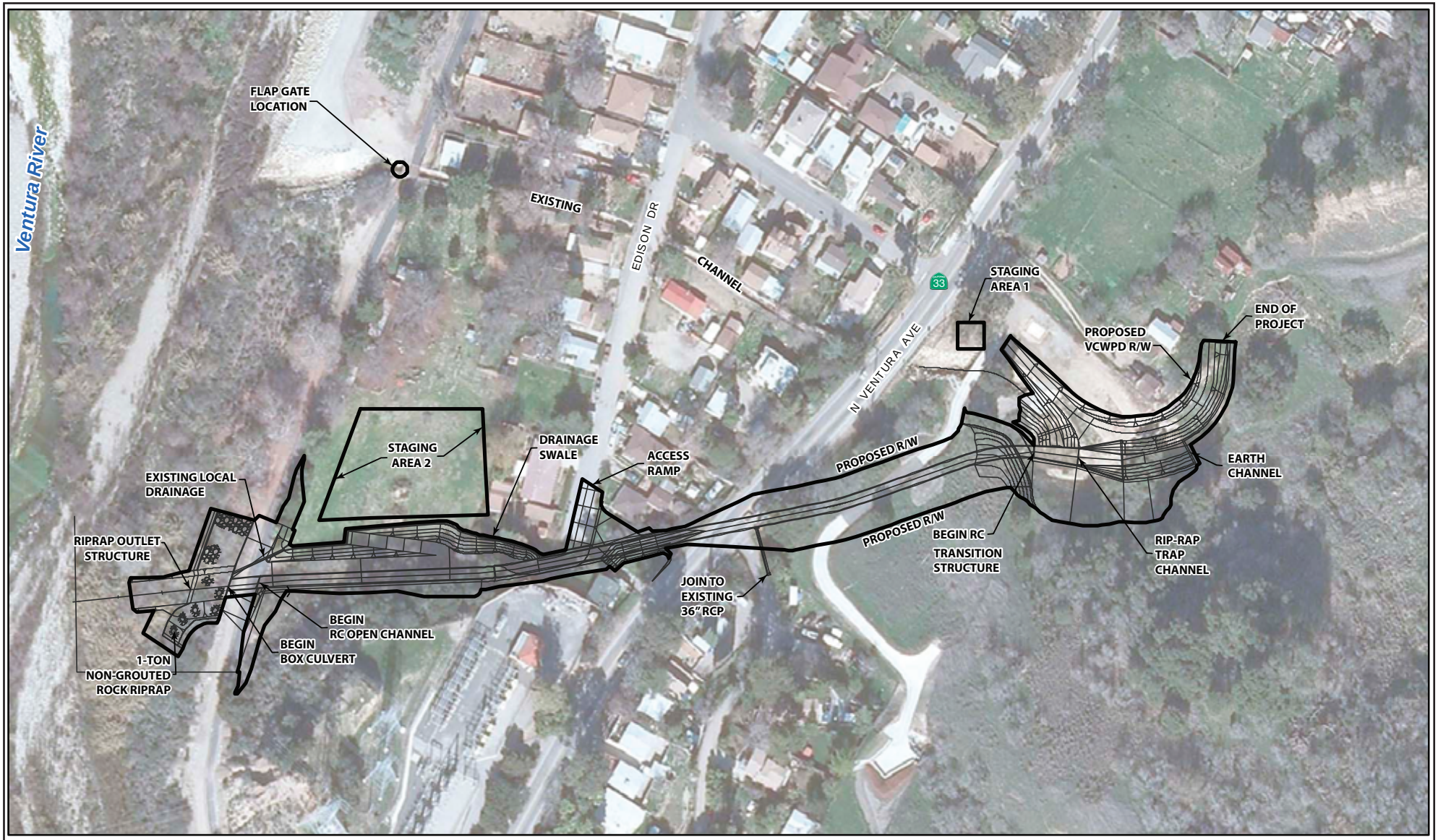
The outlet apron, cutoff wall, rock riprap bank protection, and flapgate installation would be the same under Alternative 2 as described for the Proposed Project in **Section 3.0** of this document. The construction duration of Alternative 2 would be slightly longer than for the proposed project, due to the complexity of constructing the box culvert underneath SR-33 and the associated traffic detouring.

Scenic Resources

Alternative 2 would require ground-disturbing activities similar to the proposed project. However, this alternative would use an open trench method of construction and thus require temporary closure of SR-33 lanes during installation of the box culvert under SR-33. This alternative would affect the same project site area as the proposed project, and would be expected to result in scenic resource impacts similar to those of the proposed project.

Air Quality

Alternative 2 would result in a similar level of construction activities as for the proposed project, and would likely result in similar levels of air pollutant emissions. Regardless of whether emissions are slightly higher or lower, the Ventura County Air Pollution Control District (VCAPCD) does not consider construction emissions a cause of significant air quality impacts as long as standard pollution control measures identified by the VCAPCD are implemented. These measures would be implemented for Alternative 2 just as they would be for the proposed project, and therefore impacts from Alternative 2 would be similar to impacts from the proposed project for construction. Alternative 2 would not result in any substantial operational emissions, and so operational impacts from Alternative 2 would also be similar to those for the proposed project.



SOURCE: Impact Sciences, Inc., August 2013

FIGURE **5.0-1**

Alternative 2 Design

Biological Resources

Alternative 2 would disturb more surface area and vegetation than the proposed project since it involves constructing an open channel (rather than an underground pipeline), and would therefore affect the biological resources identified in **Section 4.3, Biological Resources** to a greater degree when compared to the proposed project. It is expected that mitigation measures similar to those provided in this Draft EIR would be required to ensure that protected biological resources were not impacted by the construction of Alternative 2. Impacts would be slightly greater than those of the proposed project.

Cultural Resources

Alternative 2 would disturb more surface area than the proposed project, and would therefore have greater potential to disturb previously unknown archaeological and paleontological resources than the proposed project. It is expected that mitigation measures similar to those provided in this Draft EIR would be required to ensure that cultural resources were not impacted by the construction of Alternative 2. Impacts would be slightly greater than those of the proposed project.

Flood Control Facilities

The construction of this alternative would provide the flood protection contemplated under the proposed project through a different method of construction. These facilities would be adequate to safely convey the full 100-year storm flow away from residences and SR-33, and would thus provide the same benefit as the proposed project. Impacts related to flood control facilities would therefore be similar for this alternative and the proposed project.

Geology and Seismic Hazards

Alternative 2 would construct flood control facilities in the same area and with the same capacity for stormwater conveyance as the proposed project. While changes to the project design may result in minor changes in the potential geotechnical hazard, it is expected that mitigation measures similar to those provided in this Draft EIR would apply to this alternative, and that resulting impacts would be similar to the proposed project.

Greenhouse Gas Emissions

Alternative 2 would result in a similar level of construction activities as the proposed project, and therefore a similar level of greenhouse gas emissions. In both cases emissions from construction would be minimal, and emissions from operation effectively zero. Impacts from Alternative 2 would be similar to those from the proposed project.

Hydrology and Flooding

The construction of this alternative would provide the facilities contemplated under the proposed project through a different method of construction. The new facilities would accommodate the additional flooding impacts that have occurred with development since the original Fresno Canyon flood control improvements were initially constructed. Impacts related to flood control facilities would therefore be similar for this alternative and the proposed project.

Noise and Vibration

Alternative 2 would provide the flood protection contemplated under the proposed project through a different method of construction. While the different construction method considered under this alternative would result in a different type and mix of construction equipment operating at the project site, it is expected that the resulting noise would have similar potential to affect nearby sensitive receptors as the proposed project, and that mitigation measures similar to those provided in this Draft EIR would be required to ensure that noise impacts are less than significant. Impacts would thus be similar to the proposed project.

Transportation and Circulation

Alternative 2 would require peak hour vehicle trips to transport construction workers to and from the project site. As discussed in **Section 4.10, Transportation and Circulation**, SR-33 is identified as an impacted roadway in the *Ventura County General Plan*. Because Alternative 2 would require construction of a box culvert under SR-33, temporary closure of SR-33 lanes would be required during the construction phase of the alternative, which would cause a significantly greater interruption in the area roadway network. It is anticipated that construction of the box culvert under SR-33 would require a two-stage detour, requiring two months per detour for a total of four months. Therefore, Alternative 2 would result in significantly greater impacts when compared to the proposed project.

Utilities

As discussed above, implementation of this alternative would require the relocation of two gas lines (6-inch-diameter and 10-inch-diameter) and a 21-inch sewer line within the SR-33 right-of-way. Under the proposed project, only the sewer line would require relocation. Thus, Alternative 2 would result in greater impacts compared to the proposed project.

Surface Water Quality

Conveying these stormwater flows in the proposed project facilities would not degrade surface water quality in the Ventura River. Because the project is designed primarily to facilitate flood flow from Fresno Canyon to the Ventura River, it is not expected to increase or decrease sediment disposition or scouring in the Ventura River. Implementation of Alternative 2 would modify existing flood control facilities to accommodate larger flood waters than present conditions. Similar to the proposed project, the Alternative 2 flood control facilities are not designed to affect sediment disposition or scouring in the Ventura River. Consequently, surface water impacts would be similar when compared to the proposed project.

Recreation

Alternative 2, similar to the proposed project, would construct new flood control facilities in the vicinity of the Ojai Valley Trail. Similar disruption to trail users would occur, albeit on a temporary basis. Consequently, impacts to recreation would be similar to the proposed project.

Conclusion and Relationship to Project Objectives

Alternative 2 would result in similar impacts for scenic resources, air quality, flood control facilities, greenhouse gas emissions, hydrology and flooding, noise and vibration, surface water quality, and recreation, when compared to the proposed project. However, greater impacts would occur for biological resources, cultural resources, transportation and circulation, and utilities. This alternative would not meet the following objective identified for the project:

- Minimize impacts to SR-33, both emergency closings due to flooding and potential temporary impacts during project construction, since SR-33 is a major arterial between the Ojai Valley and Hwy 101 in Ventura.

