City of Santa Paula

Tentative Map 5475

Final

Environmental Impact Report

Volume II: Appendices

July 2014

rincon

Environmental Scientists Planners Engineers

City of Santa Paula
Tentative Map 5475

Final
Environmental Impact Report

Volume II: Appendices

Prepared by:

City of Santa Paula
970 Ventura Street
Santa Paula, CA 93061

Prepared with the assistance of:

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July 2014

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City of Santa Paula
Tentative Map 5475 EIR

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Appendix A

Initial Study

City of Santa Paula Tentative Tract 5475

Revised Initial Study

State Clearinghouse No. 2007071108

Prepared for:

City of Santa Paula
970 Ventura Street
Santa Paula, California 93060

Prepared by:

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July 2014

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INITIAL STUDY

This Initial Study was originally circulated with a Notice of Preparation (NOP) of a Draft EIR in 2007 and subsequent revised and recirculated with a new NOP reflecting a slightly revised project in 2011. Since the 2011 circulation, the Initial Study has undergone additional revisions reflecting: (1) one further change to the project specifying that excess earth material excavated from the site would be deposited in one or more of three fill sites north of the proposed development site; and (2) new analysis requested by commenters on the Draft EIR that was circulated for public review in February 2013. The project description contained in the February 2013 Draft EIR reflected the change to the project description. The new analysis provided in the Initial Study (contained within the "Land Use and Planning" discussion) did not identify any new significant environmental effects beyond those identified in the Draft EIR.

1. Project title:

Tentative Tract 5475, also known as the Peck/Foothill Road Development Project (SCH # 2007071108)

2. Lead agency name and address:

City of Santa Paula
970 Ventura Street
Santa Paula, CA 93060

3. Contact person and phone number:

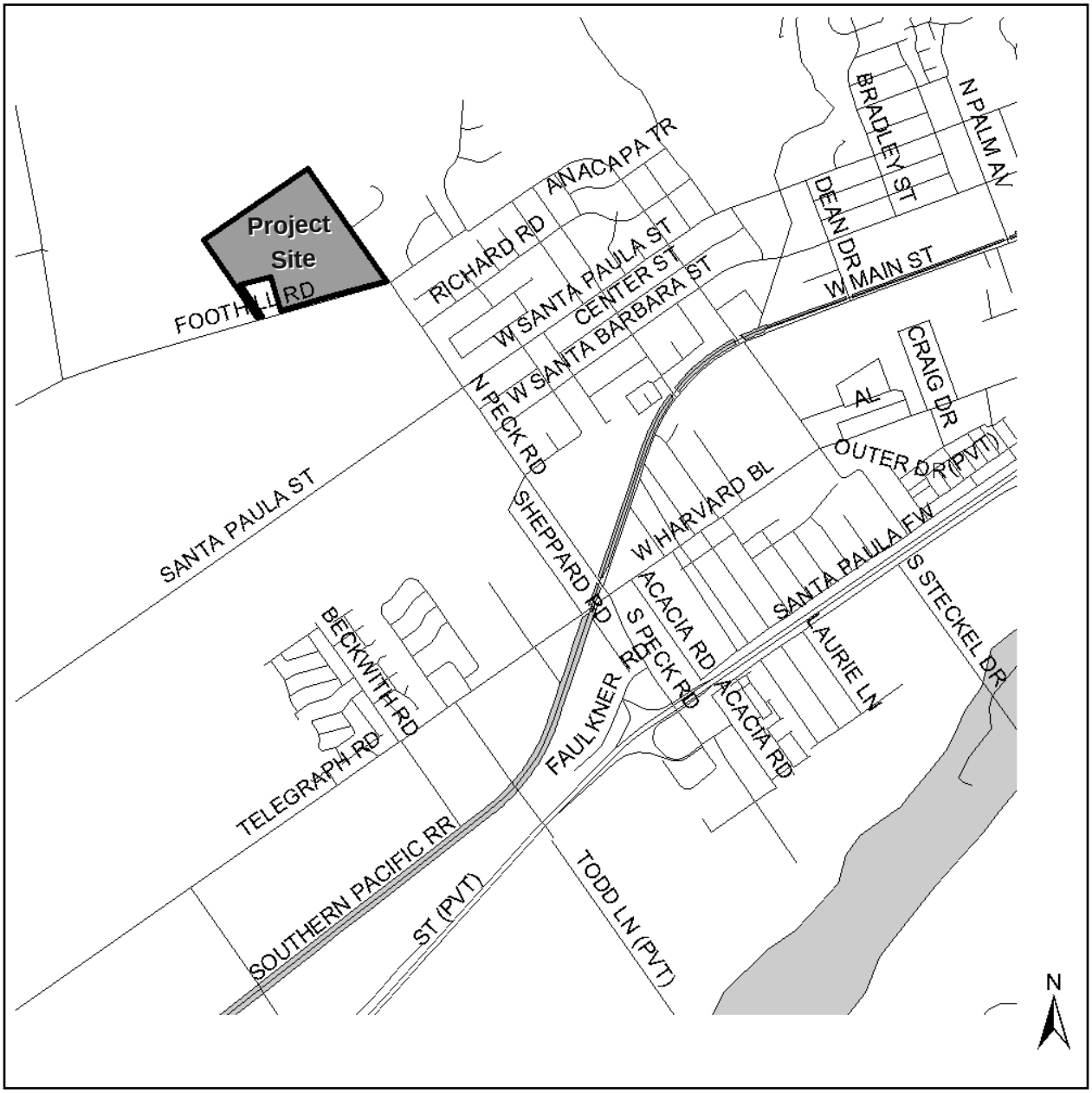
Stratis Perros, Deputy Planning Director
(805) 933-4214

4. Project location:

The development site includes 32.5 undeveloped hillside acres at the northwest corner of the intersection of Peck Road and Foothill Road. The site is immediately outside the present boundary of the City of Santa Paula but within the City Urban Restriction Boundary (CURB) line. The site location is shown on Figure 1. The applicant proposes to haul excess soil from the development site to canyon areas on a property immediately northwest of the development site (APNs 038-0-090-285 and 038-0-090-295).

5. Project sponsor's name and address:

Del Investment Fund No. 9
1206 E. Santa Paula Street
Santa Paula, CA 93060
Contact: Michael Piszker



Vicinity Map

Figure 1

6. General Plan designation:

The County of Ventura General Plan Land Use designation of the development site and off-site areas is Agricultural – Urban Reserve. This designation applies to lands within a city's adopted Sphere of Influence as adopted by Ventura Local Agency Formation Commission (LAFCO). Under this land use designation more intense development can occur once the lands are annexed into the city. The City of Santa Paula General Plan designates the site as part of the Adams Canyon Expansion Area, which is within the CURB line and which provides for 495 dwelling units. Prior to annexation, the City would consider adoption of the Tentative Tract 5475 Specific Plan, which would establish land uses for the site.

7. Zoning:

The development site is currently zoned Agriculture Exclusive (AE) – 40 acre by the County of Ventura and is within the City's Adams Canyon Expansion Area. The site is proposed for annexation to the City of Santa Paula and would be prezoned to SP-1 Adams Canyon, in accordance with Santa Paula Municipal Code Section 16.25.020.

8. Description of project:

The proposed project involves development of a 32.5-acre site for a fully graded hillside subdivision (Figure 2). The project is proposed with 79 hillside residential building lots averaging 9,685 square feet. A gated entrance to the project may be provided. If gated, the streets would be private (although constructed to public street standards according to City of Santa Paula standards), and would be maintained by a homeowners association. If not gated, the streets would be public roadways, also being constructed to public street standards according to City of Santa Paula standards. In either scenario, the roadways would also accommodate the placement of service utilities within the right-of-way. The proposed arrangement of lots and streets is dictated by the shape of the existing hillside adjacent to the site. Each lot would have a graded pad of sufficient size for construction of a conventional one or two story home. The future homes would be developer-built detached single family houses. Some lots may be reserved for custom home construction.

Virtually all of the development site would be subject to excavation or fill with additional grading occurring off-site. On-site remedial grading would involve the removal and recompaction or engineering of approximately 1.2 million cubic yards of soil, as well as 370,000 cubic yards of surface grading for the roads and home pads. Off-site grading will be required at the margins of the development site for additional stabilization of surrounding slopes. The majority of the off-site grading would take place directly north and west of the development site. A total of 750,000 cubic yards of net export will be removed from the site, which would require approximately 57,700 truck trips[1] over approximately one year for an average of approximately 220 truck trips per day. The excess soil would be hauled to one or more receiver (fill) sites.

[1] *The number of truck trips cited in this section assumes single trucks. If double-bottom haulers are used, the number of truck trips would be reduced.*

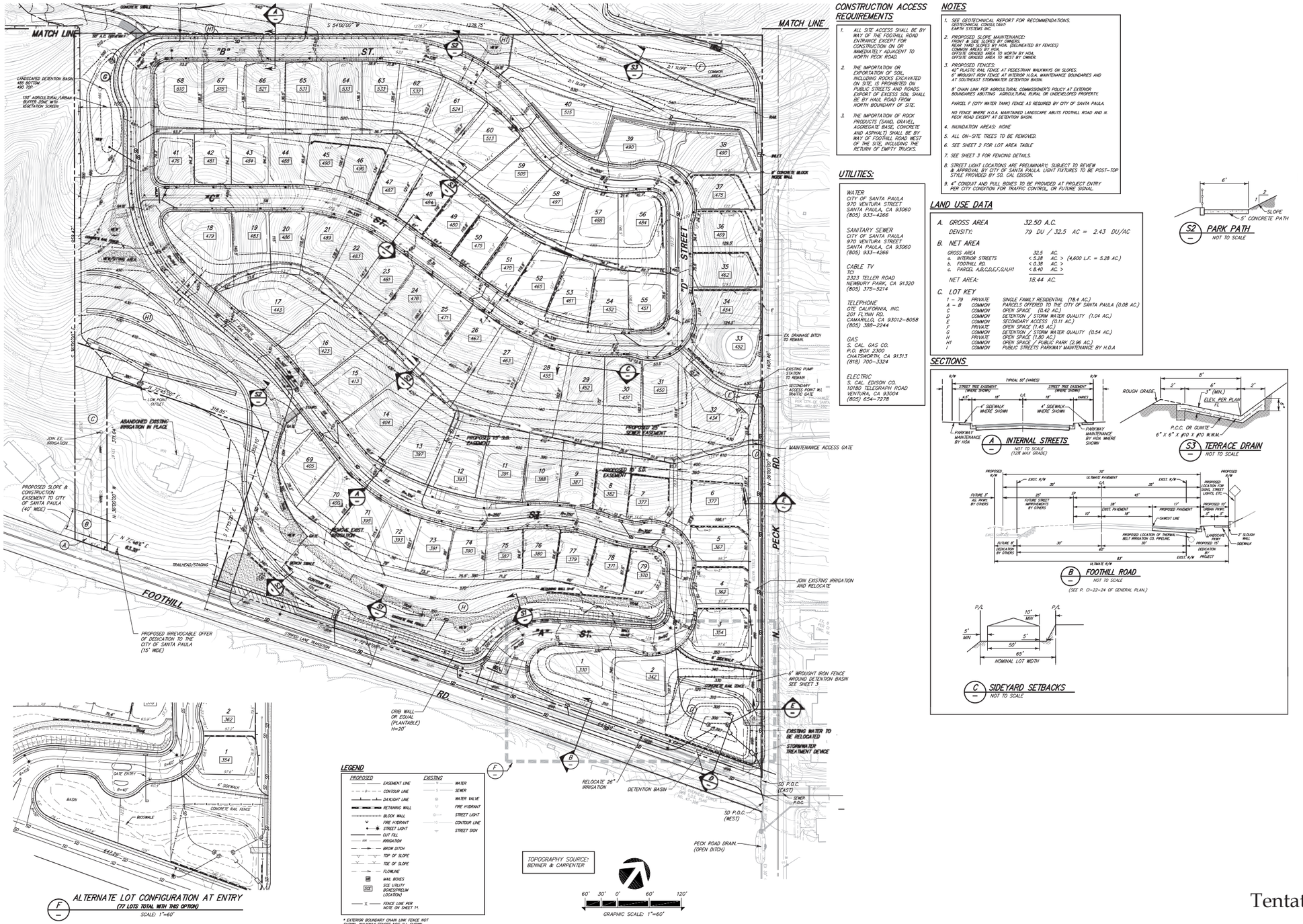
The applicant proposes to haul excess soil to canyon areas on a property immediately northwest of the development site (APNs 038-0-090-285 and 038-0-090-295). This adjacent property is owned by Adams Canyon Ranch LLC. Figure 3 depicts the potential fill areas identified on the Adams Canyon Ranch property. The haul route would be a direct route from the development site to the fill site using existing dirt roads on the hillside, for a length of approximately one quarter-mile each way. The roads would be temporarily widened and then restored to original condition after the hauling is complete. The hauling would be completed using scrapers or off-road trucks, not highway trucks. Soil export would take approximately one year, and remedial grading would take another 6-12 months, for a total duration of grading of approximately 18-24 months.

Effective control and treatment of the development site is a major consideration for the hillside development. A drainage system is proposed, along with on and off-site grading. The proposed drainage system has two purposes: to protect the project from water flowing off of the hillside above, and to control the water flowing off of the project itself. The proposed project includes the construction of two storm water detention basins, one in the western corner of the site, and the other in the eastern corner of the site, to capture high intensity, short duration rainfall. The internal drainage would be collected by the streets and by a system of pipes and concrete channels on the major slopes. The water would be directed to the southeast corner of the site (Peck and Foothill intersection), prior to release into the storm drain along Peck Road. The detention basins would prevent overloading of the downstream facilities and reduce downstream erosion caused by high flows.

A full compliment of utility systems is proposed including water, sewer, gas, electricity, telephone and television. The proposed project includes a public park, aerobic trail, and open space for use by local residents and the public at large. The 2.96-acre public park would be incorporated into open space along the south and west sides of the project.

9. Surrounding land uses and setting:

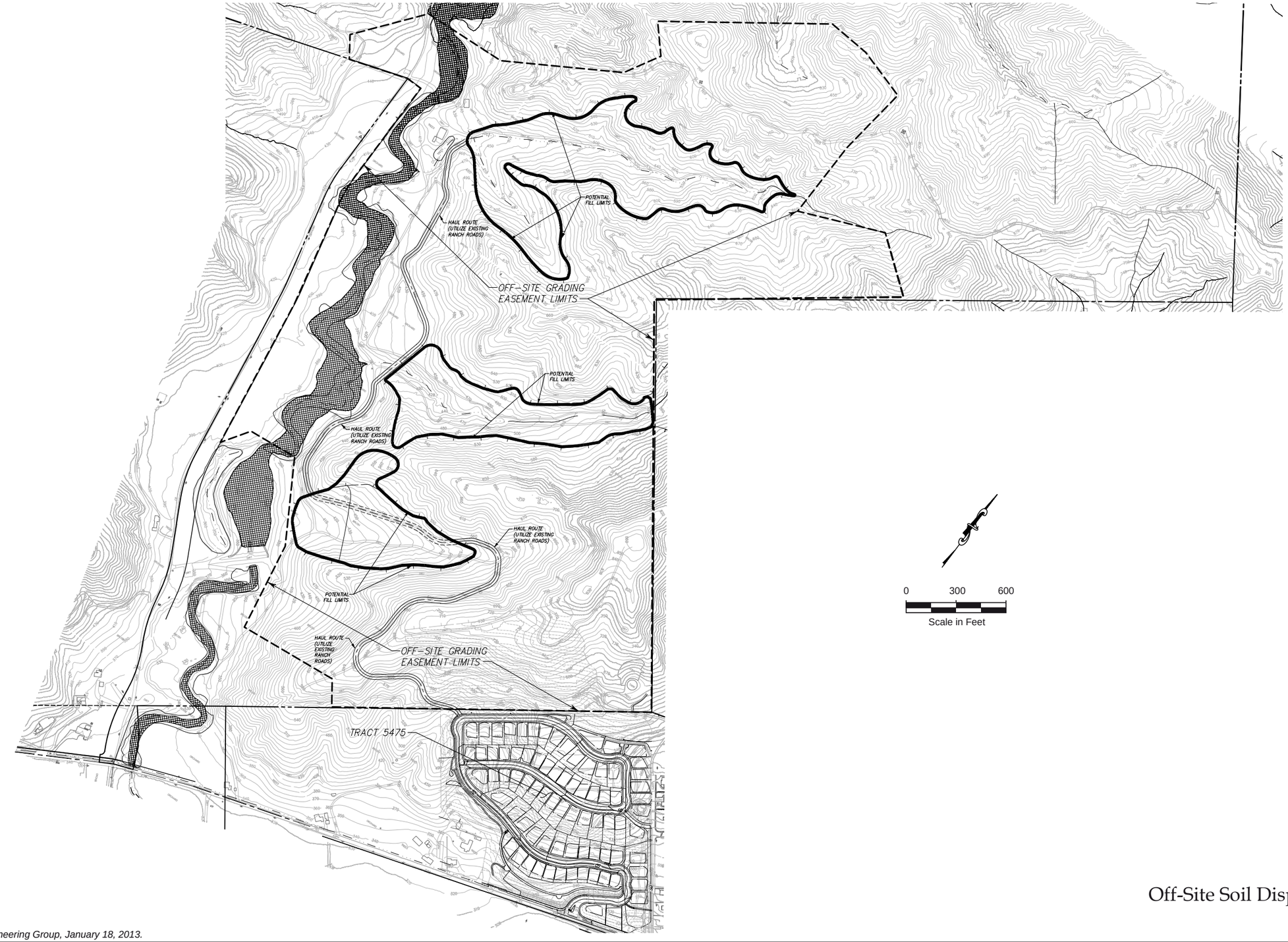
The 32.5-acre development site is a south facing hillside immediately north of Foothill Road and west of the private northern portion of Peck Road. The site was once planted with avocado trees, but these trees were removed several years ago. Currently, there is no active economic use of the site. However, dirt roads crisscross the hillside through remnants of avocado stumps and unused farm equipment owned by the former tenant. Much of the natural character of the hillside has been degraded by this extensive surface disruption. Two separate single family dwellings neighbor the site to the south along Foothill Road; these units are in the unincorporated area of Ventura County and are zoned Agriculture Exclusive – 40 Acres (AE-40). Across Peck Road to the east of the development site is s an established hillside residential neighborhood. Approximately 37 homes are located along this portion of Peck Road, including 7 that directly abut the development site. The neighboring area is within the Santa Paula city limits and zoned Hillside Residential 2-PD (HR2-PD). Citrus orchards and farmland lie directly to the south across Foothill Road and west of the development site.



Tentative Tract Map 5475

Source: Jensen Design & Survey, Inc., January 18, 2013.

Figure 2



Off-Site Soil Disposal Areas

Figure 3

Source: R & R Engineering Group, January 18, 2013.

To the north and west of the site is the 5,413-acre Adams Canyon Expansion Area, which the development site is within. Maximum build-out of the Adams Canyon area, including the 32.5-acre development site, would be limited to 495 residential units. Hence, with the proposed development of 79 homes on the development site, up to 416 additional homes could be constructed on the Adams Canyon site.

The elevation of the site ranges from 300 feet above sea level at the southeast corner to 600 feet above sea level at a point along the north property line. Two relatively flat "mesa" areas dominate the central and eastern portion of the site. A deep ravine and small rounded knoll dominate the west side of the site. Along Foothill Road, the site is planted with a hedge of bougainvillea vines that presents an attractive and colorful view to passing motorists.

10. Other public agencies whose approval is required:

The local agencies with jurisdictional authority over the fill sites would need to approve the off-site grading, including Ventura County. The Ventura County Local Agency Formation Commission (LAFCO) would need to approve the proposed annexation to the City of Santa Paula.

In May 2007 an initiative was approved to include the Adams Canyon Expansion Area within the City Urban Restriction Boundary (CURB).

ENVIRONMENTAL FACTORS AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Potentially Significant" or "Potentially Significant Unless Mitigation Incorporated" as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology/Soils
☒ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials	☒ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☒ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☒ Transportation/Traffic	☐ Utilities/Service Systems	☒ Mandatory Findings of Significance

DETERMINATION:

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Printed Name	For

ENVIRONMENTAL CHECKLIST

I. **AESTHETICS** – Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☒	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☒	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a-c. The project area is located in the hillsides above the City of Santa Paula. The site is outside the Santa Paula city limits, but within the City Urban Restriction Boundary (CURB). The proposed project would involve development of a 32.5-acre site for a hillside subdivision with 79 detached single family houses. The development has the potential to affect views from public rights-of-way such as Foothill and Peck Road, West Telegraph Road, and Highway 126. Views from the neighboring hillside community located across Peck Road could also be affected. The project could also result in impacts to scenic resources on the topographically diverse site, thereby degrading the visual character of the site. These issues will be further examined in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

d. The proposed site development would include standard residential lighting, including street lights. Such lighting is anticipated to be similar to that associated with adjacent residential developments. All lighting would be required to comply with requirements of Section 16.42.050 of the City of Santa Paula Municipal Code, which specifies that all lights must be directed downwards, oriented and shielded to prevent light from shining onto adjacent properties, onto public rights-of-way, and into driveway areas in a manner that would obstruct drivers' vision. Lighting shall be focused, directed and arranged so as to prevent glare and direct illumination on streets or adjoining property. Compliance with these requirements would minimize impacts to adjacent properties. Therefore, new source of lighting or glare as a result of the project will not have significant impact. ***Less Than Significant Impact.***

II. AGRICULTURAL RESOURCES -- Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use?	☐	☐	☒	☐

a, c. The development site was formerly used as an orchard and remnants of the former orchard remain onsite. The Department of Conservation has not designated the site as Prime, or Statewide Importance farmland, and although designated as Unique Farmland, the land has not been in active cultivation for several years (California Department of Conservation, 2002). The off-site fill sites to the north of the development site are identified as Other Land by the California Natural Resources Agency (2010). The site is adjacent to farmland to the south and west, and a single family residential development to the east. While the property immediately to the west is part of the Adams Canyon Expansion Area, lands further west of the expansion area and the properties to the south are expected to remain in agricultural use, as these are zoned for agricultural production and are outside of the CURB. Neighboring agricultural lands would be protected in several ways. The project plan provides a buffer zone between the proposed homes and existing agriculture that conforms to the recently approved policy of the Agricultural Commissioner. The policy provides growth on the Hillside, but not on the more productive flat land below. The potential fill sites are all designated Grazing Land and none are currently used for agricultural production. In addition, placement of fill material at these sites would not render them unusable for agriculture. As such, agricultural impacts would not be significant since the project would not affect Prime or Statewide Importance farmland, the site has not been economically viable for several years, and the project would implement appropriate buffers. ***Less Than Significant Impact.***

b. The development site is not under a Williamson Act contract. The site is currently zoned Agriculture Exclusive-40 Acre (AE-40) by the County of Ventura. The proposed project would involve annexation of the site to the City of Santa Paula and adoption of a Specific Plan. The site is not currently used for agricultural production. Upon approval of annexation by the Ventura County Local Agency Formation Commission (LAFCO) and pre-zoning as proposed, no conflict with zoning would remain. ***Less Than Significant Impact***.

III. **AIR QUALITY** -- Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

a. The proposed project is located within the South Central Coast Air Basin, which is within the jurisdiction of the Ventura County Air Pollution Control District (APCD). The Ventura County portion of the South Central Coast Air Basin is a state and federal non-attainment area for ozone (1-hour) and a state non-attainment area for suspended particulates (PM_{10} & $PM_{2.5}$). Ventura County has been listed as "moderate nonattainment" for the eight-hour ozone standard with an estimated attainment date of June 2010.

According to the APCD Guidelines, to be consistent with the Air Quality Management Plan (AQMP), a project must conform to the local general plan and must not result in or contribute to an exceedance of the City's projected population growth forecast. Project implementation would result in a net increase of 79 residential units on the development site. Based on the current average household size in Santa Paula of 3.524 persons/unit (Ca. Dept. of Finance, 2012), this would generate a net population increase of about 279 people. When added to the citywide population of 29,882 (California Department of Finance, 2012), this would bring the population to 30,161.

The APCD's Air Quality Management Plan considers regional population forecasts developed by the Southern California Association of Governments (SCAG). SCAG forecasted a 2020 population of 35,400 for Santa Paula. Because the population growth associated with proposed project (279 people) is within this growth forecast, it is also within the population growth parameters considered in the AQMP. Project implementation would not likely obstruct implementation of the AQMP.

b, c. For the project's operational phase, the net increase of 79 residential units on the development site would generate a net increase in vehicle traffic estimated at 757 daily trips (based on a rate of 9.57 daily trips/unit – Institute of Transportation Engineers, 2010). The 757-vehicle trip net increase in average daily traffic to and from the site, and the increased energy (electricity and natural gas) consumption associated with the residential development would increase emissions of ozone precursors and other air pollutants.

According to APCD's Air Quality Assessment Guidelines (2007), a project's daily emissions would be significant if the project would generate more than 25 pounds of ozone precursor's reactive organic compounds (ROC) or nitrogen oxides (NOx) per day. The APCD Guidelines state that a project involving Single Family Detached Houses would violate the 25 Pound threshold if 134 or more dwelling units were built. Since this proposed project plans to develop only 79 units, the project is within the Guidelines established by APCD.

The VCAPCD's 25 lbs per day thresholds for ROG and NOx also do not apply to construction phase emissions since such emissions are temporary. For construction phase impacts, the VCAPCD recommends imposition of mitigation if emissions of either pollutant exceed 25 pounds per day. The VCAPCD also recommends minimizing fugitive dust through various dust control measures. The extensive grading activities required for project construction could result in an exceedance of criteria pollutant emissions. Grading and export of off-site soils could take up to one-year to complete, and on-site remedial grading would take 6-12 months. Therefore, the proposed project's impact to air quality standards and the increase in criteria pollutants is potentially significant. ***Potentially Significant***

d. Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. The majority of sensitive receptor locations are therefore schools and hospitals. The Blanchard Elementary School is 0.5 miles southeast of the project area on Peck Road, and the development site is bordered on the east by residential developments. The construction phase of the proposed project could result in potential impacts to sensitive receptors in the project area due to the extensive grading required. ***Potentially Significant***

e. The proposed project would facilitate the development of 79 single family residential units. By their nature, residential uses typically do not generate objectionable odors, nor are there any unusual features of this development that might result in any objectionable odors. No impact would occur, and further analysis of this issue in an EIR is not warranted. ***No Impact***

IV. **BIOLOGICAL RESOURCES** – Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

a-e. Site development could potentially affect sensitive plant or animal species, wildlife movement. A biological resource evaluation will review existing literature sources to identify the extent of potentially sensitive biological resources known to occur at the study site as well as the deposit site for excavation fill excess. A qualified biologist will survey the project area to determine the presence or absence of special status species, sensitive habitats, and wildlife movement. These issues will be further examined in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

f. The project area is not within an area that is subject to an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan. ***No Impact***

V. CULTURAL RESOURCES -- Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

a. There are no structures or any known historical resources on the site. No impact to historical resources would occur and further analysis of this issue in an EIR is not warranted. ***No Impact***

b, d. No known archaeological resources or human remains are known to be present onsite. However, because the site has not been previously surveyed for such resources, there is the potential for as yet undiscovered resources. Impacts to archaeological resources would be potentially significant and will be further examined in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

c. No paleontological resources are known to be present onsite and none are expected as the site is not in an area of paleontological sensitivity. The site is occupied by landslide deposits, but these are not considered a unique geologic feature. Further analysis of this issue in an EIR is not warranted. ***No Impact***

VI. GEOLOGY AND SOILS – Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State	☐	☒	☐	☐

VI. GEOLOGY AND SOILS – Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
Geologist for the area or based on other substantial evidence of a known fault?				
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☒	☐	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

a (i and ii). The project area is located within an area that is underlain by active and potentially active earthquake faults (California Department of Conservation, 1999). Therefore, it is subject to potential hazards associated with surface fault rupture and ground shaking. Impacts relating to these issues would be potentially significant and this issue will be studied further in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

a (iii). There is no historical occurrence of liquefaction, nor other local geological, geotechnical and ground water conditions that indicate a potential for permanent ground water displacements (State of California Seismic Hazard Zones, 2002) . Impacts would be less than significant and further analysis in an EIR is not warranted. ***Less Than Significant Impact***

a (iv). The project area is characterized by steep slopes (averaging 20%) and significant landslide activity. It is also mapped as an area where previous occurrence of landslide movement, or other local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements (State of California Seismic Hazard Zones, 2002). The subsurface soils include a thin layer of clay that has been attributed as the

landslide slips plane. Impacts would be potentially significant and this issue will be studied further in an EIR. ***Potentially Significant Impact***

b. The proposed project is in a hillside area with moderate to sleep slopes that could be subject to erosion due to grading and site development. The project will be examined for compliance with development standards regarding hillside development, including grading and drainage standards. Impacts would be potentially significant and this issue will be studied further in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

c. As discussed above, the project area is not in an area that is subject to liquefaction hazards. In addition, it is not within a probable subsidence zone (City of Santa Paula, Safety Element of the General Plan, Geotechnical Hazards). The site is, however, within a landslide/ mudslide hazard zone. This issue will be addressed in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

d. The project area is within Adams Canyon, which has a risk for expansive soils (City of Santa Paula, Safety Element of the General Plan, Geotechnical Hazards). Therefore, the potential for impacts relating to expansive soils could potentially be significant and this issue will be further analyzed in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

e. Onsite development would be served by the local wastewater sewer system. Project build out would not involve the use of septic tanks. No impact would occur and further analysis of this issue in an EIR is not warranted. ***No Impact***

VII.	GREENHOUSE GAS EMISSIONS -- Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☒	☐	☐

a, b. The proposed project would introduce 79 new residential units to the project area. As such, operation of the proposed project would generate greenhouse gas emissions through the consumption of energy and burning of fossil fuels, thus potentially contributing to cumulative impacts related to global climate change. Impacts would be potentially significant and this issue will be studied further in an EIR.

VIII. **HAZARDS AND HAZARDOUS MATERIALS** - Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

a-c. The development site is currently an abandoned avocado orchard. The proposed residential development with 79 units and a recreation park site and open space would not

involve the transport, use, or disposal of hazardous materials. There would be no risk of accidental release of hazardous materials. There would be no hazardous emissions and no handling of hazardous or acutely hazardous materials on site. There would be no impact and further analysis is not warranted. ***No Impact***

d. The development site is not located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 (California Environmental Protection Agency - Cortese List, 2007). The development site is currently an abandoned avocado orchard that has not been in cultivation since 2002. The current owners took over the property in 1992 and have stated that no pesticides or other chemicals were used in the orchard during their ownership. However, there is a possibly that pesticides or other chemicals could have been used prior to 1992, and residual levels of pesticide contamination may remain in the surface and near surface soils. Depending on the levels of any residual pesticides, this may create a significant hazard to the public or the environment. Site assessment, including soil sampling and testing will take place and this issue will be further discussed in an EIR. ***Potentially Significant Impact Unless Mitigation Incorporated***

e-f. The development site is not located within an airport land use plan. Santa Paula Airport is approximately 2.3 miles from the development site, but would not result in a safety hazard for people residing or working in the project area. There would be no impact and further analysis is not warranted. ***No Impact***

g. The proposed project would facilitate the development of 79 new residences within an established residential area. The tract map has been reviewed by the Fire Department for conformance with access standards. The project would not impair or interfere with an adopted emergency response plan or emergency evacuation plan. There would be no impact and further analysis is not warranted. ***Less Than Significant Impact***

h. The development site's setting and location among the hillsides of Santa Paula make the project susceptible to fire hazard. Implementation of the project would result in a reduction of onsite flammable vegetation through clearing and grading during project development. Brush clearance would be required around all structure in accordance with applicable fire protection codes. Compliance with applicable fire code requirements would reduce impacts to a less than significant level and further analysis in an EIR is not warranted. ***Less Than Significant Impact***

IX. <u>HYDROLOGY AND WATER QUALITY</u> – Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering or the local groundwater	☐	☐	☐	☒

IX. **HYDROLOGY AND WATER QUALITY** – Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☒	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☒	☐	☐

a-b. The proposed project would facilitate the development of 79 new residences on 32.5 acres. This use would not directly discharge pollutants into surface or ground water sources, nor

would it deplete groundwater as existing municipal water sources are available to serve the project. No impact would occur, and further analysis of these issues in an EIR is not warranted. ***No Impact***

c-f. The proposed project would require grading and place residential development in an undeveloped area. Both actions would alter surface water runoff patterns on the development site and potentially increase contaminants in surface runoff from the site. Impacts would be potentially significant, and these issues will be studied further in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

g-i. The development site is within a hillside area that is not within the 100-year flood zone or subject to potential flooding as a result of levee or dam failure (City of Santa Paula, Safety Element of the General Plan, 1998). Site development would not expose people or structures to significant risk in this regard. No impact is anticipated and further analysis of this issue in an EIR is not warranted. ***No Impact***

j. No portion of Santa Paula is within an area that is subject to seiche or tsunami hazards (City of Santa Paula, Safety Element of the General Plan, 1998). As discussed under item IV, *Geology and Soils*, the site is in an area of intermediate mudslide and landslide hazard potential. Mudflow impacts will be further discussed in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

X. LAND USE AND PLANNING -- Would the proposal:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with an applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

a. The proposed project would facilitate 79 new residences on a 32.5-acre site that currently contains an abandoned avocado orchard. To the east of the southern portion of the site is an established residential neighborhood, but the proposed project is consistent with the pattern of development in the area and would not divide the community. No impact would occur and further analysis of this issue in an EIR is not warranted. ***No Impact***

b. Applicable policies of the City of Santa Paula, the Ventura County Local Agency Formation Commission (LAFCo), and the County of Ventura are discussed below.

City of Santa Paula

The development site is currently outside of Santa Paula city limits, but within the City's Urban Boundary Line (CURB). The applicant is requesting annexation of the development site into the City of Santa Paula and adoption of a Specific Plan. This is consistent with the current City of Santa Paula General Plan designation for the Adams Canyon Expansion Area, which allows 495 Single Family Residences, and would leave approximately 415 units still available for development. The residential development facilitated by the proposed Specific Plan would be consistent with the Santa Paula General Plan vision for the Adams Canyon Expansion Area. It should also be noted that, although the development site currently has an Agricultural land use designation under the County of Ventura General Plan, the site is also within an Urban Reserve overlay under the County General Plan. The Urban Reserve overlay is consistent with the expectation that future urbanization of the development site would occur under the City of Santa Paula's authority.

Section 16.01.030 of the Santa Paula Municipal Code establishes Santa Paula's Development Code. The Code has established Hillside Grading Practices with regard to use of the natural topography, roadways and driveways (Santa Paula Municipal Code, Section 16.98). Each aspect of the proposed project regarding hillside grading and formation of roadways and driveways is expected to conform to the standards established by this Code. The Specific Plan is consistent with the General Plan and the Adams Canyon Expansion Area stipulations.

Ventura County LAFCo

The Ventura County LAFCo holds approval authority over several changes of organization that are proposed, including a sphere of influence amendment to include the MMID parcel, annexation of the same territory to the City, and detachment of the same territory from the Ventura County Resource Conservation District, the Ventura County Fire Protection District, and County Service Areas 32 and 33.

Applicable LAFCO policies related to the required changes of organization are discussed below.

The Ventura County LAFCo holds approval authority over the proposed changes of governmental organization, including annexation of the development site, an adjacent residential parcel, and the adjacent segment of Foothill Road. Applicable LAFCO policies related to the required changes of organization are discussed below.

Consistency with General and Specific Plans. Unless exceptional circumstances are shown, LAFCo will not approve a proposal unless it is consistent with the applicable general plan and any applicable specific plan. As noted above, the proposed project is consistent with the City of Santa Paula General Plan's vision for the Adams Canyon Expansion Area in which the development site is located.

Consistency with Ordinances Requiring Voter Approval. For cities that have enacted ordinances that require voter approval for the extension of services or for changing general plan designations, LAFCo will not approve a proposal unless it is consistent with such ordinances

and voter approval has first been granted, or unless exceptional circumstances are shown to exist. The development site is within Santa Paula's CURB; therefore, the proposed project is not subject to voter approval and this policy does not apply.

Guidelines for Orderly Development. LAFCo encourages proposals that involve urban development or that result in urban development to include annexation to a city wherever possible. The proposed project involves annexation of the development site to the City of Santa Paula. As discussed above, the proposed development is consistent with the Santa Paula General Plan and the County of Ventura' Urban Reserve overlay that applies to the site.

Greenbelts. The County of Ventura and various cities in the County have adopted Greenbelt Agreements for the purposes of preserving agriculture and/or open space, providing separation between cities, and/or limiting the extension of urban services. The Ventura LAFCo is not a direct party to these Greenbelt Agreements, but has endorsed them as statements of local policy. As such, LAFCo will not approve a proposal from a city that is in conflict with any Greenbelt Agreement unless exceptional circumstances are shown to exist. The development site is not subject to an adopted Greenbelt Agreement; therefore, this policy does not apply.

Agricultural and Open Space Preservation. LAFCo will approve a proposal for a change of organization that is likely to result in the conversion of Prime agricultural land or open space land only if it finds that the proposal will lead to planned, orderly, and efficient development. As discussed above, the proposed project is consistent with the Santa Paula General Plan and the County of Ventura Urban Reserve overlay. The site is immediately adjacent to Santa Paula's corporate boundary; therefore, the proposed project would not involve "leapfrog" development. The proposed project, including the specific plan to which the site would be subject, is intended to provide for the orderly development of the development site.

County of Ventura

The County of Ventura would need to issue grading permits for the excavation and placement of earth material in any of the three fill sites that are to remain in unincorporated Ventura County. The County may also need to issue permits for removal of protected trees within the fill sites. Although excavation/grading and tree removal are not land use issues per se, County staff have requested an analysis of the project's consistency with County policies pertaining to farmland resources and open space. These items are discussed below.

Farmland Resources Goals

1. *Preserve and protect irrigated agricultural lands as a nonrenewable resource to assure the continued availability of such lands for the production of food, fiber and ornamentals.*

2. *Encourage the continuation and development of facilities and programs that enhance the marketing of County grown agricultural products*

The proposed project would not involve any conversion or other impacts to irrigated agricultural lands, nor would it hinder continuation of any facilities or programs that enhance the marketing of County grown agricultural products. Consequently, neither of these goals applies.

Farmland Resources Policies

1. *Discretionary development located on land designated as Agricultural (see Land Use Chapter) and identified as Prime Farmland or Farmland of Statewide Importance on the State's Important Farmland Inventory, shall be planned and designed to remove as little land as possible from potential agricultural production and to minimize impacts on topsoil.*
2. *Hillside agricultural grading shall be regulated by the Public Works Agency through the Hillside Erosion Control Ordinance.*
3. *Land Conservation Act (LCA) Contracts shall be encouraged on irrigated farmlands.*
4. *The Public Works Agency shall plan transportation capital improvements so as to mitigate impacts to important farmlands to the extent feasible.*
5. *The County shall preserve agricultural land by retaining and expanding the existing Greenbelt Agreements and encouraging the formation of additional Greenbelt Agreements.*
6. *Discretionary development adjacent to Agricultural-Designated lands shall not conflict with agricultural use of those lands.*

Policies 2 through 5 do not apply to the proposed project since the project would not involve agricultural grading, LCA contracts, transportation capital improvements, or development of Greenbelt Agreements. With respect to Policy 1, the proposed fill sites are within an area designated for agricultural use, but are not designated as Prime or Statewide Importance farmland; therefore, this policy does not apply. With respect to Policy 6, placement of soil in the proposed fill sites would require discretionary County approvals, but would not conflict with current or planned agricultural activity. Placement of fill material within one or more of the sites could potentially enhance the ability to farm these areas by reducing slopes.

Open Space Goals

1. *Preserve for the benefit of all the County's residents the continued wise use of the County's renewable and nonrenewable resources by limiting the encroachment into such areas of uses which would unduly and prematurely hamper or preclude the use or appreciation of such resources.*
2. *Acknowledge the presence of certain hazardous features which urban development should avoid for public health and safety reasons, as well as for the possible loss of public improvements in these areas and the attendant financial costs to the public.*
3. *Retain open space lands in a relatively undeveloped state so as to preserve the maximum number of future land use options.*
4. *Retain open space lands for outdoor recreational activities, parks, trails and for scenic lands.*
5. *Define urban areas by providing contrasting but complementary areas which should be left generally undeveloped.*
6. *Recognize the intrinsic value of open space lands and not regard such lands as "areas waiting for urbanization."*

The site of the proposed residential development is within a County Urban Reserve overlay, which is consistent with the expectation that future urbanization would occur in this area under Santa Paula's authority. Therefore, the proposed residential development is consistent with the urban area defined by the County's General Plan and would not conflict with goals related to open space preservation. Geologic hazards present on the development site are acknowledged in the DEIR, but would be addressed through implementation of the proposed grading plan.

Placement of earth material within one or more of the fill sites that would remain in unincorporated Ventura County would retain these areas as undeveloped land. Placement of fill material would alter the visual character of the fill site(s), but re-vegetation of the fill sites would retain a quasi-natural appearance. Moreover, placement of fill would not preclude use of these areas for outdoor recreational opportunities or create slope stability hazards.

Based on the above, the proposed project does not appear to conflict with County of Ventura open space goals. It should also be noted that the fill areas are all located within an area designated for agricultural use, not open space.

Open Space Policies

1. *Open Space should include areas of land or water which are set aside for the preservation of natural resources, including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays, and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and important watershed lands.*
2. *Open Space should also include areas set aside for managed production of resources, including, but not limited to, forest lands, rangeland, agricultural lands not otherwise designated Agricultural; areas required for the recharge of groundwater basins; bays, estuaries, marshes, rivers, and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.*
3. *Open Space should also include areas within which recreational activities can be pursued, including, but not limited to, areas of outstanding scenic, historic, and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas which serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.*
4. *Open Space should also include areas of land or water which are set aside for public health and safety, thereby safeguarding humans and property from certain natural hazards, including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality.*
5. *Open Space should also include undeveloped natural areas surrounding urban-designated areas which have been set aside to define the boundaries of the urban-designated areas, to prevent urban sprawl, and to promote efficient municipal services and facilities by confining the areas of urban development.*

The proposed development site has a County land use designation of Agriculture Exclusive-40-Acre and is within a County urban reserve overlay. As such, it is not designated for preservation as open space and the County General Plan anticipates its eventual urbanization under Santa Paula's authority.