5.5.3 Alternative 3: Debris Basin Alternative

Description and Analysis

Under this alternative, a debris basin would be constructed in Fresno Canyon, approximately 600 feet upstream of the entrance to the existing concrete channel at SR-33. Due to slope instabilities in the flanking canyon walls, excavation of a pit-type basin would not be possible. Instead, a small dam and spillway would be designed to create the basin. The height of the dam would be less than 25 feet (measured from the toe to the spillway crest) in order to keep it below "state-size" jurisdiction. Because of this height and other topographical limitations, the basin would have a storage capacity of 17 acre-feet or 27,400 cubic yards, which would not meet the design storage capacity of 35,255 cubic yards required for the Q100 unburned sediment yield. Since this basin volume would be only 78 percent of the needed capacity, the outlet structure for the basin would be a 13-foot tall, 30-foot by 10-foot concrete box riser

designed to allow passage of approximately 22 percent of the sediment to the downstream reaches. The pressure pipe outlet at the base of the riser structure would need to accommodate the passage of the bypassed sediment.

The debris basin would be designed to meet the following parameters: height of structure = 25 feet; elevation of toe of dam = 289 feet; elevation of top of dam = 320 feet; elevation of spillway crest = 314 feet; excavation below existing channel invert = 2 to 9 feet; length of spillway crest = 70 feet; and total capacity with excavation = 17 acre-feet. The pressure pipe would consist of a circular steel pipe sized to convey 1,450 cubic feet per second, which is approximately 22 percent greater than the clear Q-100 calculated at this location. From the basin outlet to SR-33, the pipe would follow an alignment near the existing riverbank alignment, and from SR-33 to the Ventura River it would follow the existing open channel alignment running west through Casitas Springs. The outlet would be designed for a high level of energy dissipation. **Figure 5.0-2, Alternative 3 Design**, illustrates the location and orientation of this alternative, with the debris basin located at Site B.

Scenic Resources

Alternative 3 would not require construction in the project area, but would instead involve the construction of a 25-foot-high dam approximately 600 feet east of the existing channel. Compared to the proposed project, which consists mostly of below-grade or at-grade facilities, Alternative 3 would require substantial above-grade construction; however the facilities would not be readily visible to the public. Therefore, potential impacts related to scenic resources of Alternative 3 would be less than those of the proposed project.

Air Quality

The relative level of air pollution emissions from construction of Alternative 3 would be roughly similar to that of the proposed project. The VCAPCD does not consider construction emissions a cause of significant air quality impacts as long as standard pollution control measures identified by the VCAPCD are implemented. These measures would be implemented for Alternative 3 just as they would be for the proposed project, and therefore impacts from Alternative 3 would be similar to impacts from the proposed project for construction. Alternative 3 would not result in any substantial operational emissions, and so operational impacts from Alternative 3 would also be similar to those for the proposed project.

SOURCE: Impact Sciences, Inc., August 2013

FIGURE **5.0-2**

Alternative 3 Design

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Biological Resources

Alternative 3 would not require construction in the proposed project footprint area, but would instead involve the construction of a 25-foot-high dam approximately 600 feet east of the existing channel. This alternative would not affect biological resources in the area affected by the proposed project construction, but would affect similar resources in the alternative project site. The construction of a detention basin would require clearing and grubbing of additional vegetation and operations would cause the upstream area to be submerged during substantial storm events. This would likely result in significant impacts to biological resources in the area. It is expected that mitigation measures would be able to reduce this impact to a less than significant level. Impacts would therefore be similar to those of the proposed project.

Cultural Resources

Alternative 3 would not require construction in the project area, but would instead involve the construction of a 25-foot-high dam approximately 600 feet east of the existing channel. Construction of the detention basin would require excavation that would have the potential to disturb previously unknown archaeological and paleontological resources. Impacts of this alternative would thus be similar to the proposed project.

Flood Control Facilities

As discussed above, Alternative 3 would have a storage capacity of 17 acre-feet or 27,400 cubic yards, which would not meet the design storage capacity of 35,255 cubic yards required for the Q-100 unburned sediment yield. Since this basin volume would be only 78 percent of the needed capacity, the outlet structure for the basin would be a 13-foot tall, 30-foot by 10-foot concrete box riser designed to allow passage of approximately 22 percent of the sediment to the downstream reaches. While Alternative 3 would reduce potential impacts related to flooding, it would not do so to the same extent as the proposed project. Therefore, while Alternative 3 would provide a beneficial impact for flood control facilities, the benefit would be less than for the proposed project, and impacts would be greater.

Geology and Seismic Hazards

The geotechnical conditions of the Alternative 3 site are not known. However, because this alternative would result in the construction of a dam upstream of occupied residential development, it is expected that seismic mitigation would be required as part of Alternative 3 implementation. Alternative 3 would be required to implement mitigation measures that would reduce its potential impacts to a less than significant level. Therefore, impacts would be similar for the proposed project and Alternative 3.

Greenhouse Gas Emissions

Alternative 2 would result in a roughly similar level of construction activities as the proposed project, and therefore a roughly similar level of greenhouse gas emissions. In both cases, emissions from construction would be minimal, and emissions from operation effectively zero. Impacts from Alternative 3 would be similar to those from the proposed project.

Hydrology and Flooding

As discussed above, Alternative 3 would have a storage capacity of 17 acre-feet or 27,400 cubic yards, which would not meet the design storage capacity of 35,255 cubic yards required for the Q100 unburned sediment yield. Since this basin volume would be only 78 percent of the needed capacity, the outlet structure for the basin would be a 13-foot tall, 30-foot by 10-foot concrete box riser designed to allow passage of approximately 22 percent of the sediment to the downstream reaches. The proposed project would contain the entire sediment load of the 100-year storm event. Thus, while both the proposed project and Alternative 3 would reduce flooding and the conveyance of sediment by stormwater, Alternative 3 would do so to a lesser extent than the proposed project, and impacts would be greater.

Noise and Vibration

Alternative 3 would not require construction in the proposed project area, but would instead involve the construction of a 25-foot-high dam approximately 600 feet east of the existing channel and a pipeline along the existing open channel alignment west of SR-33. Therefore, a majority of the construction activities under this alternative would occur farther from occupied residential development, and would likely result in less than significant impacts related to noise and vibration without the need for mitigation. Thus, compared to the proposed project, Alternative 3 would result in fewer impacts.

Transportation and Circulation

Alternative 3 would require peak hour vehicle trips to transport construction workers, equipment, and materials to and from the proposed project site. As discussed in **Section 4.10, Transportation and Circulation**, SR-33 is identified as an impacted roadway in the *Ventura County General Plan*, and therefore the addition of 1 peak hour trip to SR-33 would cause a significant impact. However, project design features limit construction access during peak hours; therefore similar to the proposed project, Alternative 3 would result in less than significant transportation and circulation impacts.

Utilities

The proposed project would require the relocation of a 21-inch Ojai Valley Sanitary District (OVSD) sewer line in order to accommodate the proposed flood control pipeline. Implementation of Alternative 3 would maintain the existing flood control facilities in their current location, and would not require relocation of the 21-inch OVSD sewer line. Therefore, while the proposed project would not cause significant impacts as a result of the sewer line relocation, impacts under this alternative would be less than those of the proposed project.

Surface Water Quality

The debris basin constructed under Alternative 3 would have a storage capacity of 27,400 cubic yards of sediment, or approximately 78 percent of the Q100 unburned sediment yield. Thus, Alternative 3 would allow capture of 78 percent and passage of 22 percent of the sediment to downstream reaches and the Ventura River. Potential short-term water quality impacts to the Ventura River from construction of Alternative 3 (e.g., potential spills of fuel, lubricants, sealants, etc.) would be similar to those associated with construction of the proposed project. Consequently, surface water impacts associated with Alternative 3 would be similar when compared to the proposed project.

Recreation

Alternative 3 would reduce impacts to trail users when compared to the proposed project, given a reduced project area design in the vicinity of the Ojai Valley Trail. Consequently, Alternative 3 would reduce impacts to recreation when compared to the proposed project.

Conclusion and Relationship to Project Objectives

Alternative 3 would reduce project impacts related to scenic resources, noise and vibration, utilities, and recreation, while increasing impacts related to flood control facilities, and hydrology and flooding impacts. Impacts for air quality, biological resources, cultural resources, geology and seismic hazards, greenhouse gas emissions, transportation and circulation, and surface water quality would be similar to those of the proposed project. Alternative 3 would not meet the following objective identified for the proposed project:

- Flood protection – improve storm flow conveyance from Fresno Canyon to provide capacity for 100-year fully bulked flood flows to protect residents and properties in Casitas Springs.

5.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The findings of the alternatives impact analysis discussed above are summarized in **Table 5.0-1, Comparison of Alternatives to the Proposed Project**. Of the alternatives analyzed, the no project alternative would result in fewer impacts than the proposed project and is considered the environmentally superior alternative. If the environmentally superior alternative is the no project alternative, Section 15126.6(e)(2) of the *State CEQA Guidelines* requires that the EIR also identify an environmentally superior alternative among the other alternatives. Of the two alternative projects, Alternative 3, Debris Basin Alternative, would lessen project impacts related to scenic resources, noise and vibration, utilities, and recreation, but would increase project impacts related to flood control facilities and hydrology and flooding. Thus, Alternative 3 would be considered an environmentally superior alternative. However, as discussed above, neither alternative would meet the objectives of the proposed project.

Table 5.0-1
Comparison of Alternatives to the Proposed Project

Environmental Issue Area	Proposed Project Impact (After Mitigation)	Alt. 1 – No Project	Alt. 2 – Extended Box Culvert and Open Channel	Alt 3 – Debris Basin Alternative
Scenic Resources	Less than significant	Less	Similar	Less
Air Quality	Less than significant	Less	Similar	Similar
Biological Resources	Less than significant	Less	Greater	Similar
Cultural Resources	Less than significant	Less	Greater	Similar
Flood Control Facilities	Less than significant	Greater	Similar	Greater
Geology and Soils	Less than significant	Less	Similar	Similar
Greenhouse Gas Emissions	Less than significant	Less	Similar	Similar
Hydrology and Flooding	Less than Significant	Greater	Similar	Greater
Noise and Vibration	Less than Significant	Less	Similar	Less
Transportation and Circulation	Less than Significant	Less	Greater	Similar
Utilities	Less than Significant	Less	Greater	Less
Surface Water Quality	Less than Significant	Less	Similar	Similar
Recreation	Less than Significant	Less	Similar	Less

6.0 GROWTH-INDUCING IMPACTS

6.1 INTRODUCTION

The *California Environmental Quality Act (CEQA) Guidelines* requires that an EIR include a discussion of ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.[1] The discussion should also identify any way in which a proposed project would remove obstacles to population growth, and discuss the characteristics of a project that may encourage and/or facilitate other activities that, either individually or cumulatively, could significantly affect the environment. CEQA emphasizes that growth in an area should not be considered beneficial, detrimental or of little significance. The purpose of this discussion is to evaluate the growth-inducing potential of the proposed project.

6.2 GROWTH-INDUCING POTENTIAL

In general terms, a project may foster growth in a geographic area if it meets any of the criteria identified below:

- The project removes an impediment to growth, such as through the establishment of an essential public service, or the provision of new access to an area that will facilitate additional growth.
- The project results in the urbanization of land in a remote location that will induce the growth of undeveloped areas between the project and existing developed areas, commonly referred to as "Leap-Frog Development."
- Economic expansion or growth occurs in an area in response to the project, such as by means of a substantial change in revenue base or an expansion of employment.
- The project establishes a precedent-setting action, such as approval of a general plan amendment or change in zoning that will serve as a precedent for other similar projects.

Should a project meet any one of these criteria, it may be considered growth inducing. An evaluation of the proposed project in relation to these criteria is provided in this section.

Removal of an Impediment to Growth

Growth in an area may result from the removal of physical impediments or restrictions to growth. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the

[1] California Code of Regulations, Title 14, Division 6, Chapter 3, *California Environmental Quality Act Guidelines*, Sections 15126 (d) and 15126.2 (d).

lack or insufficiency of essential public services, such as sewer and water service. The following discussion evaluates the effects of the proposed project with respect to this criterion.

The community of Casitas Springs is currently served by utilities, including water, sewer, electric, and gas service. The proposed project would not require the extension of any public service to the project site or any area currently unserved by such utilities. The proposed project includes a request to connect to sewer services for the two residential properties after the project is completed. Additionally, Local Agency Formation Commission (LAFCo) approval is required for Ojai Valley Sanitary District (OVSD) to include these two properties in their (District 1) central service area. The project area is currently accessible by SR-33 and local roads. Project construction would include the provision of access roads for maintenance of the proposed flood control facilities, but would not provide access to currently inaccessible areas.

Existing flood control facilities are inadequate to safely accommodate severe storm events, and portions of the community of Casitas Springs are consequently located within an identified Federal Emergency Management Agency (FEMA) 100-year flood plain. The proposed project is intended to ameliorate the existing capacity shortage in the flood control system by providing facilities sized to convey the full 100-year flood. Thus, with implementation of the proposed project it is expected that FEMA Flood Insurance Rate Maps would be revised to exclude the portions of the community of Casitas Springs currently located within the 100-year floodplain. This would remove an impediment to growth in areas currently within the floodplain.

The community of Casitas Springs is a developed area located in the unincorporated area of Ventura County. A substantial portion of the area that would be removed from the FEMA 100-year floodplain is currently developed with residences and public facilities. Therefore, while the project could potentially remove an impediment to growth, the project is not expected to be growth inducing under this criterion, since the affected area is already substantially developed.

Urbanization of Land in Remote Locations (Leap-Frog Development)

Development can be considered growth inducing when it is not contiguous to existing urban development and "leaps" over open space areas. The community of Casitas Springs is a developed area in the unincorporated portion of Ventura County located approximately 2 miles south of Oak View and 4 miles north of the City of San Buenaventura. The proposed project consists of flood control facilities, and would not "leap-frog" over undeveloped areas and introduce development that is not continuous with existing development. As the proposed project site is adjacent to existing development, it would not result in additional growth.

Economic Growth

The proposed project consists of flood control facilities. It includes no residential or commercial development. Operation and maintenance of the proposed project facilities would not require additional employees. The project thus would not result in increased population or employment in the project area, and would not be considered growth inducing under this criterion.

Precedent-Setting Action

The proposed project is a public infrastructure project intended to ameliorate existing insufficiency in flood control facilities in the community of Casitas Springs. The project site contains existing flood control facilities that would be augmented by the proposed new facilities. Project approval and implementation would not set a precedent that would be expected to result in increased growth in the project area.

6.3 CONCLUSION

The proposed project will not induce additional growth in the surrounding area.

7.0 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

7.1 INTRODUCTION

Section 15126.2(c) of the 2008 *California Environmental Quality Act (CEQA) Statutes and Guidelines* states that use of nonrenewable resources during the initial and continued phases of a proposed project may be irreversible if a large commitment of these resources makes their removal, indirect removal, or non-use thereafter unlikely. This section of the environmental impact report (EIR) evaluates whether the project would result in the irretrievable commitment of resources, or would cause irreversible changes in the environment. Also, in accordance with Section 15126.2 of the *State CEQA Guidelines*, this section identifies any irreversible damage that could result from environmental accidents associated with the proposed project.

7.2 IRREVERSIBLE COMMITMENT OF RESOURCES

Implementation of the proposed Fresno Canyon Flood Mitigation Project would construct a storm drain diversion facility to transport floodwaters, sediment, and debris from Fresno Canyon to the Ventura River to reduce the risk of flooding in the community of Casitas Springs. The facility will be designed to convey the fully bulked flows resulting from the 100-year flood event. The proposed project includes a 12-foot diameter reinforced concrete (RC) conveyance pipe installed via horizontal boring beneath SR-33 and via open trench method for the remaining approximately 395 linear feet. The entire length of the facility would be approximately 1,400 feet and would comprise (from upstream to downstream) an entrance structure approximately 300 feet long, a 12-foot diameter RC conveyance pipe approximately 975 feet long, an approximately 40-foot-long ungrouted rock riprap outlet to the Ventura River, and a graded flow path approximately 70 feet long.

Construction and operation of the proposed project would contribute to the incremental depletion of resources, including renewable (e.g., lumber) and non-renewable resources. Non-renewable resources, such as natural gas, petroleum products, asphalt, petrochemical construction materials, steel, copper, and other metals, rock, and sand and gravel are considered to be commodities that are available in a finite supply. The processes that created these resources occur over a long period. Therefore, the replacement of these resources would not occur over the life of the project. To varying degrees, the aforementioned materials are all readily available and some materials, such as asphalt or sand, and gravel, are abundant. Other commodities, such as metals, natural gas, and petroleum products, are also readily available, but they are finite in supply, given the length of time required by the natural process to create them.

The demand for all such resources is expected to increase regardless of whether or not the project is developed. The Southern California Association of Governments (SCAG) forecasts that the population of Southern California will increase 23 percent between 2008 and 2035. These increases in population would directly result in the need for more retail, commercial and residential facilities in order to provide the needed services associated with this growth. If not consumed by this project, these resources would likely be committed to other projects in the region intended to meet this anticipated growth. Furthermore, the investment of resources in the project would provide a community benefit by ameliorating an existing deficiency in flood control facilities. Mitigation measures have been included in this EIR to reduce and minimize project and cumulative impacts.

7.3 IRREVERSIBLE ENVIRONMENTAL CHANGES

Irreversible long-term environmental changes associated with the proposed project would include a change in the visual character of the site at the project outfall into the Ventura River. Design features have been incorporated into the development proposal that would minimize the effects of the environmental changes associated with the development of the project to the maximum degree feasible. In addition, the proposed project would ameliorate an existing deficiency in flood control facilities. The project would not result in any significant unavoidable impacts during project construction or during long-term operation of the project.

7.4 POTENTIAL ENVIRONMENTAL DAMAGE FROM ACCIDENTS

The project proposes no uniquely hazardous uses, and its operation would not be expected to cause environmental accidents that would affect other areas. The project site is located within a seismically active region and would be exposed to ground shaking during a seismic event. However, the proposed flood conveyance facilities would not expose people or other structures to potential significant adverse effects of ground shaking. With regard to accidental spills, the Stormwater Pollution Prevention Plan (SWPPP) prepared for the project would provide best management practices (BMPs) to ensure potential contaminants used during construction (e.g., fuel, lubricants, sealants) would be stored away from areas where they could potentially affect water quality, and would provide measures for managing flows during accidental spills or storm events that would ensure that contaminants are conveyed away from the Ventura River. Implementation of the SWPPP requirements would ensure that impacts during construction would be less than significant.

8.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

8.1 INTRODUCTION

Section 15128 of the *California Environmental Quality Act (CEQA) Guidelines* requires a brief statement of the reasons why various possible significant effects of a project have been determined not to be significant and, therefore, are not discussed in detail in the environmental impact report. The following provides a discussion regarding the effects of the proposed project that were found not to be significant.

8.2 EFFECTS FOUND NOT TO BE SIGNIFICANT

The discussion below provides summaries of the Ventura County *Initial Study Assessment Guidelines* thresholds and analysis of project and cumulative impacts based on the Initial Study, which is provided in full in **Appendix A.**

8.2.1 Groundwater Quantity

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project that meets one of the criteria listed below could result in a significant impact to groundwater quantity.[1]

- Directly or indirectly decrease, either individually or cumulatively, the net quantity of groundwater in a groundwater basin that is overdrafted or creates overdraft conditions.
- In groundwater basins that are not overdrafted, or are not in hydrologic continuity with an overdrafted basin, net groundwater extraction that will individually or cumulatively cause overdrafted conditions.
- Any net increase in groundwater extraction from a groundwater basin and/or hydrologic unit, which is not well known or documented but where there is evidence of overdraft based upon declining water levels in a well or wells.

Regardless of the criteria above, any land use or project which would result in 1 acre-foot or less of net annual increase in groundwater extraction is not considered to have a significant or cumulative impact on groundwater quantity.[2] In addition, any project that is inconsistent with any of the policies or development standards relating to groundwater quantity of the Ventura County *General Plan Goals, Policies and Programs* or applicable Area Plan, may result in a significant environmental impact.