Placement of earth material within the proposed fill sites, which are to remain in unincorporated Ventura County, would have adverse effects to biological resources located within these areas. However, as discussed in DEIR Section 4.3, *Biological Resources*, and

responses 7.11 through 7.15, biological resource impacts can be reduced to below a level of significance with proposed mitigation measures. Placement of earth material within the fill sites would not create hazardous conditions or adversely affect water quality since all fill activities would need to comply with County regulations. Finally, placement of material in the fill sites would not preclude access to any identified agricultural or other resources, nor would it restrict recreational use of the area, which is privately owned land designated for agricultural use.

Based on the above, the proposed project would not conflict with County policies related to open space. Moreover, it should again be noted that neither the proposed development site nor any of the fill sites are located within areas that the County has designated as open space.

The project's impacts would not be significant and further discussion in an EIR is not warranted. ***Less Than Significant Impact***

c. The proposed project would not conflict with an applicable habitat conservation plan or natural community conservation plan. No such plans are in place for the development site. There would be no impact and further analysis of this issue in an EIR is not warranted. ***No Impact***

XI. MINERAL RESOURCES -- Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

a-b. The development site is within an established residential and agriculture area that is not used for mineral resource extraction. No impact would occur and further analysis of this issue in an EIR is not warranted. ***No Impact***

XII. NOISE – Would the project result in:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of	☐	☒	☐	☐

XII. NOISE – Would the project result in:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
excessive groundborne vibration or groundborne noise levels?				
c) A substantial permanent increase in ambient noise levels above levels existing without the project?	☐	☒	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise?	☐	☐	☐	☒

a-d. The development site neighbors a quiet residential community and an agriculture area that is currently not subject to high noise levels. However, site development could expose persons to noise in excess of standards due to temporary noise relating to construction and increases in long term noise due to project generated traffic. The proposed project would generate approximately 708 daily vehicle trips (based on a rate of 9.57 daily trips/unit – Institute of Transportation Engineers, 2003). These new trips would incrementally increase traffic noise on area roadways. Construction activity would also generate temporary increases in noise onsite and at adjacent properties. Noise levels during construction could be in the 78-88 dBA range at a distance of 50 feet during peak activity periods (U.S. Environmental Protection Agency, 1971). Such levels are substantially higher than ambient noise levels in the site vicinity and could be source of temporary noise annoyance to adjacent residents. Ambient noise levels associated with the increase of transportation and construction related activity will be further analyzed in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

e,f. The development site is not within an airport land use plan, within two miles of a public airport or within the vicinity of a private airstrip. The project would not expose people residing or working in the project area to excessive noise levels. There would be no impact and further analysis of this issue in an EIR is not warranted. ***No Impact***

XIII. POPULATION AND HOUSING – Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a. The proposed project would add 79 residences onsite. Based on the current average household size in Santa Paula of 3.524 persons/unit (Ca. Dept. of Finance, 2012), this would generate a net population increase of about 279 people. When added to the 2012 citywide population of 29,882 (California Department of Finance, 2012), this would bring the population to 30,161. As discussed under item III, *Air Quality*, this is within regional population forecasts for the City. Impacts would be less than significant and further analysis in an EIR is not warranted. ***Less Than Significant Impact***

b, c. The proposed project would involve the development of a 32.5-acre parcel for a subdivision with 79 single family residences. There are no residences currently on the site. No housing or people would be displaced as a result of the project; thus, there would be no impact and further analysis in an EIR is not warranted. ***No Impact***

XIV. PUBLIC SERVICES	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐

XIV. PUBLIC SERVICES	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☐	☒

a (i). The Santa Paula Fire Department provides fire protection service in Santa Paula. Fire station 2, located at 536 West Main Street in Santa Paula, would serve the proposed project. Average response time to the development site would be 4 minutes (Santa Paula Fire Department). The proposed 79-unit increase in onsite residences would incrementally increase demand for fire protection service. However, the development site neighbors an existing residential neighborhood that is already served by the Santa Paula Fire Department and the proposed project would not require the construction of new facilities in order to maintain response time objectives. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

a (ii). The Santa Paula Police Department provides police protection service in Santa Paula. The Department has 34 full-time, 30 reserve officers, 12 non-sworn full-time staff, 9 non-sworn, part-time staff, and 15 volunteers. The proposed 79-unit increase in onsite residences would incrementally increase demand for police protection service. However, the development site neighbors an existing residential neighborhood that is already served by the Police Department and the proposed project would not require the construction of new facilities in order to maintain response time objectives. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

a (iii). The proposed project involves development of a 32.5-acre property for a 79 unit subdivision. This increase in residences may incrementally increase onsite student generation. However, the applicant would be required to pay state-mandated school impact fees. Section 65995 (3)(h) of the California Government Code (Senate Bill 50, chaptered August 27,1998) states that the payment of statutory fees "…is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving but not limited to the planning, use, or development of real property, or any change in governmental organization or reorganization." Therefore, impacts would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

a (iv). The proposed project involves the development of a 32.5-acre property for a 79-unit subdivision. The project plan includes the development of a park, aerobic trail and open space for use by local residents and the public at large. The Santa Paula General Plan requires five acres of active parks per 1000 residents. Although the project plan would increase population by 279 people, development and provision of the proposed park would satisfy General Plan requirements and would add to the City's recreational facilities and services to meet the needs

of City residents. Development fees are assessed on new development by the City to finance park and recreation capital improvements.

The proposed project includes a public park, aerobic trail, and open space for use by local residents and the public at large. The 2.96-acre public park would be incorporated into open space along the south and west sides of the project. Although much of open space area is landscaped slopes, it does include a system of trails and vista points and about an acre of open land that is flatter, more rolling terrain. Project implementation would not require the development of any other new park facilities besides the sites proposed in the plan. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

a(v). The proposed residential project would not adversely affect any other public facilities. No impact would occur and further analysis of this issue in an EIR is not warranted. ***No Impact***

XV. RECREATION --	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a. As discussed under item XIII.a(iv), the proposed project would add an estimated 279 new residents to the City. This would incrementally increase the use of existing parks. However, such an increase in use is not expected to cause any substantial deterioration of existing parks. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

b. The project includes the construction of recreation facilities on the 32.5-acre development site. However, development of the park and aerobic trail would not have an adverse physical effect on the environment. A 2.96-acre public park would be located on-site. The park amenities would include a basketball court, tot lot, multipurpose trail with 10 station vita-course, scenic overlooks with picnic and seating areas, drinking fountain and lawn play area.

The park sites would actually upgrade the environmental conditions as the current state of the site is dominated by abandoned avocado trees, invasive weeds, and abandoned farm equipment. The proposed plan with incorporation of two recreation facilities would benefit the Santa Paula community aesthetically, biologically and recreationally through use of park

facilities. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

XVI. TRANSPORTATION / TRAFFIC -- Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☒	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Result in inadequate parking capacity?	☐	☐	☒	☐
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐

a-b. The proposed project involves development of 32.5-acre subdivision with 79 single family residences. The project would increase population by 279 people thus also increasing the number of daily trips. The Institute of Traffic Engineers has established an average rate of 9.57 daily trips/unit (Institute of Transportation Engineers, 2010). Based on the average rate, the proposed project would facilitate 757 daily trips and could increase traffic and congestion in the vicinity of the development site. These issues will be thoroughly analyzed and mitigation measures will be developed for identified significant impacts within an EIR. ***Potentially Significant Unless Mitigation Incorporated***

c. The proposed residential project would not affect air traffic patterns. No impact would occur and further analysis of this issue in an EIR is not warranted. ***No Impact***

d. The proposed project does not substantially increase hazards due to a design feature or incompatible use. All new interior streets and driveways would conform to applicable requirements of the Santa Paula Municipal Code and must be approved by the City Traffic Engineer. The proposed interior streets are 36 feet wide, curb to curb, within 50 foot wide rights-of-way. Incompatible use such as farm equipment is not expected to use the planned streets. The Impacts would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

e. Site access would be from two frontages on Foothill Road, a secondary or emergency access road from North Peck Road, and another access connection provided for the use of the property to the north. The main frontage on Foothill Road lies over 1000 feet west of Peck Rd. The other frontage is approximately 60 feet wide, located at the southwest corner of the site. It is proposed that the main frontage would be widened and improved, but that the smaller frontage, which is located between two existing uninvolved homes, would not be improved. An irrevocable offer of dedication would be made to the City so that the land would be available for widening this short frontage at a future date. Access would be adequate and plans have been reviewed by the Fire Department and the Public Works Department. Impacts would be less than significant, and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

f. The proposed project involves development of 32.5-acre subdivision with 79 single family residences as well as a public park. On- and off-street parking for the development would comply with the requirements of Section 16.46.100 of the Santa Paula Municipal Code that necessitate design standards for on- and off-street parking. The Municipal Code requires that residences with four bedrooms or less have at least a two car garage and homes with five or more bedrooms have at least a three car garage. Following the requirements set forth by the Municipal Code, impacts would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

g. The proposed project involves development of 32.5-acre subdivision with 79 single family residences as well as a public park. It would not conflict with adopted policies relating to alternative transportation. The General Plan designates the portion of Foothill Road along the site as a Class II Bike Lane (Santa Paula General Plan, Circulation Element, 1998). A striped bike lane to accommodate the Class II designation is included in project plans. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact***

XVII. UTILITIES AND SERVICE SYSTEMS -- Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒

XVII. UTILITIES AND SERVICE SYSTEMS -- Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☒	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

a. The proposed project involves the development of a residential subdivision with 79 single family homes and a park on a 32.5 acre property. The development would be served by the City of Santa Paula Public Works Department who operates over 50 miles of sewer lines and the waste water treatment plant. By its nature, the project would not generate effluent that exceeds the wastewater treatment requirements of the Regional Water Quality Control Board. No impact would occur and further analysis of this issue in an EIR is not warranted. ***No Impact***

b, e. The development would be served by the City of Santa Paula Public Works Department, which operates over 96 miles of sewer lines and oversees the City's new water recycling facility that went on-line May of 2010. The project would not generate effluent that exceeds the wastewater treatment requirements of the Regional Water Quality Control Board. The Santa Paula Wastewater Treatment Plant has treatment capacity of 4.2 million gallons per day (MGD). The plant currently treats 1.9 MGD (Santa Paula Public Works Department). Wastewater treatment capacity is adequate to serve the proposed project. ***Less Than Significant Impact***

c. As discussed under item IX, *Hydrology and Water Quality*, the proposed project alters storm water flow patterns on the development site. This could potentially adversely affect the local storm drain system. Impacts would be potentially significant and this issue will be further discussed pursuant in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

d. The City's drinking water supply is provided by groundwater pumped from the Santa Paula Basin. The City of Santa Paula is allocated 5,488 acre feet of water annually and the 7-year usage average is 4,911.8 acre feet, 2007-2013. With the five City owned deep wells, the water system can produce up to 10.6 million gallons per day (City of Santa Paula Water Master Plan, 2005).

Santa Paula residents average 132 gallons of water per day (Santa Paula Public Works Department). The level of demand generated by the proposed project (36,828 gallons per day for 279 people) would impact existing and planned water supplies. However, the City requires all new development to pay required fees related to water and provide sufficient water rights and water resource in-lieu fees for the entire development, per § 52.021 of Title V, Public Works, of the Santa Paula Municipal Code. Standard City conditions of approval include a stipulation that building permits will not be issued until the applicant has demonstrated that sufficient water rights to serve the proposed development have been secured. ***Less Than Significant Impact***

f, g. The City of Santa Paula provides refuse collection and disposal service by contracting with a private hauler: Crown Disposal. The City trash collection is approximately 8,560 tons of solid waste per year. Crown Disposal disposes Santa Paula's waste at the Toland Landfill which lies between Santa Paula and Fillmore. Toland has a daily maximum capacity of 1,500 tons per day and currently averages approximately 1,300 tons per day (City of Santa Paula Public Works Department). All of Crown Disposal's mixed commercial trash is brought to Community Recycling Material Recovery Facility in Sun Valley, where it is preprocessed to extract recyclables before delivering remaining residue to a landfill. Data generated from the California Integrated Waste Management Board and presented in a 2005 annual report, states that each Santa Paula citizen generates an average of two pounds of trash per day (2005 Santa Paula CIWMB report). The proposed project would generate an estimated 279 new residents (79 new residences at 3.524 people/residence, CA. Dept. of Finance, 2012). This increase would represent less than 1% of the available daily capacity at Toland Landfill. Therefore, impacts to area landfills would be less than significant and further analysis of this issue in an EIR is not warranted. ***Less Than Significant Impact.***

XVIII. <u>MANDATORY FINDINGS OF SIGNIFICANCE</u> –	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or	☐	☒	☐	☐

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE –	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant Impact	No Impact
animal or eliminate important examples of the major periods of California history or prehistory?				
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

a. The proposed project would have the potential to adversely affect onsite biological resources. Although cultural resources are not known to be present onsite, site development could potentially disturb as yet undiscovered resources. Impacts would be potentially significant and biological and cultural resource impacts will be further studied in an EIR. ***Potentially Significant Unless Mitigation Incorporated***

b. The proposed project would develop a 32.5 acre site for a residential subdivision with 79 single family homes. The project would intensify the use of the 32.5-acre site. Such intensification is consistent with ongoing land use patterns in the area as well as the City's development standards. Nevertheless, certain cumulative impacts may be potentially significant unless mitigation is incorporated for the issues to be studied in an EIR (aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, and transportation and circulation). The EIR will discuss potential cumulative impacts relating to these issues. ***Potentially Significant Unless Mitigation Incorporated***

c. The proposed project is consistent with the surrounding land use as a residential neighborhood. By its nature, the project would not adversely affect human beings. No impact is anticipated and further analysis of this issue in an EIR is not warranted. ***No Impact***

REFERENCES

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Santa Paula Fire Code Enforcement. 200 S. 10th St., Santa Paula, Ca 93060 (805) 933-4265

Santa Paula Public Works Department.

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Wastewater Discharge Requirements for the City of Santa Paula. State of California. California

Regional Water Quality Control Board. http://www.swrcb.ca.gov.

Personal Communication:

Marian Clayton, Marketing Director, Perc Water. Telephone conversation, December 20, 2010.

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Appendix B

Notice of Preparation and NOP Responses

CITY OF SANTA PAULA
PLANNING DEPARTMENT
200 S. 10th STREET
SANTA PAULA, CALIFORNIA 93060

NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR TENTATIVE TRACT 5475, A 74-UNIT RESIDENTIAL DEVELOPMENT AT FOOTHILL AND PECK

DATE: July 19, 2007

SUBJECT: Comment Period for Tentative Tract 5475 EIR NOP

Project Title: Tentative Tract 5475 EIR

Applicant: Del Financial – Del Investment Fund No. 9, Ltd.

Project Contact: Anna Arroyo, Assistant Planner Phone: (805) 933-4281
Fax: (805) 525-6660

The City of Santa Paula intends to prepare an Environmental Impact Report for the Tentative Tract Map 5475. In accordance with Section 15082 of the State CEQA Guidelines, the City of Santa Paula has prepared this Notice of Preparation to provide Responsible Agencies and other interested parties with information describing the proposal and its potential environmental effects. Environmental factors which would be potentially affected by the project are:
(1) Aesthetics; (2) Biological Resources; (3) Cultural Resources; (4) Geology/Soils; (5) Hazards and Hazardous Materials; (6) Hydrology/Water Quality; (7) Noise; (8) Transportation/Traffic; and (7) Mandatory Findings of Significance.

PROJECT LOCATION: Northwest Corner of Peck Road and Foothill Road

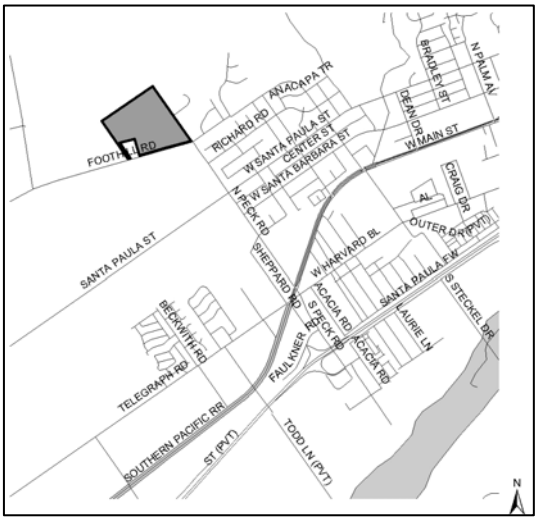
PROJECT DESCRIPTION: The proposed project involves development of a 32.5-acre site for a fully graded hillside subdivision. The project is proposed with 74 hillside residential building lots averaging 9685 square feet. Public streets would be built to serve the residential development according to city standards. Extensive grading is proposed (2.7 million cubic yards of cut and 2.0 million cubic yards of fill), with virtually the entire site subject to excavation and/or fill. Each lot would have a graded pad of sufficient size for construction of a conventional one or two story home. Proposed home sizes would range from 6,499 square feet to 16,599 square feet. The majority of the homes would be developer-built detached single-family houses. Some lots may be reserved for custom home construction.

A drainage system is proposed, along with on- and off-site grading. The proposed drainage system has two purposes with two main purposes: to protect the project from water flowing off the hillside above, and to control the water flowing off of the project itself. The proposed project includes the construction of two storm water detention basins to capture high intensity, short duration rainfall. The internal drainage will be collected by the streets and by a system of pipes and concrete channels on other areas of the site. The water will be directed to the southeast corner of the site (closest to the Peck and Foothill intersection), prior to release into the storm drain along Peck Road. The detention basins would be designed to prevent overloading of the downstream facilities and reduce downstream erosion caused by high flows.

Proposed utility systems include water, sewer, gas, electricity, telephone and television. Two parks are proposed for use by local residents as well as the public. A 2.76-acre public park designed for active use will be located in the northwest corner of the site. A 4.92-acre passive park will be incorporated into open space along the south and west sides of the project.

The development is proposed for annexation into the City of Santa Paula, and a Specific Plan is also part of the applicant's request.

REVIEW PERIOD: As specified by the State CEQA Guidelines, the Notice of Preparation will be circulated for a 30-day review period. The City of Santa Paula welcomes agency and public input during this period regarding the scope and content of environmental information related to your agency's responsibility that must be included in the Draft EIR. **Comments may be submitted, in writing, by 5:30 p.m. on August 23, 2007** and addressed to:



City of Santa Paula Planning Department
Anna Arroyo, Assistant Planner
P.O. Box 569
Santa Paula, CA 93061

Fax: (805) 525-6660
E-mail: aarroyo@ci.santa-paula.ca.us.

ESPAÑOL:
Este es un aviso de la preparación de un reporte sobre los posibles efectos ambientales referente a un desarrollo propuesto que implica la subdivisión de un sitio de 32.5 acres en 74-lotes, lo cual puede ser de su interés. Para más información, llame a Anna Arroyo, al numero (805) 933-4281.

Dated this 19th day of July 2007

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

Notice of Preparation

JUL 20 2007
CITY OF SANTA PAULA
RECEIVED
JUL 26 2007
RECEIVED

July 20, 2007

To: Reviewing Agencies

Re: Tentative Tract 5475
SCH# 2007071108

Attached for your review and comment is the Notice of Preparation (NOP) for the Tentative Tract 5475 draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Anna Arroyo
City of Santa Paula
970 Ventura Street
Santa Paula, CA 93060

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

for Scott Morgan
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2007071108
Project Title Tentative Tract 5475
Lead Agency Santa Paula, City of

Type NOP Notice of Preparation

Description The project establishes a hillside residential tract with 74 units, a public park, opne space and on and off-site drainage improvements across a 32.5 acre site. The site is proposed for annexation to the City of Santa Paula and a Specific Plan will be prepared for the development.

Lead Agency Contact

Name Anna Arroyo
Agency City of Santa Paula
Phone (805) 933-4281 **Fax**
email
Address 970 Ventura Street
City Santa Paula **State** CA **Zip** 93060

Project Location

County Ventura
City Santa Paula
Region
Cross Streets Peck Road and Foothill Road
Parcel No. 097-0-020-085
Township **Range** **Section** **Base**

Proximity to:

Highways 126
Airports Santa Paula Airport
Railways UPRR
Waterways
Schools Blanchard ES, Glen City ES
Land Use City of Santa Paula; Adams Canyon Expansion Area; County of Ventura: Agriculture Exclusive (AE-40 acre)

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife

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Reviewing Agencies Caltrans, Division of Aeronautics; Caltrans, District 7; California Highway Patrol; Department of Conservation; Department of Water Resources; Department of Fish and Game, Region 5; Department of Forestry and Fire Protection; Office of Historic Preservation; Native American Heritage Commission; Department of Parks and Recreation; Public Utilities Commission; Regional Water Quality Control Board, Region 4; Resources Agency

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Date Received 07/20/2007 **Start of Review** 07/20/2007 **End of Review** 08/20/2007

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: VENTURA

SCH# 2007071108

Resources Agency

- [x] Resources Agency
  Nadell Gayou
- [ ] Dept. of Boating & Waterways
  David Johnson
- [ ] California Coastal Commission
  Elizabeth A. Fuchs
- [ ] Colorado River Board
  Gerald R. Zimmerman
- [x] Dept. of Conservation
  Sharon Howell
- [ ] California Energy Commission
  Paul Richins
- [x] Dept. of Forestry & Fire Protection
  Allen Robertson
- [x] Office of Historic Preservation
  Wayne Donaldson
- [x] Dept of Parks & Recreation
  Environmental Stewardship Section
- [ ] Reclamation Board
  DeeDee Jones
- [ ] S.F. Bay Conservation & Dev't. Comm.
  Steve McAdam
- [x] Dept. of Water Resources
  Resources Agency
  Nadell Gayou
- [ ] _____
  Conservancy

Fish and Game

- [ ] Depart. of Fish & Game
  Scott Flint
  Environmental Services Division
- [ ] Fish & Game Region 1
  Donald Koch
- [ ] Fish & Game Region 1E
  Laurie Harnsberger
- [ ] Fish & Game Region 2
  Banky Curtis
- [ ] Fish & Game Region 3
  Robert Floerke
- [ ] Fish & Game Region 4
  Julie Vance
- [x] Fish & Game Region 5
  Don Chadwick
  Habitat Conservation Program
- [ ] Fish & Game Region 6
  Gabrina Gatchel
  Habitat Conservation Program
- [ ] Fish & Game Region 6 I/M
  Gabrina Gatchel
  Inyo/Mono, Habitat Conservation Program
- [ ] Dept. of Fish & Game M
  George Isaac
  Marine Region

Other Departments

- [ ] Food & Agriculture
  Steve Shaffer
  Dept. of Food and Agriculture
- [ ] Depart. of General Services
  Public School Construction
- [ ] Dept. of General Services
  Robert Sleppy
  Environmental Services Section
- [ ] Dept. of Health Services
  Veronica Malloy
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] Delta Protection Commission
  Debby Eddy
- [ ] Office of Emergency Services
  Dennis Castrillo
- [ ] Governor's Office of Planning & Research
  State Clearinghouse
- [x] Native American Heritage Comm.
  Debbie Treadway
- [x] Public Utilities Commission
  Ken Lewis
- [ ] Santa Monica Bay Restoration
  Guangyu Wang
- [ ] State Lands Commission
  Jean Sarino
- [ ] Tahoe Regional Planning Agency (TRPA)
  Cherry Jacques

Business, Trans & Housing

- [x] Caltrans - Division of Aeronautics
  Sandy Hesnard
- [ ] Caltrans - Planning
  Terri Pencovic
- [x] California Highway Patrol
  Shirley Kelly
  Office of Special Projects
- [ ] Housing & Community Development
  Lisa Nichols
  Housing Policy Division

Dept. of Transportation

- [ ] Caltrans, District 1
  Rex Jackman
- [ ] Caltrans, District 2
  Marcelino Gonzalez
- [ ] Caltrans, District 3
  Jeff Pulverman
- [ ] Caltrans, District 4
  Tim Sable
- [ ] Caltrans, District 5
  David Murray
- [ ] Caltrans, District 6
  Marc Birnbaum
- [x] Caltrans, District 7
  Cheryl J. Powell
- [ ] Caltrans, District 8
  Dan Kopulsky
- [ ] Caltrans, District 9
  Gayle Rosander
- [ ] Caltrans, District 10
  Tom Dumas
- [ ] Caltrans, District 11
  Mario Orso
- [ ] Caltrans, District 12
  Bob Joseph

Cal EPA

Air Resources Board

- [ ] Airport Projects
  Jim Lerner
  - [ ] Transportation Projects
    Ravi Ramalingam
  - [ ] Industrial Projects
    Mike Tollstrup
- [ ] California Integrated Waste Management Board
  Sue O'Leary
- [ ] State Water Resources Control Board
  Regional Programs Unit
  Division of Financial Assistance
- [ ] State Water Resources Control Board
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] State Water Resouces Control Board
  Steven Herrera
  Division of Water Rights
- [ ] Dept. of Toxic Substances Control
  CEQA Tracking Center
- [ ] Department of Pesticide Regulation

Regional Water Quality Control Board (RWQCB)

- [ ] RWQCB 1
  Cathleen Hudson
  North Coast Region (1)
- [ ] RWQCB 2
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] RWQCB 3
  Central Coast Region (3)
- [x] RWQCB 4
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] RWQCB 5S
  Central Valley Region (5)
  - [ ] RWQCB 5F
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] RWQCB 5R
    Central Valley Region (5)
    Redding Branch Office
- [ ] RWQCB 6
  Lahontan Region (6)
  - [ ] RWQCB 6V
    Lahontan Region (6)
    Victorville Branch Office
- [ ] RWQCB 7
  Colorado River Basin Region (7)
- [ ] RWQCB 8
  Santa Ana Region (8)
- [ ] RWQCB 9
  San Diego Region (9)

- [ ] Other _____

Last Updated on 05/16/07

Ventura
Local Agency Formation Commission

August 1, 2007

Anna Arroyo, Assistant Planner
City of Santa Paula Planning Department
200 S. 10th Street
Santa Paula, CA 93060

RE: Draft EIR for Tentative Tract 5475 – Comments in Response to Notice of Preparation

Dear Ms. Arroyo:

Thank you for providing the Ventura Local Agency Formation Commission (LAFCO) with the opportunity to comment on the subject notice of preparation (NOP). As a CEQA responsible agency, we are charged with ensuring that environmental documents prepared by lead agencies address the issues that relate to our scope of authority. Please note that these comments are solely those of the LAFCO staff; the NOP has not been reviewed by the Commission.

Comments Specific to the Subject Project

The project description and environmental analysis should acknowledge that the project area is currently located outside of the boundaries of the City of Santa Paula. As such, the EIR should disclose that the area must be annexed to the City of Santa Paula and simultaneously detached from the Ventura County Resource Conservation District and the Ventura County Fire Protection District before it can be developed as proposed. Moreover, the EIR should identify LAFCO as a responsible agency with regard to the boundary change action. Collectively, the annexation and the detachment actions should be described as a "reorganization" process, which is a term used to characterize a request for two or more changes of organization.

It is the policy of the Ventura LAFCO to require cities to annex sections of rights of way adjacent to territory proposed to be annexed. Therefore, the description of the reorganization area should include the portion of the Foothill Road right of way along the southerly boundary of the underlying parcel. Please note that annexing this right of way segment would create an island of unincorporated territory consisting of Assessor's Parcel Number 097-0-020-070 (Street Address: 15711 Foothill Road).

Pursuant to Government Code Section 56744, LAFCOs are generally prohibited from approving annexations of territory to a city if, as a result of that annexation, unincorporated territory is completely surrounded by that city. We therefore encourage the City to include annexation of APN 097-0-020-070 in the EIR project description, maps, and analysis. However, based on County GIS maps, it appears that this parcel is

County Government Center • Hall of Administration • 800 S. Victoria Avenue • Ventura, CA 93009-1850
Tel (805) 654-2576 • Fax (805) 477-7101
http://www.ventura.lafco.ca.gov

located outside of the City's Urban Restriction Boundary (CURB). Pursuant to LAFCO policy, proposals for a boundary changes in cities that have enacted ordinances requiring voter approval for extension of services or changing general plan designations will generally not be approved unless they are consistent with the ordinance and voter approval has first been granted. However, because the parcel is already developed, it may be that the City SOAR ordinance would not apply. Of course, it will be up to the City to determine the applicability of the SOAR ordinance to the parcel in question.

Based on the fact that the proposed project area is located on agricultural land designated as "Unique" on the State Important Farmland Maps, it is likely that the EIR will determine that the project would result in a significant impact regarding direct loss of agricultural land. As such, the EIR should include an analysis of potentially feasibility mitigation measures to achieve at least partial mitigation for direct loss of agricultural lands. For example, one such a measure could include a requirement for the purchase of an agricultural conservation easement on another agricultural property within the County.

General LAFCO Policies

The Ventura LAFCO has adopted local polices that must be considered as a part of its review of reorganization proposals. A complete copy of the Commissioner's Handbook is available from the Ventura LAFCO and on-line at the Ventura LAFCO website: www.ventura.lafco.ca.gov. In particular, the policies found in Division 3, pages 38 and 42-49, are likely to be applicable to the proposed project. Although not a requirement, we encourage the City to include within the EIR an analysis of the consistency of the reorganization proposal with LAFCO policies. If the CEQA document does not address LAFCO's policies, we will require this information from the City before any application for reorganization can be accepted as complete for filing purposes.

We would also like to make the City aware of newly revised LAFCO Policy 2.1.2.1 (attached), which applies to proposals that could reasonably be expected to lead to the conversion of agricultural lands to non-agricultural uses. This policy requires applicants to submit information necessary to assist LAFCO in analyzing the effect of proposals for changes of organization on the physical and economic integrity of agricultural lands.

When addressing any of the LAFCO policies that reference "prime agricultural land", please note that this term is defined in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code Section 56064) as follows:

> *"...an area of land whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:*
>
> *(a) Land that qualifies, if irrigated, for rating as class I or II in the USDA Natural Resource Conservation Service land use capability*

classification, whether or not land is actually irrigated, provided that irrigation is feasible.

(b) Land that qualifies for rating 80 and 100 Storie Index Rating.

(c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre…

(d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during commercial bearing period on an annual basis…of not less than $400 per acre.

(e) *Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than $400 per acre for three of the previous five years."*

Thank you for the opportunity to comment. If there are any questions regarding these comments, please feel free to contact me at 805-654-2866.

Sincerely,

Kim Uhlich
Deputy Executive Officer

Attachment

The following is an excerpt from the Ventura Local Agency Formation Commission Commissioner's Handbook: The Policies and Procedures of the Ventura LAFCO:

SECTION 2.1.2 APPLICATIONS

2.1.2.1 Application and fees required: No application shall be deemed complete and no certificate of filing shall be issued for any application that does not include a completed Ventura LAFCO application form accompanied by the required fees and supporting documentation and maps as specified in the Ventura LAFCO filing requirements. The Executive Officer may, prior to deeming an application complete, require additional information, including but not limited to, complete details for plans for service, property tax redistribution agreements, and similar information necessary for the Ventura LAFCO to make informed decisions on the factors and determinations required by law.

Unless specifically waived by the LAFCO Executive Officer, for any proposal which could reasonably be expected to lead to the conversion of agricultural lands (as defined by Government Code Section 56016) to non-agricultural uses, information regarding the effect of the proposal on maintaining the physical and economic integrity of agricultural lands shall be submitted in conjunction with the application. Specifically, the information should address the following:

i. The location of, and acreage totals for, prime and nonprime agricultural land involved in the area and adjacent areas. This analysis shall be based on the definition of "prime" agricultural land pursuant to Government Code Section 56064.
ii. The effects on agricultural lands within the proposal area.
iii. The effects on adjacent agricultural lands.
iv. The effects on the economic integrity of the agricultural industry in Ventura County.

In addition, information should be provided about any measures adopted to reduce the effects identified.

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, OFFICE OF PUBLIC
TRANSPORTATION AND REGIONAL PLANNING
IGR/CEQA BRANCH
100 SOUTH MAIN STREET
LOS ANGELES, CA 90012
PHONE (213) 897-3747
FAX (213) 897-1337

CITY OF SANTA PAULA
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Flex your power!
Be energy efficient!

August 2, 2007

IGR/CEQA NOP CS/070745
City of Santa Paula
Tentative Tract 5475
subdivision of 32.5 acres
74 hillside single family residential lots
Foothill Rd./Peck Rd.
Vic. VEN-126-10.20 SCH# 2007071105

Ms. Anna Arroyo
City of Santa Paula
970 Ventura Street
Santa Paula, CA 93060

Dear Ms. Arroyo:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-mentioned project. Based on the information received, we have the following comments:

A traffic study will be needed to evaluate the project traffic on the State transportation system including SR-126 (Santa Paula Freeway). The traffic study should include:

Trip generation, trip distribution, mode choice, and trip assignment.

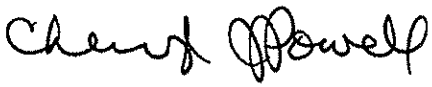
Traffic volumes and level-of-service (LOS) calculations will be needed for major intersections and for affected freeway on/off-ramps. The traffic analysis will need to include existing, project, cumulative, and project plus cumulative traffic analysis for both the AM and PM peak periods.

We recommend the implementation of a fair-share funding program on a pro rata basis to be used for traffic improvement project resulting in additional trips generated by the project along with all other proposed and approved projects in the area. Any identified traffic mitigation measures will need to be fully discussed.

Transport of over-size or over-weight vehicles on State highways will need a Caltrans Transportation Permit. We recommend that construction related truck trips on State highways be limited to off-peak commute periods

If you have any questions, you may reach me at (213) 897-3747 and please refer to our record number 070745/CS.

Sincerely,



CHERYL J. POWELL
IGR/CEQA Program Manager
Office of Regional Planning

cc: Scott Morgan, State Clearinghouse

STATE OF CALIFORNIA Arnold Schwarzenegger, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

CITY OF SANTA PAULA
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August 2, 2007

Anna Arroyo
City of Santa Paula
970 Ventura Street
Santa Paula, CA 93060

RE: SCH# 2007071108 Tentative Tract 5475; Ventura County.

Dear Ms. Arroyo:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Preparation (NOP) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. **USGS 7.5-minute quadrangle name, township, range, and section required.**
  - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached.**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

Katy Sanchez

Katy Sanchez
Program Analyst

CC: State Clearinghouse

Native American Contacts
Ventura County
August 2, 2007

Beverly Salazar Folkes
1931 Shadybrook Drive
Thousand Oaks , CA 91362
805 492-7255
Chumash
Tataviam
Fernandeño

Stephen William Miller
189 Cartagena
Camarillo , CA 93010
(805) 484-2439
Chumash

Santa Ynez Band of Mission Indians
Vincent Armenta, Chairperson
P.O. Box 517
Santa Ynez , CA 93460
varmenta@santaynezchumash.org
(805) 688-7997
(805) 686-9578 Fax
Chumash

Santa Ynez Tribal Elders Council
Adelina Alva-Padilla, Chair Woman
P.O. Box 365
Santa Ynez , CA 93460
elders@santaynezchumash.org
(805) 688-8446
(805) 693-1768 FAX
Chumash

Julie Lynn Tumamait
365 North Pole Ave
Ojai , CA 93023
jtumamait@hotmail.com
(805) 646-6214
Chumash

Coastal Band of the Chumash Nation
Roberta Cordero
4451 La Paloma Road
Santa Barbara , CA 93105
roberta.cordero@gmail.com
805-681-9133
Chumash

Patrick Tumamait
992 El Camino Corto
Ojai , CA 93023
yanahea2@aol.com
(805) 640-0481
(805) 216-1253 Cell
Chumash

Charles S. Parra
P.O. Box 6612
Oxnard , CA 93031
(805) 340-3134 (Cell)
(805) 488-0481 (Home)
Chumash

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2007071108 Tentative Tract 5475; Ventura County.

Native American Contacts
Ventura County
August 2, 2007

Santa Ynez Band of Mission Indians
Sam Cohen, Tribal Administrator
P.O. Box 517 Chumash
Santa Ynez , CA 93460
(805) 688-7997
(805) 686-9578 Fax

Carol A. Pulido
165 Mountainview Street Chumash
Oak View , CA 93022
805-649-2743 (Home)

Melissa M. Para-Hernandez
119 North Balsam Street Chumash
Oxnard , CA 93030
805-988-9171

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2007071108 Tentative Tract 5475; Ventura County.

STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, *Governor*

PUBLIC UTILITIES COMMISSION
320 WEST 4TH STREET, SUITE 500
LOS ANGELES, CA 90013

CITY OF SANTA PAULA
AUG 10 2007
RECEIVED

August 8, 2007

Anna Arroyo, Assistant Planner
City of Santa Paula Planning Department
P.O. Box 569
Santa Paula, CA 93061

Dear Ms. Arroyo:

Re: SCH# 2007071108; Tentative Tract 5475 (Residential Tract, Public Park, Open Space)

The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings (crossings) in California. The California Public Utilities Code requires Commission approval for the construction or alteration of crossings and grants the Commission exclusive power on the design, alteration, and closure of crossings.

The Commission Rail Crossings Engineering Section (RCES) is in receipt of the *Notice of Completion & Environmental Document Transmittal-NOP* from the State Clearinghouse. RCES staff is concerned that the new development at Foothill Road & Peck Road (lat= 34.348893, long= -119.092655) may increase traffic volumes not only on streets and at intersections, but also at the nearby crossings. This includes considering pedestrian circulation patterns/destinations with respect to Fillmore & Western Railway Company railroad right-of-way. Commission staff is particularly concerned with increased congestion at the nearby grade crossings:

1. Peck Road (DOT 745709C, lat= 34.340703, long= -119.085392).
2. Telegraph Road (DOT 745708V, lat= 34.339968, long= -119.085622).
3. Briggs Road (DOT 745694P, lat= 34.324782, long= -119.103218).
4. Palm Avenue (DOT 745718B, lat= 34.350423, long= -119.071782).

Safety factors to consider include, but are not limited to, the planning for grade separations for major thoroughfares, improvements to existing at-grade highway-rail crossings due to increase in traffic volumes and appropriate fencing to limit the access of trespassers onto the railroad right-of-way.

The above-mentioned safety improvements should be considered when approval is sought for the new development. Working with Commission staff early in the conceptual design phase will help improve the safety to motorists and pedestrians in the City.

Please advise us on the status of the project. If you have any questions in this matter, please contact me at (213) 576-7078 or at rxm@cpuc.ca.gov.

Sincerely,

Rosa Muñoz, PE
Utilities Engineer
Rail Crossings Engineering Section
Consumer Protection & Safety Division

C: Dave Wilkinson, Fillmore & Western Railroad

SOUTHERN CALIFORNIA

ASSOCIATION of GOVERNMENTS

Main Office

818 West Seventh Street

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f (213) 236-1825

www.scag.ca.gov

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Imperial County: Victor Carrillo, Imperial County • Jon Edney, El Centro

Los Angeles County: Yvonne B. Burke, Los Angeles County • Zev Yaroslavsky, Los Angeles County • Richard Alarcon, Los Angeles • Jim Aldinger, Manhattan Beach • Harry Baldwin, San Gabriel • Tony Cardenas, Los Angeles • Stan Carroll, La Habra Heights • Margaret Clark, Rosemead • Gene Daniels, Paramount • Judy Dunlap, Inglewood • Rae Gabelich, Long Beach • David Gafin, Downey • Eric Garcetti, Los Angeles • Wendy Greuel, Los Angeles • Frank Gurulé, Cudahy • Janice Hahn, Los Angeles • Isadore Hall, Compton • Keith W. Hanks, Azusa • José Huizar, Los Angeles • Jim Jeffra, Lancaster • Tom LaBonge, Los Angeles • Paula Lantz, Pomona • Barbara Messina, Alhambra • Larry Nelson, Artesia • Paul Nowatka, Torrance • Pam O'Connor, Santa Monica • Bernard Parks, Los Angeles • Jan Perry, Los Angeles • Ed Reyes, Los Angeles • Bill Rosendahl, Los Angeles • Greig Smith, Los Angeles • Tom Sykes, Walnut • Mike Ten, South Pasadena • Tonia Reyes Uranga, Long Beach • Antonio Villaraigosa, Los Angeles • Dennis Washburn, Calabasas • Jack Weiss, Los Angeles • Herb J. Wesson, Jr., Los Angeles • Dennis Zine, Los Angeles

Orange County: Chris Norby, Orange County • Christine Barnes, La Palma • John Beauman, Brea • Lou Bone, Tustin • Debbie Cook, Huntington Beach • Leslie Daigle, Newport Beach • Richard Dixon, Lake Forest • Troy Edgar, Los Alamitos • Paul Glaab, Laguna Niguel • Robert Hernandez, Anaheim • Sharon Quirk, Fullerton

Riverside County: Jeff Stone, Riverside County • Thomas Buckley, Lake Elsinore • Bonnie Flickinger, Moreno Valley • Ron Loveridge, Riverside • Greg Pettis, Cathedral City • Ron Roberts, Temecula

San Bernardino County: Gary Ovitt, San Bernardino County • Lawrence Dale, Barstow • Paul Eaton, Montclair • Lee Ann Garcia, Grand Terrace • Tim Jasper, Town of Apple Valley • Larry McCallon, Highland • Deborah Robertson, Rialto • Alan Wapner, Ontario

Tribal Government Representative: Andrew Masiel Sr., Pechanga Band of Luiseño Indians

Ventura County: Linda Parks, Ventura County • Glen Becerra, Simi Valley • Carl Morehouse, San Buenaventura • Toni Young, Port Hueneme

Orange County Transportation Authority: Art Brown, Buena Park

Riverside County Transportation Commission: Robin Lowe, Hemet

Ventura County Transportation Commission: Keith Millhouse, Moorpark

6/1/07

CITY OF SANTA PAULA
AUG 20 2007
RECEIVED

August 13, 2007

Ms. Ana Arroyo Assistant Planner
City of Santa Paula Planning Department
P. O. Box 569
Santa Paula, CA 93061

RE: SCAG Clearinghouse No. I 20070451 Tentative Tract 5475 EIR

Dear Ms. Arroyo:

Thank you for submitting the **Tentative Tract 5475 EIR** for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **Tentative Tract 5475 EIR**, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time.