Proposed Project Impacts: The proposed project is a public infrastructure project that would increase the flow capacity of the flood control facility to transfer a 100-year bulk flow. The proposed project would not

1 County of Ventura, *Initial Study Assessment Guidelines*, 2011.
2 County of Ventura, Initial Study Assessment Guidelines, 2011.

require substantial groundwater extraction during construction or operation. Some minimal dewatering may occur as necessary during project construction, but the quantity would not be considered substantial. According to the Ventura County *Initial Study Assessment Guidelines*, any land use or project which would result in a net annual extraction of 1.0 acre-foot per year or less is not considered to have a significant project or cumulative impact on groundwater quantity. Therefore, the proposed project would have no impact on the quantity of groundwater.

Cumulative Impacts: As discussed above, the proposed project would not affect groundwater quantity, and thus would not incrementally contribute to cumulatively significant impacts. No cumulative impacts would occur.

8.2.2 Groundwater Quality

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project that meets one of the criteria listed below could result in a significant impact to groundwater quality.[3]

- Individually or cumulatively degrade the quality of groundwater and cause groundwater to exceed groundwater quality objectives set by the [Los Angeles Regional Water Quality Control Board (RWQCB)] Basin Plan.
- Cause the quality of groundwater to fail to meet the groundwater quality objectives set by the Los Angeles RWQCB.
- Propose the use of groundwater in any capacity within 2 miles of the boundary of a former or current test site for rocket engines.

Proposed Project Impacts: The proposed project is located in the Upper Ventura River reach identified in the RWQCB Basin Plan. The groundwater constituents of concern are total dissolved solids (TDS), sulfate, chloride, and boron. According to Ventura County Watershed Protection District (VCWPD) *2011 Groundwater Section Annual Report*, all RWQCB groundwater constituents of concern from the three wells sampled were determined to be below the objectives of the Basin Plan with the exception of TDS, with an average concentration of 714 milligrams per liter (mgl).[4] Groundwater contamination may occur through direct contact with groundwater resources or through infiltration of potentially hazardous materials to underlying groundwater. The potential for each of these situations to occur under the proposed project is discussed below.

3 County of Ventura, Initial Study Assessment Guidelines, 2011.

4 Ventura County Watershed Protection District, Water and Environmental Resource Division, *2011 Groundwater Section Annual Report*, 37.

The project site is located in the Upper Ventura River Groundwater Basin. The exact depth to groundwater at the project site is not known at this time. Measurements in the Upper Ventura River Groundwater Basin vary depending on the location within the basin and season. VCWPD's *2011 Groundwater Section Annual Report* provides depth to groundwater for 18 wells in the Upper Ventura River Groundwater Basin ranging from less than 10 feet to more than 100 feet depending on the measurement location.[5] The State Water Resource Control Board's Geotracker database does not indicate any monitoring sites nearby that could provide additional data for groundwater depth in the area.

Project construction would require substantial excavation of soils that would potentially result in the exposure of groundwater to hazardous materials common at construction sites (e.g., fuel, lubricants, and sealants). The implementation of best management practices (BMPs) identified in the storm water pollution prevention plan (SWPPP) would ensure that such contaminants would be stored away from water resources and that any water runoff would be directed away from both surface and groundwater resources. Potential impacts to groundwater quality would be less than significant.

The operation of the proposed project would not degrade the groundwater quality of the project area. Impacts would be less than significant.

Cumulative Impacts: As discussed above, the proposed project would not affect groundwater quality, and thus would not incrementally contribute to cumulatively significant impacts. No cumulative impacts would occur.

8.2.3 Surface Water Quantity

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project that meets one of the criteria listed below would result in a significant impact to surface water quantity.

- Increase surface water consumptive use, either individually or cumulatively, in a fully appropriated stream reach as designated by the State Water Resources Control Board (SWRCB), or where non-appropriated surface water is unavailable.
- Increase surface water consumptive use including but not limited to diversion or dewatering downstream reaches, either individually or cumulatively, resulting in an adverse impact to one or more of the beneficial uses listed in the Basin Plan.

Proposed Project Impacts: The proposed project would not increase demand for water use from the Ventura River. Therefore the proposed project would result in less than significant impacts on the surface water quantity.

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5 VCWPD, *2011 Groundwater Section Annual Report*, 37.

Cumulative Impacts: As discussed above, the proposed project would not increase demand for water use from the Ventura River, and thus would not incrementally contribute to cumulatively significant impacts related to surface water quantity. No cumulative impacts would occur.

8.2.4 Mineral Resources

The assessment of mineral resources presents an analysis of the impacts associated with aggregate and petroleum resources. Aggregate resources include construction grade sand, rock, and gravel; and petroleum resources include oil and gas deposits. Impacts associated with these mineral resources involves hampering or precluding extraction of, or access to, these mineral resources.

Aggregate

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a project would have a significant impact on aggregate resources if it is proposed to be located on or immediately adjacent to land zoned Mineral Resource Protection (MRP) overlay zone, or adjacent to a principal access road to an existing aggregate Conditional Use Permit (CUP), and has the potential to hamper or preclude extraction of or access to the aggregate resources.

Proposed Project Impacts: The project site is located adjacent and connects to an area designated as MRZ-3a which indicates areas judged to have higher potential than other deposits classified MRZ-3.[6] Areas classified as MRZ-3 are areas containing mineral deposits, the significance of which cannot be evaluated from available data. The MRP overlay zone is applied to appropriate MRZ-2 areas. The project site is located approximately 3.5 miles north of an identified Conditional Use Permit (CUP) that would allow mining.[7] As the project site is not located adjacent to land classified as MRZ-2 nor is it permitted for aggregate extraction, the project would have no impact on the extraction of, or access to, aggregate resources.

Cumulative Impacts: As discussed above, the proposed project would not impact aggregate resources, and thus would not incrementally contribute to cumulatively significant impacts related to such resources. No cumulative impacts would occur.

Petroleum

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any land use that is proposed to be located on or immediately adjacent to any known petroleum resource area, or

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6 Ventura County General Plan, *Resources Appendix, Figure 1.4.1, Aggregate Resources*, 2008.

7 Ventura County General Plan, *Resources Appendix, Figure 1.4.6, Mineral Resources/Mining Permits Map*, 2008.

adjacent to a principal access road to an existing petroleum CUP, has the potential to hamper or preclude access to petroleum resources.

Proposed Project Impacts: The project site is not located over or adjacent to an identified petroleum resource area.[8] The project site is not located along an access road to an oil extraction area. Therefore, the project would not cause a significant impact on the extraction of oil resources. No impacts would occur.

The project's proposed flood conveyance pipeline alignment traverses beneath SR-33. This state highway may be used for truck traffic to petroleum CUP areas to the north of the project site. The proposed project consists of constructing a larger capacity flood control conveyance for the Fresno Canyon watershed. Therefore, operation of the proposed project is not expected to affect truck traffic to and from oil areas north of the project site. Potential temporary access impacts due to project construction are addressed in **Section 4.10, Transportation and Circulation**.

Cumulative Impacts: As discussed above, the proposed project would not impact petroleum resources, and thus would not incrementally contribute to cumulatively significant impacts related to such resources. No cumulative impacts would occur.

8.2.5 Agricultural Resources

Soils

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project that would result in the direct and/or indirect loss of soils designated Prime, Statewide Importance, Unique or Local Importance would result in a significant impact.

Proposed Project Impacts: The project site is designated for "Other Land" and "Urban and Built-Up Land" according to the Farmland Mapping and Monitoring Program.[9] The project site is not located on soils designated for Prime, Statewide, Unique or Local soils. Therefore, there would be no impact to agricultural soils.

Cumulative Impacts: Construction of the project would not result in the loss of the direct or indirect loss of Prime, Statewide, Unique, or Local soils, and therefore would not combine with related projects to cause a significant cumulative impact.

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8 Ventura County General Plan, *Resources Appendix, Figure 1.4.7, Petroleum Resources Map*, 2008.

9 California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Ventura County *Important Farmland*, 2010.

Land Use Incompatibility

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project that is closer than the following distances will be considered to have a potentially significant environmental effect on agricultural resources: 300 feet, without vegetative screening, from a non-agricultural structure or use and common boundary line adjacent to classified farmland; or 150 feet, with vegetative screening, from a non-agricultural structure or use and common boundary line adjacent to classified farmland with vegetative screening.

Proposed Project Impacts: The project site is not located adjacent to, or within 300 feet of, land zoned for agriculture or agricultural operations. Thus, there would be no impacts to land use compatibility with agricultural resources.

Cumulative Impacts: Construction of the project would not result in land use incompatibility with agricultural resources, and therefore would not combine with related projects to cause a significant cumulative impact.

8.2.6 Coastal Beaches and Sand Dunes

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a proposed project would have a significant environmental impact if it causes a direct or indirect adverse physical change to a coastal beach or sand dune.

Proposed Project Impacts: The major sand dune communities in Ventura County include the McGrath-Mandalay area, at Ormond Beach, in the vicinity of Point Mugu, and near the mouths of the Santa Clara and Ventura Rivers. The nearest sand dune community or coastal beach to the project site is located approximately 6 miles to the south. The proposed project is not located near a major sand dune community and would therefore have no impact to coastal beaches and sand dunes.

Cumulative Impacts: **Section 3.0, Project Description,** provides a list of the reasonably foreseeable projects located in the proposed project area. The impacts associated with the proposed project would not impact coastal beaches or sand dunes; therefore, the proposed project would have no potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. No cumulative impacts to coastal beaches and sand dunes would occur.

8.2.7 Fault Rupture

Significance Criteria: As described in the Ventura County *Initial Study Assessment Guidelines*, a project is potentially at risk with respect to fault rupture if it is located within: (1) a State of California designated Alquist-Priolo Special Fault Study Zone; (2) a County designated Fault Hazard Area.[10] Impacts from primary fault rupture and ground displacement are generally related to damage or collapse of structures and subsequent injury to people.

Proposed Project Impacts: The nearest fault to the project site is the Red Mountain Fault located to the east. This fault is not designated as an Alquist-Priolo Fault Zone in the project area or as a County of Ventura designated Fault Hazard Area. The project site is located approximately 1 mile to the west of the Red Mountain Fault which has been designated as an active fault. As the project site is not located within 50 feet of an Alquist-Priolo Fault Zone or a County Fault Hazard Area, no impact would occur from fault rupture.

Cumulative Impacts: **Section 3.0, Project Description**, provides a discussion of the past, present and reasonably foreseeable projects associated with the proposed project area. As discussed above, the proposed project is not crossed by any known active or Alquist-Priolo zoned faults and therefore no impact from fault rupture would occur. As indicated in the Ventura County *Initial Study Assessment Guidelines* there is no known cumulative fault rupture impact that would occur as a result of other approved, proposed, or probable projects. No cumulative impacts would occur.

8.2.8 Seiche and Tsunami

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a project area would be subject to a potential seiche hazard if it is located within 10 to 20 feet vertical elevation from an enclosed body of water such as a bay, lake, or reservoir. The height of hazard above the water level is dependent on the ground motion intensity, duration of shaking, and subsurface topography of the lake or reservoir and surface topography of the shoreline. The *Initial Study Assessment Guidelines* indicate that the threshold of significance criteria for tsunami hazard is whether the proposed project is located in a mapped area of tsunami hazard as shown on the County General Plan maps. For most portions of the north and south coastal areas the tsunami hazard does not extend to areas more than 30 feet above sea level, and along the coastal plain the tsunami hazard extends inland for approximately 1 mile.

10 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

Proposed Project Impacts: The project site is located approximately 5.5 miles north of the Pacific Ocean. In addition, the project site is not located within a designated tsunami zone.[11] Therefore, there would be no potential impact to the project site from a tsunami.

The proposed project consists of a storm drain diversion facility that would transport floodwater, sediments, and debris from the Fresno Canyon watershed to the Ventura River. There is no record of a seiche occurring in Ventura County and the threat posed by seiches in Ventura County is considered small.[12] The project site is not located within 10 to 20 feet vertical elevation from an enclosed body of water such as a bay, lake, or reservoir; therefore, there would be no impact to the project area from a potential seiche hazard.

Cumulative Impacts: **Section 3.0, Project Description**, provides a discussion of the past, present and reasonably foreseeable projects associated with the project area. As discussed above, the proposed project would not be located within a seiche or tsunami hazard area. As indicated in the Ventura County *Initial Study Assessment Guidelines*, hazards from seiche and tsunami will affect each project individually; and no cumulative seiche and tsunami hazard would occur as a result of other approved, proposed, or probable projects. No cumulative impacts would occur.

8.2.9 Subsidence

Significance Criteria: As indicated in the Ventura County *Initial Study Assessment Guidelines*, the determination of a significant subsidence effect shall be based upon an inquiry of whether a proposed project will expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving subsidence if it is located within a subsidence hazard zone.[13]

Proposed Project Impacts: The project site is not located within a designated subsidence zone.[14] Therefore, there would be no impacts to the project site from subsidence.

Cumulative Impacts: **Section 3.0, Project Description**, provides a discussion of the past, present and reasonably foreseeable projects associated with the proposed project area. As indicated in the Ventura County *Initial Study Assessment Guidelines* hazards from subsidence will affect each project individually; and no cumulative subsidence hazard would occur as a result of other approved, proposed, or probable projects. Consequently, no cumulative impacts would occur.

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11 Ventura County Resource Management Agency, GIS Development & Mapping Services, *Tsunami Inundation Map*, 2011; California Emergency Management Agency, 2009.

12 Ventura County General Plan, *Hazards Appendix*, (2005) 30.

13 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

14 County of Ventura, *General Plan Hazards Appendix*, 2011, 46.

8.2.10 Fire Hazards

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, projects located within High Fire Hazard Areas/Fire Hazard Severity Zones or Hazardous Watershed Fire Areas may have a significant fire hazard impact. The fire hazard impact can be mitigated by compliance with Building and Safety requirements for structures and the Fire Protection District Hazard Abatement program which calls for the clearing of brush, flammable vegetation, or combustible growth located within 100 feet of structures or buildings. Projects not located within High Fire Hazard Areas/Fire Hazard Severity Zones or Hazardous Watershed Fire Areas will not have a significant impact.[15]

Proposed Project Impacts: The project site is located within a State Responsibility Area, and state firefighters would respond to wildfire in the area. The project site is designated as very high fire hazard severity zone from the west to high fire hazard severity zone to the eastern end of the project site.[16] The project would comply with all applicable federal and state regulations, and the requirements of the Ventura County Building Code and the Fire Code. The project does not propose the construction of habitable structures and would therefore not result in the exposure of persons to potential fire hazard. Compliance with applicable County policies regarding brush clearance would ensure that impacts would be less than significant.

Cumulative Impacts: **Section 3.0, Project Description**, provides a discussion of the past, present and reasonably foreseeable projects associated with the proposed project area. Cumulative projects would be required to comply with all applicable General Plan and Community Plan policies for the reduction of fire hazards. Cumulative impacts are anticipated to be less than significant.

8.2.11 Aviation Hazards

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a review of aviation hazards, as those hazards relate to proposed development of properties near County public airports, will focus on compliance with the County's Comprehensive Land Use Plan and pre-established federal criteria set forth in Federal Aviation Regulation Part 77 (Obstruction Standards), as well as those recommendations for good land-use planning made by state and county governments.[17] As defined by the Ventura County *Initial Study Assessment Guidelines*, aviation hazards refer to the potential loss of life and/or property due to an aircraft accident, including any action which may cause an increase in the potential for an aircraft accident.[18]

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15 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

16 California Department of Forestry and Fire Protection, *Fire Hazard Severity Zones in SRA:* Ventura County, 2007.

17 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

18 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

Proposed Project Impacts: The nearest airport is the Oxnard Airport located over 12.5 miles south of the project site. The project site would upgrade the existing drainage facility to transport the flows, sediment, and debris generated during a 100-year storm event within Fresno Canyon. Therefore, due to the distance from an airport and the nature of this public improvement project, no aviation hazard impacts would occur.

Cumulative Impacts: The proposed project would be cumulatively significant if it would contribute an incrementally adverse impact to the potential loss of life and/or property due to an aircraft accident, taking into consideration other cumulative projects in the area. However, as described above, the proposed project would result in no impacts associated with aviation hazards. Consequently, the proposed project would have no potential to combine with other projects identified in **Section 3.0, Project Description**, to result in a cumulative impact to aviation hazards. No cumulative impact to aviation hazards would occur.

8.2.12 Hazardous Materials/Waste

Hazardous Materials

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a project that is designed to meet all of the applicable requirements set forth in the following authorities shall not be considered to have a significant impact in this environmental area:

- **Underground Storage Tanks** – California Health and Safety Code, Division 20, Chapter 6.7 and the California Code of Regulations Title 23, Division 3, Chapter 16
- **Business Plan** – California Health and Safety Code, Division 20, Chapter 6.95, Article 1
- **Risk Management Plan** - California Health and Safety Code, Division 20, Chapter 6.95, Article 2
- **CUPA** – California Health and Safety Code, Division 20, Chapter 6.11
- **Fire Code** – The Fire Code adopted by the Ventura County Fire Protection District (VCFPD) in regards to aboveground hazardous materials. Reference California Health and Safety Code, Division 12, part 2.7

As addressed in Section 20a.E of the Ventura County *Initial Study Assessment Guidelines*, the methodology for determining hazardous material impacts of a project shall entail the following:

1. Determine if the proposed project will utilize hazardous materials in a quantity that is subject to regulation by the Environmental Health Division and/or Ventura County Fire Protection District (VCFPD).

2. Determine if the project will utilize and require the installation of underground hazardous materials storage tanks.

3. Determine if existing underground storage tanks are on-site, and if they are in compliance with the testing and monitoring requirements set forth in the California Health and Safety Code, Division 20, Chapter 6.7 and the California Code of Regulations Title 23, Division 3, Chapter 16. Consult with the Ventura County Environmental Health Division Hazardous Materials Program and determine if any enforcement or compliance actions are pending. A site assessment must be completed on active Leaking Underground Fuel Tank (LUFT) sites before the application is deemed complete.

4. Determine if existing tanks are to be permanently closed.

Proposed Project Impacts: The proposed project would not utilize any hazardous materials, other than fuels used during project construction. The project would not utilize or require the installation of underground hazardous materials storage tanks. There are no underground storage tanks, cleanup sites, or hazardous waste sites located within the project area.[19] The proposed project would not involve the development, implementation, or use of a business plan or risk management plan. Therefore, there would be no hazardous material impact.

Cumulative Impacts: **Section 3.0, Project Description**, provides a discussion of the past, present and reasonably foreseeable projects associated with the proposed project area. All of the past, present and reasonably foreseeable projects within Ventura County are, or would be, subject to compliance with all applicable state, federal and local laws, regulations, and ordinances regarding hazardous materials. As discussed above, no impacts with hazardous materials associated with implementation of the proposed project are anticipated to occur. Therefore, the proposed project's incremental contribution to impacts associated with hazardous materials would not be cumulatively considerable.

Hazardous Waste

Significance Criteria: "Hazardous wastes" include the following:

- A waste, or combination of wastes, which because of quantity, concentration, physical or chemical characteristics, may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or may pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of, or otherwise managed

- A waste that meets any of the criteria for the identification of a hazardous waste adopted by the State Department of Toxic Substances Control pursuant to Division 20, Chapter 6.5 of the California Health and Safety code

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19 California Department of Toxic Substances Control, *Enviorstor Database*. http://www.envirostor.dtsc.ca.gov /public/.

According to the Ventura County *Initial Study Assessment Guidelines*, the storage, handling, and disposal of potentially hazardous waste shall be in conformance with the requirements set forth in the following regulations:

- California Code of Regulations (CCR), Title 22, Division 4.5
- California Health and Safety Code, Division 20, Chapter 6.5
- Ventura County Ordinance Code, Division 4, Chapter 5 (Hazardous Substances), Article 1, (Certified Unified Program Agency)

The above state legislation and local ordinances have been enacted for the purpose of preventing contamination from improper storage, handling and disposal of hazardous wastes. It is also the intent of these regulations to establish procedures so that the generators of hazardous wastes will be encouraged to employ reduction technology and destruction of their hazardous wastes prior to disposal.

Proposed Project Impacts: As discussed above, the proposed project would not handle, store, or use hazardous materials, other than fuels during project construction, or generate hazardous waste. The project site includes a 21-inch sewer line, operated by the Ojai Valley Sanitation District, which would need to be relocated during construction. The proposed project would not require or utilize a septic waste system. The project site is not located in a sensitive groundwater basin. As the proposed project would not produce hazardous wastes, no project-level impacts would occur.