A description of the proposed Project was published in SCAG's **July 16-31, 2007** Intergovernmental Review Clearinghouse Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1856. Thank you.

Sincerely,

SHERYLL DEL ROSARIO
Associate Planner
Intergovernmental Review

RESOURCE MANAGEMENT AGENCY
county of ventura

Planning Division
Kimberly L. Rodriguez
Director

August 21, 2007

City of Santa Paula
Attn: Anna Arroyo, Assistant Planner
970 Ventura Street
Santa Paula, CA 93060

FAX #: 525-6660

Subject: NOP of a Draft EIR for Tentative Tract 5475

Thank you for the opportunity to review and comment on the subject document. Attached are the comments that we have received resulting from intra-county review of the subject document.

Your proposed responses to these comments should be sent directly to the commenter, with a copy to Chuck Anthony, Ventura County Planning Division, L#1740, 800 S. Victoria Avenue, Ventura, CA 93009.

If you have any questions regarding any of the comments, please contact the appropriate respondent. Overall questions may be directed to Chuck Anthony at (805) 654-3683.

Sincerely,

Kim Rodriguez
County Planning Director

Attachment

County RMA Reference Number 07-050

800 South Victoria Avenue, L# 1740, Ventura, CA 93009-1740 (805) 654-2481 Fax (805) 654-2509

AUG 0 6 2007

PUBLIC WORKS AGENCY
TRANSPORTATION DEPARTMENT
Traffic, Advance Planning & Permits Division
MEMORANDUM

DATE: August 2, 2007

TO: Resource Management Agency, Planning Division
Attention: Chuck Anthony

FROM: Nazir Lalani, Deputy Director NL

SUBJECT: Review of Document 07-050, Tentative Tract 5475
Notice of Preparation of a Draft Environmental Impact Report for the Tentative Tract Map 5475 located at the northwest corner of Peck Road and Foothill Road.
Applicant: Del Financial
Lead Agency: **City of Santa Paula**

The Public Works Agency -- Transportation Department has reviewed the Notice of Preparation of a Draft Environmental Impact Report (DEIR) for the subject project. The proposed project involves development of a 32.5 acre site for a fully graded hillside subdivision, with 74 hillside residential building lots averaging 9,685 SF. Public streets would be built to serve the development according to City Standards, extensive grading is proposed (2.7 million CY of cut and 2 million of fill). Majority of the homes would be developer-built detached single family houses, with some lots for custom home construction. The development is proposed for annexation into the City of Santa Paula, and a Specific Plan is also a part of the applicant's request. The proposed project is located at the northwest corner of Peck and Foothill Roads. Our comments are as follows:

1. The DEIR should include the project specific impact and mitigation measures for the impacts of additional traffic due to this project on Ventura County local roads and intersections, in particular, Foothill Road (from Briggs Road to Santa Paula city limits), and the intersection of Foothill and Briggs Roads.

2 The cumulative impacts that result from the incremental impact of traffic generated by this project, when added to other closely related past, present, and reasonably foreseeable probable future projects, may be individually minor, but collectively significant over a period of time. The Draft EIR should address the cumulative impact of this project on County local roads and the Regional Road Network. To mitigate the cumulative impact of traffic, the MND should include a condition for payment of the Traffic Impact Mitigation Fee (TIMF). The fee is due **before the issuance of the building permit.**

   Based on the fee schedule established in accordance with County Ordinance Code 8601-0 et seq. for the area identified in the Ordinance as the Santa Paula Impact Fee District and the trip generation information provided in the NOP of a DEIR, the fee due to the County is:

   74 SFDU x $529/SFDU = **$39,146**

The above estimated fee may be subject to adjustment at the time of deposit, due to provisions in the TIMF Ordinance allowing the fee to be adjusted for inflation based on the Engineering News Record (ENR) construction cost index. The above is an estimate only based on information provided in the DEIR.

If the project cumulative impacts are not mitigated by payment of a TIMF, current General Plan policy will require County opposition to this project.

3. The NOP of a DEIR provides that the project site is proposed to be annexed to the City of Camarillo. In accordance with the Ventura LAFCO Commissioner's Handbook, section 3.2.1, cities shall annex entire roadway sections adjacent to territory proposed to be annexed and shall include complete intersections. The EIR should require conditions for annexing County roadways adjacent to this project, in particular, the segment of Foothill Road from Briggs Road to Santa Paula city limits.

4. Truck routes for the construction of this project should also be identified in the DEIR.

Our review of this NOP of the DEIR is limited to the impacts this project may have on the County's Regional Road Network. Please keep us informed. We would like to review the EIR when it becomes available.

Please call me at 654-2080 if you have any questions.

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VENTURA COUNTY
WATERSHED PROTECTION DISTRICT
PLANNING AND REGULATORY DIVISION
800 South Victoria Avenue, Ventura, California 93009
PAUL CALLAWAY, Permit Manager - 805 654-2011

DATE: August 14, 2007

TO: Chuck Anthony, Resource Management
Kristine Graves, Resource Management

FROM: Paul Callaway, P.E.
Permit Manager
Planning and Regulatory

SUBJECT: RMA 07-050.74 UNIT RESIDENTIAL SUBDIVISION
NOP of DEIR – TT 5475

We have reviewed the above project and our findings are as follows:

ENVIRONMENTAL SERVICES

The project description indicates that the entire 32.51 acre site would be a "fully graded hillside subdivision" and that "extensive grading is proposed (2.7 million cubic yards of cut and 2.0 million cubic yards of fill) with virtually the entire site subject o excavation and/or fill. The project description also indicates that drainage from the developed site would be collected by a new system of pipes and concrete channels and that water would be released into the Peck Road drain.

The Peck Road drain is a District owned and maintained facility which drains runoff to the Santa Clara River. While the Peck Road drain may currently be capable of conveying flows to the Santa Clara River, the EIR must include an analysis of the drains' current capacity as well as the project's contributions to its capacity. A competent cumulative impact analysis of drainage and water quality impacts associated with urban runoff on the Peck Road drain and the Santa Clara River must also be included in the EIR.

Since the development is located on the hillside and a significant amount of grading is proposed, the applicant must ensure the District that the capacity and function of the Peck Road drain will not be impaired during or after construction. As such, the EIR must include a competent analysis of the constructed related sediment and water quality impacts on this drain and the Santa Clara River. The District strongly recommends the City include enforceable best management practices as mitigation measures in the EIR which to address control of sediment and runoff from the graded site during and after construction, until the site is stabilized.

WATER RESOURCES

The environmental factors for Groundwater Quantity and Water Supply impacts should be adequately addressed in the DEIR. The City of Santa Paula – Water Division, the water purveyor for this project, obtains water solely from groundwater extractions. The project lies in the Santa Paula Groundwater Basin, which is hydrologically connected to the Oxnard Plain Groundwater Basin, which is overdrafted. Impacts could be potentially significant if there will be increased groundwater use on the project site. An analysis should be conducted comparing previous groundwater usage on the project site to planned use. The DEIR should indicate what total water demand volumes will be and the source that will be used to meet those demands. Accordingly should the project require more water than current demand, the overdraft condition of downstream groundwater basins will be further exacerbated. A thorough analysis should be provided to substantiate this determination.

The Santa Paula Groundwater Basin is a court-adjudicated basin. As such, the Santa Paula Basin Pumpers Association regulates groundwater extractions in the Santa Paula Groundwater Basin, and they should be contacted to verify sufficient water availability and to weigh in on the potential impacts to groundwater quality.

PLANNING AND REGULATORY

The EIR should address the impacts of the increase of impervious area and how these impacts will be mitigated.

End of Text

VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT
Memorandum

TO: Chuck Anthony, Planning DATE: August 7, 2007

FROM: Alicia Stratton AS

SUBJECT: Request for Review of Notice of Preparation for a Draft Environmental Impact Report (DEIR) for Tentative Tract 5475, Del Financial, Del Investment Fund No. 9, Ltd., City of Santa Paula (Reference No. 07-050)

Air Pollution Control District staff has reviewed the subject project, which is a proposal for development of a 32.5-acre site for a fully graded hillside subdivision to create 74 residential building lots. Extensive grading is proposed (2.7 million cubic yards of cut and 2 million yards of fill), with virtually the entire site subject to excavation and/or fill. Two parks are proposed for use by local residents as well as the public. The project location is the northwest corner of Peck Road and Foothill Road in the City of Santa Paula.

District staff recommends the DEIR evaluate all potential air quality impacts that may result from the project. Specifically, the air quality assessment should consider reactive organic compound and nitrogen oxide emissions from all project-related motor vehicles and construction equipment. Further, analysis of project consistency with the Ventura County Air Quality Management Plan should be evaluated.

A carbon monoxide screening analysis should be conducted for any project-impacted roadway intersection that are currently operating, or that are expected to operate at, Levels of Service D, E, or F, or at any project-impacted roadway intersection that may be a CO hotspot. If a potential hotspot is identified, the District recommends that a complete CALINE3 or CALINE4 carbon monoxide analysis be conducted for that intersection.

Air Toxics Evaluation

This project will involve a large amount of grading of soil. The California Air Resources Board (CARB) has identified diesel exhaust particulate matter as a Toxic Air Contaminant (TAC). Diesel exhaust includes hundreds of different gaseous and particulate components, many of which are toxic. The earthmoving equipment has the potential to expose sensitive populations in the vicinity to elevated levels of diesel exhaust.

The District recommends that a health risk assessment be conducted for the project. Mitigation measures should also be identified and discussed if the assessment indicates a significant risk. Additional information on TACs can be obtained from the District's website at http://www.vcapcd.org/air_toxics.htm. If you have any general questions regarding air toxics, please contact Terri Thomas of the APCD at (805) 645-1405 or by email at terri@vcapcd.org. Further, we recommend the DEIR include a Fugitive Dust Mitigation Plan to describe how fugitive dust from grading and site preparation would be managed.

Section 2.6, Toxic Air Contaminants, of the Guidelines describes how a TAC can impact sensitive populations. In addition, Section 6.5 of the Guidelines discusses methods of assessing TAC impacts. Methods for TAC mitigation are discussed in Section 7.5.6 of the Guidelines.

Mitigation Measures

If the project is determined to have a significant impact on regional and/or local air quality, the DEIR should include all feasible mitigation measures. The Draft EIR should clearly state that all feasible air quality mitigation measures included in the document would be fully implemented if the project were approved.

If you have any questions, please call me at 645-1426.

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

CITY OF SANTA PAULA

AUG 27 2007

RECEIVED

FEMA

August 20, 2007

Anna Arroyo, Assistant Planner
City of Santa Paula
Planning Department
200 S. 10th Street
Santa Paula, California 93060

Dear Ms. Arroyo:

This is in response to your request for comments on the Notice of Preparation (NOP) of Draft Environmental Impact Report (EIR) for Tentative Tract 5475, A 74-Unit residential Development at Foothill and Peck in the City of Santa Paula, California.

Please review the current effective Flood Insurance Rate Maps (FIRMs) for the City of Santa Paula (Community Number 060420), Map revised September 3, 1997. Please note that the City of Santa Paula, Ventura County, California is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.

- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any ***development*** must not increase base flood elevation levels. **The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.

- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at http://www.fema.gov/business/nfip/forms.shtm.

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The Santa Paula floodplain manager can be reached by calling Clifford G. Finley, Director of Public Works, at (805) 933-4266. The Ventura County floodplain manager can be reached by calling Raymond Gutierrez, Jr., P.E., Manager, Development and Inspections Department, at (805) 654-2059.

If you have any questions or concerns, please do not hesitate to call Henry Chau of the Mitigation staff at (510) 627-7182.

Sincerely,

Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

cc:
Raymond Gutierrez, Jr., P. E., Manager, Development & Inspections, Ventura County
Clifford G. Finley, Director of Public Works, City of Santa Paula
Garret Tam Sing/Salomon Miranda, State of California, Department of Water Resources, Southern District
Henry Chau, Floodplanner, DHS/FEMA Region IX
Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

Submitted By: RICHARD MAIN 15888 FOOTHILL ROAD SANTA PAULA, CA, 93060
Email: rzmain@verizon.net

Attn: Anna Arroyo, Planning Department, City of Santa Paula, Ca.

COMMENTS SUBMITTED TO CITY OF SANTA PAULA Re: TENTATIVE TRACT MAP # 5475 (Rincon Consultants)
Peck/Foothill Road Project, 32.5 undeveloped hillside acres:

This submitter lives at and owns the residential property located directly across the street from the proposed Project (15888 Foothill Road) - and has lived there since 1983. Submitter is very, very familiar with the traffic conditions, traffic flow and storm water flow along Foothill Road and at the corner of Foothill & Peck. In addition, from 1963 to 1980, submitter was engaged in the business of heavy concrete construction, land grading, excavation, road and culvert construction and water course design and construction. Submitter is familiar with the 32.5 acre property which is the subject of this N/O/P and has walked to the top of the property, over the years, about 4 times, *for the exercise and to check the view (excellent). In no way is the submitter opposed to developing the 32.5 acres on the opposite side of Foothill Road, in fact, a well designed, high quality project might well benefit submitter's property, long term, although temporary construction inconvenience for two or more years is certainly a valid consideration along with the safety issues on Foothill Road.* Attached to this submission on a separate fold-out sheet is a suggested change to applicant's map which shows additional ingress and egress by way of two, one-way, streets - one to the east, and one to the west - of the single access shown on applicant's map.

SOME SPECIFIC POINTS RELATIVE TO THE TRACT MAP ITSELF
(ie. drafting omissions):

"B", the **Foothill** Road **cross-section** view is not complete. Not shown are the storm drain lines coming from the west and from the lower part of the parcel in question, which are to be buried beneath Foothill Road. Another drain line is correctly shown for the Peck Road cross-section.
(See "E")

To the west, the most recent improvements at the Mitchell property, adjoining the parcel in question & Foothill Road, are not shown - specifically the guest house in front - and the garages in the rear - and possibly some other structures. These should be shown to depict their relative orientation to the subject parcel, and to Foothill Road, as improved, or projected to be improved, in the future (Adams Canyon project).

SPECIFIC POINTS FOR THE E.I.R. ANALYSIS:

One: As to "Aesthetics" (I): Sub. c.) The site currently is not visually attractive. The avocado trees have been cut down over the years and the property lies fallow; it is weed covered, untended "open space", therefore, a well-designed housing development **could be** seen as an improvement, however, the **density** of the development, the **size** of the lots, the access, the architecture (whatever that turns out to be) and the landscaping, would all come together to create either a better aesthetic vista, or a worse one. "Open space" is generally regarded as a good thing to many people, certainly not the worse case scenario. 74 relatively small lots creates serious aesthetic impacts, especially when the visuals of the final product are totally unknown. From the standpoint of architecture, landscaping and the parking of many, many vehicles the visual impacts of these homes can only be imagined. How can one judge this project without the architectural details, landscaping requirements and vehicle parking being clearly set forth?

Two: Air Quality issues (III) Sub. d) The major concern in this regard is construction traffic, during grading and until build-out, from diesel fumes, especially from trucks backed-up on Foothill Road, directly in front of submitter's residence. The properties to the east, directly down wind, will be impacted. What mitigations can be effected?

Three: Geology & Soils (VI) Sub. iv) Indeed, as the proponent has discovered by test borings, the site is geologically challenged by the degree of slope and by prior land slide activity. This discovery, by applicant, now known to the City, raises the stakes substantially, as to the development itself. How should these realities be handled by the engineering firm who designed the project, the owner/investors, and lastly by the City? This is a big question. The more houses, the more grading. The more funds invested in grading, the higher are development costs – and consequently the greater number of houses a developer "needs" to build in order to re-cover grading, soil stabilization and other infrastructure costs. It is a vicious cycle. The City does have on the books some kind of hillside development guide-lines, but applicant seeks to avoid these standards by putting forth a "Specific Plan", as is their right. But is 74 lots a better plan for the City and surrounding residents than, say, 25 lots? Considering the huge costs of grading and land contouring, will 74 lots, as opposed to 25, pencil out at the end of the day? Has a financial analysis, a feasibility study been done?

Fourth: Hydrology & Water (VIII) Subs. c),e),j) The drainage from storm water run-off has already been a problem at submitter's residence. When the County re-paved Foothill about 10 years ago, the elevation of the road was raised, and when rain came, submitter's driveway was inundated by storm flow coming down Foothill Road and flowing out of the parcel in question from the parcel's access on Foothill Road directly opposite 15888 Foothill. The County then installed, at their expense, a berm at the top of submitter's driveway to cure this problem, but this berm cannot handle more flow. The plan in cross-section (Foothill Road) does not clearly show how the storm ditch on the north side of Foothill is to be treated, the "plan view" does, the cross-section of the road shown does not.

The only piping on the plan refers to Thermal Belt's irrigation line ("Irr"). Further, how is the culvert under Foothill Road at the Peck intersection to be improved? Certainly it will need an up-sized box culvert; no detail is supplied on this plan? Further, the storm water run-off from the northeast portion of subject parcel (near the upper water tank) is shown running down Peck Road, extended, (the private portion) but apparently does not go into a storm water retention or detention basin. Is there a reason for this different treatment of that particular water flow?

Fifth: Land Use & Planning (IX) Sub. b) Since this plan does not conform with present zoning or with hillside development guidelines, being a "Specific Plan", one wonders why the City has hillside development ordinances at all if these ordinances can be easily set aside for individual projects? This was obviously the case with the Comstock development above the hospital. The reason given by the City Council at the time was that the City strongly desired that the creditors of the hospital be fully paid off by the sale of the 10-13 acres behind the hospital, for the hospital to be re-opened. Of course, that was a laudable decision. To implement that $10 million transaction, the builder (Comstock) was seen to be "entitled" to special consideration (again, understandable under the circumstances). This was an informed decision that the City and the City Council made, the question now is, shall that decision now become precedent for all future hillside development? Important to know, too, is that the City collects fees based upon the sheer number of building lots, and the number of residences built, therefore the City has a built-in incentive to allow or favor many small lots, as opposed to fewer larger lots. But good land planning may not be compatible with the City's financial considerations; there is an inherent conflict of interest in this regard which should not be controlling. These are questions for the City to resolve in its discretionary power to greenlight development and approve "Specific Plans".

Sixth: Noise (XI) c)d) Obviously, to a property across the street from the subject property (submitter's), or to the other residences to the east, from Foothill Road, up Peck Road north, there will be very substantial increases in noise generated by grading, construction, and later, residential traffic, and it will always be on the increase. Will this project, and its Foothill Road access, later be available to parcels north and northwest, part of the Adams area, for further development? With only one planned access, what will the ambient noise on Foothill Road be? Shouldn't more than one access be planned and required, for a variety of reasons, including noise and safety? If slope is a consideration, why not consider one or two additional accesses using a one-way traffic plan?

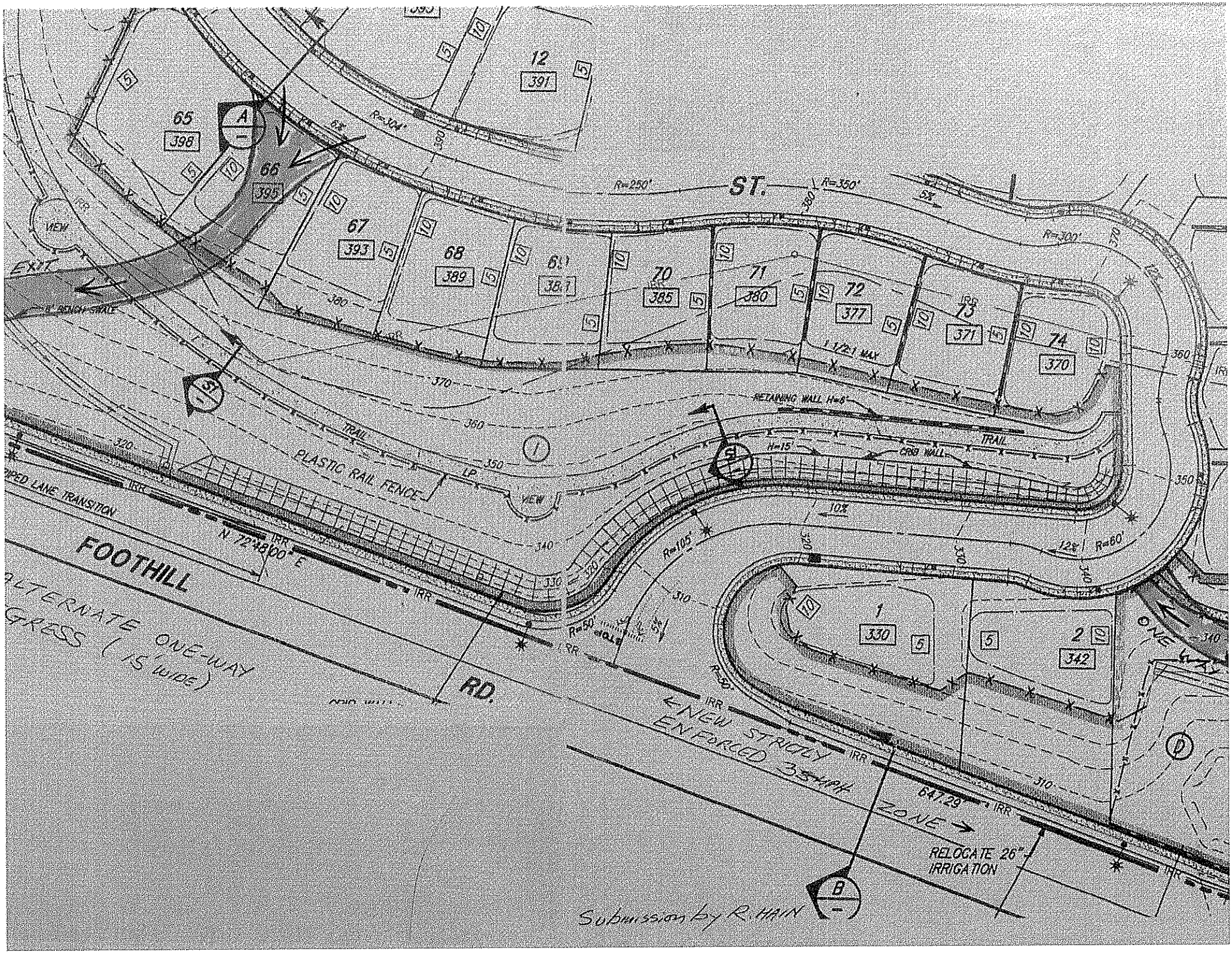
Seventh: Transportation/Traffic (XV) c) Foothill Road is not presently a heavily traveled road, contrary to what one might think. Mostly in the AM, it is commuters going into Ventura - during the day, farm and ranch traffic - and in the PM, commuters returning. But on weekends and holidays, a whole different picture emerges. Joggers, bicyclists in large organized groups (clubs?), usually moving west to east, sight-seers in automobiles, and most interesting, motorcycles, including very high-power super bikes capable of 180-200 mph coming out of the Peck intersection and roaring west at speeds well in excess of 100 mph, directly in front of subject property's planned entrance and the Mitchell & Dalo residences to the west. How is this to be handled? To ignore the reality is an invitation to disaster. The general rule is that a project of this size must have more than one access, yet this is not being required here on the grounds "slope" does not allow more access, even though there are streets with 15% rise already approved and existent in the city.

Possibly "one-way" streets could be a reasonable exception to the steep grade prohibition. Accepting only one true access is another special concession being granted the applicant under the "Specific Plan" rubric. Submitter does not believe Rincon Consultants, the applicant, or the City have any basis for commenting upon this, since they cannot have witnessed what occurs on weekends and holidays, unless specifically tasked to observe the road on a fair weather weekend/holiday to witness these activities with their own eyes. Submitter invites any one of the above to sit in his driveway on any good Saturday or holiday to observe this activity, and to then draw conclusions; devise a plan to resolve this serious safety issue.

d) The "curve" to be concerned with here is not so much a newly constructed one, but the current Peck/Foothill "high speed" transition curve, and the vehicles and trucks stopped or slowing on Foothill Road to access the sole entrance to applicant's parcel and development. Note that the plan shows a right entering switch-back turn into the parcel. This problem is not going to fix itself. How will this be made safe? Are turning lanes into the project on Foothill, from the west and from the east, planned for now or in the future (Adams Canyon development)?

Eighth: Utilities & Service Systems (XVI) a)b)c)d)e) Domestic water and wastewater treatment are a major issue in this community. True, 74 homes, some 300 eventual residents, may seem "insignificant" by itself, however, with East Area One, Adams Canyon and, likely, Fagan coming along in the next 3-7 years, cumulative impacts should be addressed. Failure to address cumulative impacts is not in compliance with various state mandates and it is bad, or at least incomplete planning.

# # #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From: Larry S.. Sagely
August 19, 2007

To: City of Santa Paula, Planning Department
Attn: Anna Arroyo

Subject: RE: N/O/P Map #5475

Living at 585 Ridgecrest, I have a good level of familiarization with the general neighborhood within close proximity to the subject parcel. The area I live in was also developed by Scott Anderson and Dell Properties.

I had assumed that the subject parcel would be similarly developed, meaning relatively spacious lots with custom homes (my lot is between 1/3 and ½ acre) and it is mostly useable land.

Looking at the map as presently drawn, my first reaction is that there are too many lots and that the lots are too small, which will create many problems, specifically:

As to aesthetics: Why should the developer and City not hold to the pattern as already developed in the adjoining hillside residential development? Why should an inconsistent development of high density be approved?

As to Land Use and Planning: Doesn't the City have a current hillside development policy? If so, should it not be followed at this development?

As to Transportation issues: Foothill Road and the intersection with Peck Road can already be dangerous at times. The single access on Foothill seems inadequate. Why shouldn't other access be required? Why shouldn't the access and egress for this development be integrated/coordinated with the soon coming Adams Development?

Please consider the above in the EIR and all other related reviews of this development.

Respectfully,

Larry S. Sagely

15635 Foothill Road
Santa Paula, CA 93060
September 14, 2007
In regards to: NOP of Draft EIR for Tract 5475

Anna Arroyo
Assistant Planner
City of Santa Paula

Received after Comment Period

Dear Anna Arroyo,

Hello Miss Arroyo. Thank you for giving us the time to respond the city's Notice of Preparation of a Draft EIR for Tentative Tract 5475. As I told you on the telephone, we never received a notice. Please make sure we are on all correspondence lists for any public notices regarding this property. We would like to take this opportunity to formally request we be made aware of and notified of all ministerial decisions regarding the property in question. Thank you in advance. With respect to comments on the NOP/EIR, we submit the following comments and concerns.

Aesthetics: To start, the tract's location in an unspoiled agricultural belt and the huge landslide on it make it a very poor choice for residential development. It would be best returned to agricultural use. The number of proposed homes, 74, is too great for that small lot in this agricultural area. At present, almost everything above and below Foothill Road west of Peck Road is agricultural. A smaller number of homes (20-25) are more consistent with the open space ambience extant in the area than the proposed number. If some residential development is to allowed it should be limited, smaller in scale and blend in with the existing agricultural surroundings.

One important tenet of preserving this is to make the proposed community a "dark sky" community; that is, a community with no street lights, and ordinances restricting outdoor lighting on homes. Before his untimely death, we had spoken with Scott Anderson about any development being "dark sky" and Scott agreed this was a good idea. He pointed out to us that his development on the east side of Peck (above Foothill) is a dark sky community.This dark sky principal should extend to Foothill Road where there are currently no street lights. All the residents in the area like this and we can see no reason for street lights to be installed on Foothill. Streetlights on Foothill and in the tract would spoil the rural quality of life enjoyed by the current residents.

Geology/Soils: A large, ancient landslide dominates the tract in question which is why the amount of soil to be cut and filled is so large. That landslide extends into our property. An estimated 10% of the slide is on our property. We have concerns that cutting into that slide and the massive amount of digging and grading needed to remove the slide will destabilize our property and may result in landslides. These landslides could move in

southerly direction to threaten our orchards and home or could move easterly to the tract in question exposing us to possible liability.

Biological Resources: We are concerned that the massive amount of digging and grading will lead to large-scale rodent/vermin displacement. This is not a possibility but a fact. The tract as it stands is wild and teems with rabbits, gophers, ground squirrels and other creatures. A large upheaval will certainly direct most of these creatures to the nearest like property which is ours. We already have difficulties with some of these creatures as their burrowing has led to erosion and orchard damage on our property. The influx of potentially thousands more would be very detrimental to our orchards.

Under proposed legislation, farmers are accountable for any chemicals and substances found in runoff on their property. Residents using a prohibited substance that runs onto our property would expose us to liability.

Noise: Noise and nuisance are a concern for us and others in the neighborhood. Aside from the aforementioned problem of rodent displacement, such a large project will expose us and neighbors to unreasonable amounts of noise and dust. The time needed to grade the property has been estimated to be between six months and one year by officials of Del Financial. Having the noise, smell and dust of a construction project for so long a period places a great stress on us and neighbors. With many of the lots, perhaps all, being for custom homes, that exposes us and neighbors to an *open ended* period of construction noise and disruption.

The intrusion of a large urban tract into an agricultural area places a number of the stresses on the abutting and surrounding agricultural parcels. These include but are not limited to complaints by urban residents about agricultural practices (tractor noise, shredding dust, smells, fertilizers, weed spraying etc), vandalism and theft of fruit, trees, farm equipment and implements, the use of neighboring farm property as a trash disposal area and the trespass of farm properties by urban residents.

Any development must at the *very least*, meet proposed county guidelines for residential/agricultural buffers. We would insist that high, strong, metal fences and rows of tall, mature evergreen trees and shrubs be placed between our property and the tract with the buffer being on the tract and not on our property. A fence around the northern part of the tract would also discourage more ambitious would-be trespassers. We would also encourage any other plantings or methods used to discourage urban residents from approaching the property border. Our experience and that of other farmers has taught us that not enough can be done to mitigate the negative effects of an urban-agricultural interface. The problems mentioned are all too real and common. Besides protecting the existing farms, these buffers shield urban residents from some of the less pleasant aspects of farming.

The proposed 2.76 acre public park in the northwest corner of the tract is a further magnet for the above-stated problems. Placement of an active, public park next to our property will only lead to more exposure to that area and the resultant problems. Some of those people will wish to explore beyond the park whether their motives are curiosity, theft/vandalism or a place to drink alcohol and make a fire. This is a bad place to put an active park. Passive, open space is the only reasonable use of a border area.

Transportation/Traffic: The intrusion of a large (as proposed) residential development into an agricultural area creates a number of traffic problems in the existing area. Firstly it means more noise and speeding cars (a big problem on Foothill). Foothill Road west of Peck Road sees significant agricultural equipment traffic. This includes trucks, tractors and lemon and avocado hauling big rigs. Too often we see impatient city dwellers make dangerous passes of these slow-moving vehicles. More traffic from this proposed development will only elevate the number of these unsafe incidents. Besides scaling down the proposed development, every effort should be made to encourage traffic to flow to Peck Road and through to Highway 126.

In summation, we have many concerns, mostly with the scale of this project. If a project is approved it should be considerably smaller, must have a strong buffer all along the border with our property and be a dark sky community. While cognizant of housing needs, the City of Santa Paula must make every effort to preserve the agriculture-base that employs so many in Santa Paula and the surrounding area and generates so much money for our local, county and state economies. The city must also preserve and protect the agricultural base because that is what makes Santa Paula a special place; all the open space, the clean air.

We thank you for your time and hope that you will factor our concerns and those of others in our area into any decisions you make. We look forward to working with you in this process. Should you have any questions, please ring us on 525-2775.

Cordially,

Michael Dalo & Christina Wayman

Appendix C

Air Quality and Greenhouse Gas Emissions Data

Santa Paula TT Map 5475

Ventura County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
City Park	8.21	Acre
Single Family Housing	79	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Utility Company**	Southern California Edison
Climate Zone	8	**Precipitation Freq (Days)**	31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Lot acreages adjusted to match Project Description.

Construction Phase - Changes to the construction schedule reflect actual estimated construction schedule.

Off-road Equipment - Adjustments made to reflect actual maximum amount of equipment expected to be working on the site. "Other Construction Equipment" is one water truck.

Trips and VMT - Trip lengths for the site prep and grading phases were adjusted to reflect the fact that export of fill would be taken to an adjacent property.

Grading - Total acres disturbed calculated in CalEEMod using changes to construction schedule and off-road equipment.

Vehicle Trips - City Park trip rates changed to match Traffic Study

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	2.29	20.66	12.23	0.03	110.99	0.93	111.93	1.16	0.90	2.06	0.00	2,568.33	2,568.33	0.16	0.00	2,571.59
2014	2.03	18.11	11.34	0.03	129.85	0.82	130.67	0.46	0.79	1.25	0.00	2,671.98	2,671.98	0.13	0.00	2,674.73
2015	0.60	3.95	3.26	0.01	0.05	0.24	0.29	0.00	0.24	0.24	0.00	532.64	532.64	0.05	0.00	533.66
2016	2.56	2.17	1.87	0.00	0.03	0.14	0.17	0.00	0.14	0.14	0.00	296.35	296.35	0.03	0.00	296.92
Total	**7.48**	**44.89**	**28.70**	**0.07**	**240.92**	**2.13**	**243.06**	**1.62**	**2.07**	**3.69**	**0.00**	**6,069.30**	**6,069.30**	**0.37**	**0.00**	**6,076.90**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	2.29	20.66	12.23	0.03	109.83	0.93	110.76	0.53	0.90	1.43	0.00	2,568.33	2,568.33	0.16	0.00	2,571.59
2014	2.03	18.11	11.34	0.03	129.39	0.82	130.21	0.22	0.79	1.01	0.00	2,671.98	2,671.98	0.13	0.00	2,674.73
2015	0.60	3.95	3.26	0.01	0.05	0.24	0.29	0.00	0.24	0.24	0.00	532.64	532.64	0.05	0.00	533.66
2016	2.56	2.17	1.87	0.00	0.03	0.14	0.17	0.00	0.14	0.14	0.00	296.35	296.35	0.03	0.00	296.92
Total	**7.48**	**44.89**	**28.70**	**0.07**	**239.30**	**2.13**	**241.43**	**0.75**	**2.07**	**2.82**	**0.00**	**6,069.30**	**6,069.30**	**0.37**	**0.00**	**6,076.90**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.80	0.01	0.60	0.00		0.00	0.00		0.00	0.00	0.00	0.97	0.97	0.00	0.00	0.99
Energy	0.02	0.15	0.07	0.00		0.00	0.01		0.00	0.01	0.00	326.55	326.55	0.01	0.01	328.57
Mobile	0.65	1.05	5.31	0.01	1.14	0.05	1.19	0.02	0.04	0.06	0.00	866.39	866.39	0.04	0.00	867.16
Waste						0.00	0.00		0.00	0.00	20.28	0.00	20.28	1.20	0.00	45.46
Water						0.00	0.00		0.00	0.00	0.00	61.65	61.65	0.16	0.00	66.54
Total	**1.47**	**1.21**	**5.98**	**0.01**	**1.14**	**0.05**	**1.20**	**0.02**	**0.04**	**0.07**	**20.28**	**1,255.56**	**1,275.84**	**1.41**	**0.01**	**1,308.72**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.80	0.01	0.60	0.00		0.00	0.00		0.00	0.00	0.00	0.97	0.97	0.00	0.00	0.99
Energy	0.02	0.15	0.07	0.00		0.00	0.01		0.00	0.01	0.00	326.55	326.55	0.01	0.01	328.57
Mobile	0.65	1.05	5.31	0.01	1.14	0.05	1.19	0.02	0.04	0.06	0.00	866.39	866.39	0.04	0.00	867.16
Waste						0.00	0.00		0.00	0.00	20.28	0.00	20.28	1.20	0.00	45.46
Water						0.00	0.00		0.00	0.00	0.00	61.65	61.65	0.16	0.00	66.54
Total	**1.47**	**1.21**	**5.98**	**0.01**	**1.14**	**0.05**	**1.20**	**0.02**	**0.04**	**0.07**	**20.28**	**1,255.56**	**1,275.84**	**1.41**	**0.01**	**1,308.72**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	3.41	3.41	0.00	0.00	3.41
Total	**0.00**	**0.04**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**3.41**	**3.41**	**0.00**	**0.00**	**3.41**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.06
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.06**	**0.00**	**0.00**	**0.06**

3.2 Demolition - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	3.41	3.41	0.00	0.00	3.41
Total	**0.00**	**0.04**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**3.41**	**3.41**	**0.00**	**0.00**	**3.41**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.06
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.06**	**0.00**	**0.00**	**0.06**

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.27	0.00	1.27	0.70	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.70	5.64	3.20	0.01		0.28	0.28		0.28	0.28	0.00	511.36	511.36	0.06	0.00	512.56
Total	**0.70**	**5.64**	**3.20**	**0.01**	**1.27**	**0.28**	**1.55**	**0.70**	**0.28**	**0.98**	**0.00**	**511.36**	**511.36**	**0.06**	**0.00**	**512.56**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.07	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	10.74	10.74	0.00	0.00	10.75
Total	**0.01**	**0.01**	**0.07**	**0.00**	**0.01**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**10.74**	**10.74**	**0.00**	**0.00**	**10.75**

3.3 Site Preparation - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.57	0.00	0.57	0.32	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.70	5.64	3.20	0.01		0.28	0.28		0.28	0.28	0.00	511.36	511.36	0.06	0.00	512.56
Total	**0.70**	**5.64**	**3.20**	**0.01**	**0.57**	**0.28**	**0.85**	**0.32**	**0.28**	**0.60**	**0.00**	**511.36**	**511.36**	**0.06**	**0.00**	**512.56**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.07	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	10.74	10.74	0.00	0.00	10.75
Total	**0.01**	**0.01**	**0.07**	**0.00**	**0.01**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**10.74**	**10.74**	**0.00**	**0.00**	**10.75**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.84	0.00	0.84	0.44	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.70	5.80	3.14	0.01		0.27	0.27		0.27	0.27	0.00	585.86	585.86	0.06	0.00	587.06
Total	**0.70**	**5.80**	**3.14**	**0.01**	**0.84**	**0.27**	**1.11**	**0.44**	**0.27**	**0.71**	**0.00**	**585.86**	**585.86**	**0.06**	**0.00**	**587.06**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.87	9.18	5.74	0.02	108.85	0.38	109.23	0.02	0.35	0.37	0.00	1,446.84	1,446.84	0.04	0.00	1,447.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.07	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	10.07	10.07	0.00	0.00	10.08
Total	**0.88**	**9.19**	**5.81**	**0.02**	**108.86**	**0.38**	**109.24**	**0.02**	**0.35**	**0.37**	**0.00**	**1,456.91**	**1,456.91**	**0.04**	**0.00**	**1,457.75**

3.4 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.38	0.00	0.38	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.70	5.80	3.14	0.01		0.27	0.27		0.27	0.27	0.00	585.86	585.86	0.06	0.00	587.06
Total	**0.70**	**5.80**	**3.14**	**0.01**	**0.38**	**0.27**	**0.65**	**0.20**	**0.27**	**0.47**	**0.00**	**585.86**	**585.86**	**0.06**	**0.00**	**587.06**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.87	9.18	5.74	0.02	108.85	0.38	109.23	0.02	0.35	0.37	0.00	1,446.84	1,446.84	0.04	0.00	1,447.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.07	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	10.07	10.07	0.00	0.00	10.08
Total	**0.88**	**9.19**	**5.81**	**0.02**	**108.86**	**0.38**	**109.24**	**0.02**	**0.35**	**0.37**	**0.00**	**1,456.91**	**1,456.91**	**0.04**	**0.00**	**1,457.75**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.84	0.00	0.84	0.44	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.79	6.39	3.58	0.01		0.29	0.29		0.29	0.29	0.00	694.16	694.16	0.06	0.00	695.51
Total	**0.79**	**6.39**	**3.58**	**0.01**	**0.84**	**0.29**	**1.13**	**0.44**	**0.29**	**0.73**	**0.00**	**694.16**	**694.16**	**0.06**	**0.00**	**695.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.93	9.72	6.16	0.02	128.97	0.40	129.37	0.02	0.37	0.39	0.00	1,720.98	1,720.98	0.04	0.00	1,721.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.07	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	11.66	11.66	0.00	0.00	11.68
Total	**0.94**	**9.73**	**6.23**	**0.02**	**128.99**	**0.40**	**129.39**	**0.02**	**0.37**	**0.39**	**0.00**	**1,732.64**	**1,732.64**	**0.04**	**0.00**	**1,733.55**