Cumulative Impacts: **Section 3.0, Project Description**, provides a discussion of the past, present and reasonably foreseeable projects associated with the proposed project area. All of the past, present and reasonably foreseeable projects within Ventura County would also be required to comply with all applicable state and local laws and regulations regarding the disposal of hazardous waste, and may be required to implement additional safety measures for the handling and disposal of hazardous waste if warranted by project-specific regulatory reviews and approvals. It is assumed that all projects identified in the list of cumulative project**s** would consult with the Ventura County Environmental Health Division to ensure that concerns related to hazardous waste are fully addressed. Therefore, the proposed project would not incrementally contribute to impacts associated with hazardous wastes that would be cumulatively considerable. No cumulative impacts would occur.

8.2.13 Daytime Glare

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a project will be considered to have a significant project-specific glare impact if the project would create a new source

of disability glare or discomfort glare for motorists travelling along any road of the County Regional Road Network.

Proposed Project Impacts: The building materials (such as cement and rock) that would be utilized for the flood conveyance features would not introduce any new source of glare. Thus, the proposed project would not create a new source of disability glare or discomfort glare for motorists travelling along SR-33. No project-specific glare impacts would occur.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. Construction and operation of other projects in the cumulative scenario could reasonably include the use of equipment and installation of features which could create glare. Therefore, future development within the Ojai Valley area could result in cumulative glare impacts to motorists. However, as discussed above, there would be no glare impacts associated with the proposed project. Therefore, impacts associated with glare would not be cumulatively considerable.

8.2.14 Public Health

Significance Criteria: The issue of Public Health entails human health related issues such as, but not limited to, vectors, bioaerosols, and other pathogens or environmental factors that may pose a substantial present or potential hazard to public health.[20]

According to the Ventura County *Initial Study Assessment Guidelines*, significance must be determined on a case-by-case basis and is related to project type, location and other environmental factors.[21]

Proposed Project Impacts: The proposed project is not expected to adversely impact public health. The project site is not located within 2 miles of a former or current rocket engine testing facility and would not be subject to mandatory testing for perchlorate and trichloroethylene (TCE) in the soil. It is not anticipated that human health related issues such as vectors, bioaerosols, or other pathogens or environmental factors would result from construction or operation of the proposed flood control facility. Therefore, there would be no potential impact to public health.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. Although these projects may involve the use or transport of materials that could pose a threat to public health, or involve other activities which could place public

20 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

21 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

health at risk, these projects would be required to mitigate for such impacts. Consequently, significant cumulative public health impacts within the proposed project area would not be anticipated to occur. As addressed above, there would be no public health impacts associated with implementation of the proposed project; therefore, its incremental contribution to public health impacts would not be cumulatively considerable. Less than significant cumulative impacts would occur.

8.2.15 Community Character

Significance Criteria: Community character refers to the distinctive physical quality, attributes, or features of a community that sets it apart from other communities or areas. According to the Ventura County *Initial Study Assessment Guidelines*, significant impacts would occur when: (1) a project that is inconsistent with any of the policies or development standards relating to community character of the Ventura County General Plan Goals, Policies and Programs or applicable Area Plan, is regarded as having a potentially significant environmental impact; and/or (2) a project has the potential to have a significant impact on community character, if it either individually or cumulatively (when combined with recently approved, current, and reasonably foreseeable probable future projects) would introduce physical development that is incompatible with existing land uses, architectural form or style, site design/layout, or density/parcel sizes within the community in which the project site is located.

Proposed Project Impacts: The project site is located within the existing community of Casitas Springs within the Ojai Valley Area Plan.[22] VCWPD has acquired three parcels currently occupied by single-family residential development in order to allow for a right-of-way that has the proper alignment for the conveyance pipeline. The proposed project consists of upgrading the capacity of an existing flood control channel to handle 100-year flows from Fresno Canyon. Improving the existing flood control facility would not conflict or be incompatible with the surrounding adjacent residential and open space land uses. The project would benefit the Casitas Springs community through the reduction of flooding impacts. The project would also reduce the potential for the SR-33 to be closed as a result of flooding impacts. As such, there would be no adverse impact to the community character of the project area.

Cumulative Impacts: **Section 3.0, Project Description**, provides a discussion of the past, present and reasonably foreseeable projects associated with the proposed project area. The majority of projects presented in the list of cumulative projects require discretionary actions for the legalization or continued operation of an existing use, or minor modifications for the expansion of existing development. As implemented, these projects may create adverse impacts to community residents from increased environmental impacts, as well as proposing incompatible uses with existing land uses, architectural

22 Ventura County General Plan, *Ojai Valley Area Plan*, (2008) Figure 3.

form or style, site design/layout, or density/parcel sizes within the community. However, these impacts would not be cumulatively considerable, since there would be no project-specific community character impacts.

8.2.16 Housing

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project that meets one of the following criteria would result in a significant impact under this issue area.

- Eliminate existing dwelling units
- Introduce a demand for housing by temporary construction workers or full-time employees

Proposed Project Impacts: The proposed project would not construct any new housing, nor would it introduce a demand for additional housing by temporary construction workers or full-time employees. However, two dwelling units would be temporarily removed from the housing market during the period prior to and during project construction. In 2011 and 2012, in order to allow for a right-of-way that has the proper alignment for the conveyance pipeline, VCWPD acquired three parcels in the project area, two of which have single-family residential houses (8220 Edison Drive [APN 061-0-230-175] and 8195 N. Ventura Avenue [APN 061-0-230-155]) and the third, which is an undeveloped lot (APN 061-0-230-365). The three parcels were acquired by VCWPD without threat of condemnation several years after the preferred alignment alternative was identified and discussed at a public meeting in Casitas Springs in 2007. Construction of the proposed project would not require demolition of the existing housing units, and VCWPD intends to resell the two residential parcels after construction is completed. Furthermore, VCWPD intends to improve these two residential parcels by removing the existing septic systems and providing new sewer connections to the main sewer trunk line that will be relocated as part of the proposed project.

The Ventura County *Initial Study Assessment Guidelines* state

> *The significance of the impact depends on the number of dwelling units eliminated and the affordability of those units. Elimination of two or fewer dwelling units is not considered a significant project-specific or cumulative impact. Elimination of three or more dwelling units that are affordable to [lower income] households … is considered a significant project-specific and cumulative impact on existing housing.*

The two single-family residences referenced above are not considered affordable housing units, and they would not be demolished or permanently eliminated from the housing market. The California Department of Finance estimates that there are 35,086 residential units in unincorporated Ventura County and a further 247,837 units in incorporated cities in the County, for a total of 282,923 housing units.

For the residential units in unincorporated Ventura County, there is an estimated vacancy rate of 8.8 percent, with a vacancy rate of 4.8 percent in incorporated cities. Residents displaced by project construction would be able to acquire housing in vacant residential units within the County. Therefore, housing impacts would be less than significant.

Cumulative Impacts: **Section 3.0, Project Description**, provides a discussion of the past, present and reasonably foreseeable projects associated with the proposed project area. Some cumulative projects identified may require the removal or disruption to existing or planned housing. However, as the proposed project would have less than significant impacts related to the removal of housing, it would not incrementally contribute to housing impacts associated with the removal or elimination of dwelling units.

While a number of cumulative projects identified in the list of cumulative projects would include extensive construction workforce(s), as discussed within the Ventura County *Initial Study Assessment Guidelines*, construction worker demand would be a less than significant project-specific and cumulative impact because construction work is short-term and there is a sufficient pool of construction workers within Ventura County and the Los Angeles metropolitan regions. However, in reviewing the list of cumulative projects provided in the list of cumulative projects, there is the potential for large-scale cumulative development projects to have a direct result in 30 or more new full-time-equivalent lower-income employees. Since the proposed project would have no operational employment, it would not incrementally contribute to housing demand impacts that would be cumulatively considerable. No cumulative impacts would occur.

8.2.17 Transportation – Railroads, Airports, and Harbors

Railroads

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a project will normally have a significant impact on a railroad if it would substantially interfere with an existing railroad's facilities or operations.

Proposed Project Impacts: There are no railroads within the vicinity of the project area. The nearest railroad is located to the south within the City of Ventura. As such, there would be no impacts to railroad facilities or operations.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. As these projects would have no effect on railroads, no cumulative impacts would occur. As addressed above, the proposed project would not incrementally

contribute to railroad impacts in a manner that is cumulatively considerable. No cumulative impacts would occur.

Airports

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a project could potentially be incompatible with the operation of an airport if it is within the sphere of influence of an airport and if it includes features such as high buildings, residential units, refineries, churches, or schools.

Proposed Project Impacts: The project site is located approximately 12.5 miles north of the Oxnard Airport and outside of the airport's sphere of influence. The proposed project would not construct any structures higher than existing elevations. Therefore, there would be no impacts to the Oxnard Airport.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. Distant cumulative projects with the potential to be located near airport facilities could result in aviation impacts. However, as addressed above, no airport facilities are located within the immediate proposed project area. The proposed project would not incrementally contribute to aviation impacts in a manner that is cumulatively considerable. No cumulative impacts would occur.

Harbors

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a project would have an impact on a harbor if the construction or operation of the project will increase the demand for commercial boat traffic and/or adjacent commercial boat facilities.

Proposed Project Impacts: The proposed project site is not located near a harbor and implementation of the project would not affect the demand for boat traffic or facilities. Therefore, the proposed project would not interfere with harbor facilities or operations. No impacts would occur.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. While these cumulative projects may induce growth and thus increase harbor use, at a regional scale, their incremental contribution to direct or indirect cumulative impacts to the operation of a harbor or the demand for new or expanded harbor facilities are expected to be negligible. Additionally, as addressed above, the proposed project would not affect harbors. Therefore, no cumulative impacts would occur.

8.2.18 Water Supply

In accordance with the Ventura County *Initial Study Assessment Guidelines*, this environmental issue area addresses domestic water supply, or a supply of potable water used for human consumption or connected to domestic plumbing fixtures in which the supply is obtained from an approved individual water supply system or a public water system operating with an unrevoked permit from the Ventura County Environmental Health Division or the California Department of Public Health.

Quality

Significance Criteria: Water quality refers to the chemical, biological, and physical quality of water used for human consumption. According to the Ventura County *Initial Study Assessment Guidelines*, a potential water supply impact may occur if a project requires a supply of domestic water.