3.4 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.38	0.00	0.38	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.79	6.39	3.58	0.01		0.29	0.29		0.29	0.29	0.00	694.16	694.16	0.06	0.00	695.51
Total	**0.79**	**6.39**	**3.58**	**0.01**	**0.38**	**0.29**	**0.67**	**0.20**	**0.29**	**0.49**	**0.00**	**694.16**	**694.16**	**0.06**	**0.00**	**695.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.93	9.72	6.16	0.02	128.97	0.40	129.37	0.02	0.37	0.39	0.00	1,720.98	1,720.98	0.04	0.00	1,721.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.07	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	11.66	11.66	0.00	0.00	11.68
Total	**0.94**	**9.73**	**6.23**	**0.02**	**128.99**	**0.40**	**129.39**	**0.02**	**0.37**	**0.39**	**0.00**	**1,732.64**	**1,732.64**	**0.04**	**0.00**	**1,733.55**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.92	1.39	0.00		0.12	0.12		0.12	0.12	0.00	219.88	219.88	0.02	0.00	220.36
Total	**0.28**	**1.92**	**1.39**	**0.00**		**0.12**	**0.12**		**0.12**	**0.12**	**0.00**	**219.88**	**219.88**	**0.02**	**0.00**	**220.36**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.06	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	11.39	11.39	0.00	0.00	11.40
Worker	0.01	0.01	0.09	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	13.90	13.90	0.00	0.00	13.91
Total	**0.02**	**0.07**	**0.14**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**25.29**	**25.29**	**0.00**	**0.00**	**25.31**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.92	1.39	0.00		0.12	0.12		0.12	0.12	0.00	219.88	219.88	0.02	0.00	220.36
Total	**0.28**	**1.92**	**1.39**	**0.00**		**0.12**	**0.12**		**0.12**	**0.12**	**0.00**	**219.88**	**219.88**	**0.02**	**0.00**	**220.36**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.06	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	11.39	11.39	0.00	0.00	11.40
Worker	0.01	0.01	0.09	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	13.90	13.90	0.00	0.00	13.91
Total	**0.02**	**0.07**	**0.14**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**25.29**	**25.29**	**0.00**	**0.00**	**25.31**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.57	3.80	3.00	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.05	0.00	479.20
Total	**0.57**	**3.80**	**3.00**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.20**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.13	0.09	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	24.87	24.87	0.00	0.00	24.89
Worker	0.02	0.02	0.17	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	29.54	29.54	0.00	0.00	29.57
Total	**0.03**	**0.15**	**0.26**	**0.00**	**0.05**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**54.41**	**54.41**	**0.00**	**0.00**	**54.46**

3.5 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.57	3.80	3.00	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.05	0.00	479.20
Total	**0.57**	**3.80**	**3.00**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.20**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.13	0.09	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	24.87	24.87	0.00	0.00	24.89
Worker	0.02	0.02	0.17	0.00	0.04	0.00	0.04	0.00	0.00	0.00	0.00	29.54	29.54	0.00	0.00	29.57
Total	**0.03**	**0.15**	**0.26**	**0.00**	**0.05**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**54.41**	**54.41**	**0.00**	**0.00**	**54.46**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.24	1.58	1.36	0.00		0.09	0.09		0.09	0.09	0.00	218.04	218.04	0.02	0.00	218.45
Total	**0.24**	**1.58**	**1.36**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**	**0.00**	**218.04**	**218.04**	**0.02**	**0.00**	**218.45**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.05	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	11.41	11.41	0.00	0.00	11.41
Worker	0.01	0.01	0.07	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	13.21	13.21	0.00	0.00	13.23
Total	**0.02**	**0.06**	**0.11**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**24.62**	**24.62**	**0.00**	**0.00**	**24.64**

3.5 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.24	1.58	1.36	0.00		0.09	0.09		0.09	0.09	0.00	218.04	218.04	0.02	0.00	218.45
Total	**0.24**	**1.58**	**1.36**	**0.00**		**0.09**	**0.09**		**0.09**	**0.09**	**0.00**	**218.04**	**218.04**	**0.02**	**0.00**	**218.45**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.05	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	11.41	11.41	0.00	0.00	11.41
Worker	0.01	0.01	0.07	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	13.21	13.21	0.00	0.00	13.23
Total	**0.02**	**0.06**	**0.11**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**24.62**	**24.62**	**0.00**	**0.00**	**24.64**

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.08	0.49	0.36	0.00		0.04	0.04		0.04	0.04	0.00	46.31	46.31	0.01	0.00	46.44
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.08**	**0.49**	**0.36**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**46.31**	**46.31**	**0.01**	**0.00**	**46.44**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.08	2.08	0.00	0.00	2.08
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.08**	**2.08**	**0.00**	**0.00**	**2.08**

3.6 Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.08	0.49	0.36	0.00		0.04	0.04		0.04	0.04	0.00	46.31	46.31	0.01	0.00	46.44
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.08**	**0.49**	**0.36**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**46.31**	**46.31**	**0.01**	**0.00**	**46.44**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.08	2.08	0.00	0.00	2.08
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.08**	**2.08**	**0.00**	**0.00**	**2.08**

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.22					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	4.46	4.46	0.00	0.00	4.47
Total	**2.23**	**0.04**	**0.03**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.46**	**4.46**	**0.00**	**0.00**	**4.47**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.83
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.83**	**0.83**	**0.00**	**0.00**	**0.83**

3.7 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.22					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	4.46	4.46	0.00	0.00	4.47
Total	**2.23**	**0.04**	**0.03**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.46**	**4.46**	**0.00**	**0.00**	**4.47**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.83
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.83**	**0.83**	**0.00**	**0.00**	**0.83**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.65	1.05	5.31	0.01	1.14	0.05	1.19	0.02	0.04	0.06	0.00	866.39	866.39	0.04	0.00	867.16
Unmitigated	0.65	1.05	5.31	0.01	1.14	0.05	1.19	0.02	0.04	0.06	0.00	866.39	866.39	0.04	0.00	867.16
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	13.05	13.05	13.05	27,868	27,868
Single Family Housing	756.03	796.32	692.83	2,079,923	2,079,923
Total	769.08	809.37	705.88	2,107,791	2,107,791

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	9.50	7.30	7.30	33.00	48.00	19.00
Single Family Housing	10.80	7.30	7.50	32.90	18.00	49.10

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	148.29	148.29	0.01	0.00	149.22
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	148.29	148.29	0.01	0.00	149.22
NaturalGas Mitigated	0.02	0.15	0.07	0.00		0.00	0.01		0.00	0.01	0.00	178.26	178.26	0.00	0.00	179.35
NaturalGas Unmitigated	0.02	0.15	0.07	0.00		0.00	0.01		0.00	0.01	0.00	178.26	178.26	0.00	0.00	179.35
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	3.34055e+006	0.02	0.15	0.07	0.00		0.00	0.01		0.00	0.01	0.00	178.26	178.26	0.00	0.00	179.35
Total		**0.02**	**0.15**	**0.07**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**178.26**	**178.26**	**0.00**	**0.00**	**179.35**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	3.34055e+006	0.02	0.15	0.07	0.00		0.00	0.01		0.00	0.01	0.00	178.26	178.26	0.00	0.00	179.35
Total		**0.02**	**0.15**	**0.07**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**	**0.00**	**178.26**	**178.26**	**0.00**	**0.00**	**179.35**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Single Family Housing	509816					148.29	0.01	0.00	149.22
Total						**148.29**	**0.01**	**0.00**	**149.22**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Single Family Housing	509816					148.29	0.01	0.00	149.22
Total						**148.29**	**0.01**	**0.00**	**149.22**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.80	0.01	0.60	0.00		0.00	0.00		0.00	0.00	0.00	0.97	0.97	0.00	0.00	0.99
Unmitigated	0.80	0.01	0.60	0.00		0.00	0.00		0.00	0.00	0.00	0.97	0.97	0.00	0.00	0.99
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.22					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.56					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.02	0.01	0.60	0.00		0.00	0.00		0.00	0.00	0.00	0.97	0.97	0.00	0.00	0.99
Total	**0.80**	**0.01**	**0.60**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.97**	**0.97**	**0.00**	**0.00**	**0.99**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.22					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.56					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.02	0.01	0.60	0.00		0.00	0.00		0.00	0.00	0.00	0.97	0.97	0.00	0.00	0.99
Total	**0.80**	**0.01**	**0.60**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.97**	**0.97**	**0.00**	**0.00**	**0.99**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					61.65	0.16	0.00	66.54
Unmitigated					61.65	0.16	0.00	66.54
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 9.78206					31.61	0.00	0.00	31.81
Single Family Housing	5.14717 / 3.24495					30.04	0.16	0.00	34.73
Total						**61.65**	**0.16**	**0.00**	**66.54**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 9.78206					31.61	0.00	0.00	31.81
Single Family Housing	5.14717 / 3.24495					30.04	0.16	0.00	34.73
Total						**61.65**	**0.16**	**0.00**	**66.54**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					20.28	1.20	0.00	45.46
Unmitigated					20.28	1.20	0.00	45.46
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	0.71					0.14	0.01	0.00	0.32
Single Family Housing	99.22					20.14	1.19	0.00	45.14
Total						**20.28**	**1.20**	**0.00**	**45.46**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	0.71					0.14	0.01	0.00	0.32
Single Family Housing	99.22					20.14	1.19	0.00	45.14
Total						**20.28**	**1.20**	**0.00**	**45.46**

9.0 Vegetation

Santa Paula TT Map 5475

Ventura County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
City Park	8.21	Acre
Single Family Housing	79	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Utility Company**	Southern California Edison
Climate Zone	8	**Precipitation Freq (Days)**	31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Lot acreages adjusted to match Project Description.

Construction Phase - Changes to the construction schedule reflect actual estimated construction schedule.

Off-road Equipment - Adjustments made to reflect actual maximum amount of equipment expected to be working on the site. "Other Construction Equipment" is one water truck.

Trips and VMT - Trip lengths for the site prep and grading phases were adjusted to reflect the fact that export of fill would be taken to an adjacent property.

Grading - Total acres disturbed calculated in CalEEMod using changes to construction schedule and off-road equipment.

Vehicle Trips - City Park trip rates changed to match Traffic Study

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2013	14.75	117.41	78.76	0.12	58.04	4.86	62.91	9.93	4.84	13.87	0.00	12,532.06	0.00	1.22	0.00	12,557.60
2014	13.97	110.84	74.77	0.12	58.04	4.43	62.47	3.38	4.41	7.79	0.00	12,565.93	0.00	1.15	0.00	12,590.10
2015	4.58	30.26	24.94	0.05	0.44	1.83	2.27	0.01	1.83	1.84	0.00	4,515.53	0.00	0.41	0.00	4,524.09
2016	127.40	28.27	24.61	0.05	0.44	2.36	2.55	0.01	2.36	2.36	0.00	4,511.71	0.00	0.42	0.00	4,520.50
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2013	14.75	117.41	78.76	0.12	54.27	4.86	59.13	4.47	4.84	8.41	0.00	12,532.06	0.00	1.22	0.00	12,557.60
2014	13.97	110.84	74.77	0.12	54.27	4.43	58.70	1.53	4.41	5.93	0.00	12,565.93	0.00	1.15	0.00	12,590.10
2015	4.58	30.26	24.94	0.05	0.44	1.83	2.27	0.01	1.83	1.84	0.00	4,515.53	0.00	0.41	0.00	4,524.09
2016	127.40	28.27	24.61	0.05	0.44	2.36	2.55	0.01	2.36	2.36	0.00	4,511.71	0.00	0.42	0.00	4,520.50
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.47	0.08	6.66	0.00		0.00	0.04		0.00	0.04	0.00	11.88		0.01	0.00	12.13
Energy	0.10	0.84	0.36	0.01		0.00	0.07		0.00	0.07		1,076.73		0.02	0.02	1,083.28
Mobile	3.75	6.03	30.15	0.06	7.37	0.27	7.64	0.10	0.26	0.36		5,815.48		0.23		5,820.42
Total	**8.32**	**6.95**	**37.17**	**0.07**	**7.37**	**0.27**	**7.75**	**0.10**	**0.26**	**0.47**	**0.00**	**6,904.09**		**0.26**	**0.02**	**6,915.83**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.47	0.08	6.66	0.00		0.00	0.04		0.00	0.04	0.00	11.88		0.01	0.00	12.13
Energy	0.10	0.84	0.36	0.01		0.00	0.07		0.00	0.07		1,076.73		0.02	0.02	1,083.28
Mobile	3.75	6.03	30.15	0.06	7.37	0.27	7.64	0.10	0.26	0.36		5,815.48		0.23		5,820.42
Total	**8.32**	**6.95**	**37.17**	**0.07**	**7.37**	**0.27**	**7.75**	**0.10**	**0.26**	**0.47**	**0.00**	**6,904.09**		**0.26**	**0.02**	**6,915.83**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**		**3.50**	**3.50**		**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.08	0.85	0.00	0.20	0.00	0.20	0.00	0.00	0.01		148.11		0.01		148.28
Total	**0.09**	**0.08**	**0.85**	**0.00**	**0.20**	**0.00**	**0.20**	**0.00**	**0.00**	**0.01**		**148.11**		**0.01**		**148.28**

3.2 Demolition - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50	0.00	7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**		**3.50**	**3.50**		**3.50**	**3.50**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.08	0.85	0.00	0.20	0.00	0.20	0.00	0.00	0.01		148.11		0.01		148.28
Total	**0.09**	**0.08**	**0.85**	**0.00**	**0.20**	**0.00**	**0.20**	**0.00**	**0.00**	**0.01**		**148.11**		**0.01**		**148.28**

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93		7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**18.07**	**3.93**	**22.00**	**9.93**	**3.93**	**13.86**		**7,997.69**		**0.89**		**8,016.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.10	1.02	0.00	0.23	0.01	0.24	0.00	0.01	0.01		177.73		0.01		177.94
Total	**0.11**	**0.10**	**1.02**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**177.73**		**0.01**		**177.94**

3.3 Site Preparation - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93	0.00	7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**8.13**	**3.93**	**12.06**	**4.47**	**3.93**	**8.40**	**0.00**	**7,997.69**		**0.89**		**8,016.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.10	1.02	0.00	0.23	0.01	0.24	0.00	0.01	0.01		177.73		0.01		177.94
Total	**0.11**	**0.10**	**1.02**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**177.73**		**0.01**		**177.94**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.86	0.00	6.86	3.37	0.00	3.37						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59		10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**6.86**	**4.59**	**11.45**	**3.37**	**4.59**	**7.96**		**10,856.66**		**1.06**		**10,878.90**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.78	19.83	24.79	0.01	50.92	0.27	51.19	0.01	0.25	0.26		1,477.92		0.15		1,480.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.11	1.13	0.00	0.26	0.01	0.27	0.00	0.01	0.01		197.48		0.01		197.71
Total	**2.90**	**19.94**	**25.92**	**0.01**	**51.18**	**0.28**	**51.46**	**0.01**	**0.26**	**0.27**		**1,675.40**		**0.16**		**1,678.69**

3.4 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.09	0.00	3.09	1.52	0.00	1.52						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59	0.00	10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**3.09**	**4.59**	**7.68**	**1.52**	**4.59**	**6.11**	**0.00**	**10,856.66**		**1.06**		**10,878.90**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.78	19.83	24.79	0.01	50.92	0.27	51.19	0.01	0.25	0.26		1,477.92		0.15		1,480.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.11	1.13	0.00	0.26	0.01	0.27	0.00	0.01	0.01		197.48		0.01		197.71
Total	**2.90**	**19.94**	**25.92**	**0.01**	**51.18**	**0.28**	**51.46**	**0.01**	**0.26**	**0.27**		**1,675.40**		**0.16**		**1,678.69**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.86	0.00	6.86	3.37	0.00	3.37						0.00
Off-Road	11.22	90.65	50.83	0.10		4.18	4.18		4.18	4.18		10,856.65		1.00		10,877.72
Total	**11.22**	**90.65**	**50.83**	**0.10**	**6.86**	**4.18**	**11.04**	**3.37**	**4.18**	**7.55**		**10,856.65**		**1.00**		**10,877.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.64	20.09	22.90	0.01	50.92	0.24	51.16	0.01	0.22	0.23		1,516.17		0.14		1,519.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.10	1.03	0.00	0.26	0.01	0.27	0.00	0.01	0.01		193.11		0.01		193.32
Total	**2.76**	**20.19**	**23.93**	**0.01**	**51.18**	**0.25**	**51.43**	**0.01**	**0.23**	**0.24**		**1,709.28**		**0.15**		**1,712.38**

3.4 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.09	0.00	3.09	1.52	0.00	1.52						0.00
Off-Road	11.22	90.65	50.83	0.10		4.18	4.18		4.18	4.18	0.00	10,856.65		1.00		10,877.72
Total	**11.22**	**90.65**	**50.83**	**0.10**	**3.09**	**4.18**	**7.27**	**1.52**	**4.18**	**5.70**	**0.00**	**10,856.65**		**1.00**		**10,877.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.64	20.09	22.90	0.01	50.92	0.24	51.16	0.01	0.22	0.23		1,516.17		0.14		1,519.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.10	1.03	0.00	0.26	0.01	0.27	0.00	0.01	0.01		193.11		0.01		193.32
Total	**2.76**	**20.19**	**23.93**	**0.01**	**51.18**	**0.25**	**51.43**	**0.01**	**0.23**	**0.24**		**1,709.28**		**0.15**		**1,712.38**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.10	1.07	0.70	0.00	0.07	0.03	0.11	0.00	0.03	0.03		209.79		0.00		209.89
Worker	0.16	0.14	1.45	0.00	0.37	0.01	0.37	0.00	0.01	0.01		270.35		0.01		270.65
Total	**0.26**	**1.21**	**2.15**	**0.00**	**0.44**	**0.04**	**0.48**	**0.00**	**0.04**	**0.04**		**480.14**		**0.01**		**480.54**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02	0.00	4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.10	1.07	0.70	0.00	0.07	0.03	0.11	0.00	0.03	0.03		209.79		0.00		209.89
Worker	0.16	0.14	1.45	0.00	0.37	0.01	0.37	0.00	0.01	0.01		270.35		0.01		270.65
Total	**0.26**	**1.21**	**2.15**	**0.00**	**0.44**	**0.04**	**0.48**	**0.00**	**0.04**	**0.04**		**480.14**		**0.01**		**480.54**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.34	29.16	22.98	0.04		1.80	1.80		1.80	1.80		4,040.61		0.39		4,048.81
Total	**4.34**	**29.16**	**22.98**	**0.04**		**1.80**	**1.80**		**1.80**	**1.80**		**4,040.61**		**0.39**		**4,048.81**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.09	0.98	0.63	0.00	0.07	0.03	0.10	0.00	0.03	0.03		210.68		0.00		210.77
Worker	0.15	0.13	1.32	0.00	0.37	0.01	0.37	0.00	0.01	0.01		264.24		0.01		264.51
Total	**0.24**	**1.11**	**1.95**	**0.00**	**0.44**	**0.04**	**0.47**	**0.00**	**0.04**	**0.04**		**474.92**		**0.01**		**475.28**

3.5 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.34	29.16	22.98	0.04		1.80	1.80		1.80	1.80	0.00	4,040.61		0.39		4,048.81
Total	**4.34**	**29.16**	**22.98**	**0.04**		**1.80**	**1.80**		**1.80**	**1.80**	**0.00**	**4,040.61**		**0.39**		**4,048.81**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.09	0.98	0.63	0.00	0.07	0.03	0.10	0.00	0.03	0.03		210.68		0.00		210.77
Worker	0.15	0.13	1.32	0.00	0.37	0.01	0.37	0.00	0.01	0.01		264.24		0.01		264.51
Total	**0.24**	**1.11**	**1.95**	**0.00**	**0.44**	**0.04**	**0.47**	**0.00**	**0.04**	**0.04**		**474.92**		**0.01**		**475.28**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.99	26.52	22.80	0.04		1.58	1.58		1.58	1.58		4,040.61		0.36		4,048.10
Total	**3.99**	**26.52**	**22.80**	**0.04**		**1.58**	**1.58**		**1.58**	**1.58**		**4,040.61**		**0.36**		**4,048.10**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	0.90	0.59	0.00	0.07	0.03	0.10	0.00	0.03	0.03		211.89		0.00		211.97
Worker	0.14	0.12	1.22	0.00	0.37	0.01	0.37	0.00	0.01	0.01		259.21		0.01		259.46
Total	**0.22**	**1.02**	**1.81**	**0.00**	**0.44**	**0.04**	**0.47**	**0.00**	**0.04**	**0.04**		**471.10**		**0.01**		**471.43**

3.5 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.99	26.52	22.80	0.04		1.58	1.58		1.58	1.58	0.00	4,040.61		0.36		4,048.10
Total	**3.99**	**26.52**	**22.80**	**0.04**		**1.58**	**1.58**		**1.58**	**1.58**	**0.00**	**4,040.61**		**0.36**		**4,048.10**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.08	0.90	0.59	0.00	0.07	0.03	0.10	0.00	0.03	0.03		211.89		0.00		211.97
Worker	0.14	0.12	1.22	0.00	0.37	0.01	0.37	0.00	0.01	0.01		259.21		0.01		259.46
Total	**0.22**	**1.02**	**1.81**	**0.00**	**0.44**	**0.04**	**0.47**	**0.00**	**0.04**	**0.04**		**471.10**		**0.01**		**471.43**

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.58	28.21	20.38	0.03		2.35	2.35		2.35	2.35		2,917.64		0.41		2,926.29
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.58**	**28.21**	**20.38**	**0.03**		**2.35**	**2.35**		**2.35**	**2.35**		**2,917.64**		**0.41**		**2,926.29**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.06	0.66	0.00	0.20	0.01	0.20	0.00	0.00	0.01		138.86		0.01		139.00
Total	**0.08**	**0.06**	**0.66**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.00**	**0.01**		**138.86**		**0.01**		**139.00**

3.6 Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.58	28.21	20.38	0.03		2.35	2.35		2.35	2.35	0.00	2,917.64		0.41		2,926.29
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.58**	**28.21**	**20.38**	**0.03**		**2.35**	**2.35**		**2.35**	**2.35**	**0.00**	**2,917.64**		**0.41**		**2,926.29**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.06	0.66	0.00	0.20	0.01	0.20	0.00	0.00	0.01		138.86		0.01		139.00
Total	**0.08**	**0.06**	**0.66**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.00**	**0.01**		**138.86**		**0.01**		**139.00**

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	127.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20		281.19		0.03		281.89
Total	**127.37**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**		**281.19**		**0.03**		**281.89**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.03	0.02	0.26	0.00	0.08	0.00	0.08	0.00	0.00	0.00		55.54		0.00		55.60
Total	**0.03**	**0.02**	**0.26**	**0.00**	**0.08**	**0.00**	**0.08**	**0.00**	**0.00**	**0.00**		**55.54**		**0.00**		**55.60**

3.7 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	127.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20	0.00	281.19		0.03		281.89
Total	**127.37**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**281.19**		**0.03**		**281.89**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.03	0.02	0.26	0.00	0.08	0.00	0.08	0.00	0.00	0.00		55.54		0.00		55.60
Total	**0.03**	**0.02**	**0.26**	**0.00**	**0.08**	**0.00**	**0.08**	**0.00**	**0.00**	**0.00**		**55.54**		**0.00**		**55.60**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.75	6.03	30.15	0.06	7.37	0.27	7.64	0.10	0.26	0.36		5,815.48		0.23		5,820.42
Unmitigated	3.75	6.03	30.15	0.06	7.37	0.27	7.64	0.10	0.26	0.36		5,815.48		0.23		5,820.42
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	13.05	13.05	13.05	27,868	27,868
Single Family Housing	756.03	796.32	692.83	2,079,923	2,079,923
Total	769.08	809.37	705.88	2,107,791	2,107,791

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	9.50	7.30	7.30	33.00	48.00	19.00
Single Family Housing	10.80	7.30	7.50	32.90	18.00	49.10

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.10	0.84	0.36	0.01		0.00	0.07		0.00	0.07		1,076.73		0.02	0.02	1,083.28
NaturalGas Unmitigated	0.10	0.84	0.36	0.01		0.00	0.07		0.00	0.07		1,076.73		0.02	0.02	1,083.28
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Single Family Housing	9152.18	0.10	0.84	0.36	0.01		0.00	0.07		0.00	0.07		1,076.73		0.02	0.02	1,083.28
Total		**0.10**	**0.84**	**0.36**	**0.01**		**0.00**	**0.07**		**0.00**	**0.07**		**1,076.73**		**0.02**	**0.02**	**1,083.28**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Single Family Housing	9.15218	0.10	0.84	0.36	0.01		0.00	0.07		0.00	0.07		1,076.73		0.02	0.02	1,083.28
Total		**0.10**	**0.84**	**0.36**	**0.01**		**0.00**	**0.07**		**0.00**	**0.07**		**1,076.73**		**0.02**	**0.02**	**1,083.28**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.47	0.08	6.66	0.00		0.00	0.04		0.00	0.04	0.00	11.88		0.01	0.00	12.13
Unmitigated	4.47	0.08	6.66	0.00		0.00	0.04		0.00	0.04	0.00	11.88		0.01	0.00	12.13
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.22					0.00	0.00		0.00	0.00						0.00
Consumer Products	3.04					0.00	0.00		0.00	0.00						0.00
Hearth	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00
Landscaping	0.21	0.08	6.66	0.00		0.00	0.04		0.00	0.04		11.88		0.01		12.13
Total	**4.47**	**0.08**	**6.66**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**	**0.00**	**11.88**		**0.01**	**0.00**	**12.13**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.22					0.00	0.00		0.00	0.00						0.00
Consumer Products	3.04					0.00	0.00		0.00	0.00						0.00
Hearth	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00
Landscaping	0.21	0.08	6.66	0.00		0.00	0.04		0.00	0.04		11.88		0.01		12.13
Total	**4.47**	**0.08**	**6.66**	**0.00**		**0.00**	**0.04**		**0.00**	**0.04**	**0.00**	**11.88**		**0.01**	**0.00**	**12.13**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Greenhouse Gas Emission Worksheet

N20 Mobile Emissions Santa Paula TT 5475 project

From URBEMIS 2007 Vehicle Fleet Mix Output:

Annual VMT: 2,107,791

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	46.0%	0.04	0.0184	0.04	0.0184
Light Truck < 3750 lbs	10.3%	0.05	0.00515	0.06	0.00618
Light Truck 3751-5750 lbs	23.2%	0.05	0.0116	0.06	0.01392
Med Truck 5751-8500 lbs	12.2%	0.12	0.01464	0.2	0.0244
Lite-Heavy Truck 8501-10,000 lbs	2.1%	0.12	0.00252	0.2	0.0042
Lite-Heavy Truck 10,001-14,000 lbs	0.5%	0.09	0.00045	0.125	0.000625
Med-Heavy Truck 14,001-33,000 lbs	1.0%	0.06	0.0006	0.05	0.0005
Heavy-Heavy Truck 33,001-60,000 lbs	2.9%	0.06	0.00174	0.05	0.00145
Other Bus	0.1%	0.06	0.00006	0.05	0.00005
Urban Bus	0.1%	0.06	0.00006	0.05	0.00005
Motorcycle	1.1%	0.09	0.00099	0.01	0.00011
School Bus	0.1%	0.06	0.00006	0.05	0.00005
Motor Home	0.4%	0.09	0.00036	0.125	0.0005
Total	**100.0%**		**0.05663**		**0.070435**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	0.1485	metric tons N2O	**46.02**	metric tons CO2e
		Project Total:	***46.02***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.
** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
*** From URBEMIS 2007 results for mobile sources

Appendix D

Biological Studies

June 13, 2008
Project# 08-92770

Ron Allen
City of Santa Paula
970 Ventura Street
Santa Paula, CA 93061

Subject: Results of a Rare Plant Survey for Tentative Tract 5475 Fill Receiver and Excavation Sites, Ventura County, California

Dear Mr. Allen:

Rincon Consultants, at your request, conducted a focused rare plant survey within a study area consisting of three proposed fill receiver sites and an excavation site for the Tentative Tract 5475 development project located at the northwest corner of Peck Road and Foothill Road, Ventura County, California (Figure 1). The Tentative Tract 5475 development project consists of a 74-unit, 36-acre hillside development which will require soil to be excavated. In addition, approximately 11-acres adjacent to the northern boundary of the project site will require excavation to stabilize the hillside. All excess excavation materials from the project site and adjacent hillside are proposed for deposition into three canyons that total approximately 55-60 acres and are located to the northwest, herein referred to as fill receiver sites. An additional 3-5 acres of haul roads are proposed to services these fill sites.

The intent of the current survey effort was to determine the presence or absence of special status species within the development and excavation sites and to confirm the presence or absence of Miles milk-vetch (*Astragalus didymocarpus* var. *milesianus*), Plummer's mariposa lily (*Calochortus plummerae*) and western dichondra (*Dichondra occidentalis*) within fill receiver sites and excavation area. Rincon biologists surveyed the study area on April 1 and May 7, 2008 during the blooming periods for special status species that were the focus of these surveys. This report provides the methods and results of the surveys.

METHODOLOGY

A study area totaling approximately 110 acres was included in the focused special status plant species surveys. Surveys were conducted on April 1, 2008 by Rincon biologists Julie Broughton, Carie Wingert and Steven Hongola with an additional site visit conducted on May 7, 2008 by Julie Broughton.

An Off-Site Grading Exhibit depicting the locations of the proposed disturbance footprint for the fill receiver sites and haul roads as well as a tentative tract map for the proposed

housing development were provided by Jensen Design and Survey. An aerial photograph obtained from CIRGIS (October 2004) was also utilized. These materials were used during the field surveys to assist in mapping the on-site habitats and any observed special status plant occurrences.

Focused special status plant surveys were conducted in accordance with accepted protocols developed by the California Department of Fish and Game (CDFG) and the California Native Plant Society (CNPS), including the following: 1) the survey team traversed the entire subject area on foot by walking meandering transects to ensure thorough coverage of the area; 2) surveys were spaced throughout the spring and summer growing season to accurately document the site's flora; and 3) surveys were floristic in nature, and all plant species observed on-site that were identifiable were recorded. Unknown taxa observed in the field were collected and brought to the laboratory for identification.

A list of special status species targeted in this survey was developed based upon review of the California Natural Diversity Database (CNDDB, Rarefind3; April 2008) and previous studies of the site (Rincon 2006), as well as our own knowledge of the area. Special status plants are those plants listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (ESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFG under the California Endangered Species Act (CESA); those listed as rare by the CDFG under the Native Plant Protection Act, and plants occurring on lists 1B and 2 of the CNPS *Inventory of Rare and Endangered Plants of California* (CNPS, 2001). List 3 and 4 plants were not recorded, unless they appeared on the Ventura County Locally Important Species Plant List (March 2008).

Based upon a search of the CNDDB (Rarefind3, April 2008), the Ventura County Locally Important Species List for plants, and previous studies in the area, twenty-two special status plant species were determined to have the potential to occur within the vicinity of the project site. These plants are detailed in Table 1.

Table 1. Special Status Plants Recorded Within The Project Vicinity

COMMON NAME	SCIENTIFIC NAME	STATUS Fed/State/CNPS/County	Habitat
Abram's oxytheca	*Oxytheca parishii* var. *abramsii*	--/--/1B.2/VC	Shale or sandy soils in chaparral
Braunton's milk-vetch	*Astragalus brauntonii*	E/--/1B.1/--	Disturbed coastal scrub & chaparral calcareous or carbonate soils
California Orcutt grass	*Orcuttia californica*	E/E/1B.1/VC	Vernal pools
California spineflower	*Mucronea californica* var. *californica*	--/--/4.2/VC	Sandy soil sin chaparral, coastal scrub, coastal dunes, and grassland
Conejo dudleya	*Dudleya parva*	T/--/1B.2/VC	Clay grassland in the western Santa Monica Mountains
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	--/--/1B.1/VC	Coastal salt marshes, playas, and vernal pools

Table 1. Special Status Plants Recorded Within The Project Vicinity

COMMON NAME	SCIENTIFIC NAME	STATUS Fed/State/CNPS/County	Habitat
Coulter's saltbush	*Atriplex coulteri*	--/--/1B.2/VC	Alkaline soils in coastal scrub sage and grasslands
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	--/--/1B.2/VC	Alkaline soils in coastal sage scrub
Late-flowered mariposa lily	*Calochortus weedii* var. *vestus*	--/--/1B.2/VC	Serpentine or decomposed sandstone in chaparral and woodlands
Lyon's pentachaeta	*Pentachaeta lyonii*	E/E/1B.1/VC	Pockets of grassland in Conejo volcanic soil
Mesa horkelia	*Horkelia cuneata* ssp. *puberula*	--/--/1B.1	Upland forest, chaparral and lower montane coniferous forest. Prefers rocky sites.
Mile's milk-vetch	*Astragalus didymocarpus* var. *milesianus*	--/--/1B.2	Typically on clay soils in coastal sage scrub.
Ojai fritillary	*Fritillaria ojaiensis*	--/--/1B.2/VC	Rocky areas in chaparral and upland forests
Palmer's mariposa lily	*Calochortus palmeri* var. *palmeri*	--/--/1B.2/VC	Chaparral, coniferous forest, meadows, and seeps
Plummer's mariposa lily	*Calochortus plummerae*	--/--/1B.2/VC	Chaparral, coastal sage scrub, valley/foothill grassland
Rayless ragwort	*Senecio aphanactis*	--/--/2.2/VC	Drying alkali flats and coastal sage scrub
Salt spring checkerbloom	*Sidalcea neomexicana*	--/--/2.2/VC	Alkaline soils in chaparral, coastal sage scrub, desert scrub, playas, and coniferous forest
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	C/E/1B.1/VC	Sandy soils in coastal scrub
Southwestern spiny rush	*Juncus acutus* ssp. *leopoldii*	--/--/4.2/VC	Coastal dunes, meadows, seeps, marshes, swamps
Umbrella larkspur	*Delphinium umbraculorum*	--/--/1B.3	Coastal sage scrub, valley and foothill grasslands, typically on clay or volcanic soils.
Vernal barley	*Hordeum intercedens*	--/--/3.2/VC	Mesic grasslands, vernal pools, dry saline stream beds and alkaline flats.
Western dichondra	*Dichondra occidentalis*	--/--/4.2/VC	Chaparral, woodland, coastal sage scrub, grasslands

C = Candidate for listing; E = Endangered; T = Threatened; CSC = CDFG Special concern species; VC = Ventura County Locally Important Species

RESULTS AND DISCUSSION

Habitat Types

Vegetative communities on-site were described according to Holland (1986) and Sawyer and Keeler-Wolf (1995). Coastal scrub was to the most common general habitat type present on-site and is considered a collection of scrub associations (Figure 2). For the

purposes of this discussion, coastal scrub associations and other habitat types found on-site are described based on their dominant species in accordance with Sawyer and Keeler-Wolf. Seven habitat types were identified within the study area.

Sumac Series. This series corresponds with Southern Mixed Chaparral from Holland (1986) and often occurs on steep slopes with shallow, coarse soils. On-site, this habitat type was found in two locations along the south-facing slopes of the northern-most boundary of Fill Site 2. This habitat type was dominated by laurel sumac (*Malosma laurina*), California encelia (*Encelia californica*), California sage (*Artemisia californica*), and purple sage (*Salvia leucophylla*). Other common species included coyote brush (*Baccharis pilularis*), black sage (*Salvia mellifera*), black mustard (*Brassica nigra*), blue-eyed grass (*Sisyrinchium bellum*), poison oak (*Toxicodendron diversilobum*), and bromes (*Bromus* sp.).

An area similar in composition to sumac series, but less dense, was identified on the southeast-facing slope of the eastern portion of the northern canyon of Fill Site 1. This area has been mapped as Open Sumac Series on Figure 2. This area was dominated by the same species as the sumac series described above, but contained a lower density of shrubby vegetation and a higher density of herbaceous species such as bromes, wild radish (*Raphanus sativus*) and black mustard.

Mixed Sage Series. This series most closely corresponds with Venturan Coastal Sage Scrub from Holland (1986) and typically occurs on slopes in shallow soils. On-site, this habitat type was located along the south-facing slope of the canyon of Fill Site 2. This habitat type was dominated by California encelia, coast prickly pear (*Opuntia littoralis*), purple sage, and California sagebrush. Other common species present included coyote brush, blue elderberry (*Sambucus nigra* ssp. *caerulea*), deerweed (*Lotus scoparius*), and bromes.

California Encelia Series. This series corresponds to Venturan Coastal Sage Scrub from Holland (1986) and is typically found on steep, south-facing slopes with colluvial derived soils. Within the study area, this habitat type was found in the tract area, the excavation area, in Fill Site 2, in Fill Site 3, and where the haul road is proposed. This habitat type was dominated by California encelia and included other common species such as purple sage, deerweed, coyote brush, black mustard, and California sage brush. This habitat type was relatively intact in Fill Site 2, the development tract area, and the excavation area.

Coast Live Oak Series. This series most closely corresponds to both Southern Coast Live Oak Riparian Forest and Coast Live Oak Woodland from Holland (1986) and is typically found on very steep slopes, raised stream beds and terraces, usually on sandstone or shale-derived soils. On-site, this series was found occupying a riparian corridor in the center of Fill Site 2, along the southern canyon of Fill Site 1, and a portion of the proposed haul road between Fill Sites 1 and 2. This habitat type was dominated by coast live oak (*Quercus agrifolia*) with an understory including poison oak, milk thistle (*Silybum marianum*), stinging nettle (*Urtica dioica*) and fennel (*Foeniculum vulgare*). In the southern canyon of Fill Site 1, this series included a mix of other tree species including blue elderberry, black walnut (*Juglans californica*), and occasional avocados. Here it is generally referred to as Coast Live

Oak Woodland. In Fill Site 2, this habitat type was closely associated with the riparian corridor and is designated as Southern Coast Live Oak Riparian Forest.

Habitats dominated by coast live oak warrant special consideration at both the state and local levels. The County of Ventura protects oak trees under Ordinance No. 3993 Section 8107-25 (adopted 1992) of the Ventura County Non-Coastal Zoning Ordinance (12-06-05 edition). Southern Coast Live Oak Riparian Forest is a particular type of coast live oak habitat that is closely associated with riparian corridors. This habitat is considered sensitive by the CDFG due to its rarity and the threat of continued loss as a result of human disturbance.

Coast Prickly-Pear Series. This series most closely corresponds to both Southern Coastal Scrub and Venturan Coastal Sage Scrub from Holland (1986) and is typically found on steep slopes in shallow soils. The majority of this habitat type was found within the development tract area with the remainder in the adjacent excavation area. This habitat types was dominated by coast prickly pear and includes other species such as deerweed, Brazilian pepper tree (*Schinus terebinthifolius*), red stem filaree (*Erodium cicutarium*), California encelia, and bromes.

Non-native herb/grassland. This habitat type is not described by either Holland (1986) or Sawyer and Keeler-Wolf (1995). On-site, it was found on the east side of the tract area. This area was characterized by the presence of a water tank surrounded by non-native grasses such as red-stem filaree, bromes, and black mustard, as well as eucalyptus (*Eucalyptus globulus*) and coast live oak trees.

Orchard. This habitat types is not defined by Holland (1986) or Sawyer & Keeler-Wolf (1995). This habitat type is the dominant habitat type within the study area. Much of the orchard on-site was senescent avocado orchard and is noted as such on Figure 2. The tract area contained the majority of senescent avocado orchard with the remainder spread amongst the excavation area, Fill Site 1, Fill Site 2, and the location of the proposed haul road. Senescent avocado orchard on-site was characterized by abandoned avocado orchards in various states of succession. Common species occurring in the understory included black mustard, bromes, blue elderberry, lemonade berry, laurel sumac, milk thistle and fennel.

A small portion of active citrus orchard was identified on-site and is noted on Figure 2 as active orchard. Active orchard within the study area was found within Fill Site 1 and where the haul road is proposed.

Sensitive Plant Species.

Plant species that have ecological requirements similar to those found on the property comprised the target list and were the focus of the survey efforts. Of the twenty-two special status species which are known to occur in the vicinity of the project area, only three

were determined to potentially occur within the study area based on the suitability of on-site soils and habitats.

- Mile's milk-vetch (*Astragalus didymocarpus* var. *milesianus*). Mile's milk-vetch is an annual herb in the pea family (Fabaceae) described by CNPS as a List 1B.2 plant species. This species is typically found growing in clay soils in coastal scrub habitat from Ventura County north to San Luis Obispo County. It blooms from March through June. All potentially suitable coastal scrub habitat on-site was thoroughly searched for this species during the focused special-status plant surveys. No Mile's milk-vetch individuals were observed. Therefore, this species is considered to not be present in the detail study area.

- Plummer's mariposa lily (*Calochortus plummerae*). Plummer's mariposa lily is a bulbiferous perennial herbaceous plant species in the lily family (Liliaceae) described by CNPS as a List 1B.2 plant. It is also included on the Ventura County Locally Important Species list of plants. Plummer's mariposa lily is known from Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties where it has been found growing on rocky soils in chaparral, coastal scrub, woodland, and grassland habitats. This species typically flowers from May to July. All potentially suitable habitats on-site were thoroughly searched for this species during the rare plant surveys. No Plummer's mariposa lily individuals were observed. Therefore, this species is not expected to be present in the detail survey area.

- Western dichondra (*Dichondra occidentalis*). Western dichondra is a perennial matted, stoloniferous herb in the morning glory family (Convulvaceae) that is described as CNPS List 4.2 species and is included on the Ventura County Locally Important Species list of plants. Western dichondra occurs in a variety of habitat types throughout southern California including chaparral, valley and foothill grassland, northern coastal scrub and coastal sage scrub. This species generally blooms from March to July, and is know to occur from San Diego area northward to the northern Santa Barbara County border. Occurrences have been documented in Marin County as well. All potentially suitable habitats within the study area were thoroughly searched for this species during the rare plant surveys. No western dichondra individuals were observed. Therefore, this species is not expected to be present in the detail survey area.

Fill Site 2 contains an unnamed drainage supporting approximately 1.4 acres of Southern Coast Live Oak Riparian Forest, which is considered a sensitive plant community by the CDFG. Southern Coast Live Oak Riparian Forest is listed on CDFG's *Preliminary Descriptions of Terrestrial Natural Communities of California* (Holland 1986) and *The Vegetation Classification and Mapping Program; List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CDFG 2003). It is a plant community considered to be rare and worthy of consideration by the CNDBB. This habitat occurred over a small portion of the drainage and was dominated largely by coast live oak with sparsely vegetated understory of herbaceous annuals such as poison oak and milk thistle.

In addition to the sensitive habitat discussed above, several coast live oaks were observed in Fill Site 1 and in the proposed location of the haul road between Fill Sites 1 and 2. The County of Ventura protects oak trees under Ordinance No. 3993 Section 8107-25 (adopted 1992) of the Ventura County Non-Coastal Zoning Ordinance (12-06-05 edition). Under this ordinance, native oak, sycamore and heritage/historic trees on public and private property are protected. Several oak trees will be impacted if the project is implemented as proposed.

CONCLUSIONS

The project as currently proposed would not directly affect rare, threatened, or endangered plants. One sensitive habitat, Southern Coast Live Oak Riparian Forest, was identified in Fill Site 2. It is recommended that construction activities in the fill receiver sites be conducted such that this sensitive habitat is avoided to the greatest extent feasible. Given the location of this sensitive habitat in the center portion of the fill site, use of the entire fill site may need to be avoided. Additionally, several coast live oaks not associated with this sensitive habitat were observed within Fill Site 1 and in the proposed location of the haul road between Fill Sites 1 and 2. Avoidance of impacts to oaks trees wherever feasible is preferred. However, oaks that must be impacted shall be mitigated based upon County guidelines.

We trust that this information will assist with your reporting obligations at this time. Please call us if you have any questions or concerns regarding the results of our surveys or would like to discuss these issues further.

Sincerely,
RINCON CONSULTANTS, INC.

Carie Wingert
Associate Biologist

John Dreher Jr.
Senior Biologist

Duane Vander Pluym, D. ESE
Principal Biologist

Attachment: *Figure 1 Vicinity Map*
Figure 2 Habitat Map
Photo Plate
Plant List

REFERENCES

1) California Department of Fish and Game, California Natural Diversity Data Base (Rarefind, 2008). Computer listing and map locations of historic and current recorded occurrences of special-status species and natural communities of special concern for USGS 7.5 minute quadrangle maps: Saticoy, Santa Paula, Santa Paula Peak, Ojai.

2) California Department of Fish and Game. *Special Vascular Plants, Bryophytes, and Lichens List*. 78 pgs. Biogeographic Data Branch, California Natural Diversity Database. October 2007.

3) California Department of Fish and Game (CDFG). 2003. *The Vegetation Classification and Mapping Program; List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database*. CDFG-Biogeographic Data Branch.

4) California Native Plant Society (CNPS). 2007. *Inventory of Rare and Endangered Plants (online edition, v7-07c).* California Native Plant Society. Sacramento, CA. Accessed on Wed, Aug. 1, 2007 from http://www.cnps.org/inventory

5) California Natural Diversity Database (CNDDB), Biogeographic Data Branch, Department of Fish and Game, March 2008.

6) County of Ventura. 2006. *Initial Study Assessment Guidelines*. County of Ventura, Planning Division.

7) County of Ventura Planning Division. 2004. *Ventura County Locally Important Species.* County of Ventura, Resource Management Agency.

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9) Holland, V.L. and Keil, D.J. 1995. *California Vegetation*. Dubuque, Iowa: Kendall/Hunt Publishing Company.

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11) Rincon Consultants, Inc. 2006. *Adams Canyon Ranch Biological Surveys.*

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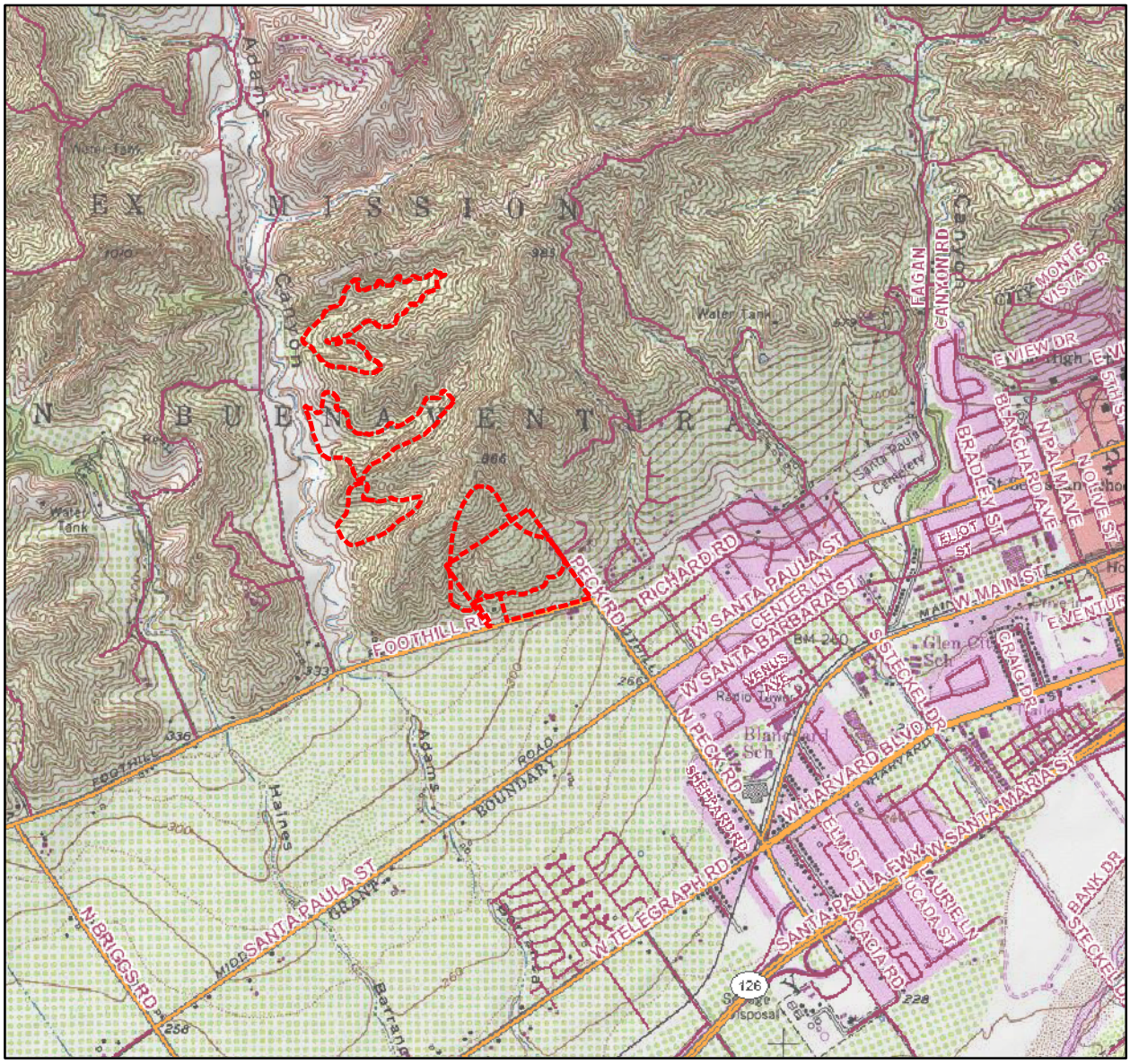
13) United States Fish and Wildlife Service. 1973. The Endangered Species Act of 1973, as amended (16 U.S.C 1531 *et seq*.)



Source: National Geographic TOPO!, 2004 and U.S. Bureau of the Census TIGER 2000 data.

N

0 0.25 0.5 1 Miles

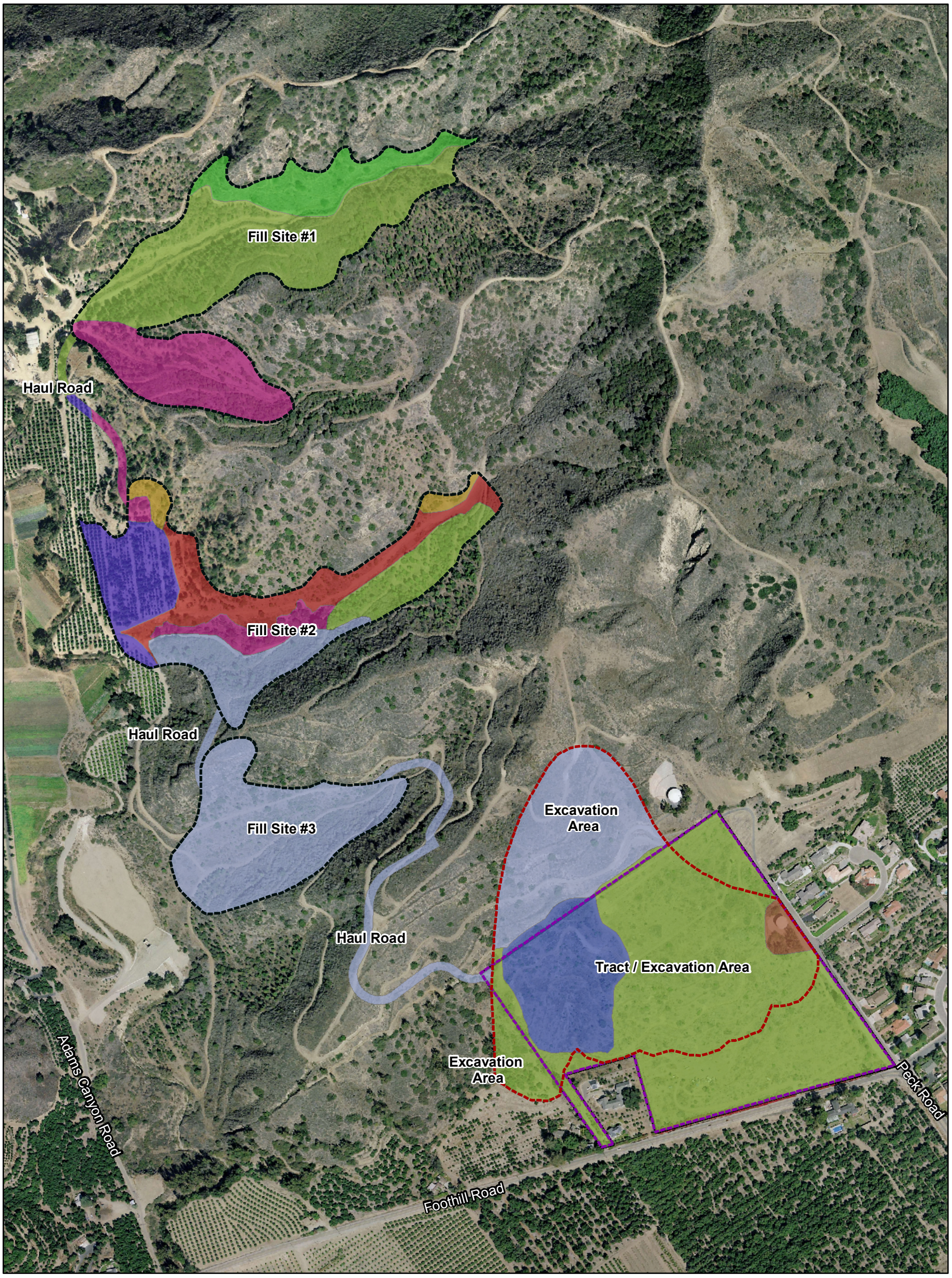
Site Boundary

Project Location

Source: U.S. Bureau of the Census Tiger 2000 data; ESRI, 2002.

Project Location

Figure 1



Source: CIRGIS, October 2004 (aerial), U.S. Bureau of the Census TIGER 2000 data and Rincon Consultants, 2008.

Fill Site
Slide Area
Tract Area

Habitat Type
- Active Orchard
- California Encelia Series
- Open Sumac Series
- Coast Live Oak Series
- Coast Prickly-Pear Series
- Mixed Sage Series
- Non-Native Annual Herb/Grassland
- Senescent Avocado Orchard
- Sumac Series

0 500 1,000 Feet

N

Habitat Map

Figure 2

TENTATIVE TRACT 5475 PHOTO PLATE

Photo Point 1. View of hill to be excavated immediately north of Tentative Tract 5475. The hill is dominated by California encelia sage scrub.

Photo Point 2.. View of southern canyon of Fill Site 1, looking west. Note the drainage occurs as a small ditch adjacent to a road overgrown with milk thistle (*Silybum marianum*) and other invasive plant species. This canyon was predominately vegetated with a coast live oak (*Quercus agrifolia*) woodland.

Photo Point 3. View of northern canyon of Fill Site 1, looking west-northwest. In the center of the picture is an old road overgrown with milk thistle and other invasive plants. This canyon was predominately vegetated by abandoned avocado orchard.

Photo Point 4. View of oak woodland in the riparian corridor of Fill Site 2. This area contained Southern Coast Live Oak Riparian Woodland, a plant community designated as sensitive by CDFG.

Photo Point 5. View of mixed sage series on south facing slope of Fill Site 2.

Photo Point 6. View of active orchard and farm road at the eastern end of Fill Site 2.

Photo Point 7. View of riparian corridor of Fill Site 2, looking west.

Photo Point 8. View of eastern half of drainage of Fill Site 2, looking east. Photograph was taken while standing on an artificial earthen bridge that split the riparian corridor in two.

Photo Point 9. View of Fill Site 3, looking west. Note the presence of a senescent avocado (*Persea Americana*). This canyon was once actively cultivated.

Photo Point 10. View of Fill Site 3, looking west.

Plant and Animal Species Observed During Rare Plant Surveys Conducted on April 1 and May 7, 2008 for the Tentative Tract 5475 Project.

Scientific Name	Common Name
Anagalis arvensis	scarlet pimpernel
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Avena barbata	slender wild oat
avena fatua	common wild oat
Baccharis pilularis ssp. *consanguinea*	coyote brush
Baccharis salicifolia	mulefat
Brassica nigra	black mustard
Brassica rapa	common yellow mustard
Bromus diandrus	ripgut brome
Bromus madritensis ssp. *rubens*	red brome
Bromus tectorum	cheatgrass
Castilleja densiflora ssp. *densiflora*	dense-flowered owl's-clover
Centaurea melitensis	tocalote
Cirsium vulgare	bull thistle
Clematis lasiantha	chaparral virgin's bower
Conium maculatum	poison hemlock
Convolvulus arvensis	common field bindweed
Cryptantha sp.	popcorn flower
Cuscuta campestris	field dodder
Datura wrightii	western jimsonweed
Emmananthe penduliflora	whispering bells
Encelia californica	California encelia
Erodium botrys	long-beaked filaree
Erodium cicutarium	red-stemmed filaree
Eschscholzia californica	California poppy
Filago californica	California filago
Foeniculum vulgare	common fennel
Gallium aparine	common bedstraw
Hazardia squarrosa var. *grindelioides*	gumweed sawtooth goldenbush
Helminthotheca echioides	bristly ox-tongue
Heteromeles arbutifolia	toyon
Hirschfeldia incana	summer field mustard
Hordeum murinum	mouse barley
Juglans californica	walnut
Lasthenia californica	goldfields
Phalaris lemmonii	Lemmon's canary grass
Pholistoma auritum var. *auritum*	blue fiesta-flower
Populus fremontii ssp. *fremontii*	Fremont cottonwood
Quercus agrifolia var. *agrifolia*	coast live oak
Raphanus sativus	cultivated radish
Rhus laurina	laurel sumac
Ribes speciosum	fuchia-flowered gooseberry

Ricinus communis	caster bean
Rubus ursinus	California blackberry
Rumex conglomeratus	clustered dock
Sambucus nigra ssp. *caerulea*	western blue elderberry
Schinus terebinthifolius	Brazilian pepper tree
Scrophularia californica var. *californica*	California figwort
Senecio vulgaris	common groundsel
Silybum marianum	milk thistle
Sisyrinchium bellum	blue-eyed grass
Solanum douglasii	Douglas's nightshade
Spartium junceum	common Spanish broom
Leymus condensatus	giant wildrye
Lotus scoparius ssp. *scoparius*	common deerweed
Lupinus nanus	sky lupine
Malva parviflora	small-flowered mallow
Marah macrocarpus var. *macrocarpus*	southern wild cucumber
Marrubium vulgare	common horehoune
Medicago polymorpha	common burclover
Melilotus albus	white sweet clover
Melilotus indica	yellow sweet clover
Mimulus brevipes	monkey flower
Nassella pulchra	purple Needlegrass
Opuntia oricola	chaparral prickly pear
Pennisetum setaceum	purple fountaingrass
Persea Americana	horticultural avocado
Phacelia cicutaria	caterpillar phacelia
Phacelia ramosissima var. *austrolitoralis*	South Coast branching phacelia
Phalaris aquatica	harding grass
Toxicodendron diversilobum	poison oak
Trifolium tridentatum	tomcat clover
Urtica dioica ssp. *holosericea*	silky stinging nettle
Verbena lasiostachys	common verbena
Vicia sativa	spring vetch
Xanthium strumarium	common cocklebur

Acanthoscyphus parishii var. abramsii

Abrams' oxytheca

Element Code: PDPGN0J041

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4?T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL.
Micro: SHALE TO SANDY PLACES. 1150-2060M.

Occurrence No. 1 **Map Index:** 38283 **EO Index:** 33290

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1923-06-18
Site: 1923-06-18
Record Last Updated: 1998-03-03

Quad Summary: Fillmore (3411848/139B), Devils Heart Peak (3411858/164C), Santa Paula Peak (3411941/140A), Topatopa Mountains (3411951/165D)
County Summary: Ventura

Lat/Long: 34.53448° / -119.03526°
UTM: Zone-11 N3823302 E313219
Radius: 5 mile
Elevation: 4,600 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 05N
Range: 21W
Section: 12 **Qtr:** XX
Meridian: S

Location: TOPA TOPA MOUNTAINS.

Location Detail: EXACT LOCATION NOT KNOWN. MAPPED AT NBBD TO INCLUDE ENTIRE RANGE.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1923 COLLECTION BY MASON. ORIGINAL ID - OXYTHECA PARISHII. ANNT TO ERIOGONUM PARISHII VAR TYPICUM BY G. GOODMAN IN 1943.

Owner/Manager: UNKNOWN

Actinemys marmorata pallida

southwestern pond turtle

Element Code: ARAAD02032

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3G4T2T3Q
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.
Micro: REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

Occurrence No. 70 **Map Index:** 15800 **EO Index:** 28211

Dates Last Seen
Element: 1988-07-20
Site: 1988-07-20
Record Last Updated: 1999-11-08

*** SENSITIVE ***
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Santa Paula Peak (3411941/140A)
County Summary: Ventura

*** SENSITIVE ***
Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Owner/Manager:

Antrozous pallidus

pallid bat

Element Code: AMACC10010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S3

Other Lists
CDFG Status: SC

Habitat Associations
General: DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS & FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.
Micro: ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.

Occurrence No. 310 **Map Index:** 66641 **EO Index:** 66786
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1906-08-01
Site: 1906-08-01
Record Last Updated: 2006-10-05

Quad Summary: Santa Paula (3411931/140D)
County Summary: Ventura

Lat/Long: 34.35483º / -119.06208º
UTM: Zone-11 N3803426 E310351
Radius: 1 mile
Elevation: 280 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 21W
Section: 10 **Qtr:** XX
Meridian: S

Location: SANTA PAULA.
Location Detail: EXACT LOCATION UNKNOWN. MAPPED IN THE GENERAL VICINITY OF SANTA PAULA.
General: 9 MALES AND 6 FEMALES COLLECTED BY J. PROCTER ON 1 AUG 1906, CAS #17232-17246.
Owner/Manager: UNKNOWN

Astragalus didymocarpus var. milesianus

Miles' milk-vetch

Element Code: PDFAB0F2X3

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: COASTAL SCRUB.
Micro: CLAY SOILS. 20-90M.

Occurrence No. 1 **Map Index:** 46250 **EO Index:** 46250

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Record Last Updated: 2001-10-24

Quad Summary: Ojai (3411942/140B), Matilija (3411943/141A)
County Summary: Ventura

Lat/Long: 34.44804º / -119.24362º
UTM: Zone-11 N3814119 E293881
Radius: 1 mile
Elevation:

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 04N
Range: 23W
Section: 12 **Qtr:** XX
Meridian: S

Location: OJAI AREA.
Location Detail: MAPPED AS BEST GUESS AT OJAI BY CNDDB.
General: NEEDS FIELDWORK, ONLY SOURCE OF INFORMATION IS MENTION IN TEXT OF FLORA OF SANTA BARBARA REGION.
Owner/Manager: UNKNOWN

Astragalus pycnostachyus var. lanosissimus

Ventura Marsh milk-vetch

Element Code: PDFAB0F7B1

Status
Federal: Endangered
State: Endangered

NDDB Element Ranks
Global: G2T1
State: S1.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: COASTAL SALT MARSH.
Micro: WITHIN REACH OF HIGH TIDE OR PROTECTED BY BARRIER BEACHES, MORE RARELY NEAR SEEPS ON SANDY BLUFFS. 1-35M.

Occurrence No. 6 **Map Index:** 40344 **EO Index:** 35351

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown

Dates Last Seen
Element: 1911-08-XX
Site: 1987-08-30
Record Last Updated: 1998-12-08

Quad Summary: Saticoy (3411932/140C), Oxnard (3411922/114B), Pitas Point (3411934/141C), Ventura (3411933/141D)
County Summary: Ventura

Lat/Long: 34.29973º / -119.29666º
UTM: Zone-11 N3797778 E288635
Radius: 5 mile
Elevation: 200 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 03N
Range: 23W
Section: 33 **Qtr:** XX
Meridian: S

Location: VENTURA.
Location Detail: EXACT LOCATION NOT KNOWN. MAPPED IN THE GENERAL AREA OF THE CITY OF VENTURA.
General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1911 COLLECTION BY ESSIG. VICINITY OF PIERPORT BEACH AND SAN BUENAVENTURA STATE BEACH SEARCHED BY BURGESS IN 1987, BUT NO PLANTS FOUND. ONLY MARGINALLY SUITABLE HABITAT REMAINING AT THESE SITES.
Owner/Manager: UNKNOWN

Atriplex serenana var. davidsonii

Davidson's saltscale

Element Code: PDCHE041T1

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2?
State: S2?

Other Lists
CNPS List: 1B.2

Habitat Associations
General: COASTAL BLUFF SCRUB, COASTAL SCRUB.
Micro: ALKALINE SOIL. 3-250M.

Occurrence No. 5 **Map Index:** 34629 **EO Index:** 5412

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1971-01-07
Site: 1971-01-07
Record Last Updated: 1996-02-23

Quad Summary: Ojai (3411942/140B), Matilija (3411943/141A)
County Summary: Ventura

Lat/Long: 34.44357º / -119.25309º
UTM: Zone-11 N3813642 E293000
Area:
Elevation: 750 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON

Township: 04N
Range: 23W
Section: XX **Qtr:** XX
Meridian: S

Location: OJAI, ALONG RAILROAD TRACKS NEAR SAN ANTONIO ROAD.
Location Detail: LABEL READS "BASE OF BANK ON NORTH SIDE OF SOUTHERN PACIFIC RR RIGHT-OF-WAY NEAR SAN ANTONIO ROAD, OJAI".
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1971 COLLECTIONS BY POLLARD.
Owner/Manager: UNKNOWN

California Walnut Woodland

Element Code: CTT71210CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 68 **Map Index:** 21004 **EO Index:** 17560

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1983-09-20
Site: 1983-09-20
Record Last Updated: 1998-09-01

Quad Summary: Santa Paula Peak (3411941/140A)
County Summary: Ventura

Lat/Long: 34.42541º / -119.09532º
UTM: Zone-11 N3811317 E307455
Area:
Elevation: 1,200 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON

Township: 04N
Range: 21W
Section: XX **Qtr:** XX
Meridian: S

Location: ON N FACING SLOPES ACROSS HIGHWAY 152 FROM SULPHUR SPRINGS.
Location Detail: AT LEAST 0.5 MILES LONG BENATH THE RIDGE LINE TO THE VALLEY FLOOR.
Ecological: NATURAL STAND OF WALNUTS. MIX OF MATURE AND YOUNG TREES.
General: MORE INFO NEEDED. THIS WAS OCC #068 OF CTT71210CA.
Owner/Manager: UNKNOWN

Calochortus weedii var. vestus

late-flowered mariposa-lily

Element Code: PMLIL0D1J2

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3?T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND.
Micro: DRY, OPEN COASTAL WOODLAND, CHAPARRAL; ON SERPENTINE. 270-1910M.

Occurrence No. 2 **Map Index:** 27681 **EO Index:** 737

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1963-07-25
Site: 1963-07-25
Record Last Updated: 1995-12-05

Quad Summary: Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.43204º / -119.21982º
UTM: Zone-11 N3812296 E296029
Radius: 1 mile
Elevation: 1,400 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 04N
Range: 22W
Section: XX **Qtr:** XX
Meridian: S

Location: BLACK MOUNTAIN.
Location Detail: MAPPED ON BLACK MOUNTAIN JUST SOUTHEAST OF OJAI.
Ecological: BURN AREA.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1963 COLLECTION CITED BY MAGNEY (COLLECTOR AND HERBARIUM UNKNOWN).
Owner/Manager: UNKNOWN

Occurrence No. 3 **Map Index:** 27682 **EO Index:** 738

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1895-07-10
Site: 1895-07-10
Record Last Updated: 1995-12-05

Quad Summary: Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.45692º / -119.19785º
UTM: Zone-11 N3815011 E298108
Radius: 1 mile
Elevation: 1,000 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 04N
Range: 22W
Section: 05 **Qtr:** XX
Meridian: S

Location: UPPER PART OF OJAI VALLEY.
Location Detail: MAPPED NORTHEAST OF BLACK MOUNTAIN. EXACT SITE UNKNOWN, MAY REFER TO UPPER OJAI VALLEY TO THE SOUTHEAST.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1895 COLLECTION BY MASTICK.
Owner/Manager: UNKNOWN

Catostomus santaanae

Santa Ana sucker

Element Code: AFCJC02190

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G1	**CDFG Status:** SC
State: None	**State:** S1	

Habitat Associations

General: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.

Micro: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Occurrence No. 9 **Map Index:** 00497 **EO Index:** 13484

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-03-29
Site: 2004-03-29
Record Last Updated: 2005-03-28

Quad Summary: Val Verde (3411846/138B), Moorpark (3411838/139C), Fillmore (3411848/139B), Newhall (3411845/138A), Piru (3411847/139A), Santa Paula

County Summary: Ventura, Los Angeles

Lat/Long: 34.40801º / -118.72391º
UTM: Zone-11 N3808743 E341557
Area:
Elevation: 1,055 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON

Township: 04N
Range: 18W
Section: XX **Qtr:** XX
Meridian: S

Location: SANTA CLARA RIVER DRAINAGE FROM SAN FRANCISQUITO CANYON TO VICINITY OF SANTA PAULA.

Location Detail: 2004 OBSERVATION FROM MAYO CROSSING. 2000 OBSERVATIONS FROM CAMULOS DIVERSION TO CASTAIC JUNCTION.

Ecological: AT STA 4, 14 WERE TAKEN. AT STA 5, 3 TAKEN. HYBRIDIZES W/ OWENS SUCKER IN LOWER PARTS OF DRAINAGE (S OF FILMORE). 18 TAKEN FROM SESPE CR, 1975. INCLUDES SOUTH HALF OF PIRU CREEK.

General: 2004: 1 OBS. 2003: 80 FROM BTWN HWY 23 & SESPE CR MOUTH DEPOSITED IN LACM. 2000: 14 OBS. 1998: 427 OBS THROUGHOUT AREA. 1997: 22 OBS NEAR LA CO. WATER TREATMENT PLANT. 1993: 2 OBS, SUMMER CROSSING. 1992: 4 OBS AT RR ON SESPE CR

Owner/Manager: PVT

Occurrence No. 28 **Map Index:** 15800 **EO Index:** 42842

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-02-28
Site: 2000-02-28
Record Last Updated: 2000-05-01

Quad Summary: Santa Paula Peak (3411941/140A)

County Summary: Ventura

Lat/Long:
UTM:
Radius:
Elevation:

Mapping Precision:
Symbol Type:

Township:
Range:
Section: **Qtr:**
Meridian:

Location: SANTA PAULA CREEK, APPROX. 5 MILES UPSTREAM FROM CONFLUENCE OF SANTA PAULA CREEK AND SANTA CLARA RIVER, ALONG OJAI ROAD.

Location Detail: OIL SPILL AREA IS STICKLE PARK TO THE FISH LADDER, JUST UPSRTEAM OF MUD CREEK CANYON.

Threat: OIL SPILL KILLED FISH.

General: 2 SUCKERS COLLECTED, ALSO FOUND ARROYO CHUB, AND STEELHEAD OR RAINBOW TROUT.

Owner/Manager: UNKNOWN

Chaetodipus californicus femoralis

Dulzura pocket mouse

Element Code: AMAFD05021

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T3
State: S2?

Other Lists
CDFG Status: SC

Habitat Associations
General: VARIETY OF HABITATS INCLUDING COASTAL SCRUB, CHAPARRAL & GRASSLAND IN SAN DIEGO CO.
Micro: ATTRACTED TO GRASS-CHAPARRAL EDGES.

Occurrence No. 50 **Map Index:** 60369 **EO Index:** 60405

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Record Last Updated: 2005-03-04

Quad Summary: Matilija (3411943/141A), Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.44096° / -119.26086°
UTM: Zone-11 N3813369 E292279
Radius: 1 mile
Elevation: 750 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 04N
Range: 23W
Section: 11 **Qtr:** XX
Meridian: S

Location: LOCATED IN THE OJAI VALLEY NEAR THE INTERSECTION OF VENTURA AVENUE & MARICOPA ROAD. HISTORIC LOCALE OF MATILIJA.
Location Detail: EXACT LOCATION UNKNOWN. MAPPED NEAR THE HISTORIC LOCALE OF MATILIJA.
General: 1 MALE & 1 FEMALE COLLECTED AT AN UNKNOWN DATE BY J. HORNUNG AT "MATILIJA." DEPOSITED AT LACM #30075 & 30212.
Owner/Manager: UNKNOWN

Coccyzus americanus occidentalis

western yellow-billed cuckoo

Element Code: ABNRB02022

Status	NDDB Element Ranks	Other Lists
Federal: Candidate	**Global:** G5T3Q	**CDFG Status:**
State: Endangered	**State:** S1	

Habitat Associations

General: RIPARIAN FOREST NESTER, ALONG THE BROAD, LOWER FLOOD-BOTTOMS OF LARGER RIVER SYSTEMS.

Micro: NESTS IN RIPARIAN JUNGLES OF WILLOW, OFTEN MIXED WITH COTTONWOODS, W/ LOWER STORY OF BLACKBERRY, NETTLES, OR WILD GRAPE.

Occurrence No. 69 **Map Index:** 15673 **EO Index:** 25593

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown

Dates Last Seen
Element: 1942-07-04
Site: 1977-07-22
Record Last Updated: 1999-01-07

Quad Summary: Oxnard (3411922/114B), Saticoy (3411932/140C)
County Summary: Ventura

Lat/Long: 34.23477º / -119.22074º
UTM: Zone-11 N3790418 E295466
Area:
Elevation: 75 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON

Township: 02N
Range: 22W
Section: 30 **Qtr:** XX
Meridian: S

Location: SANTA CLARA RIVER FROM THE MOUTH TO THE VICINITY OF MONTALVO.

Ecological: SITE IS A SANDY FLOODPLAIN BETWEEN LEVEES; MOST VEGETATION IS DENUDED, PROBABLY BY ORV TRAFFIC. SOME WILLOWS OCCUR IN NARROW, INTERMITTENT STRIPS, BUT COVER IS SPARSE (20%).

General: TWO WFVZ EGG SETS FROM THE MOUTH COLLECTED 18 JULY 1920 & 31 JULY 1921 AND ONE WFVZ EGG SET FROM THE VICINITY OF MONTALVO COLLECTED 4 JULY 1942. SURVEY OF SANTA CLARA RIVER IN 1977 BY GAINES DID NOT LOCATE ANY CUCKOOS IN THIS AREA.

Owner/Manager: PVT

Occurrence No. 70 **Map Index:** 25601 **EO Index:** 5480

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown

Dates Last Seen
Element: 1904-06-XX
Site: 1977-07-22
Record Last Updated: 1994-04-08

Quad Summary: Santa Paula (3411931/140D)
County Summary: Ventura

Lat/Long: 34.34589º / -119.06216º
UTM: Zone-11 N3802435 E310324
Radius: 3/5 mile
Elevation: 225 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 03N
Range: 21W
Section: 15 **Qtr:** XX
Meridian: S

Location: SANTA CLARA RIVER, AT SANTA PAULA.

Ecological: HABITAT IS SOUTHERN RIPARIAN SCRUB. HABITAT STILL SUITABLE FOR CUCKOOS IN 1977, ACCORDING TO GAINES.

General: NESTING ACTIVITY REPORTED IN MAY 1904 BY WILLET (ABUNDANCE UNKNOWN.) SITE SURVEYED 7/22/77 BY GAINES BUT NO BIRDS DETECTED.

Owner/Manager: CITY OF SANTA PAULA

Danaus plexippus

monarch butterfly

Element Code: IILEPP2010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S3

Other Lists
CDFG Status:

Habitat Associations
General: WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.
Micro: ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Occurrence No. 168 **Map Index:** 15639 **EO Index:** 12902
Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Fluctuating

Dates Last Seen
Element: 1999-12-01
Site: 1999-12-01
Record Last Updated: 2002-05-02

Quad Summary: Saticoy (3411932/140C)
County Summary: Ventura

Lat/Long: 34.27862º / -119.22271º
UTM: Zone-11 N3795285 E295391
Radius: 1/5 mile
Elevation: 260 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 22W
Section: XX **Qtr:** XX
Meridian: S

Location: ARUNDELL BARRANCA SITE, APPROXIMATELY 100M NORTH OF TELEGRAPH ROAD, EAST OF VENTURA.

Location Detail: IN 1994-95, MONARCHS CLUSTERED ~100M NORTH OF THE NORMAL ROOST LOCATION. IN 1999, MONARCHS CLUSTERED 30M NORTH OF NORMAL ROOST LOCATION.

Ecological: HABITAT IS A CONCRETE-LINED CREEK CHANNEL, BORDERED ON EITHER SIDE BY EUCALYPTUS WINDROWS. JAN 1999: ROOST SITE ALTERED - UNDERSTORY REMOVED, TREES TRIMMED.

General: 30K MONARCHS JAN 1987. 20K ON 12 FEB 1989. 10K+ SEEN DURING 1989-90 & 1990-91. 500 IN 1992-93. 7500 SEEN IN 1993-94. 4000 IN 1994-95. 25K ON 2 JAN 1996. 40K ON 23 NOV 97 & 9 JAN 98. 12K ON 23 NOV 1998;17K ON 9 JAN 99. 1 DEC 1999, 4900K SEEN

Owner/Manager: PVT

Occurrence No. 169 **Map Index:** 15623 **EO Index:** 12897
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Fluctuating

Dates Last Seen
Element: 1999-12-01
Site: 1999-12-01
Record Last Updated: 2002-05-02

Quad Summary: Saticoy (3411932/140C)
County Summary: Ventura

Lat/Long: 34.26773º / -119.23576º
UTM: Zone-11 N3794104 E294162
Radius: 1/5 mile
Elevation: 160 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 22W
Section: XX **Qtr:** XX
Meridian: S

Location: CAMINO REAL PARK, NE OF THE JUNCTION OF HWY 126 & HWY 101, SAN BUENAVENTURA, EAST OF VENTURA.

Location Detail: LOCALS RECALL MONARCHS USING THIS SITE EVERY YEAR FOR MANY YEARS. 1989 - 1990: "NEW" ROOST SITE USED.

Ecological: SITE IS LOCATED IN A CREEK BED; ROOST TREES ARE EUCALYPTUS IN THE "BARRANCA."

Threat: TREE TRIMMING/SPRAYING IS A POTENTIAL THREAT; PARK MAINTENANCE STAFF SHOULD BE ALERTED.

General: 5-10K SEEN 1985. 10-15K IN 86-87. 5-10K IN DEC 88; <100 BY FEB 89. 15K IN 89-90. 3K+ IN 90-91. 500 IN 92-93. 300 IN 93-94. 1K IN 94-95. 10 AT OLD SITE, 100 AT NEW SITE IN 96. 20K, NOV 97. 5K OCT 98; 0, JAN 98. 122 IN 98-99. 1800 IN DEC 99.

Owner/Manager: CITY OF SAN BUENAVENTURA

Occurrence No. 170 **Map Index:** 15679 **EO Index:** 22824
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Stable

Dates Last Seen
Element: 1999-01-10
Site: 1999-01-10
Record Last Updated: 2002-05-10

Quad Summary: Saticoy (3411932/140C)
County Summary: Ventura

Lat/Long: 34.26017º / -119.19529º
UTM: Zone-11 N3793184 E297871
Radius: 1/5 mile
Elevation: 180 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 22W
Section: XX **Qtr:** XX
Meridian: S

Location: HARMON BARRANCA, SOUTH END OF BARRANCA VISTA PARK, 0.5 MILES NE OF MONTALVO.

Ecological: ROOST TREES ARE A GROVE OF 50-60 EUCALYPTUS TREES AS WELL AS SOME NATIVE VEGETATION IN THE BARRANCA ADJACENT TO THE PARK.

Threat: MAIN THREATS ARE VANDALISM AND ARSON. WEEVIL DAMAGE EVIDENT JAN 10 1999.

General: 50-100 OBSERVED IN FEB 1985. LOW 100'S IN NOV 1986. 50-60 IN OCT 1987. 100'S IN 1988-89. UNKNOWN # PRESENT IN 1990-91. 10 IN 1992-93. 100 IN 1993-94. NONE IN JAN 1995. 2600 IN 1995-96. 1000 IN NOV 1997; 600 BY JAN 98. 700 OBS ON 10 JAN 99.

Owner/Manager: UNKNOWN

Danaus plexippus

monarch butterfly

Element Code: IILEPP2010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S3

Other Lists
CDFG Status:

Habitat Associations
General: WINTER ROOST SITES EXTEND ALONG THE COAST FROM NORTHERN MENDOCINO TO BAJA CALIFORNIA, MEXICO.
Micro: ROOSTS LOCATED IN WIND-PROTECTED TREE GROVES (EUCALYPTUS, MONTEREY PINE, CYPRESS), WITH NECTAR AND WATER SOURCES NEARBY.

Occurrence No. 171 **Map Index:** 15649 **EO Index:** 22823
Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Decreasing

Dates Last Seen
Element: 1983-XX-XX
Site: 1999-01-09
Record Last Updated: 2002-05-10

Quad Summary: Saticoy (3411932/140C)
County Summary: Ventura

Lat/Long: 34.26777º / -119.21622º
UTM: Zone-11 N3794068 E295962
Radius: 1/5 mile
Elevation: 200 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 22W
Section: XX **Qtr:** XX
Meridian: S

Location: THILLE STREET SITE, APPROXIMATELY 1 MILE ENE OF THE JUNCTION OF HWY 118 AND HWY 101, EAST OF VENTURA.

Location Detail: SITE IS LOCATED BETWEEN HWY 26 AND TELEPHONE ROAD, EAST OF HWY 101.

Ecological: ROOST TREES ARE EUCALYPTUS.

Threat: SOME WEEVIL DAMAGE

General: THOUSANDS OF MONARCHS WERE OBSERVED PATROLLING OVER PERIOD OF MONTHS IN 1983. NO MONARCHS OBSERVED DURING JANUARY 1995 SITE VISIT. 7 OBS FLYING/RESTING ON EUCALYPTUS ON 12 FEB 1997. 4 OBS ON 9 JAN 1999. THIS LIKELY TO BE AN AUTUMNAL

Owner/Manager: UNKNOWN

Delphinium umbraculorum

umbrella larkspur

Element Code: PDRAN0B1W0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2G3
State: S2S3.3

Other Lists
CNPS List: 1B.3

Habitat Associations
General: CISMONTANE WOODLAND.
Micro: MESIC SITES. 400-1600M.

Occurrence No. 28 **Map Index:** 59281 **EO Index:** 59317

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1999-XX-XX
Site: 1999-XX-XX
Record Last Updated: 2005-01-12

Quad Summary: Santa Paula Peak (3411941/140A), Fillmore (3411848/139B)
County Summary: Ventura

Lat/Long: 34.44702º / -119.01157º
UTM: Zone-11 N3813558 E315200
Radius: 1 mile
Elevation:

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 04N
Range: 20W
Section: 07 **Qtr:** XX
Meridian: S

Location: NORTH SIDE OF SANTA PAULA PEAK.
General: BURGESS NOTE CITED IN CNPS SUMMARY. NEEDS FIELDWORK.
Owner/Manager: USFS-LOS PADRES NF

Elanus leucurus

white-tailed kite

Element Code: ABNKC06010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S3

Other Lists
CDFG Status:

Habitat Associations
General: ROLLING FOOTHILLS AND VALLEY MARGINS WITH SCATTERED OAKS & RIVER BOTTOMLANDS OR MARSHES NEXT TO DECIDUOUS WOODLAND.
Micro: OPEN GRASSLANDS, MEADOWS, OR MARSHES FOR FORAGING CLOSE TO ISOLATED, DENSE-TOPPED TREES FOR NESTING AND PERCHING.

Occurrence No. 60 **Map Index:** 47309 **EO Index:** 47309
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2001-XX-XX
Site: 2001-XX-XX
Record Last Updated: 2002-02-28

Quad Summary: Santa Paula (3411931/140D)
County Summary: Ventura

Lat/Long: 34.35878° / -119.00824°
UTM: Zone-11 N3803765 E315312
Radius: 80 meters
Elevation: 300 ft

Mapping Precision SPECIFIC
Symbol Type: POINT

Township: 03N
Range: 20W
Section: 07 **Qtr:** NW
Meridian: S

Location: ALONG THE SOUTH SIDE OF THE SANTA CLARA RIVER, 0.7 MILE NW OF THE MOUTH OF LOFTUS CANYON, EAST OF SANTA PAULA

Location Detail: THERE MAY POSSIBLY BE TWO BREEDING PAIRS IN THE VICINITY, BUT A SECOND NEST WAS NOT FOUND.

Ecological: SITE IS SURROUNDED BY CITRUS GROVES.

General: 2 ADULTS OBSERVED NESTING DURING 2001. PROPERTY IS IN THE PROCESS OF BEING TURNED OVER TO THE FRIENDS OF THE SANTA CLARA RIVER, VIA THE COASTAL CONSERVANCY.

Owner/Manager: PVT-VALLEY VIEW RANCH

Fritillaria ojaiensis

Ojai fritillary

Element Code: PMLIL0V0N0

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G1	**CNPS List:** 1B.2
State: None	**State:** S1.2	

Habitat Associations

General: BROADLEAVED UPLAND FOREST (MESIC), CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST.