Proposed Project Impacts: The proposed project would require a water supply for dust suppression during the eight-month construction period, but the project would not include the development of any habitable structures, and does not require a source of domestic water supply. No impacts to water supply quality would occur.

Cumulative Impacts: As described above, the proposed project would not require a supply of domestic water. Therefore, it would not combine with the other past, present or reasonably foreseeable cumulative projects to contribute to a cumulative water supply quality impact. No cumulative impacts would occur.

Quantity

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, the purpose of assessing this issue area is to ensure consistent and complete assessment of any direct and indirect impacts resulting from the General Plan requirement that each legal parcel requiring a domestic water source have a permanent supply of water for the project.

Proposed Project Impacts: As described above, the proposed project would not introduce a permanent water supply requirement and would not require a source of domestic water supply. Therefore, no impacts to water supply quantity would occur.

Cumulative Impacts: As described above, the proposed project would not require a water source and would result in no impact to water supply quantity. Therefore, it would not combine with the other past, present or reasonably foreseeable cumulative projects to contribute to a cumulative water supply quantity impact. No cumulative impacts to water supply quantity would occur.

Fire Flow

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, a project will be considered to have a significant impact associated with fire flow if one of the criteria listed below is met during project construction or operation.

- It cannot meet the required fire flow as determined by
  - The Insurance Services Office, Inc., (ISO) Guide for Determination of Required Fire Flow;
  - The Ventura County Waterworks Manual (VCWWM);
  - Ventura County Fire Protection District (VCFPD) Fire Code; and
  - Fire Prevention Standard 14.5.1, 14.5.2, and 14.5.3.
- It cannot provide an acceptable mitigation factor, i.e., fire sprinklers to allow for a reduction in the required fire flow
- A private water system cannot meet flow, duration, or reliability requirements as defined in the Ventura County Waterworks Manual and VCFPD Fire Code

Fire flow is defined as the number of gallons per minute of water available from a fire hydrant in the event of an emergency situation. Per the Ventura County *Initial Study Assessment Guidelines,* VCFPD staff responsible for a proposed project will review information submitted by the applicant relative to water availability, and may require plans for a private water system if an acceptable water purveyor has not been identified. Also as described in the Ventura County *Initial Study Assessment Guidelines,* no impact to fire flow would occur if a project would have no requirements for fire flow, or if a project is served by a water purveyor that can provide the required fire flow in accordance with the VCWWM and VCFPD Fire Code.

Proposed Project Impacts: The proposed project does not require fire flow. No impacts would occur.

Cumulative Impacts: Section 3.0, Project Description, provides a discussion of the past, present and reasonably foreseeable projects associated with the proposed project area. As described above, the proposed project would not result in an impact related to fire flow requirements. Therefore, it would not combine with the other past, present or reasonably foreseeable cumulative projects to contribute to a cumulative impact to fire flow requirements. No cumulative impacts to fire flow requirements would occur.

8.2.19 Waste Treatment/Disposal

Individual Sewage Disposal System

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*,[23] compliance with applicable sections of the following documents must be demonstrated to ensure no significant impact:

- Ventura County Building Code, Articles 1 and 6
- Ventura County Sewer Policy
- Ventura County Ordinance Code, Division 4
- Uniform Plumbing Code
- Environmental Health Division On-Site Wastewater Treatment System Technical Information Manual
- California Regional Water Quality Control Board Basin Plans

Proposed Project Impacts: A sewage disposal system can be defined as a system which disposes of domestic waste (sewage) generated by individual residences and businesses located in areas without access to public sewer service. The proposed project consists of upgrading the storm water conveyance facility capacity to handle additional water flows, sediment, and debris within the Fresno Canyon watershed. During construction, the project contractor would supply portable toilets for workers and would be responsible for the disposal of generated sewage. As the number of construction workers would be minimal, with all workers anticipated to come from within the Ventura County area, no impacts to existing sewage treatment facilities are expected to occur from on-site portable toilets.

As discussed above in **Section 8.2.16, Housing**, VCWPD intends to improve two residential parcels acquired for construction of the project (i.e., 8220 Edison Drive [APN 061-0-230-175] and 8195 N. Ventura Avenue [APN 061-0-230-155]) by removing the existing individual septic systems and providing new sewer connections to the main sewer trunk line that will be relocated as part of the proposed project. VCWPD intends to resell the two residential parcels after construction is completed. Therefore, there would be a less than significant impact to individual sewage disposal systems.

Cumulative Impacts: As discussed above, the construction and operation of the proposed project would not require an on-site sewage disposal system, and the project would involve beneficial improvements to two existing parcels currently utilizing individual sewage disposal systems. Therefore, it would not

23 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

combine with the past, present or reasonably foreseeable projects outlined in **Section 3.0, Project Description**, to contribute to sewage disposal system impacts that would be cumulatively considerable. No cumulative impacts would occur.

Sewage Collection/Treatment Facilities

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project which would individually or cumulatively generate sewage effluent which would be discharged to and exceed the capacity of an existing facility or ancillary facilities would have a potentially significant impact; however, if the project incorporates project conditions and mitigation measures for improvements required by the sewer entity or Regional Water Board, there would be a less than significant impact.[24]

Proposed Project Impacts: The proposed flood conveyance improvement project would not generate sewage; however, two residences would be converted from individual sewage disposal systems to connect with the nearby sewer trunk line that would be relocated as part of the project. The proposed project would not utilize an individual sewage disposal system. The Sanitation District has indicated that adequate sewer capacity is available for this project. Since the project would abandon the two existing septic systems and connect the structures to the public sewer, the potential impacts relative to on-site sewage disposal would be less than significant.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. These cumulative projects include retail development and school expansions that may induce growth and thus increase demand on sewage collection/treatment facility use, at a regional scale. However, as addressed above, the proposed project would have less than significant impacts, and no cumulative impacts are expected to occur.

Solid Waste Management

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project that generates solid waste would have an impact on the demand for solid waste disposal capacity in Ventura County.[25]

Proposed Project Impacts: Clear and grub green wastes generated during construction of the proposed project would be hauled to the nearest green waste recycling facility for appropriate disposal. The only

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24 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

25 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

soil spoils associated with the project would be from tree removal (soil within tree root balls). An on-site raw material excavation and re-use/export plan would be implemented for each work task. Furthermore, VCWPD would incorporate into the project's contract specifications requirements to comply with Ventura County Ordinances #4445 (solid waste handling, disposal, waste reduction, waste diversion) and #4421 (requirements for the diversion of construction and demolition debris from landfills by recycling, reuse, salvage), to the extent practicable. Ventura County Ordinances #4445 and #4421 assist the County in its efforts to meet the requirements of Assembly Bill 939 that mandates all jurisdictions in California to divert a minimum of 50 percent of their solid waste from landfill disposal. Solid waste impacts are anticipated to be less than significant.

Cumulative Impacts: **Section 3.0, Project Description,** provides a list of the reasonably foreseeable projects located in the proposed project area. These cumulative projects include retail development and school expansions that may induce growth and thus increase demand on solid waste management and collection, at a regional scale. However, as addressed above, the proposed project would have less than significant impacts to solid waste management. Therefore, less than significant cumulative impacts would occur.

Solid Waste Facilities

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*,[26] solid waste facilities shall be in compliance with the following statues and regulations and are subject to enforcement by the County of Ventura Resource Management Agency, Environmental Health Division (EHD):

- California Health and Safety Code, Division 104, Part 13, Chapter 4, Article 7
- California Health and Safety Code, Division 104, Part 14
- California Code of Regulations, Title 14, Division 7
- California Code of Regulations, Title 27, Division 2
- California Public Resources Code, Division 30
- Ventura County Ordinance Code, Division 4, Chapter 7

Solid waste operations and facilities are those projects that involve solid waste handling, storage, processing and disposal activities that are subject to solid waste regulations enforced by the Local Enforcement Agency/EHD. Solid waste facilities operate under the authority of the Local Enforcement Agency, which under the proposed project would be the Ventura County EHD. Per the Ventura County

26 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

Initial Study Assessment Guidelines, if a proposed project does not involve a solid waste operation or facility, it would have no impact.[27]

Proposed Project Impacts: The proposed project does not directly involve a solid waste operation or facility. The proposed project would comply with the Ventura County Ordinance Nos. 4445 and 4421 requiring the minimization and recycling of construction and demolition related debris. Therefore, there would be no impact on solid waste facilities.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. These cumulative projects include retail development and school expansions that may induce growth and thus increase demand on solid waste disposal facilities, at a regional scale. However, as addressed above, the proposed project is anticipated to generate a minimal amount of solid waste material and is not anticipated to impact the available capacity of waste disposal facilities serving the proposed project area, resulting in no impact to solid waste facilities. Therefore, no cumulative impacts would occur.

8.2.20 Law Enforcement/Emergency Services

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*,[28] public safety depends on the timely availability of law enforcement and emergency service personnel. Projects that increase demand for law enforcement or emergency services may have a significant adverse impact on public safety unless mitigated.

Law enforcement and emergency service personnel consist of all individuals, both sworn and not sworn, who are used by the Ventura County Sheriff's Department to protect the County's citizens. A project that directly or indirectly contributes to a population increase would have the potential to impact law enforcement and emergency service personnel and equipment.

Proposed Project Impacts: The proposed project would improve the capacity of the Fresno Canyon flood control channel to handle a 100-year peak bulk flow rate. The project would include two maintenance roads. The western most road would have a fence built around the access road to prevent public access to the facility. The project would not directly or indirectly cause a population increase. Therefore, there would be no impact on law enforcement or emergency services.

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27 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

28 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. The proposed project is not growth inducing and would not be anticipated to require the use of local law enforcement or emergency services. Consequently, it would not combine with other past, present and reasonably foreseeable projects to contribute to an impact to law enforcement and emergency services that would be cumulatively considerable. No cumulative impacts would occur.