Micro: ROCKY SITES; ONE REPORTED AS "MOIST SHALE TALUS." 300-670M.

Occurrence No. 5 **Map Index:** 15814 **EO Index:** 12394

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1988-04-09
Site: 1988-04-09
Record Last Updated: 2004-04-02

Quad Summary: Santa Paula Peak (3411941/140A)
County Summary: Ventura

Lat/Long: 34.44837º / -119.05577º
UTM: Zone-11 N3813789 E311142
Area: 7.6 acres
Elevation: 1,760 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 04N
Range: 21W
Section: 11 **Qtr:** NW
Meridian: S

Location: BIG CONE CAMP (PINE FLAT), SANTA PAULA CANYON, NORTH OF SANTA PAULA RIDGE AND ABOUT 5 MILES NORTH OF SANTA PAULA.

Location Detail: 4 COLONIES MAPPED ALONG TRAIL IN SW/SW SEC 2 AND IN NW/NW SEC 11.

Ecological: BIGCONE SPRUCE/CANYON LIVE OAK FOREST, BAY FOREST, COAST LIVE OAK FOREST, AND MESIC CHAPARRAL. IN SHADE ON N-FACING SLOPES. SANDY LOAM AND SHALEY LOAM SOILS.

Threat: TRAIL MAINTENANCE AND SWITCHBACK CUTTING, CAMPGROUND MAINTENANCE, HEAVY RECREATIONAL USE.

General: TYPE LOCALITY. 1985 FIRE MAY HAVE STIMULATED OCCURRENCE. S-COLONY WITH 30 PLANTS IN 1987, 0 IN 1988; BIG CONE CAMP COLONY WITH 57 PLANTS IN 1987, FEWER IN 1988; N-COLONY WITH 20 PLANTS IN 1988. GOOD TO EXCELLENT SITE QUALITY.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 6 **Map Index:** 15650 **EO Index:** 21961

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1987-04-04
Site: 1987-04-04
Record Last Updated: 2004-04-01

Quad Summary: Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.48681º / -119.21479º
UTM: Zone-11 N3818361 E296624
Area: 2.5 acres
Elevation: 2,200 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 05N
Range: 22W
Section: 29 **Qtr:** NW
Meridian: S

Location: GRIDLEY CANYON, ALONG GRIDLEY SPRINGS TRAIL, ABOUT 1.75 AIR MILES ESE OF NORDHOFF PEAK, LOS PADRES NATIONAL FOREST.

Location Detail: ALONG WEST SIDE OF TRAIL ABOUT 2 MILES NORTH OF GRIDLEY TRAILHEAD AND 0.5 MILE SOUTH OF GRIDLEY SPRINGS CAMPGROUND. MAPPED WITHIN THE SW 1/4 NW 1/4 SECTION 29 AND SE 1/4 NE 1/4 SECTION 30.

Ecological: IN CHAPARRAL (BURNED IN 1985) WITH ADENOSTOMA FASCICULATUM, ARCTOSTAPHYLOS GLANDULOSA SSP MOLLIS, ERIOPHYLLUM CONFERTIFLORUM, CASTILLEJA MARTINII, PENTAGRAMMA TRIANGULARIS, TAUSCHIA ARGUTA, SANICULA, AVENA ET AL. ON SANDY LOAM SOIL.

Threat: TRAIL MAINTENANCE A THREAT.

General: 63 PLANTS OBSERVED IN 1987. PLANTS ALSO OBSERVED AT THIS SITE IN 1983 AND 1984.

Owner/Manager: USFS-LOS PADRES NF

Fritillaria ojaiensis

Ojai fritillary

Element Code: PMLIL0V0N0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAVED UPLAND FOREST (MESIC), CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST.
Micro: ROCKY SITES; ONE REPORTED AS "MOIST SHALE TALUS." 300-670M.

Occurrence No. 7 **Map Index:** 40308 **EO Index:** 35315

Dates Last Seen
Element: 1991-03-26
Site: 1991-03-26
Record Last Updated: 2004-04-02

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.49522º / -119.22689º
UTM: Zone-11 N3819318 E295533
Area: 25.0 acres
Elevation: 2,700 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 05N
Range: 22W
Section: 19 **Qtr:** SW
Meridian: S

Location: GRIDLEY CANYON, ALONG TRAIL NEAR GRIDLEY CAMPGROUND ABOUT 1 MILE EAST OF NORDHOFF PEAK, LOS PADRES NATIONAL FOREST.

Location Detail: PLANTS FOUND ALONG TRAIL ABOUT 2.5 MILES NORTH OF TRAILHEAD, 300 YARDS UP TRAIL FROM CAMPGROUND, AND ALONG STREAM ADJACENT TO CAMPGROUND. OCCURRENCE IN SW1/4 SEC 19 AND N1/2 ADJACENT SEC 30.

Ecological: IN N-FACING CHAPARRAL WITH CEANOTHUS OLIGANTHUS, C. CRASSIFOLIUS, MIMULUS AURANTIACUS, SANICULA ARGUTA, TAUSCHIA ARGUTA, AND PENTAGRAMMA TRIANGULARIS. ALSO IN BAY-WILLOW-MAPLE RIPARIAN AREA WITH POLYPODIUM, RIBES SPECIOSUM, AND ADIANTUM.

Threat: TRAIL WIDENING, MOUNTAIN BIKE USE, PUBLIC ACCESS AND POTENTIAL LANDSLIDES.

General: 65 PLANTS IN 3 AREAS OBSERVED IN 1991.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 8 **Map Index:** 40309 **EO Index:** 35316

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX
Record Last Updated: 1998-12-03

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.48280º / -119.15949º
UTM: Zone-11 N3817806 E301693
Area:
Elevation: 2,400 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 05N
Range: 22W
Section: 26 **Qtr:** XX
Meridian: S

Location: HORN CANYON, NORTHEAST OF OJAI VALLEY.

Location Detail: EXACT LOCATION NOT KNOWN; MAPPED AS NON-SPECIFIC FEATURE ALONG ENTIRE CANYON TO REFLECT UNCERTAINTY.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS SITE NAME NOTED BY MAGNEY.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 9 **Map Index:** 40310 **EO Index:** 35317

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX
Record Last Updated: 1998-12-03

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Ojai (3411942/140B), Matilija (3411943/141A)
County Summary: Ventura

Lat/Long: 34.47959º / -119.25402º
UTM: Zone-11 N3817640 E293003
Area:
Elevation: 2,400 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 05N
Range: 23W
Section: 26 **Qtr:** XX
Meridian: S

Location: STEWART CANYON, NORTH OF OJAI.

Location Detail: EXACT LOCATION NOT KNOWN; MAPPED AS NON-SPECIFIC FEATURE ALONG ENTIRE CANYON TO REFLECT UNCERTAINTY.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS SITE NAME NOTED BY MAGNEY.

Owner/Manager: USFS-LOS PADRES NF

Fritillaria ojaiensis

Ojai fritillary

Element Code: PMLIL0V0N0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAVED UPLAND FOREST (MESIC), CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST.
Micro: ROCKY SITES; ONE REPORTED AS "MOIST SHALE TALUS." 300-670M.

Occurrence No. 13 **Map Index:** 54900 **EO Index:** 54900

Dates Last Seen
Element: 2000-04-08
Site: 2000-04-08
Record Last Updated: 2004-04-01

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Santa Paula Peak (3411941/140A), Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.47992º / -119.12523º
UTM: Zone-11 N3817420 E304833
Area: 2.6 acres
Elevation: 3,303 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 05N
Range: 21W
Section: 31 **Qtr:** NW
Meridian: S

Location: EAST SIDE OF SISAR CANYON, ABOUT 0.85 MILE NNW OF HOWELL PLACE, NORTHWEST OF SANTA PAULA PEAK.

Location Detail: ON THE WHITE LEDGE TRAIL, ALONG NORDHOFF RIDGE. MAPPED WITHIN THE NW 1/4 OF THE NW 1/4 OF SECTION 31.

Ecological: PSEUDOTSUGA MACROCARPA, KECKIELLA CORDIFOLIA, RHAMNUS ILICIFOLIA, PELLAEA MUCRONATA, DELPHINIUM, CLARKIA, PENTAGRAMMA TRIANGULARIS, POTENTILLA GLANDULOSA, DUDLEYA LANCEOLATA, UMBELLULARIA CALIFORNICA, ARCTOSTAPHYLOS GLANDULOSA, ET AL.

Threat: TRAIL MAINTENANCE SHOULD AVOID IMPACTS TO POPULATION.

General: ABOUT 470 PLANTS SEEN IN 2000. POSSIBLE THE LARGEST KNOWN POPULATION OF THIS TAXON.

Owner/Manager: USFS-LOS PADRES NF

Occurrence No. 14 **Map Index:** 54902 **EO Index:** 54902

Dates Last Seen
Element: 2000-04-08
Site: 2000-04-08
Record Last Updated: 2004-04-01

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.46487º / -119.12839º
UTM: Zone-11 N3815757 E304507
Area: 3.3 acres
Elevation: 2,750 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 05N
Range: 22W
Section: 36 **Qtr:** SE
Meridian: S

Location: MCGUIRE FLATS, ON THE EAST SIDE OF SISAR CANYON, ABOUT 2 AIRMILES NNE OF SUMMIT SCHOOL, EAST OF OJAI.

Location Detail: "OAK GROVE", PAST SECOND CREEK CROSSING, IN SISAR CANYON. MAPPED WITHIN THE SE 1/4 OF THE SE 1/4 OF SECTION 36.

Ecological: ON GENTLE NORTH-FACING SLOPE, WITH UMBELLULARIA CALIFORNICA, QUERCUS AGRIFOLIA, WOODWARDIA FIMBRIATA, SANICULA ARGUTA, RHAMNUS ILICIFOLIA, RIBES MALVACEUM, DELPHINIUM SPP., AND LESSINGIA FILAGINIFOLIA.

Threat: NO VISIBLE DISTURBANCES IN 2000, ALTHOUGH SITE IS ALONG A VERY POPULAR TRAIL.

General: ABOUT 42 PLANTS SEEN IN 2000. MORE THAN 200 PLANTS SEEN MORE RECENTLY BY MAGNEY.

Owner/Manager: USFS-LOS PADRES NF, PVT?

Occurrence No. 15 **Map Index:** 54903 **EO Index:** 54903

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX
Record Last Updated: 2004-04-01

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.47753º / -119.18926º
UTM: Zone-11 N3817281 E298947
Radius: 80 meters
Elevation: 1,730 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 05N
Range: 22W
Section: 28 **Qtr:** SW
Meridian: S

Location: EAST OF SENIOR CANYON, 0.9 AIRMILE NNW OF THACHER SCHOOL, EAST OF OJAI.

Location Detail: ALONG EAST FORK OF SENIOR CANYON, NOT LABELED ON TOPO MAP. MAPPED WITHIN THE SE 1/4 OF THE SW 1/4 OF SECTION 28.

General: ABOUT 5 PLANTS SEEN AT UNKNOWN DATE.

Owner/Manager: PVT

Fritillaria ojaiensis

Ojai fritillary

Element Code: PMLIL0V0N0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAVED UPLAND FOREST (MESIC), CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST.
Micro: ROCKY SITES; ONE REPORTED AS "MOIST SHALE TALUS." 300-670M.

Occurrence No. 16 **Map Index:** 54904 **EO Index:** 54904
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-04-08
Site: 2000-04-08
Record Last Updated: 2004-04-01

Quad Summary: Santa Paula Peak (3411941/140A)
County Summary: Ventura

Lat/Long: 34.46851º / -119.11993º
UTM: Zone-11 N3816145 E305293
Area: 4.2 acres
Elevation: 2,750 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 05N
Range: 21W
Section: 31 **Qtr:** SE
Meridian: S

Location: HOWELL PLACE, DRON PROPERTY, WEST SIDE OF RIDGE BETWEEN SISAR CANYON & BEAR CANYON, 3 AIRMILE NW OF SULPHUR SPRINGS.

Location Detail: TWO COLONIES, MAPPED WITHIN THE NW 1/4 OF THE SE 1/4 OF SECTION 31 AND THE NW 1/4 OF THE NE 1/4 OF SECTION 6.

Ecological: ON STEEP, SHADED NORTH-FACING SLOPE. WITH UMBELLULARIA CALIFORNICA, PSEUDOTSUGA MACROCARPA, TOXICODENDRON DIVERSILOBUM.

Threat: CURRENTLY PROTECTED BY LAND OWNER, NEXT TO PARKING AREA.

General: 17 PLANTS SEEN IN 2000 AT NORTH COLONY. SOUTH COLONY: 69 PLANTS IN 2002, ABOUT 25 IN 2003.

Owner/Manager: PVT, USFS-LOS PADRES NF

Gila orcuttii

arroyo chub

Element Code: AFCJB13120

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: LOS ANGELES BASIN SOUTH COASTAL STREAMS.
Micro: SLOW WATER STREAM SECTIONS WITH MUD OR SAND BOTTOMS. FEEDS HEAVILY ON AQUATIC VEGETATION & ASSOCIATED INVERTEBRATES.

Occurrence No. 32 **Map Index:** 15800 **EO Index:** 42843

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-02-28
Site: 2000-02-28
Record Last Updated: 2000-05-01

Quad Summary: Santa Paula Peak (3411941/140A)
County Summary: Ventura

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: SANTA PAULA CREEK, APPROX. 5 MILES UPSTREAM FROM CONFLUENCE OF SANTA PAULA CREEK AND SANTA CLARA RIVER, ALONG OJAI ROAD.

Location Detail: OIL SPILL AREA IS STICKLE PARK TO THE FISH LADDER, JUST UPSRTEAM OF MUD CREEK CANYON.

Threat: OIL SPILL KILLED FISH.

General: 13 ARROYO CHUB, 2 SUCKERS AND UNKNOWN NUMBER OF STEELHEAD OR RAINBOW TROUT COLLECTED DURING OIL SPILL.

Owner/Manager: UNKNOWN

Gymnogyps californianus

California condor

Element Code: ABNKA03010

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G1	**CDFG Status:**
State: Endangered	**State:** S1	

Habitat Associations

General: REQUIRE VAST EXPANSES OF OPEN SAVANNAH, GRASSLANDS, AND FOOTHILL CHAPARRAL IN MOUNTAIN RANGES OF MODERATE ALTITUDE.

Micro: DEEP CANYONS CONTAINING CLEFTS IN THE ROCKY WALLS PROVIDE NESTING SITES. FORAGES UP TO 100 MILES FROM ROOST/NEST.

Occurrence No. 1 **Map Index:** 00018 **EO Index:** 14756

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1976-12-21
Site: 1976-12-21
Record Last Updated: 1989-08-10

Quad Summary: Piru (3411847/139A), Cobblestone Mtn. (3411857/164D), Black Mtn. (3411867/164A), Wheeler Springs (3411953/166D), Fillmore (3411848/139B), Alamo Mountain (3411868/164B), Santa Paula Peak (3411941/140A), Topatopa Mountains (3411951/165D), Lion Canyon (3411952/165C), Lockwood Valley (3411961/165A), San Guillermo (3411962/165B), Reyes Peak (3411963/166A), Devils Heart Peak (3411858/164C)

County Summary: Los Angeles, Ventura

Lat/Long: 34.55437º / -119.03678º
UTM: Zone-11 N3825510 E313124
Area: 181,581.4 acres
Elevation: 2,900 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 06N
Range: 20W
Section: 27 **Qtr:** XX
Meridian: S

Location: SESPE-PIRU CONDOR AREA.

General: YEAR-LONG USE; NESTING AND ROOSTING.

Owner/Manager: USFS, PVT

Horkelia cuneata ssp. puberula

mesa horkelia

Element Code: PDROS0W045

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4T2
State: S2.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB.
Micro: SANDY OR GRAVELLY SITES. 70-810M.

Occurrence No. 37 **Map Index:** 46250 **EO Index:** 54975

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1895-04-25
Site: 1895-04-25
Record Last Updated: 2004-04-05

Quad Summary: Ojai (3411942/140B), Matilija (3411943/141A)
County Summary: Ventura

Lat/Long: 34.44804° / -119.24362°
UTM: Zone-11 N3814119 E293881
Radius: 1 mile
Elevation:

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 04N
Range: 23W
Section: 12 **Qtr:** XX
Meridian: S

Location: OJAI VALLEY NEAR THE CEMETERY.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB, IN THE VICINITY OF THE CEMETERY IN OJAI.

Threat: DEVELOPMENT.

General: 1896 COLL BY HUBBY FROM "OJAI VALLEY" ATTRIBUTED TO THIS SITE. PER B. ERTTER, PETTIBONE & HUBBY COLL VARIES TOWARD SSP. CUNEATA. POPULATIONS MAY BE EXTIRPATED DUE TO DEVELOPMENT IN AREA SINCE DATE OF COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Lasiurus cinereus

hoary bat

Element Code: AMACC05030

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S4?

Other Lists
CDFG Status:

Habitat Associations
General: PREFERS OPEN HABITATS OR HABITAT MOSAICS, WITH ACCESS TO TREES FOR COVER & OPEN AREAS OR HABITAT EDGES FOR FEEDING.
Micro: ROOSTS IN DENSE FOLIAGE OF MEDIUM TO LARGE TREES. FEEDS PRIMARILY ON MOTHS. REQUIRES WATER.

Occurrence No. 135 **Map Index:** 68547 **EO Index:** 68898
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1905-01-18
Site: 1905-01-18
Record Last Updated: 2007-03-19

Quad Summary: Matilija (3411943/141A), Wheeler Springs (3411953/166D), Ojai (3411942/140B), Lion Canyon (3411952/165C)
County Summary: Ventura

Lat/Long: 34.49793º / -119.24283º
UTM: Zone-11 N3819651 E294076
Radius: 1 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 05N
Range: 23W
Section: 24 **Qtr:** XX
Meridian: S

Location: ABOUT 3 MILES ESE OF WHEELER SPRINGS, NORDHOFF PEAK.
Location Detail: MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY MANIS, WITH UNCERTAINTY OF 1609.344M.
General: 1 MALE SPECIMEN (MVZ #5147) COLLECTED AT "NORDOFF" BY JOSEPH GRINNELL ON 18 JAN 1905.
Owner/Manager: UNKNOWN

Oncorhynchus mykiss irideus

southern steelhead - southern California ESU

Element Code: AFCHA0209J

Status
Federal: Endangered
State: None

NDDB Element Ranks
Global: G5T2Q
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: FED LISTING REFERS TO POPS FROM SANTA MARIA RIVER SOUTH TO SOUTHERN EXTENT OF RANGE (SAN MATEO CREEK IN SAN DIEGO CO.)
Micro: SOUTHERN STEELHEAD LIKELY HAVE GREATER PHYSIOLOGICAL TOLERANCES TO WARMER WATER & MORE VARIABLE CONDITIONS.

Occurrence No. 1 **Map Index:** 34071 **EO Index:** 29766
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1988-03-16
Site: 1988-03-16
Record Last Updated: 1999-09-28

Quad Summary: Santa Paula (3411931/140D), Santa Paula Peak (3411941/140A)
County Summary: Ventura

Lat/Long: 34.37701º / -119.06005º
UTM: Zone-11 N3805882 E310588
Area:
Elevation: 480 ft
Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 21W
Section: 02 **Qtr:** XX
Meridian: S

Location: SANTA PAULA CREEK, TRIBUTARY TO THE SANTA CLARA RIVER, NEAR SANTA PAULA.

Location Detail: FROM MOUTH ON THE SANTA CLARA RIVER UPSTREAM TO SANTA PAULA DIVERSION DAM.

Ecological: FISH WERE FOUND PRIMARILY IN THE POOL BELOW THE DAM. BEFORE 1948 SANTA PAULA CR WAS ONE OF THE PRINCIPAL SPAWNING AREAS FOR STEELHEAD IN THE SANTA CLARA RIVER SYSTEM.

Threat: WATER DIVERSIONS, BARRIER (FUNDING FOR A FISHWAY AT SANTA PAULA DIVERSION WAS BEING CONSIDERED IN 1989).

General: 1/3 MILE OF STREAM WAS SAMPLED BELOW SANTA PAULA DIVERSION DAM IN 1987 & 1988. 3 STEELHEAD WERE CAUGHT IN 1987, MEASURING 37.5, 38.0 & 16.0 CM FL. NO FISH MEASURED IN 1988 BUT SEVERAL SEEN. "LARGE NUMBERS" OF STEELHEAD SEEN IN 1973.

Owner/Manager: PVT, UNKNOWN

Occurrence No. 3 **Map Index:** 30038 **EO Index:** 29737
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-01-04
Site: 1993-01-04
Record Last Updated: 1999-09-29

Quad Summary: Ventura (3411933/141D), Ojai (3411942/140B), Matilija (3411943/141A), Wheeler Springs (3411953/166D)
County Summary: Ventura

Lat/Long: 34.39848º / -119.28514º
UTM: Zone-11 N3808707 E289942
Area:
Elevation: 350 ft
Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON
Township: 04N
Range: 23W
Section: XX **Qtr:** XX
Meridian: S

Location: VENTURA RIVER & TRIBUTARIES, UPSTREAM OF VENTURA.

Location Detail: FROM MOUTH AT OCEAN TO BASE OF LAKE CASITAS (COYOTE CREEK) & LAKE MATILIJA (MATILIJA CREEK), INCLUDING NORTH FORK MATILIJA CREEK, SAN ANTONIO CREEK & TRIBUTARIES LION, THACHER & REEVES CREEKS.

Ecological: MATILIJA CREEK WAS THE MAJOR HISTORIC SPAWING AREA UNTIL MATILIJA DAM WAS BUILT. A PROVISION IN THE DAM WAS SAID TO HAVE BEEN INCLUDED TO CAPTURE STEELHEAD BELOW MATILIJA DAM AND MOVE THEM UPSTREAM TO SPAWN (NOTHING DONE AS OF 5/90).

Threat: WATER DIVERSION, POLLUTION, DAMS (LARGE RUNS UNTIL LATE 1940'S, DECIMATED BY DAM & DROUGHT).

General: 1976 BIOASSAY SUGGESTED WATER QUALITY NEG IMPACTED BY EFFLUENT FROM OAK VIEW TREATMENT PLANT. N FK MATILIJA, COYOTE & ANTONIO CREEKS STOCKED WITH RESCUED STEELHEAD. NO FORMAL RECORD OF HISTORICAL RUN IN SAN ANTONIO CR, BUT SOME IN TRIBS

Owner/Manager: PVT, USFS-LOS PADRES NF

Polioptila californica californica

coastal California gnatcatcher

Element Code: ABPBJ08081

Status
Federal: Threatened
State: None

NDDB Element Ranks
Global: G3T2
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: OBLIGATE, PERMANENT RESIDENT OF COASTAL SAGE SCRUB BELOW 2500 FT IN SOUTHERN CALIFORNIA.
Micro: LOW, COASTAL SAGE SCRUB IN ARID WASHES, ON MESAS & SLOPES. NOT ALL AREAS CLASSIFIED AS COASTAL SAGE SCRUB ARE OCCUPIED.

Occurrence No. 97 **Map Index:** 15782 **EO Index:** 25060

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1924-95-21
Site: 1924-95-21
Record Last Updated: 1989-08-10

Quad Summary: Santa Paula (3411931/140D)
County Summary: Ventura

Lat/Long: 34.35111º / -119.10400º
UTM: Zone-11 N3803092 E306487
Radius: 1 mile
Elevation: 360 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 03N
Range: 21W
Section: XX **Qtr:** XX
Meridian: S

Location: 2.5 MI W OF SANTA PAULA.
General: EGG SET FROM NEST IN A BUSH IN A PASTURE NEAR THE RIVER.
Owner/Manager: UNKNOWN

Southern California Steelhead Stream

Element Code: CARE2310CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G?
State: SNR

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 2 **Map Index:** 30038 **EO Index:** 5286

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Decreasing

Dates Last Seen
Element: 1990-05-XX
Site: 1990-05-XX
Record Last Updated: 1994-06-07

Quad Summary: Ventura (3411933/141D), Ojai (3411942/140B), Matilija (3411943/141A), Wheeler Springs (3411953/166D)
County Summary: Ventura

Lat/Long: 34.39848º / -119.28514º
UTM: Zone-11 N3808707 E289942
Area:
Elevation: 350 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON

Township: 04N
Range: 23W
Section: XX **Qtr:** XX
Meridian: S

Location: LOWER VENTURA RIVER, VENTURA COUNTY.

Location Detail: FROM MOUTH AT OCEAN TO BASE OF LAKE CASITAS (COYOTE CREEK) & LAKE MATILIJA (MATILIJA CREEK), INCLUDING NORTH FORK MATILIJA CREEK, SAN ANTONIO CREEK & TRIBUTARIES LION, THACHER & REEVES CREEKS.

Ecological: STEELHEAD AND PACIFIC LAMPREY SPAWNING STREAM. PARTIALLY ARMORED STICKLEBACK (ABUNDANT IN LOWER REACH), PRICKLY SCULPIN AND TIDEWATER GOBY (FOUND IN LAGOON NEAR MOUTH) ALSO OCCUR.

Threat: DAMS RESTRICTING FISH MIGRATION AND REDUCING WATER FLOW DOWNSTREAM. URBAN AREA WITH SOME AGRICULTURAL USE.

General: LAGOON IMPORTANT HABITAT FOR JUVENILE ANADRAMOUS SPP. AND TIDEWATER GOBIES.

Owner/Manager: PVT

Southern Coast Live Oak Riparian Forest

Element Code: CTT61310CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S4

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 252 **Map Index:** 21561 **EO Index:** 8463

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-11-01
Site: 1991-11-01
Record Last Updated: 1998-08-31

Quad Summary: Ojai (3411942/140B)
County Summary: Ventura

Lat/Long: 34.45567º / -119.15299º
UTM: Zone-11 N3814784 E302226
Area: 9.7 acres
Elevation: 1,800 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 04N
Range: 22W
Section: 02 **Qtr:** XX
Meridian: S

Location: ABOUT 1 AIR MILE NORTH OF HIGHWAY 150 IN WILSIE CANYON.

Location Detail: CONFINED TO A 0.5 MILE STRETCH OF RIVER BOTTOM.

Ecological: COAST LIVE OAKS FORMING A MODERATELY CLOSED CANOPY WITH SCATTERED SYCAMORES. UNDERSTORY OF TOYON SALIX LAEVIGATA, SYMPHORICARPOS MOLLIS, RIBES SPP., LONICERA HISPIDULA. HERBS ABSENT AT THIS TIME OF YEAR.

Threat: SOME GRAZING.

General: THIS WAS OCC #252 OF CTT61310CA.

Owner/Manager: PVT

Southern Riparian Scrub

Element Code: CTT63300CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3.2

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 25 **Map Index:** 00106 **EO Index:** 15318

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1986-12-10
Site: 1986-12-10
Record Last Updated: 1998-07-23

Quad Summary: Piru (3411847/139A), Santa Paula (3411931/140D), Fillmore (3411848/139B), Moorpark (3411838/139C), Saticoy (3411932/140C)
County Summary: Ventura

Lat/Long: 34.34567º / -119.05895º
UTM: Zone-11 N3802404 E310618
Area: 4,299.3 acres
Elevation: 360 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 04N
Range: 20W
Section: 35 **Qtr:** XX
Meridian: S

Location: SANTA CLARA RIVER BED FROM NEAR CONFL CALUMET CYN D/S TO VICINITY OF SATICOY.

Location Detail: SEEN IN 1986 AERIALS.

Ecological: MAPPED BY WIESLANDER SURVEY AS SCRUB W/DOMINANTS BACCHARIS VIMINEA, NICOTIANA GLAUCA, LEPIDOSPARTUM SQUAMATUM, ERIOGONUM FASCICULATUM, CORETHROGYNE FILAGINIFOLIA, GRASSES AND WILLOWS. DOMINANCE CHANGES ALONG STREAM COURSE.

Threat: DISTURBED IN VARYING DEGREES THROUGHOUT.

General: THIS WAS OCC #025 OF CTT63300CA.

Owner/Manager: UNKNOWN

Occurrence No. 26 **Map Index:** 15665 **EO Index:** 15317

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1986-12-10
Site: 1986-12-10
Record Last Updated: 1998-07-23

Quad Summary: Oxnard (3411922/114B), Saticoy (3411932/140C)
County Summary: Ventura

Lat/Long: 34.23812º / -119.22604º
UTM: Zone-11 N3790800 E294986
Area: 914.8 acres
Elevation:
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 02N
Range: 22W
Section: XX **Qtr:** XX
Meridian: S

Location: SANTA CLARA RIVER BED FROM RIVER MOUTH U/S TO VICINITY OF SATICOY.

Location Detail: SEEN IN 1986 AERIALS.

Ecological: MAPPED BY WIESLANDER SURVEY AS SCRUB OF BACCHARIS VIMINEA AND NICOTIANA GLAUCA OVER GRASSES.

Threat: SOME AREAS DISTURBED. GRAVEL PITS IN ADJACENT AREAS.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. THIS WAS OCC #026 OF CTT63300CA.

Owner/Manager: UNKNOWN

Vireo bellii pusillus

least Bell's vireo

Element Code: ABPBW01114

Status
Federal: Endangered
State: Endangered

NDDB Element Ranks
Global: G5T2
State: S2

Other Lists
CDFG Status:

Habitat Associations
General: SUMMER RESIDENT OF SOUTHERN CALIFORNIA IN LOW RIPARIAN IN VICINITY OF WATER OR IN DRY RIVER BOTTOMS; BELOW 2000 FT.
Micro: NESTS PLACED ALONG MARGINS OF BUSHES OR ON TWIGS PROJECTING INTO PATHWAYS, USUALLY WILLOW, BACCHARIS, MESQUITE.

Occurrence No. 109 **Map Index:** 21213 **EO Index:** 19701
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Increasing

Dates Last Seen
Element: 1991-08-XX
Site: 1991-08-XX
Record Last Updated: 1992-05-04

Quad Summary: Saticoy (3411932/140C), Santa Paula (3411931/140D)
County Summary: Ventura

Lat/Long: 34.29273º / -119.12263º
UTM: Zone-11 N3796653 E304638
Area:
Elevation: 150 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 21W
Section: XX **Qtr:** XX
Meridian: S

Location: SANTA CLARA RIVER, NORTHEAST OF SATICOY
Threat: COWBIRDS, WATER PROJECT
General: 1 TERRITORIAL MALE OBSERVED IN 1981; 5 PAIRS AND 2 TERRITORIAL MALES DETECTED IN 1991.
Owner/Manager: UNKNOWN

Occurrence No. 123 **Map Index:** 15934 **EO Index:** 14263
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Increasing

Dates Last Seen
Element: 1991-08-XX
Site: 1991-08-XX
Record Last Updated: 1992-08-17

Quad Summary: Santa Paula (3411931/140D)
County Summary: Ventura

Lat/Long: 34.36063º / -119.01243º
UTM: Zone-11 N3803978 E314931
Area:
Elevation: 300 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 20W
Section: 07 **Qtr:** XX
Meridian: S

Location: SANTA CLARA RIVER, APPROX 3.5 MI EAST OF SANTA PAULA, NEAR DUCK PONDS.
Threat: COWBIRDS
General: ONE VIREO OBSERVED IN 1981; 1 PAIR AND 1 TERRITORIAL MALE DETECTED IN 1990; 3 PAIRS AND 3 TERRITORIAL MALES DETECTED IN 1991.
Owner/Manager: UNKNOWN

Occurrence No. 173 **Map Index:** 21212 **EO Index:** 19702
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-08-XX
Site: 1991-08-XX
Record Last Updated: 1994-04-08

Quad Summary: Santa Paula (3411931/140D)
County Summary: Ventura

Lat/Long: 34.31486º / -119.09725º
UTM: Zone-11 N3799059 E307025
Radius: 1/5 mile
Elevation: 190 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 21W
Section: XX **Qtr:** XX
Meridian: S

Location: SANTA CLARA RIVER, SOUTHWEST OF SANTA PAULA.
Threat: SITE THREATENED BY COWBIRDS-NEST PARASITISM.
General: 1 PAIR DETECTED IN 1991.
Owner/Manager: UNKNOWN

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June 29, 2012
Rincon Project No. 07-60870

Stratis Perros, Deputy Planning Director
City of Santa Paula
970 Ventura Street
Santa Paula, California 93061

Subject: Findings of the Habitat Assessment for San Fernando Valley Spineflower at the Tract 5475 Specific Plan Project Site in Santa Paula, California.

Dear Ms. Perros:

This letter documents the findings of the habitat assessment conducted by Rincon Consultants, Inc. for the San Fernando Valley spineflower ([SFVS] *Chorizanthe parryi* var. *fernandina*) on the Tentative Tract 5475 project site (also known as the Peck/Foothill Road Development Project [SCH # 2007071108]) in the City of Santa Paula. The SFVS is listed as an endangered species under the California Endangered Species Act and is a candidate species under the federal Endangered Species Act of 1973. Per your direction, the SFVS habitat assessment was conducted in response to the U.S. Fish and Wildlife Service (USFWS) comment letter received by the City of Santa Paula on December 16, 2011 regarding the Draft Environmental Impact Report for the project.

PROJECT LOCATION/ DESCRIPTION

The proposed development site TT 5475 (hereafter referred to as project site) includes 32.5 acres of a former avocado orchard northwest of the City of Santa Paula (Figure 1) and within the City Urban Restriction Boundary (CURB) line. The hillside would be fully graded and subdivided into 74 residential building lots. The site is depicted on the Santa Paula, California, United States Geological Survey (USGS) 7.5-minute topographic map, Township 3 North and Range 21 West. Onsite remedial grading would involve the removal and re-compaction or engineering of approximately 1.2 million cubic yards of soil, as well as 370,000 cubic yards of surface grading for roads and home pads. Offsite grading north of and adjacent to the subdivision parcel boundary will be required at the margins of the development site for additional stabilization of surrounding slopes.

Excess fill from the residential development site will be hauled to and deposited within three canyons on the parcel to the north of the project site, north of Foothill Road and east of Adams Canyon Road. Fill Site 1 comprises approximately 21.2 acres and is located in the northernmost canyon from Foothill Road (Figure 6, Photo 9). Fill Site 2 is approximately 18.1 acres in a central canyon (Figure 4, Photo 2), and Fill Site 3 is approximately 10.7 acres and is located in the canyon nearest Foothill Road (Figure 5, Photo 6). A haul road of

approximately 3 acres will be constructed from the development site to the fill sites. This route is located in upland areas adjacent to the Fill Site canyons.

ENVIRONMENTAL SETTING

The project site is located on a southerly facing slope on the southern fringe of Sulfur Mountain, north of the Santa Clara River. The entire residential project site was an active avocado orchard as recently as 1994 (aerial photograph of 9/2/1994), but since then that use ceased and the trees died. The site is currently vacant with scattered vegetation and a few remnant avocados.

The Fill Site canyons are located within rugged side canyons that drain westerly into Adams Canyon. The canyons slope down from east to west, ranging in elevation from approximately 640 feet above mean sea level (AMSL) in the northeast to 400 feet in the southwest. The Fill Site canyons contain active and senescent agricultural tree orchards and coastal sage scrub vegetation.

The region has a Mediterranean climate, with mild, wet winters and warm, dry summers. Typical summertime highs are in the 80s with wintertime temperatures generally in the low 60s. Average annual precipitation in the City of Santa Paula is approximately 15 inches, most of which falls between November and April. The City of Santa Paula is located within the Sunset Climatic Zone 21 (Editors of Sunset Books 2007) which is considered a thermal belt with occasional ocean influence. Day-to-day weather influences can range from cool, moist coastal marine air with high ocean fog to hot, dry masses of interior air such as during Santa Ana winds. This climatic zone experiences less marine influence than locations closer to the coast, but substantially more than that of the hotter interior valleys.

METHODOLOGY

The habitat assessment for the proposed project included a review of relevant literature followed by a field reconnaissance survey. Literature reviewed included the California Department of Fish and Game's (CDFG's) California Natural Diversity Data Base (CNDDB) records for SFVS, the Biogeographic Information and Observation System (BIOS – www.bios.dfg.ca.gov), the USFWS SFVS species profile information (http://ecos.fws.gov), An investigation of the San Fernando Valley spineflower for the Ahmanson Land Company (Sapphos 2001), and The Newhall Ranch Resource Management and Development Plan and the Spineflower Conservation Plan and appendices (Dudek 2010) report. Previous botanical reports prepared for the site were reviewed to compare previously mapped habitat locations and examine the comprehensive plant list (Rincon Consultants 2008). In addition, previous floristic surveys for adjacent areas (Rincon Consultants August 2003, October 2005, and August 2006) were reviewed for plant taxa known to occur in the area. Historical aerial maps were reviewed to determine historical land use activity within the proposed residential site and the off-site canyons. Dibblee Geologic Foundation's Santa Paula, California Quadrangle was reviewed to determine the project's underlying geologic formations, and USDA Natural Resources Conservation Service (NRCS) was reviewed for

soil types. Site plans provided by the client, aerial photographs, topographic maps, and soil survey maps were also examined.

Rincon's Senior Botanist, Cher Batchelor, and biologist, Stephanie Lopez, conducted the SFVS field habitat assessment on June 22, 2012. The assessment was performed by driving a 4-wheel-drive vehicle over existing roads, walking meandering transects of convenience, and examining the vegetation to characterize the existing habitat characteristics of the project site. Plant communities are defined herein as an assemblage of plants occurring together within a relatively uniform area of land. For the purpose of this report, plant communities have been classified and mapped according to *A Manual of California Vegetation, second edition* (Sawyer et al. 2009).

The probability of SFVS occurrence is based on the current biological and physical conditions found onsite, including habitat type, vegetative cover, soil type, and climatic conditions. Historic disturbance is also a factor considered in the determination of suitability as past vegetation and agricultural management practices would have removed the vegetation and probably also removed any residual seed bank. The potential presence of SFVS discussed herein is based on a literature review and field survey designed to assess habitat suitability only. Definitive surveys to confirm the presence or absence of SFVS were not performed for this current analysis; however, a rare plant survey and comprehensive floristic inventory was performed in 2008 (Rincon Consultants). The findings and opinions conveyed in this report are based on this methodology.

RESULTS

Populations Information

The closest CNDDB tracked SFVS occurrence is approximately 25 miles southeast of the project site at Laskey Mesa on the former Ahmanson Ranch property on the southeastern slopes of the Simi Hills in Ventura County. This location is now referred to as the Upper Las Virgenes Canyon Open Space Preserve. At the Upper Las Virgenes Canyon Open Space Preserve, 17 of the 23 SFVS sites were associated at the interface between California sagebrush scrub and California annual grassland habitats, with the remainder in habitat described as either sagebrush scrub or annual grassland, with one group also found on plowed grazing land (Sapphos February 2001). A second known group of populations occurs at Newhall Ranch within Los Angeles County and approximately 27 miles to the east of the project site. Extensive habitat research performed by Dudek (2010) resulting in the Newhall Ranch Resource Management and Development Plan and the Spineflower Conservation Plan and appendices (Spineflower Conservation Plan) developed a comprehensive understanding of the known populations and provided a summary of SFVS survey results for that project's surveys conducted in Los Angeles and Ventura Counties. The survey included the Santa Clara River in Los Angeles County and a small eastern portion of Ventura County. SFVS population groups observed within Newhall Ranch generally occurred within sparsely populated, or early successional scrub communities, grasslands or at the edge of agricultural fields on mesas.

A review of herbarium collections (Consortium of California Herbaria, http://ucjeps.berkeley.edu/consortium/, accessed June 22, 2012) retrieved 39 records, 21 of which were dated 2000 or later. The remaining 17 collections records ranged between 1879 and 1929. Based on historical collections, SFVS occurs in sandy to gravelly soils, often in washes, and mostly in coastal sage scrub (Reveal 1979). Of the twelve historical site occurrences (San Bernardino, Orange, and Los Angeles Counties) none have suitable habitat to support SFVS because of urbanization (Reveal and Hardham 1989). Outlying populations of the SFVS in San Bernardino and Orange County may have been a result of anthropogenic distribution of the seed bank though movement of cattle into low-lying grazing locations and thus not representative of the native habitat of SFVS. Results of pollination studies indicate that a close correlation exists between SFVS and native ants (*Dorymyrmex pyramicus*) and honey bees (*Apis mellifera*), which may thereby restrict the conservation of the plant species.

Geological characteristics of existing SFVS populations were observed on either alluvial-riverine deposits or at bedding plane contact points where the parent material is exposed (Sapphos 2001). Existing and historical soil characteristics include a variety of soil units, but within the known existing populations soils mapped by the USDA (1969) include San Andreas sandy loam, Zamora loam, Santa Lucia shaly silty clay loam, Castaic-Balcom silty clay loam, and Saugus loam. The soil type for existing SFVS occurrences consisted of primarily loam or silty clay loam with a lesser occurrence on sandy loams in areas of poorly developed soils with a shallow depth to the underlying bedrock. In particular, SFVS areas at the Upper Las Virgenes Open Space Preserve are characterized by exposed parent material or rock outcroppings, and generally a lack of true, developed soils (Sapphos 2001). Elevations at known SFVS locations range from approximately 960 to 1,400 feet AMSL with only a small overlap range of 1,200 and 1,320 feet AMSL between the two known locations.

SFVS appears to occur most often in areas with little to no competing vegetation and thus a low vegetative cover or density. Within the Upper Las Virgenes Canyon Open Space Preserve, Dudek (2010) indicated a negative correlation between percent coverage from native shrubs and presence of SFVS, suggesting that shading may be an inhibiting factor for occurrence. Test plots and sequential year surveys indicated that SFVS is a successional plant most often occurring in open areas, particularly lacking of shrubs or in areas of recent disturbance.

Slope steepness and slope aspect are consistent between the two known populations. Within the Upper Las Virgenes Canyon Open Space Preserve over 60% of the SFVS populations were found on slopes between 0 to 20% in steepness. Both known populations occur primarily on south-facing slopes that experience more sunlight and heat, and thus a more sparsely vegetated habitat than is seen on north-facing slopes. Thus the less dense herbaceous growth occurring due to hotter, drier south-facing slope conditions may be a key characteristic of SFVS's habitat preference.

Project Site Habitat Descriptions

The proposed residential development site contains disturbed, senescent avocado orchard and an area of former orchard that is best characterized as Coast Prickly Pear – Pepper Tree Scrub. An Excavation Area north of the tract site is comprised of California Sagebrush – Purple Sage Scrub. The offsite Fill Canyons are a mix of Avocado Orchard (active and senescent/sumac scrub), California Sagebrush – Purple Sage Scrub, Coyote Brush - Purple Sage Scrub, and non-native annual herbaceous stand habitats. The haul road will disturb primarily California Sagebrush – Purple Sage Scrub and Oak Woodland habitats. No critical habitat for listed plant species is mapped within the development site or the offsite fill areas. The specific habitats classified and mapped (Figure 2) according to *A Manual of California Vegetation, second edition* (Sawyer et al. 2009) include the following and are described below:

- California Sagebrush – Purple Sage Scrub
- Coyote Brush - Purple Sage Scrub
- Coast Prickly Pear – Pepper Tree Scrub
- Sumac Scrub
- Coast Live Oak Woodland
- Avocado Orchard
- Senescent Avocado Orchard – Disturbed
- Senescent Avocado Orchard – Sumac Scrub
- Non-Native Annual Herbaceous Stand

***Artemisia californica* Mixed Stands** (California Sagebrush – Purple Sage Scrub):

This habitat is part of the coastal sage scrub series with California sagebrush (*Artemisia californica*) and purple sage (*Salvia leucophylla*) comprising the majority of the shrub cover. This habitat is generally found on moderate to steep slopes below 3,900 feet in elevation. The California sagebrush-purple sage scrub commonly occurs in a two tiered shrub canopy either intermittent to continuous with bush monkey flower (*Mimulus aurantiacus*), California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*) and deerweed *(Acmispon glaber)* in the lower tier, and lemonade berry(*Rhus integrifolia*) and blue elderberry (*Sambucus nigra* ssp. *canadensis*) emerging as taller shrubs in the upper tier. The herbaceous understory is variable across the distribution of California sagebrush-purple sage scrub.

Subdominant species observed in the area include California bush sunflower (*Encelia californica*), laurel sumac (*Malosma laurina*), and coyote brush (*Baccharis pilularis* ssp. *consanguinea*). The overall vegetative coverage observed for this community onsite is approximately 80% (Figure 6, Photo 12).

***Baccharis pilularis* Mixed Shrub Canopy** (Coyote brush – purple sage scrub):

This habitat is part of the coastal sage scrub with coyote brush (*Baccharis pilularis* ssp. *consanguinea*) and purple sage comprising the majority of the shrub cover. This habitat is generally found at river mouths, stream sides, terraces, coastal bluffs, open slopes and ridges up to 4,900 feet in elevation. The soils are variable, from sandy to relatively

heavy clay. The coyote bush-purple sage scrub commonly occurs as a variable canopy up to 10 feet tall with a variable herbaceous layer. Associated species include in California sagebrush, bush monkey flower, California buckwheat, deerweed, and California blackberry (*Rubus ursinus)*.

Dominant species observed in the area include California bush sunflower, blue elderberry, and poison oak (*Toxicodendron diversilobum*). The overall vegetative coverage observed for this community onsite is approximately 85% (Figure 6, Photo 10).

***Opuntia littoralis* Shrubland Alliance** (Coast prickly pear – pepper tree scrub):
This habitat includes coast prickly pear (*Opuntia littoralis*) as the dominant or co-dominant species within a shrub canopy with emergent tall shrubs including pepper trees (*Schinus molle*) and blue elderberry. This habitat is generally found on south-facing slopes and headlands up to 3,900 to 4,900 feet in elevation. The soils are shallow loams and clays that may be rocky. The coast prickly pear scrub commonly occurs as a two tier intermittent or continuous canopy up to 6 feet tall with an open to continuous and diverse herbaceous layer. Typical associated species include California sagebrush, California buckwheat, wishbone bush (*Mirabilis californica),* pepper trees and blue elderberry.

Additional dominant species observed onsite include summer mustard (*Hirschfeldia incana*), laurel sumac, and blue elderberry. The overall vegetative coverage observed for this community onsite is approximately 70%.

***Malosma laurina* Shrubland Alliance** (Laurel sumac scrub):
This habitat has laurel sumac (*Malosma laurina*) as the dominant or co-dominant shrub within the canopy. This habitat is generally found on steep slopes at elevations between 16 and 1,300 feet. Typical soils are shallow and fine textured. The laurel sumac scrub commonly occurs as an open to continuous canopy up to 16 feet tall with a sparse or grassy herbaceous layer. Associated species typically include in California sagebrush, Californica bush sunflower, California buckwheat, lemonade berry, sugar bush (*Rhus ovata*), and purple sage. Emergent California black walnut (*Juglans californica* var. *californica*), coast live oak (*Quercus agrifolia*), or blue elderberry may occur in habitats with sparse cover.

Dominant species observed onsite besides laurel sumac include purple sage, California sagebrush, deerweed, and giant wild rye (*Elymus condensatus)*. The overall vegetative coverage observed for this community onsite is approximately 90% (Figure 5, Photo 6).

***Quercus agrifolia* Woodland Alliance** (Coast live oak woodland):
This habitat has coast live oak (*Quercus agrifolia*) as the dominant or co-dominant tree within the canopy. This habitat is generally found on alluvial terraces, canyon bottoms, stream banks, slopes or flat areas at up to 3,900 feet in elevation. Associated soils are deep, sandy, or loamy sediments with high organic matter. The coast live oak woodland contains an open to continuous canopy with trees under 100 feet tall. The shrub layer is sparse to intermittent with a sparse to grassy herbaceous layer. Associated trees

typically include box elder (*Acer negundo),* Pacific madrone *(Arbutus menziesii),* California black walnut, sycamore *(Platanus racemosa),* Fremont's cottonwood *(Populus fremontii),* and valley oak *(Quercus lobata)*. The shrub and herbaceous understory is variable across the distribution of the coast live oak woodland.
Associated species observed in the area include laurel sumac, California black walnut, and poison. The overall vegetative coverage observed for this community onsite is approximately 90% (Figure 4, Photo 4).

***Persea americana* Orchard** (Avocado orchard):

This habitat is dominated by avocado (*Persea Americana*), a non-native agricultural orchard tree. The avocado is a tender, evergreen, subtropical fruit tree commercially grown in localities of mild winters. Commercial plantings occur on a range of soil types from fine sands to clay loams. Avocado trees dominate the canopy with mainly non-native grasses and herbaceous annuals in the understory.

Dominant species observed in the area include avocado and brome grass (*Bromus* sp.) species. The overall vegetative coverage by avocado trees observed for this land cover type onsite is approximately 80% (Figure 6, Photo 11).

***Persea americana* Orchard – Disturbed** (Senescent Avocado Orchard/Disturbed):

This habitat is dominated by the non-native agricultural orchard tree with an understory of non-native herbaceous annuals. Both the commercial plantings and the non-native herbaceous annuals occur on a range of soil types and slope aspects, Avocado trees dominate the upper canopy with non-native annual herbaceous species in the understory.

Dominant species observed onsite include avocado, blessed milkthistle (*Silybum marianum),* fennel (*Foeniculum vulgare*), tocalote (*Centaurea melitensis*), and summer mustard. The overall vegetative coverage observed within this community onsite is approximately 50%.

***Persea americana* Orchard- *Malosma laurina* Shrubland Alliance** (Senescent avocado orchard –sumac scrub):

The Laurel Sumac (*Malosma laurina*) Scrub habitat is a representative of Shrubland habitat, while the Senescent Avocado Orchard habitat is not. This co-dominant habitat includes a senescent avocado orchard no longer part of an active agricultural orchard interspersed with emergent native Shrubland dominated by laurel sumac. While the commercial plantings can occur on a range of soil types and slope aspects, species found within the laurel sumac scrub prefer shallow and fine textured soils found at elevation below 1,300 feet.

Associate species observed in the area include blue elderberry and coyote brush. The overall vegetative coverage observed for this community onsite is approximately 90% (Figure 5, Photos 5 and 7).

Non-Native Annual Herbaceous Stand (Nonnative annual herbaceous):
This habitat is dominated by non-native annual herbaceous and grassy species. This habitat, also sometimes described as ruderal, is representative of areas of high disturbance or anthropogenic interaction and has a wide range of elevations and soils. Dominant species observed onsite include summer mustard, milk thistle, fennel, tocalote, and brome grass species interspersed with native emergent species preferential to disturbed or open areas. The overall vegetative coverage observed for this community onsite is approximately 85% (Figure 6, Photo 11).

Soils Descriptions

Soils mapped within the project site are based on USDA Natural Resources Conservation Service (NRCS) and include predominantly silty to gravelly clay loams (Figure 3).

Castaic-Balcom complex (CfF2)**,** 30 to 50 percent slopes eroded – Castaic unit typical profile has the top 26 inches with silty clay loam underlain by weathered bedrock between 26 – 30 inches. Parent material is residuum weathered from sedimentary rock. This soil type is well-drained, with a low available water capacity, non-saline and a 10% maximum calcium carbonate content. Balcom unit typical profile has the top 23 inches with loam underlain by weathered bedrock between 23-27 inches. Parent material is residuum weathered from sedimentary rock. This soil type is well-drained, with a low available water capacity, non-saline and a 10% maximum calcium carbonate content.

Rincon silty clay loam (RcD2), 9 to 15 percent slopes, eroded – Typical profile has the top 12 inches with silty clay loam underlain by sandy clay to stratified sandy loam/sandy clay loam between 12 – 60 inches. Parent material is alluvium derived from sedimentary rock. This soil is well-drained with a high water capacity.

San Benito clay loam (ScE2), 9 to 15 percent slopes, eroded – Typical profile has the top 60 inches with clay loam underlain by weathered bedrock up to 64 inches. Parent material is residuum weathered from calcareous shale. This soil is well-drained with a high water capacity, nonsaline and a maximum content of 5% calcium carbonate.

San Benito clay loam (ScG), 50 to 75 percent slopes – Typical profile, parent material and properties of the soil is analogous to San Benito clay loam (ScE2)

Soper gravelly loam (SvF2), 30 to 50 percent slopes, eroded – Typical profile has the top 11 inches with gravelly loam underlain by very gravelly clay loam to weathered bedrock between 11 – 44 inches. Parent material is residuum weathered from conglomerate and/or residuum weathered from sandstone. This soil type is well-drained, with a low available water capacity.

Sorrento loam (SwC), 2 to 9 percent slopes – Typical profile has the loam present up to 60 inches. Parent material is alluvium derived from sedimentary rock. The soil type is

well-drained, with a high available water capacity, non-saline, and a maximum content of 10% calcium carbonate.

SFVS OCCURRENCE POTENTIAL

Determination of potential for the San Fernando Valley spineflower to occur was based on six criteria: (1) presence of preferred habitat (California sagebrush scrub or California annual grassland habitats); (2) quality and percent cover of preferred habitat (open or low density coverage); (3) historic land use practices; (4) suitable climatic conditions (hot, dry, arid); (5) presence of soils known to occur at SFVS sites (such as Castaic-Balcom silty clay loam) that are sufficiently shallow; and (6) slope aspect (generally south-facing shallow to moderate slopes). All survey areas within the development site and offsite fill areas were mapped for vegetation occurrence and soils to initially determine the possibility for occurrence per the following ranking:

1. Areas with high potential for occurrence
2. Areas with moderate potential for occurrence
3. Areas with low potential for occurrence
4. Areas were occurrence is not expected

Those areas initially determined were then compared to additional species specific habitat characteristics, namely open areas at scrub grassland interfaces associated with shallow soils and suitable climatic conditions and land use practices, to determine actual potential for occurrence. Requirements for occurrence were weighted using the above criteria with the first being the most important for potential to occur and decreasing down the list. Areas lacking any one of the top three requirements are considered to be locations where occurrence is not expected. To be considered an area with high potential for occurrence, all criteria would need to be met as such a location would presumably be occupied. Areas with a moderate potential would need to meet the first 5 of the 6 criteria. Areas with a low potential for occurrence includes those that meet the first four criteria, but not the last two.

It is noted that these criteria to some extent are interdependent. Shallow soils tend to have little vegetation cover, while south-facing slopes are more arid and likely to contain scrub associations in this region. Nonetheless, these conditions are present at the two known existing populations, while the plant is not known to be present in other areas of southern California that have very similar conditions.

CONCLUSION

A key criteria for consideration of potential occurrence at the site is climatic factors. The project site and the adjacent fill canyons lie within an area that has a considerable marine influence. The current known populations 25 to 27 miles inland to the east are within the Sunset Climatic Zone 18 (Editors of Sunset Books 2007), which is defined as an inland climate with only a low 15% marine influence. These sites and most of the known historic locations are inland locations that are much hotter and dryer than the study area.

Other key criteria were open scrub/grassland habitat with shallow soils. Prospective areas that contain California sagebrush scrub habitat and the preferred soil type lacked open vegetative cover (Figure 6, Photo 12). Throughout the study area, the California sagebrush scrub habitat was too mature and dense to support SFVS. The south-facing slopes within the project site were dominated by active or senescent avocado orchards with dense canopy coverage or in areas of more open vegetative coverage, tended to contain steep slopes (greater than 20% slope). Preferred soils were mapped within the project site but the thin, mineralized soils at exposed formation contacts preferred by SFVS were not observed except on steep slopes greater than 20%. In addition, the entire residential development site was once an actively maintained and irrigated avocado orchard, a land use practice that would likely have eliminated any SFVS if it had been present. Also, most of the proposed Fill Site canyons were historically cleared in preparation for avocado orchards (aerial photograph of 1978). It is noted that the currently known populations of SFVS are where the primary agricultural practice has been grazing, with some of the plants found along the compacted dirt roads and plowed areas immediately adjacent to the more suitable open scrub/grassland habitat.

While some open areas with suitable soils are present at the site, the general climatic factors likely preclude SFVS occurrence. Sapphos (2001) noted that other *Chorizanthe* species are commonly found with SFVS, in particular the common plant Turkish rugging (*C. staticoides*). The previously conducted protocol rare plant surveys (Rincon Consultants 2008) for the site found no occurrence of SFVS, other *Chorizanthe parryii* subspecies, or any other *Chorizanthe* species. Similarly, prior floristic surveys of immediately adjacent areas (Rincon Consultants August 2003, October 2005, and August 2006) also did not record these plants. Of the 55 plant occurrence data listed for *C. staticoides* in the Ventura County region by the Consortium of California Herbaria, none are within 5 miles of the site, with the nearest locations all within dryer climatic zones. Sapphos (2001) reported on over 100 region wide plant surveys that lacked SFVS, including approximately 20 containing climatic factors similar to the site. Additionally, the study area has known historical disturbances that severely limit the potential for rare plant survival. Therefore, no areas within the study area are deemed likely to have the potential for occurrence of the SFVS.

RECOMMENDATION

It is Rincon's professional biological opinion that no additional focused rare plant surveys are needed to determine presence of the SFVS within the currently proposed project boundary. This recommendation is based on the general climatic conditions of the site, historic disturbances, general lack of appropriate habitat, and lack of presence of *Chorizanthe* species conducted at the site and in other field surveys in the site vicinity.

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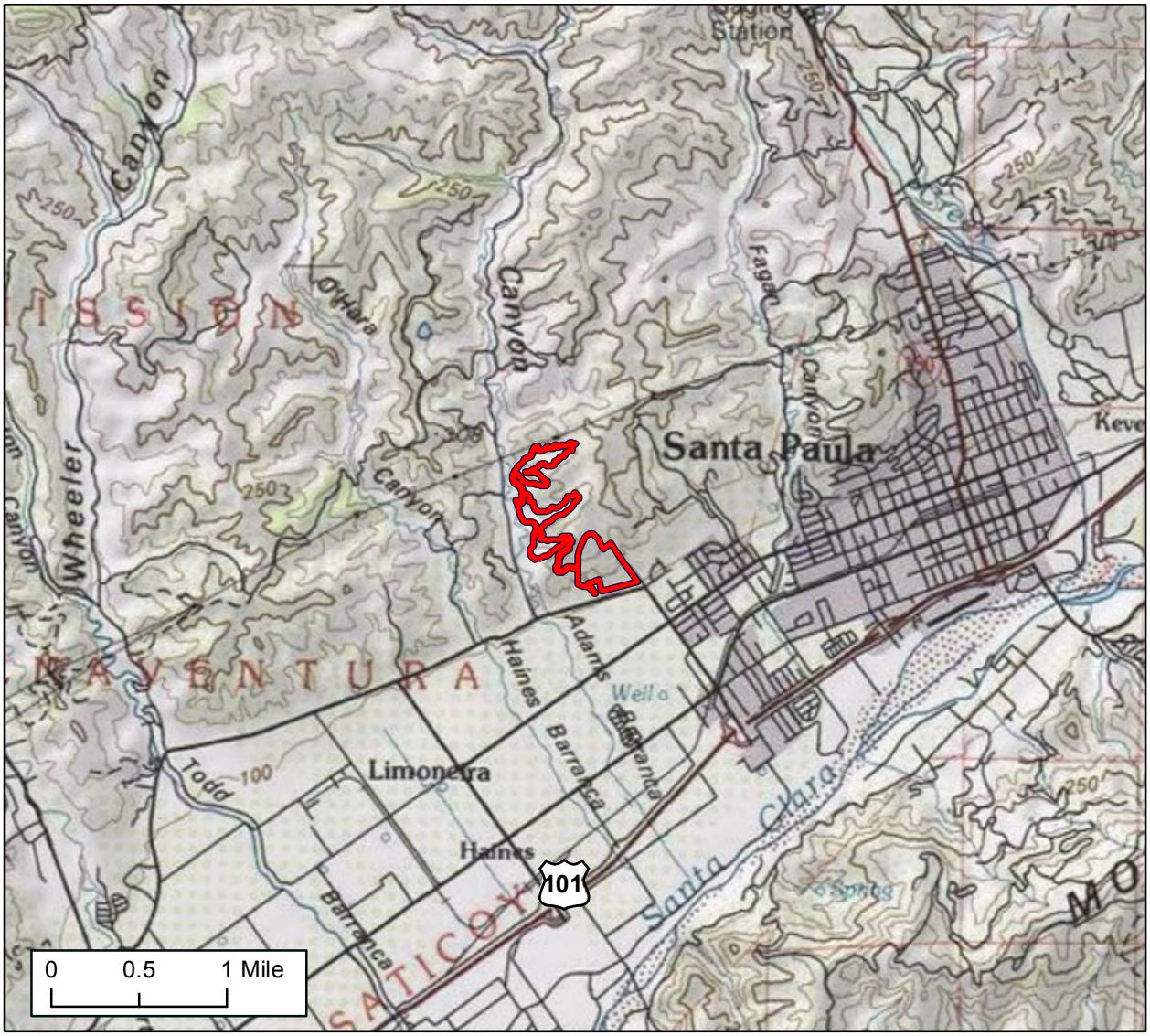
Thank you for the opportunity to provide biological consulting services for this project. If you have any questions regarding this submittal, please call the undersigned at (805) 644-4455.

Sincerely,
RINCON CONSULTANTS, INC.

Cher Batchelor
Senior Biologist/Project Manager

John Dreher, Jr.
Principal Biologist

Attachments: *Figure 1 – Vicinity Map*
Figure 2 – Habitat Map
Figure 3 – Soils Map
Figures 4, 5, & 6 – Photo Plates



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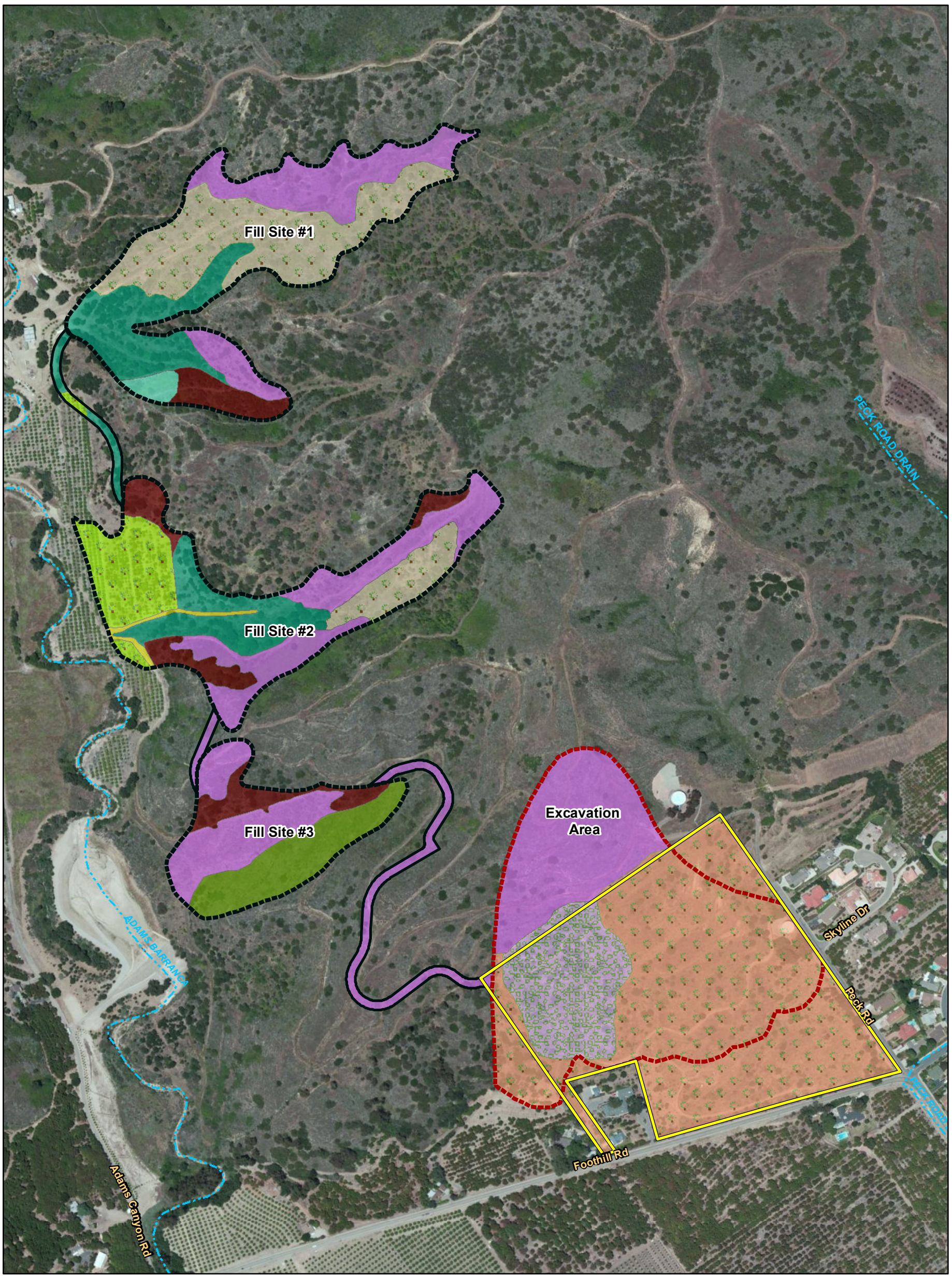
Project Boundary

Project Location

N

Project Vicinity

Figure 1



Bing Maps Aerial: (c) 2010 Microsoft Corporation and its data suppliers.
Additional data layers from U.S. Census Bureau, 2009.

Project Area
Fill Site
Slide Area

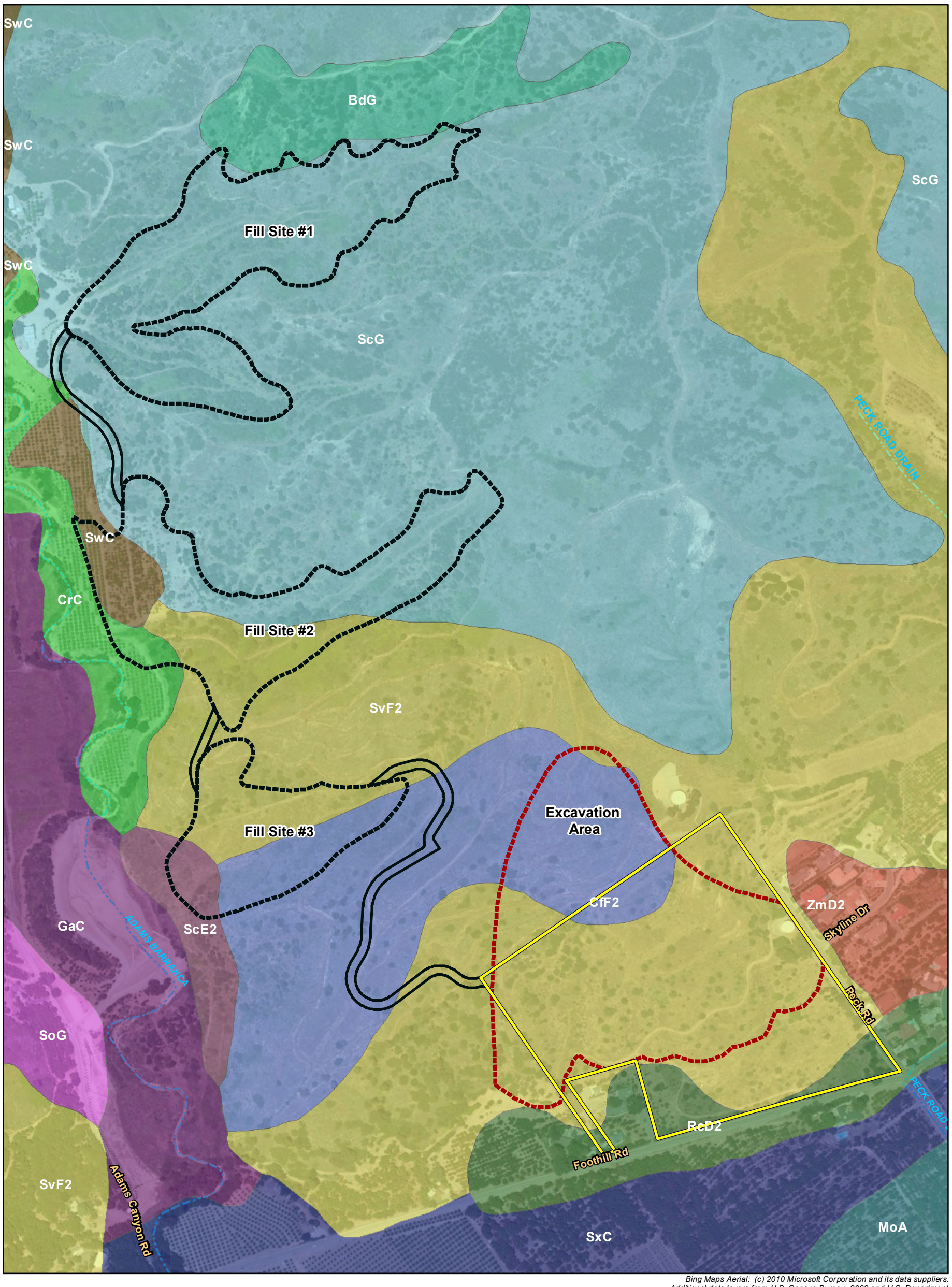
Habitat Type
- Avocado Orchard
- Senescent Avocado Orchard - Sumac Scrub
- Senescent Avocado Orchard/Disturbed
- Coast Live Oak Woodland
- California Sagebrush - Purple Sage Scrub
- Coast Prickly-Pear - Pepper Tree Scrub
- Coyote Brush - Purple Sage Scrub
- Disturbed/Road
- Nonnative Annual Herbaceous
- Sumac Scrub

0 220 440 Feet

N

Habitat Map

Figure 2



Bing Maps Aerial: (c) 2010 Microsoft Corporation and its data suppliers. Additional data layers from U.S. Census Bureau, 2009 and U.S. Department of Agriculture, Natural Resources Conservation Service.

Project Area
Fill Site
Slide Area

Soil Type

- BdG - BADLAND
- CfF2 - CASTAIC-BALCOM COMPLEX, 30 TO 50 PERCENT SLOPES, ERODED
- CrC - CORTINA STONY SANDY LOAM, 2 TO 9 PERCENT SLOPES
- GaC - GARRETSON LOAM, 2 TO 9 PERCENT SLOPES
- MoA - MOCHO LOAM, 0 TO 2 PERCENT SLOPES
- RcD2 - RINCON SILTY CLAY LOAM, 9 TO 15 PERCENT SLOPES, ERODED
- ScE2 - SAN BENITO CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- ScG - SAN BENITO CLAY LOAM, 50 TO 75 PERCENT SLOPES
- SoG - SESPE CLAY LOAM, 50 TO 75 PERCENT SLOPES
- SvF2 - SOPER GRAVELLY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- SwC - SORRENTO LOAM, 2 TO 9 PERCENT SLOPES
- SxC - SORRENTO SILTY CLAY LOAM, 2 TO 9 PERCENT SLOPES
- ZmD2 - ZAMORA LOAM, 9 TO 15 PERCENT SLOPES, ERODED

N

0 220 440 Feet

Soil Map

Figure 3

Photo 1. View of western section of project site TT 5475 looking north.

Photo 2. View of Fill Site 2 looking east.

Photo 4. View of recently cleared section of TT 5475 looking northwest.

Photo 4. View of TT 5475 looking towards southern extent of the project site. Active orchard in background outside project boundary.

Photo Plate 1

Figure 4

Photo 5. View of senescent avocado orchard – sumac scrub in canyon associated with Fill Site 2, looking east.

Photo 6. View of laurel sumac scrub habitat and emergent California black walnut within canyon associated with Fill Site 3, looking east.

Photo 7. View of senescent avocado orchard – sumac scrub within canyon associated with Fill Site 2, looking northeast.

Photo 8. View laurel sumac scrub habitat within canyon associated with Fill Site 2 looking northeast.

Photo Plate 2

Figure 5

Photo 9. View of senescent avocado orchard – sumac scrub with canyon associated with Fill Site 1 looking east.

Photo 10. View of coyote brush – purple sage scrub in canyon associated with Fill Site 3, looking southeast.

Photo 11. Senescent avocado orchard – sumac scrub and nonnative annual herbaceous habitat in foreground, active avocado orchard in background.

Photo 12. View of California sagebrush – purple sage scrub in canyon associated with Fill Site 2 looking northeast. Note density of vegetative coverage.

Photo Plate 3

Figure 6

Tentative Tract 5475 Fill Sites
Ventura County, California

Delineation of Jurisdictional Waters and Wetlands

Prepared for:

City of Santa Paula
970 East Ventura Street
Santa Paula, CA 93060

Prepared by:

Rincon Consultants, Inc.
790 East Santa Clara Street
Ventura, California 93001

June 2008

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APPENDICES

Appendix A – Regulatory Overview and Definitions

Appendix B – Wetland Determination Data Forms

1.0 INTRODUCTION

Rincon Consultants, Inc. (Rincon) conducted a jurisdictional waters and wetlands delineation for Santa Paula Tentative Tract 5475. The delineation was conducted within three small side canyons, hereinafter referred to as Fill Site 1, Fill Site 2, and Fill Site 3, or collectively as "fill sites." Although the tentative tract map is located in the City of Santa Paula, the fill sites are located in unincorporated Ventura County, California. Specifically, they are proposed to be used for the deposition of fill material excavated from the Anderson property residential development project, Tentative Tract 5475, located to the southeast. The delineation was conducted to determine the location and extent of drainage features within the fill sites that are potentially subject to the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG). In addition, the fill sites lie within the land use regulatory authority of the County of Ventura, and this analysis includes a determination of General Plan Significant Wetland Habitat for the fill sites.

Any proposed development in areas identified as jurisdictional waters may be subject to the permit requirements of the USACE, under Section 404 of the Clean Water Act (CWA), RWQCB, under Section 401 of the Clean Water Act and Porter-Cologne Water Quality Act, a Streambed Alteration Agreement from the CDFG pursuant to Section 1600 et. seq. of the California Fish and Game Code, and a Water Course Permit from the Ventura County Watershed Protection District. Actual jurisdictional areas are determined by the state and federal authorities at the time that permits are requested.

1.1 Project Location

The fill sites are located within Adams Canyon, northwest of the City of Santa Paula (Figure 1). The sites are depicted on the Santa Paula, California, United States Geological Survey (USGS) 7.5-minute topographic map, within the Rancho Ex Mission San Buenaventura Land Grant, Township 3 North, and Range 21 West (Figure 2). The fill sites are specifically located north of Foothill Road and east of Adams Canyon Road. Fill Site 1 is approximately 21.2 acres in size and is located in the northern canyon. Fill Site 2 occupies approximately 18.1 acres and occurs in the central canyon. Fill Site 3 is approximately 10.0 acres and is located in the southern canyon. The haul roads proposed from TT 5475 to the fill sites are generally located in upland areas adjacent to the canyons.

1.2 Project Description

The proposed project consists of depositing excess fill material from the Anderson property development to the south within each of the three fill sites. The hills above the development have been determined to be unstable and therefore the fill must be removed in order to protect the development from potential landslides. The project will also require the creation of haul roads to facilitate the transport of fill material.

2.0 METHODS

Waters and wetlands potentially subject to USACE jurisdiction were delineated in accordance with the USACE's *Wetlands Delineation Manual* (1987), *Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest* (2001), *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2006), and *Jurisdictional Determination Form Instructional Guidebook* (2007). CDFG jurisdiction was delineated in accordance with Section 1602(a) of the California Fish and Game Code. Appendix A contains a discussion of jurisdictional regulations and definitions pertaining to this delineation.

2.1 Literature Review

Prior to the field survey, Rincon reviewed aerial photographs of the site, regional and site specific topographic maps, the *Soil Survey for Ventura County* (Soil Conservation Service, 1970), and other available background information to better characterize the nature and extent of potentially jurisdictional waters and wetlands. The National Wetlands Inventory was also reviewed to determine if any wetlands had been previously documented and mapped on or in the vicinity of the fill sites.

2.2 Field Survey

Rincon biologists Steve Hongola, Carie Wingert, and Julie Broughton, under the direction of Duane Vander Pluym, D.ESE, and John Dreher, Jr., conducted a jurisdictional delineation field survey within the project site on April 1, 2008. All potentially jurisdictional features within the site were inspected to record existing conditions and determine jurisdictional limits. The field survey focused on Fill Sites 1 and 2, which contained the only potentially jurisdictional drainage features. Fill Site 3 does not contain a discernable bed, bank, or channel.

Drainage features, riparian habitat, width measurements, and wetland sample points were mapped using a Magellan Explorist 600 GPS unit and recent aerial photography. Width measurements for USACE jurisdiction were determined based on the lateral extent of the Ordinary High Water Mark (OHWM). CDFG jurisdictional limits were measured laterally from bank to bank at the top of the channel, or to the outer drip-line of associated riparian vegetation, if present. Width measurements were taken at approximately 100-foot intervals or based on changes in drainage width, using a 30-meter tape. Wetland sample points were taken at representative locations to determine the presence/absence of wetland indicators, such as hydrophytic vegetation, hydric soils, and wetland hydrology. Soils data was collected using a shovel and Munsell color chart.

3.0 RESULTS

3.1 Environmental Setting

The fill sites are located within rugged side canyons on the southern fringe of Sulfur Mountain, north of the Santa Clara River, west of Fagan Canyon, and immediately east of Adams Canyon. The canyons slope down from east to west, ranging in elevation from approximately 640 feet above mean sea level (msl) in the northeast to 400 feet above msl in the southwest. The sites contain active avocado and citrus orchards as well as undeveloped open space. Surrounding land use consists of undeveloped open space to the north, south, and east, and agriculture within Adams Canyon to the east.

The region has a Mediterranean climate, with mild, wet winters and warm, dry summers. Typical summertime highs are in the 80s with wintertime temperatures generally in the low 60s. Average annual precipitation in the City of Santa Paula is approximately 15 inches, most of which falls between November and April. Total precipitation for the current year was near average at the time of the field survey.

Two main drainage features, hereinafter referred to as Drainage 1 and Drainage 2, are present within the proposed fill sites. Drainage 1 is located in the northern canyon, Fill Site 1, and has a small tributary feature that connects from the southeast. Drainage 2 is located in the central canyon, Fill Site 2. The southern canyon, Fill Site 3, contains a large, broad upland swale with no discernible bed, bank, or channel features. The haul roads are located in the surrounding upland areas. Discussion of the vegetation, hydrology, and soils characteristics associated with Drainages 1 and 2 is provided below.

3.2 Vegetation

The main channel of Drainage 1 contains a mix of riparian and upland scrub vegetation as well as non-native, ruderal (weedy) species. Common plant species observed include mule fat (*Baccharis salicifolia*), a facultative wetland species (FACW), California sagebrush (*Artemisia californica*), an upland species (UPL), coyote brush (*Baccharis pilularis*) (UPL), milk thistle (*Silybum marianum*) (UPL), black mustard (*Brassica nigra*) (UPL), and non-native grasses such as wild oat (*Avena* sp.) (UPL) and red brome (*Bromus madritensis* ssp. *rubens*) (UPL). The small tributary channel is dominated by ruderal species such as milk thistle and black mustard, but also contains a stand of coast live oak woodland. Dominant species present within this stand include coast live oak (*Quercus agrifolia*) (UPL), California black walnut (*Juglans californica*) (FAC), and laurel sumac (*Malosma laurina*) (UPL).

Drainage 2 is dominated by a large stand of coast live oak trees that qualify as an oak woodland community. This community is located in the western portion of the drainage and contains coast live oak, blue elderberry (*Sambucus mexicana*) (FAC), poison oak (*Toxicodendron diversilobum*) (UPL), and giant wild-rye (*Leymus condensatus*) (FACU). The upper reaches of the channel contain stands of ruderal species such as ripgut brome (*Bromus diandrus*) (UPL) and milk thistle. Scattered natives such as poison oak and giant wild-rye are also present.

Overall, the stands of mule fat scrub within Drainage 1 represent the only areas in which hydrophytic vegetation is dominant, and thus the indicator of this wetland parameter is present. Drainage 2 does not contain any areas dominated by hydrophytic vegetation.

3.3 Hydrology

Drainages 1 and 2 originate in steep hills east of the fill sites and convey storm flows in a general east to west direction. Flows from both drainages connect with the large Adams Canyon drainage to the immediate west. Hydrologic flows from Adams Canyon are eventually conveyed to the Santa Clara River, approximately 2.4 river miles south of the project site. The Santa Clara River flows to the Pacific Ocean, a navigable water.

Hydrology within Drainages 1 and 2 is supplied by precipitation and surface runoff from the surrounding upland areas. Both drainages contained some evidence of flow, including channel incision, scouring, drift deposits, surface cracking, and changes in vegetation. The drainages are considered ephemeral features that convey storm flows during and immediately following rain events, but are not supplied by groundwater. Because of the surrounding agricultural land use the drainages may also receive water from irrigation runoff, although no runoff from this type of source was evident at the time of the field survey.

Drainage 1 contains drainage patterns that are considered a secondary indicator of wetland hydrology. Drainage 2 contains drainage patterns and a small area of surface soil cracks, a primary indicator of wetland hydrology.

3.4 Soils

Based on the United States Department of Agriculture (USDA) Soil Survey for the Ventura Area (1970), the project site contains six soil series mapping units. The site is dominated by San Benito clay loam. Badland, Cortina stony sandy loam, Soper gravelly loam, and Sorrento loam are also present. Drainages 1 and 2 contain mostly San Benito clay loam soils. Drainage 2 also contains Soper gravelly loam and Cortina stony sandy loam. Table 1, below, provides a summary of each soil series mapping unit. Figure 3 depicts the mapped soil series units within the project site.

Table 1: Summary of USDA Soil Descriptions

Mapping Unit		Percent Slope	Soil Series Drainage, Type, and Source	Soil Color Name	Munsell Soil Color
Unit Name	Unit				
San Benito clay loam	ScG	50 - 75%, eroded	Well-drained, clay loam. Surface runoff is very rapid and erosion hazard is very severe. Very steep soil of the uplands.	Dark grayish brown Very dark grayish brown Very dark gray Light yellowish-brown Yellowish brown	10YR 4/2 10YR 3/2 10YR 3/1 10YR 6/4 10YR 5/4
Badland	BdG	N/A	Very steep, severely eroded areas broken by numerous, deeply entrenched drainage channels. Surface runoff is very rapid and erosion hazard is very severe.	N/A	N/A
Castaic-Balcom complex	CfF2	30 - 50%, eroded	The Castaic series consists of well drained silty-clay loams with moderately slow permeability. The Balcom series consists of well-drained calcareous loams with moderate permeability. Surface runoff is rapid and erosion hazard is severe.	Light brownish-gray Grayish-brown Pale brown	10YR 6/2 10YR 5/2 10YR 6/3
Cortina stony sandy loam	CrC	2 - 9%	Somewhat excessively drained, stony loam. Permeability is rapid, surface runoff is slow and erosion hazard is slight. Gently sloping to moderately sloping soil of the alluvial fans and valley floors.	Grayish-brown Dark brown Brown Very pale brown Pale brown	10YR 5/2 10YR 4/3 10YR 5/3 10YR 7/3 10YR 6/3
Soper gravelly loam	SvF2	30 - 50% eroded	Well-drained gravelly loam. Permeability is moderately slow. Surface runoff is rapid and erosion hazard is severe. Steep soil of the uplands.	Grayish-brown Dark grayish brown Very dark grayish brown Dark-brown Dark-brown (moist) Brown Strong-brown Strong-brown (moist)	10YR 5/2 10YR 4/2 10YR 3/2 7.5YR 4/4 7.5YR 3/4 7.5YR 5/4 7.6YR 5/6 7.5YR 4/6
Sorrento loam	SwC	2-9%	Well-drained loam. Surface runoff is medium and erosion hazard is slight. Gently sloping to moderately sloping soil of the alluvial fans.	Grayish-brown Very dark grayish brown Dark grayish brown Light brownish-gray	2.5YR 5/2 2.5YR 3/2 2.5YR 4/2 10YR 6/2

Of the six soil series present, Cortina stony sandy loam is listed as hydric on the Natural Resources Conservation Service (NRCS) Hydric Soils List. However, based on soil pit data from the field survey, no hydric soils indicators are present within Drainages 1 or 2. The mapping limits of Cortina stony sandy loam correspond with the large Adams Canyon drainage, but this drainage does not extend into the project site.