8.2.21 Fire Protection

Distance/Response Time

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, project distance from a full time paid fire department is considered a significant impact if the project is in excess of 5 miles, measured from the apron of the fire station to the structure or pad of the proposed structure.[29]

Proposed Project Impacts: The nearest fire station is Fire Station 23 of the Ventura County Fire Department and is located approximately 2 miles to the north of the project site. The proposed project does not involve the construction of fire-prone facilities. As such, the proposed project would not impact the fire response time of fire protection services.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. As discussed above, proposed construction activities would be located within 2 miles of the nearest fire station; therefore, the proposed project would not combine with other past, present and reasonably foreseeable projects to contribute to an impact to fire protection services (distance and response) that would be cumulatively considerable. No cumulative impacts would occur.

Personnel/Equipment/Facilities

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, one firefighter is required for every 3,000 to 4,000 persons, depending on density.[30]

Proposed Project Impacts: The proposed project would not increase the population of the project area; consequently, it would not increase the demand for fire protection service personnel, equipment, or facilities. In addition, the proposed project would not involve any type of structural development that

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29 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

30 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

would require an increase in long-term fire protection service. No impacts with regard to the personnel, equipment, or facilities of fire protection services would occur.

Cumulative Impacts: Section 3.0, Project Description, provides a list of the reasonably foreseeable projects located in the proposed project area. As discussed above, the proposed project would not increase the population of the project area; therefore, the proposed project would not combine with other past, present and reasonably foreseeable projects to contribute to an impact to fire protection services that would be cumulatively considerable. No cumulative impacts would occur.

8.2.22 Education

Schools

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project that meets the following criteria would result in a significant impact under this issue area.[31]

- Substantially interfere with the operations of an existing school facility.

Proposed Project Impacts: The nearest school to the project site is Sunset Elementary School (Ventura Unified School District) located approximately 1.75 miles to the north. The proposed project is a public improvement project and is therefore considered a non-residential project and would not affect the demand for schools within the County. No impacts to school facilities would occur.

Any potential impact on school facilities (public or private) that is not related to demand is discussed and analyzed under the appropriate subject area (e.g., noise, traffic).

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. As discussed above, the proposed project would not affect the demand for schools in the County. Therefore, the proposed project would not combine with other past, present of reasonably foreseeable projects to contribute to an impact to educational facilities that would be cumulatively considerable. No cumulative impacts would occur.

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31 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

Libraries

Significance Criteria: According to the Ventura County *Initial Study Assessment Guidelines*, any project that meets one of the following criteria would result in a significant impact under this issue area.[32]

- Substantially interfere with the operations of an existing public library facility.
- Put additional demands on a public library facility that is currently deemed overcrowded.
- Limit the ability of individuals to access public library facilities by private vehicle or alternative transportation modes.

Proposed Project Impacts: The proposed project involves the improvement of the existing Fresno Canyon Flood Control Facility to be able to transfer the 100-year bulked flow rate within the watershed and would not generate additional demand for library services. The nearest Ventura County Library facility would be the Oak View Library located approximately 2.5 miles north of the project site. The proposed project is not a residential project that would put additional demand on a library, nor is it located adjacent to a public library such that it would interfere with its operations or access. Therefore, the project would have no impacts to public library facilities or services.

Cumulative Impacts: **Section 3.0, Project Description**, provides a list of the reasonably foreseeable projects located in the proposed project area. As discussed above, the proposed project would neither affect the demand for public library facilities, nor interfere with the operations of or accessibility to the Oak View Library. Therefore, the proposed project would not combine with other past, present of reasonably foreseeable projects to contribute to an impact to public libraries that would be cumulatively considerable. No cumulative impacts would occur.

32 County of Ventura, *Initial Study Assessment Guidelines*, 2011.

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10.0 REFERENCES

Barnhardt, R.A. Species Profiles: *Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Pacific Southwest) Steelhead.* US Fish and Wildlife Service Biological Report 82. (11.60), 1986.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I.V. Lagomarsino. *Status Review of West Coast Steelhead from Washington, Oregon, and California*. National Oceanic and Atmospheric Administration Technical Memorandum. NMFS-NWFSC-27. 1996.

California Air Resources Board, *Staff Report: Proposed Regional Greenhouse Gas Emission Reduction Targets For Automobiles And Light Trucks Pursuant To Senate Bill 375*, 2010.

California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, 2005.

California Air Resources Board, "California Greenhouse Gas 2000-2008 Inventory by Scoping Plan Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. 2010.

California Building Standards Commission, 2008 California Green Building Standards Code, (2009

California Department of Transportation, *Technical Noise Supplement: A Technical Supplement to the Traffic Noise Analysis Protocol*, 1998.

California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Ventura County *Important Farmland*, 2010.

California Department of Fish and Wildlife. Biogeographic Data Branch. "Full Natural Community Hierarchy, Sept. 2010, Excel Version. http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm _list.asp. 2010.

California Department of Fish and Wildlife (CDFW). California Department of Fish and Game Natural Diversity Data Base. Commercial Version, Update July 2, 2012 and August 6, 2013

California Department of Forestry and Fire Protection, *Fire Hazard Severity Zones in SRA:* Ventura County, 2007.

California Department of Toxic Substances Control, *Enviorstor Database*. http://www.envirostor .dtsc.ca.gov /public/.

California Department of Finance, "E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-1008, with 2000 Benchmark," http://www.dof.ca.gov/research/demographic/reports /estimates/e-5/2009/. 2013.

California Environmental Protection Agency, State Water Resources Control Board, General Permit For Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2010-0014-DWQ, NPDES No. CAS000002

California Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006

California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, 2006.

California Geological Survey, "Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California," 1997.

California Natural Diversity Database. Biogeographic Data Branch. Department of Fish and Game. 2013.

California Native Plant Society. The California Rare Plant Ranking System. Explanation of Rare Plant Ranking. http://www.cnps.org/cnps/rareplants/ranking.php.

California Native Plant Society. Inventory of Rare, Threatened, and Endangered Plants of California. Online database available at: http://www.rareplants.cnps.org/. 2013.

California Natural Resources Agency, Climate Action Team, *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*, 2009.

County of Ventura. *County of Ventura Initial Study Assessment Guidelines*. 2011.

Energy Information Administration, "Other Gases: Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride," http://www.eia.doe.gov/oiaf/1605/gg00rpt/other_gases.html.

Intergovernmental Panel on Climate Change. *Climate Change 1995: The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change*. 1996.

Intergovernmental Panel on Climate Change, "Climate Change 2007: The Physical Science Basis, Summary for Policymakers," http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf. 2007.

Kleeman, M. J., Chen, S., and Harley, R.A., *Climate Change Impact on Air Quality in California: Report to the California Air Resources Board*, 2010.

Los Angeles Regional Water Quality Control Board, *Resolution No. R4-2007-016*, October 4, 2007.

Los Angeles Regional Water Quality Control Board, *Water Quality Control Plan*, 1994.

National Flood Insurance Program, Federal Emergency and Management Agency, http://www.fema.gov/library/viewRecord.do?id=1480.

National Marine Fisheries Service. *Endangered and Threatened Species: Final Listing Determinations for 10 Distinct Population Segments of West Coast Steelhead; Final Rule.* January 5, 2006.

Normandeau Associates, Inc. Assessment of Pre-Project Aquatic Habitat in the Ventura River at the Fresno Canyon Confluence. October 25, 2012

Regional Water Quality Control Board, Los Angeles Region, *Ventura County Stormwater Quality Management Plan*, 2001.

Sawyer and Keeler-Wolf. *A Manual of California Vegetation. 2nd ed. California Native Plant Society. Sacramento, California.* 2009.

Schneider, E. *et al.*, "A Coccidioidomycosis Outbreak Following the Northridge, Calif. Earthquake," *Journal of American Medicine* Vol. 277, No. 11. 1997.

South Coast Air Quality Management District, *California Emissions Estimator Model User's Guide*, 2011.

South Coast Air Quality Management District, "Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting #6," http://www.aqmd.gov/ceqa/handbook/GHG/2008/oct22mtg /oct22.html. 2008.

State Water Resources Control Board, *Resolution No. 2008-0033*, 2008.

State Water Resources Control Board, Water Quality Order 2003-0007-DWQ, *NPDES General Permit for Storm Water Discharges associated with Construction Activity from Small Linear Underground/Overhead Projects*. 2003.

US Census Bureau, "Data Finders," http://www.census.gov/

US Department of Agriculture, Natural Resources Conservation Service, *Custom Soil Resource Report for Ventura Area, California*. 2013.

US Department of Transportation, Federal Highway Administration. *Highway Noise Fundamentals*. 1980.

US Department of Transportation, Federal transit Administration, Office of Planning and Environment, *Transit and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006.

US Environmental Protection Agency, "EPA and NHTSA Propose Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks," http://epa.gov/otaq/climate /regulations/420f09047a.htm.

US Environmental Protection Agency, "Glossary of Climate Change Terms," http://www.epa.gov /climatechange/glossary.html#Climate_change.

US Environmental Protection Agency, "High GWP Gases and Climate Change," http://www epa gov /highgwp/scientific.html#sf6.

US Environmental Protection Agency, "EPA and NHTSA Propose Historic Nation Program," 2009.

US Environmental Protection Agency, *Compilation of Air Emissions Factors, Volume I: Stationary and Point Sources*, AP-42, 1985.

US Fish and Wildlife Service. Recovery Plan for the California Red-legged Frog (Rana aurora draytonii). Region 1 US Fish and Wildlife Service, Portland, Oregon. 2002.

US Fish and Wildlife Service. *Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species; Proposed Rule* Federal Register 50, CFR Part 17. US Department of the Interior. Washington, DC. 1996.

Ventura County Air Pollution Control District, *2009 Ambient Air Monitoring Network Plan*, 2009.

Ventura County Air Pollution Control District, Rules and Regulations.

Ventura County Air Pollution Control District, *Ventura County Air Quality Assessment Guidelines*, 2003.

Ventura County General Plan. *Ojai Valley Area Plan.* 2008.

Ventura County General Plan. *Resources Appendix.*

Ventura County Resource Management Agency, *Ventura County Water Management Plan*, 1994.

Ventura County Watershed Protection District, Water and Environmental Resource Division, *2011 Groundwater Section Annual Report*. 2011.

Ventura Countywide Stormwater Quality Management Program, *Technical Guidance Manual for Storm Quality Control Measures*, 2010.

Ventura Countywide Stormwater Quality Urban Impact Mitigation Plan, http://www.vcstormwater.org/documents/programs_planninglanddevelopment/squimp.pdf.