Representative soil pits were dug in areas where indicators of the other wetland parameters were present (Appendix B). The sampled soils contained matrix colors of 10YR 3/2 and 10YR 2/2 with no redox concentrations, depletions, or organic streaking. Therefore, hydric soils are absent from the site.

4.0 JURISDICTIONAL WATERS AND WETLANDS

Based upon the findings of Rincon's jurisdictional delineation, Drainages 1 and 2 will likely be subject to USACE, RWQCB, and CDFG jurisdiction. It should be noted that the regulatory agencies make the final jurisdictional determination. Both drainages contain an OHWM and bed, bank and channel features, as well as stands of riparian vegetation. Although portions of the drainages contain hydrophytic vegetation and indicators of wetland hydrology, no hydric soil are present. Therefore, no wetlands that meet the criteria of the USACE are located within or adjacent to the drainages. Furthermore, no isolated waters of the State are present.

Table 2, below, summarizes the total acreage of jurisdictional waters onsite. Figure 4 depicts the location and extent of jurisdictional waters within the project site. The figure focuses on Fill Sites 1 and 2, which contain the drainages, and excludes Fill Site 3 because this canyon does not contain any potentially jurisdictional drainage features.

Table 2: Jurisdictional Areas

Drainage	USACE/RWQCB Jurisdiction		CDFG Jurisdiction
	Non-wetland Waters Acres (LF)	Wetland Waters Acres	Streambed/Riparian Habitat Acres (LF)
Drainage 1	0.27 (2,764)	0.00	0.60 (2,764)
Drainage 2	0.11 (1,174)	0.00	1.07 (1,174)
Total	0.38 (3,938)	**0.00**	**1.67 (3,938)**

4.1 USACE and RWQCB Jurisdiction

Drainage 1 and its tributary were determined to contain approximately 0.27 acre (2,764 linear feet) subject to USACE and RWQCB jurisdiction within the project site. The feature's OHWM averages 5 feet, ranging in size from 6 feet in its western portion (downstream) to 3 feet in the east (upstream). The small tributary drainage has a consistent OHWM of 3 feet.

Drainage 2 contains approximately 0.11 acre (1,174 linear feet) subject to USACE and RWQCB jurisdiction within the project site. The drainage's OHWM averages 4 feet, ranging from 5 feet downstream to 3 feet upstream.

Significant Nexus Evaluation

Drainages 1 and 2 are not Traditional Navigable Waters (TNWs) or Relatively Permanent Waters (RPWs), therefore a significant nexus evaluation is required to determine USACE jurisdiction (see Appendix A for definitions of these features). The significant nexus evaluation must include consideration of both hydrological and ecological factors associated with the drainages.

Hydrological Factors
Drainages 1 and 2 are ephemeral features that likely convey hydrologic flows during and for a few days following storm events, but are otherwise dry for extended periods. However, both features contain physical characteristics of flow, including channel incision, scouring, drift deposits, surface cracking, and changes in vegetation. Stream gauge data for Drainages 1 and 2 is not available.

Drainages 1 and 2 flow directly into the Adams Canyon drainage, which is an intermittent feature that flows seasonally and is thus considered an RPW. The Adams Canyon drainage connects with the Santa Clara River approximately 2.4 river miles southeast of the site. The Santa Clara River, in turn, flows for approximately 12.6 miles from its confluence with the Adams Canyon drainage to the Pacific Ocean (TNW). Therefore, Drainages 1 and 2 are three orders removed and approximately 15 river miles away from the nearest TNW.

The project site is located within the Sulfur Springs Hydrologic Sub-Area (HSA) of the Santa Paula Hydrologic Area (HA). The watershed area of the Santa Paula HA is approximately 66,041 acres. Drainages 1 and 2 have an associated watershed of approximately 150 acres based on a review of topographic maps. The average rainfall in Santa Paula is approximately 15 inches per year.

Ecological Factors
The hillsides surrounding Drainages 1 and 2 have been subject to agricultural practices for decades. As a result, there is potential for the features to transport agricultural-related pollutants downstream to the Adams Canyon drainage and eventually the Santa Clara River, affecting water quality. Furthermore, portions of the hillsides have been denuded and eroded, thus it is reasonable to conclude that the drainages would also transport sediment downstream.

Drainages 1 and 2 contain stands of mule fat scrub and coast live oak woodland that have value as riparian habitat. Both of these community types provide habitat for plants and wildlife that occur in downstream RPWs, including the Adams Canyon drainage and the Santa Clara River. However, given that the nearest TNW is the Pacific Ocean, the drainages do not support aquatic habitat types that would be associated with this TNW.

Significant Nexus Determination
Drainages 1 and 2 contain physical evidence of flow, are located immediately upstream from an RPW, have the capacity to transport pollutants and sediment, and contain stands of riparian habitat that could support the biota of downstream RPWs. Although the drainages comprise only a small portion of the Santa Paula HA watershed, they are located in an area that conveys precipitation directly into the Adams Canyon drainage, then the Santa Clara River, and eventually the Pacific Ocean. Therefore, given these factors it is reasonable to conclude that the drainages have a significant nexus with a TNW, and are thereby jurisdictional.

The USACE and EPA make the final significant nexus determination.

4.2 CDFG Jurisdiction

Drainage 1 contains approximately 0.60 acre (2,764 linear feet) of bed, bank, and channel and associated riparian habitat subject to CDFG jurisdiction within the project site. The average width of the drainage, measured laterally from the top of the bank, is approximately 10 feet and ranges from 8 feet upstream to 12 feet downstream. The small tributary drainage contains an average bank-to-bank width of 8 feet.

Drainage 2 contains approximately 1.07 acres (1,174 linear feet) of bed, bank, channel, and riparian habitat subject to CDFG jurisdiction within the project site. The drainage contains large stands of associated coast live oak woodland and the average lateral width of this habitat is approximately 50 feet, ranging from 10 feet to 80 feet.

4.3 County of Ventura Significant Wetland Habitat

The County of Ventura generally designates wetlands on a single parameter basis wherein the presence of just one of the three wetland parameters, hydrophytic vegetation, hydric soils, or wetland hydrology, defines a particular feature as a wetland. The extent of significant wetland habitat typically coincides with the extent of CDFG jurisdiction. As discussed above, Drainage 1 contains approximately 0.60 acre of CDFG jurisdictional area and Drainage 2 contains 1.07 acres subject to CDFG jurisdiction. Therefore, these acreages are also subject to County jurisdiction as significant wetland habitat.

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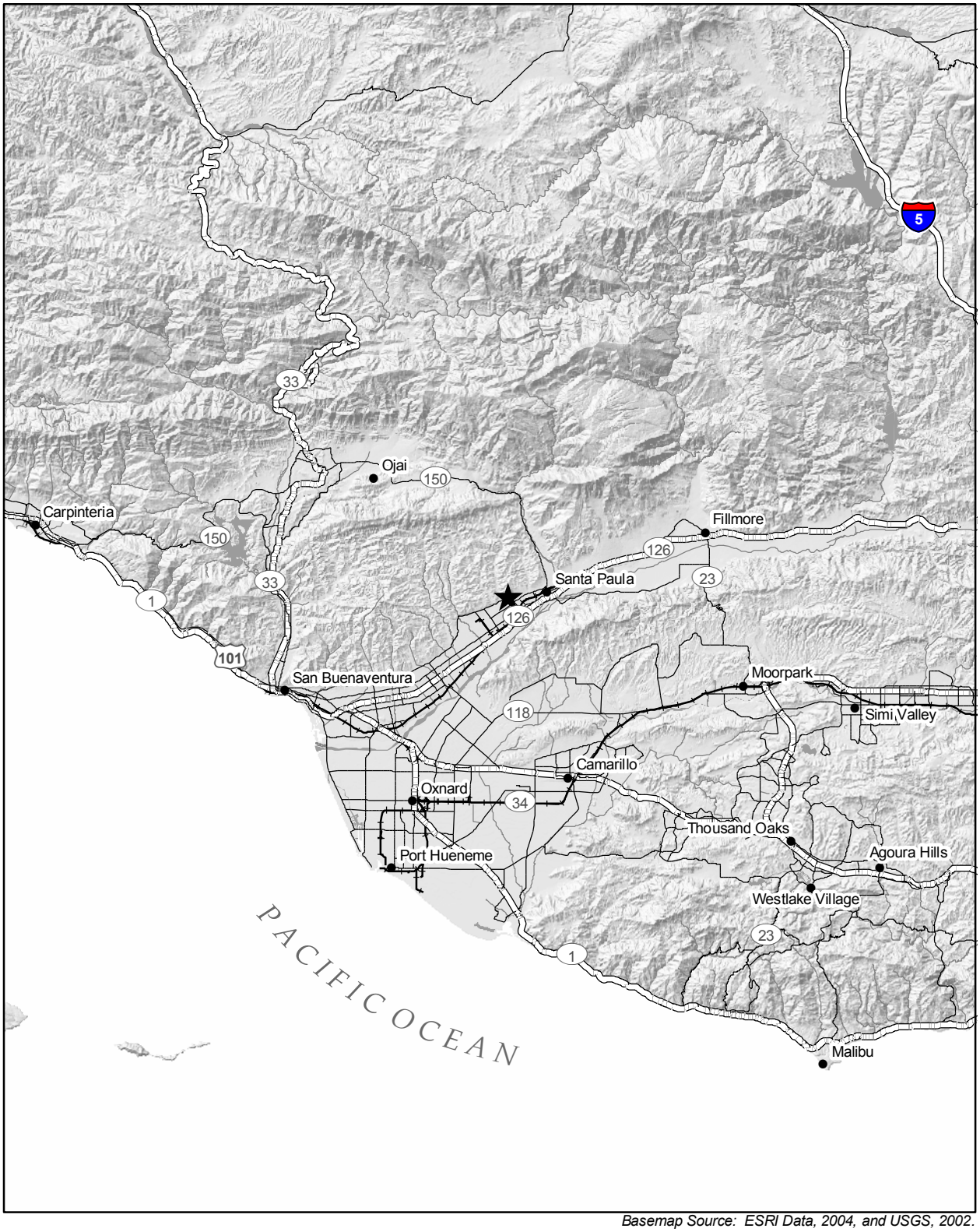


Basemap Source: ESRI Data, 2004, and USGS, 2002.

★ Project Location

N

0 5 10 Miles

Regional Location Map

Figure 1

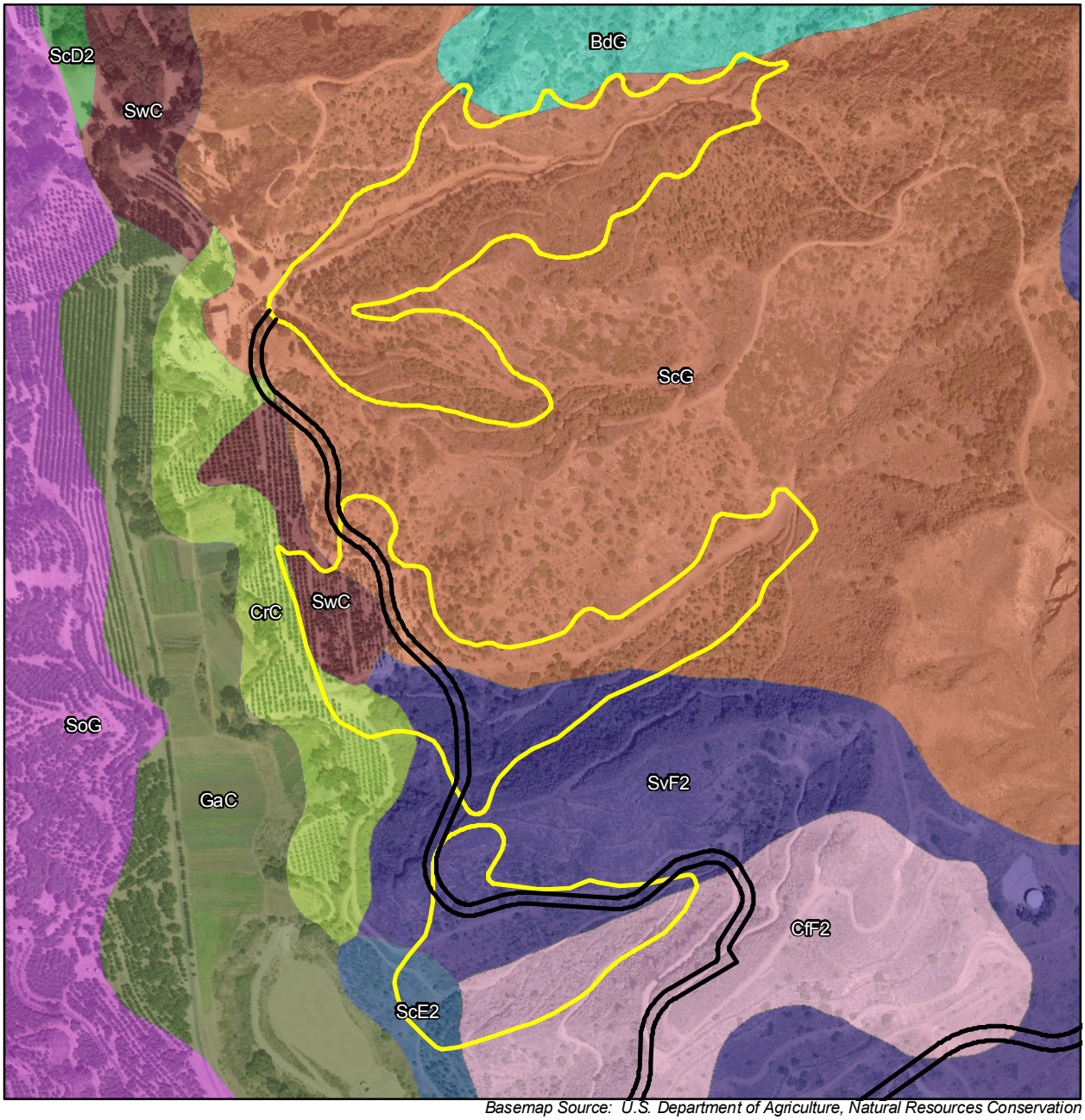
Basemap Source: National Geographic TOPO!, 2004, and Jensen Design & Survey, Inc., March, 2008.

Fill Sites
Haul Road ROW

N
0 500 1,000 Feet

Site Location Map

Figure 2



Basemap Source: U.S. Department of Agriculture, Natural Resources Conservation Service, U.S. Bureau of the Census TIGER 2000 data, and Jensen Design & Survey, Inc., March, 2008.

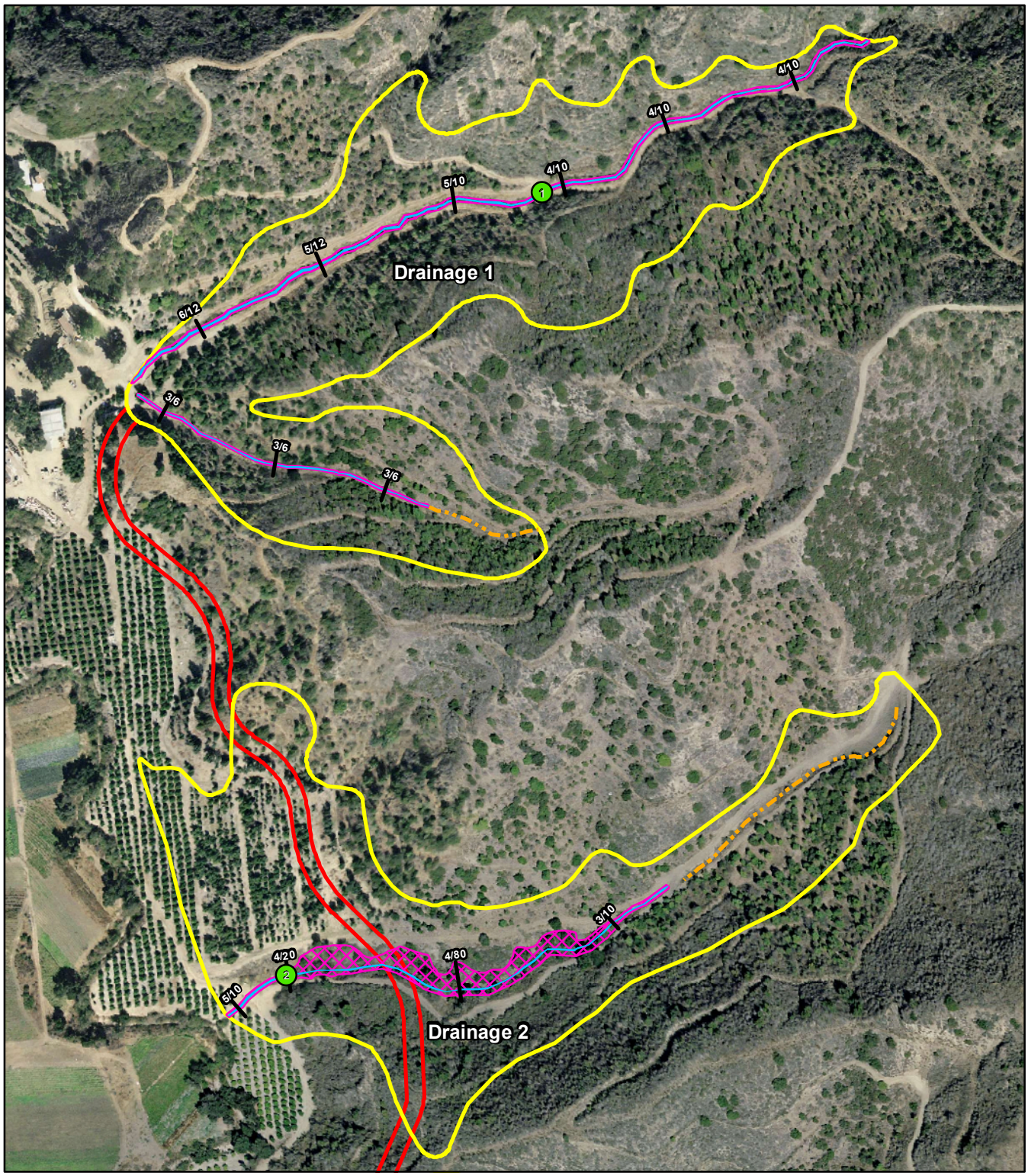
- Haul Road ROW
- Fill Sites
- BdG, BADLAND
- CfF2, CASTAIC-BALCOM COMPLEX, 30 TO 50 PERCENT SLOPES, ERODED
- CrC, CORTINA STONY SANDY LOAM, 2 TO 9 PERCENT SLOPES
- GaC, GARRETSON LOAM, 2 TO 9 PERCENT SLOPES
- ScD2, SAN BENITO CLAY LOAM, 9 TO 15 PERCENT SLOPES, ERODED
- ScE2, SAN BENITO CLAY LOAM, 15 TO 30 PERCENT SLOPES, ERODED
- ScG, SAN BENITO CLAY LOAM, 50 TO 75 PERCENT SLOPES
- SoG, SESPE CLAY LOAM, 50 TO 75 PERCENT SLOPES
- SvF2, SOPER GRAVELLY LOAM, 30 TO 50 PERCENT SLOPES, ERODED
- SwC, SORRENTO LOAM, 2 TO 9 PERCENT SLOPES

N

0 500 1,000 Feet

USDA Soils Map

Figure 3



Base Map Source: Jensen Design & Survey, Inc., March, 2008. Aerial Source: CIRGIS, October 2004.

Fill Site
USACE/RWQCB Jurisdiction (0.38 Acre)
CDFG Jurisdiction (1.67 Acres)
6/12 USACE & RWQCB/CDFG Width Measurement (Feet)
Haul Road ROW
Wetland Data Point
Upland Swale

N

0 250 500 Feet

Jurisdictional Areas

Figure 4

Photo 1: View of Drainage 1 facing southwest. Upland shrubs and herbs dominant within this reach.

Photo 2: View of small tributary to main channel of Drainage 1. Evidence of an OHWM present beneath herbaceous plant layer.

Photo 3: View of lower reach of Drainage 2. Feature exits oak woodland stand at this point and enters Adams Canyon drainage downstream.

Photo 4: View of upstream portion of Drainage 2. Feature transitions to an upland swale near this point.

Site Photographs

Figure 5

Appendix A

Regulatory Overview and Definitions

USACE Jurisdiction

The USACE, under provisions of Section 404 of the Clean Water Act and USACE implementing regulations, has jurisdiction over the "waters of the United States." "Waters" include all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, seasonal drainage channels, etc.), all impoundments of waters otherwise defined as waters of the U.S., tributaries of waters otherwise defined as waters of the U.S., territorial seas, and wetlands adjacent to waters of the U.S. USACE jurisdictional limits are typically identified by the presence of an Ordinary High Water Mark (OHWM). The OHWM is the line on the shore or banks of a water course established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area. The USACE defines wetlands as containing three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology.

Areas not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds excavated on dry land used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water filled depressions (51 Fed. Reg. 41, 217 1986). In addition, a Supreme Court ruling (SWANCC vs. USACE, January 9, 2001) determined that the USACE exceeded its statutory authority by asserting Clean Water Act jurisdiction over "an abandoned sand and gravel pit in northern Illinois, which provides habitat for migratory birds." Based solely on the use of such waters by migratory birds, the Supreme Court's holding was strictly limited to waters that are "non-navigable, isolated, and intrastate."

The Supreme Court further addressed the extent of the USACE jurisdiction in Rapanos v. U.S. (June 19, 2006). There, a sharply divided Court issued multiple opinions, none of which garnered the support of a majority of Justices. This created substantial uncertainty as to which jurisdictional test should be used. The Ninth Circuit Court of Appeal, which encompasses California, answered this in Northern California River Watch v. City of Healdsburg (August 11, 2006). There, the Court held that Justice Kennedy's opinion in Rapanos provides the controlling rule of law. Under that rule, wetlands or other waters which are not navigable in fact are subject to USACE jurisdiction if they have a "significant nexus" to a navigable-in-fact waterway. As Justice Kennedy explained, whether a significant nexus exists in any given situation will have to be decided on a case-by-case basis, depending on site-specific circumstances.

USACE Headquarters in Washington, D.C. issued substantive guidance on June 5, 2007, to its District Offices as to how to apply these rulings. Based on this guidance, additional quantitative, qualitative, and other physical data is required for the USACE to make a determination of jurisdictional authority. This determination is reviewed by the United States Environmental Protection Agency (EPA).

In accordance with the Rapanos guidance, the USACE will assert jurisdiction over traditional navigable waters (TNWs), non-navigable tributaries of TNWs that are relatively permanent waters (RPWs), and wetlands that directly abut such tributaries. TNWs include all of the

"navigable waters of the U.S.," defined in 33 CFR Part 329 and by pertinent federal court decisions. RPWs convey water flow seasonally, typically for at least 3 months. In addition, non-navigable tributaries that are not relatively permanent (non-RPWs), wetlands adjacent to non-RPWs, and wetlands adjacent to but that do not directly abut a TNW will be found jurisdictional based on a fact-specific analysis that they have a significant nexus with a TNW. The significant nexus evaluation considers the volume, duration, and frequency of water flow in the tributary and the proximity of the tributary to a TNW, as well as the hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands.

RWQCB Jurisdiction

The State Water Resources Control Board (SWRCB) and local RWQCB have jurisdiction over "waters of the State," which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The local RWQCB enforces actions under this general order, and is also responsible for Clean Water Act Section 401 certification determinations over USACE defined jurisdictional waters.

CDFG Jurisdiction

The CDFG has regulatory authority over any work within rivers, streams, and lakes of the State of California (California Fish and Game Code Section 1600 et. seq.) on public, private, and agricultural lands. Water features that are regulated by CDFG include all rivers, streams, or lakes, including man-made watercourses with or without wetlands, if they contain a definable bed and bank and support a fish or wildlife resource.

County Of Ventura Policies

Policies 1.5.2.3 and 1.5.2.4 of the Ventura County General Plan concern the location of discretionary development near wetland habitat, generally defined under Policy 1.5.2.3 as "marsh, small wash, intermittent lake, intermittent stream, spring, or perennial stream (as identified on the latest USGS 7.5 minute quad map)." However, not all wetland habitats that meet this general definition are automatically regulated; both policies require evaluation and recommendation by a qualified biologist as to the significance of the wetland habitat. Once determined significant, the biologist is also assigned the task of determining the appropriate buffer distance from the edge of the wetland, which is to be based on "soil type, slope stability, drainage patterns, presence or absence of endangered, threatened or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area." The County's basic wetland determination is similar to that used by the federal and state agencies; however, it differs in that areas that are not subject to USACE or CDFG jurisdiction may nonetheless be considered important if they contain wetland habitat. This mostly extends the definition to include man-made ponds and reservoirs that have developed suitable wetland habitat and to vernal pool or wet meadow areas that fall outside of these two agencies

jurisdictions. It should be noted, however, that such wetland areas can be within the jurisdiction of the RWQCB also as such may constitute "waters of the state" under the Porter-Cologne Water Quality Control Act.

Wetlands

The USACE defines wetlands as containing three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USFWS published the *National List of Plant Species That Occur In Wetlands* (1988, revised 1997), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- Obligate Wetland (OBL). Occur almost always (estimated probability >99%) under natural conditions in wetlands.
- Facultative Wetland (FACW). Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
- Facultative (FAC). Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
- Facultative Upland (FACU). Usually occur in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).
- Obligate Upland (UPL). May occur in wetlands in another region, but occur almost always (estimated probability >99%) under natural conditions in non-wetlands in the region specified.

The Corps considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the USFWS list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5% vegetative cover to be considered as a vegetated wetland.

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, or saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying, which indicates reducing conditions by a blue-grey color, or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Appendix B

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Tentative Tract 5475 Fill Sites City/County: Santa Paula / Ventura Sampling Date: 4/1/08

Applicant/Owner: City of Santa Paula State: CA Sampling Point: 1

Investigator(s): S. Hongola, J. Broughton, C. Wingert Section, Township, Range: REMSB Land Grant, T3N, R21W

Landform (hillslope, terrace, etc.): Canyon Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): C - Mediterranean California Lat: 34.359326 Long: -119.101741 Datum: NAD-83

Soil Map Unit Name: San Benito clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◯	No ◉	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks: Sample point located within a drainage feature. Water backs up and ponds against berm at point, as evidenced by wetland hydrology indicators. However, no hydrophytic vegetation or hydric soils are present. Therefore, point not located within a wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	60	Yes	FACW
2. *Encelia farinosa*	10	Yes	UPL
3. *Leymus condensatus*	10	Yes	FACU
4. *Silybum marinum*	10	Yes	UPL
5.			
Total Cover:	90 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	25.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	60	x 2 =	120
FAC species		x 3 =	0
FACU species	10	x 4 =	40
UPL species	20	x 5 =	100
Column Totals:	90 (A)		260 (B)

Prevalence Index = B/A = 2.89

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks: Sample point located in stand of mule fat scrub with intermixed upland shrubs, grasses, and weeds. Hydrophytic vegetation not dominant, indicator absent.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0 - 14	10YR 2/2	100	none				Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ●

Remarks: Soils dark but no redox features are present. Therefore, No hydric soils indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ●	Depth (inches):
Water Table Present?	Yes ○	No ●	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ●	Depth (inches):

Wetland Hydrology Present? Yes ● No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Surface soil cracks present, likely resulting from water backing up and ponding against berm. Indicator of wetland hydrology present.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Tentative Tract 5475 Fill Sites City/County: Santa Paula / Ventura Sampling Date: 4/1/08

Applicant/Owner: City of Santa Paula State: CA Sampling Point: 2

Investigator(s): S. Hongola, J. Broughton, C. Wingert Section, Township, Range: REMSB Land Grant, T3N, R21W

Landform (hillslope, terrace, etc.): Canyon Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): C - Mediterranean California Lat: 34.354206 Long: -119.103684 Datum: NAD-83

Soil Map Unit Name: Soper gravelly loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◯	No ◉	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks: Sample point located within oak woodland stand in a drainage feature. Indicators of all three wetland parameters absent; therefore, point not located within a wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus agrifolia*	50	Yes	UPL
2. *Sambucus mexicana*	40	Yes	FAC
3.			
4.			
Total Cover:	90 %		
Sapling/Shrub Stratum			
1. *Encelia californica*	30	Yes	UPL
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Leymus condensatus*	10	Yes	FACU
2. *Marrubium vulgare*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	20 %		
Woody Vine Stratum			
1. *Toxicodendron diversilobum*	30	Yes	UPL
2.			
Total Cover:	30 %		

% Bare Ground in Herb Stratum 10 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	33.3 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	50	x 3 =	150
FACU species	10	x 4 =	40
UPL species	110	x 5 =	550
Column Totals:	170 (A)		740 (B)

Prevalence Index = B/A = 4.35

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks: Sample point located in stand of coast live oak woodland with intermixed shrubs, grasses, and weeds. Hydrophytic vegetation not dominant, indicator absent.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0 - 12	10YR 3/2	100	none				Loamy sand	coarse, rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
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Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ●

Remarks: No hydric soils indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
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- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ●	Depth (inches):
Water Table Present?	Yes ○	No ●	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ●	Depth (inches):

Wetland Hydrology Present? Yes ○ No ●

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators of wetland hydrology present.

Appendix E

NAHC Letter

E-mail Transmission

Number of pages including cover sheet 2

This facsimile transmission and any accompanying documents contain information belonging to the sender who may be confidential and legally privileged. This information is intended only for the use of the individual or entity to which this facsimile transmission was sent as identified below. If you are not the intended recipient, disclosure, copying, distribution of, or action on the information contained in this transmission is strictly prohibited by law.

Date: June 12, 2007
Native American Heritage Commission
915 Capitol Mall, Room 364, Sacramento, California 95814
Telephone: 916-653-4082 - Fax: 916-657-5390
E-mail: gtomei_nahc@pacbell.net

Robert J. Wlodarski
Principal Investigator
M.A./RPA and CCPH Certified
Meets NPS Standards & Guidelines for Archaeology and Historic Preservation
Historical, **E**nvironmental, **A**rchaeological, **R**esearch, **T**eam
8701 Lava Place, West Hills, California 91304-2126
Phone/Fax: 818.340-6676 - E-mail: robanne@ix.netcom.com

Dear Native American Heritage Commission,

I am contacting you regarding the following project: A Phase 1 Archaeological Study for Tentative Tract 5475, a 32.5-acre site located on the northwest corner of Peck Road and Foothill Road, City of Santa Paula, Ventura County. The subject property is located north of Camarillo, south of Ojai, east of San Buenaventura, and west of Castaic, within the City of Santa Paula, Ventura County, California. The project area is depicted on the Santa Paula, California (San Bernardino Baseline and Meridian), 7.5-minute United States Geological Survey (USGS) topographic map (1951 – photorevised 1967) with Township 3 North, Range 21 West within an unsectioned portion of Ex-Mission San Buenaventura (Figure 1).

The 32.5-acre site is located on the northwest corner of Peck Road and Foothill Road. The proposed project involves development of a 32.5-acre site for a fully graded hillside subdivision. The project area is surrounded by agricultural land to the south, undeveloped hillside terrain on the north and west and residential landscape to the east. The project as proposed will include 74 residential graded lots. Public streets would be built to facilitate residential construction according to city standards. Virtually the entire site would be subject to excavation or fill. Two parks are proposed for use by local residents and the public at large. Topographically, the subject property slopes north to south, with upper and lower mesa areas occurring near the northeast and south central portions of the parcel.

Would you please check you're sacred lands files and any other relevant data that you might have regarding this project area. Please let me know if the NAHC has any concerns regarding potentially sensitive cultural resource remains, sacred lands and/or other features that may be of relevance to the implementation of this project. I would appreciate a response as soon as possible.

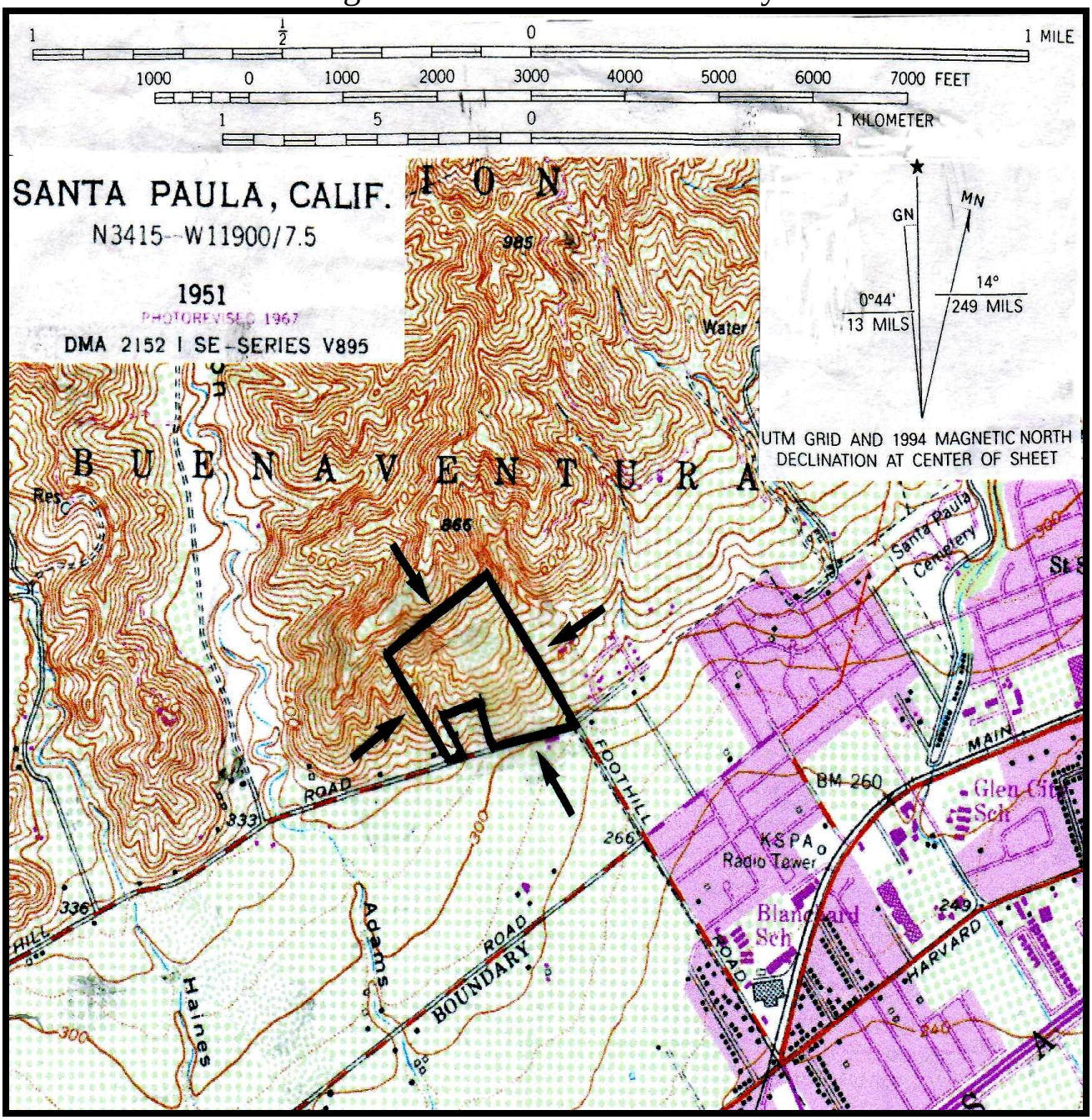
Thank you for your time in this matter.

Sincerely,

Robert J. Wlodarski
Principal Investigator
Historical, Environmental, Archaeological, Research, Team

The project area is depicted on the Santa Paula, California (San Bernardino Baseline and Meridian), 7.5-minute United States Geological Survey (USGS) topographic map (1951 – photorevised 1967) with Township 3 North, Range 21 West within an unsectioned portion of Ex-Mission San Buenaventura (Figure 1

Figure 1: Location of the Survey



Appendix F

Geotechnical Report

RESPONSE TO REVIEW
(DATED JULY 20, 2007)

FOR

TENTATIVE TRACT 5475
SANTA PAULA, CALIFORNIA

VT-23066-04
NOVEMBER 30, 2009

PREPARED FOR
KEITH HAGAMAN

BY

EARTH SYSTEMS
SOUTHERN CALIFORNIA
1731-A WALTER STREET
VENTURA, CALIFORNIA

Earth Systems
Southern California

1731-A Walter Street
Ventura, CA 93003
(805) 642-6727
FAX (805) 642-1325

November 30, 2009

VT-23066-04
09-11-49

Keith Hagaman
12121 Wilshire Boulevard, Suite 959
Los Angeles, California 90025

Project: Tentative Tract 5475
Santa Paula, California
Subject: Response to Review
References:
1. Geotechnical Feasibility Report, Tract 5475, Santa Paula Area of Santa Paula, California. File No. VT-23066-02, Report No. 06-04-38, April 2006, Earth Systems Southern California
2. Feasibility Issues, Tentative Tract Map No. 5475, Santa Paula, California, July 20, 2007, RJR Engineering Group

This letter responds to geological and geotechnical concerns expressed in the referenced Feasibility Issues letter (Reference 2) by RJR Engineering Group) for the proposed construction at the subject property.

If you have any questions concerning this letter, please do not hesitate to contact the undersigned.

Respectfully submitted,

EARTH SYSTEMS SOUTHERN CALIFORNIA

PROFESSIONAL GEOLOGIST
TODD J. TRANBY
NO. 2078
CERTIFIED
ENGINEERING
GEOLOGIST
EXPIRES 11-11
STATE OF CALIFORNIA

Reviewed and Approved

Richard M. Beard

REGISTERED PROFESSIONAL ENGINEER
RICHARD MICHAEL BEARD
GE 128
Exp. 12-31-09
GEOTECHNICAL
STATE OF CALIFORNIA

Todd J. Tranby
Engineering Geologist

Richard M. Beard
Geotechnical Engineer

Copies:
1 - Keith Hagaman
2 - City of Santa Paula; Attention: Janna Minsk
1 - Michael Piszker
1 - Jensen Design & Survey; Attention: Rob Talmadge
1 - Proposal File

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RJR Review (Reference 2)
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Fault Trench Logs (T-1 to T-4)
Site Plan/Geologic Map
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Slope Stability Analyses
Fault Activity Report (Dr. Larry Gurrola)

INTRODUCTION

This letter responds to geological and geotechnical concerns expressed in the referenced Feasibility Issues letter (Reference 2) by RJR Engineering Group) for the proposed construction at the subject property. The numbering of the following responses corresponds to the ordering of the comments in the Feasibility Issues letter.

On August 21, 2007, a meeting with representatives from City of Santa Paula, Rincon Engineering, RJR Engineering Group, and Earth Systems Southern California took place to review the referenced Feasibility Issues letter and to discuss our methodology of addressing geotechnical and geological concerns. The completion of the Response to Review was delayed because of numerous reasons including the time involved in coordinating field studies/review and laboratory testing.

REVIEW COMMENTS AND RESPONSES

1. *The report does not provide a map delineating the overall limits of the landslide. A discussion of how the landslide limits were determined should be provided. These limits should be augmented and supported by field and subsurface exploration. The geologic map should include a north arrow and have all geologic data plotted on the map.*

   The attached Geologic Site Plan supersedes the previously submitted Landslide and Preliminary Grading Map presented in the referenced Geotechnical Feasibility Report. The Geologic Site Plan does not include the overall landslide limits to the west and south of the subject property because these areas could not be accessed for subsurface exploration. An estimation of the landslide limits to the west and south would not be effective by aerial photographs because the older landslide deposits have healed edges at their perimeters making it difficult to detect them on aerial photographs.

   The landslide limits were initially determined for the referenced Geologic Feasibility Report by aerial photograph review. This resulted in the mapping of the active or recent landslide deposits (designated Qlsa on the attached Geologic Site Plan). Subsequently, 9 bucket auger borings were drilled and downhole logged, and 29 test pits were excavated and logged for the referenced Geologic Feasibility Report which indicated older landslide deposits (designated Qlso on the attached Geologic Site Plan) located outside the limits of the active or recent landslide deposits.

   From February 8, 2008 to October 9, 2008, 9 additional bucket auger borings were drilled/logged, 4 additional test pits were excavated/logged, and 4 fault/landslide exploration trenches were excavated/logged at various locations around the subject property to better determine the limits of the previously mapped landsliding and to determine the activity of faulting discovered in several of the borings. The boring logs, test pit logs, and trench logs are attached to this response. The locations of the additional borings, test pits, and trenches are plotted on the attached Geologic Site Plan. The results

of the additional field exploration provide a modified landslide limits for the east side of the project (approximately 250 feet in from the eastern property line), additional depth of landslide information for the west side of the project, and determining that faulting discovered on the northeastern potion of the property is potentially active and will not require any structural setbacks. The field study was performed by Dr. Larry Gurrola. The fault activity was determined by both Dr. Larry Gurrola and Dr. Tom Rockwell (a world renowned expert in aging fault activity). The fault/landslide exploration trenches were observed by Jim O'Tousa with RJR Engineering Group.

2. *Additional subsurface exploration is required to characterize the geologic conditions, landslide geometry, and material properties for purposes of engineering analysis. This will require additional work to further characterize and define the landslide in the southern, eastern and western areas.*

   As previously stated in Response Comment 1, additional field exploration was performed to further characterize the landslide and address faulting.

3. *The Consultant will need to further characterize the shear strengths of the materials underlying the site for the engineering analysis.*

   Samples obtained from the additional subsurface exploration were tested for shear strength, liquid limit, and clay fraction. A drained, torsional ring shear test was performed on a sample of the clayey slide plane materials from boring BA-14 at 62 feet to determine the fully softened peak and residual strength values. Direct shear testing was performed on four additional samples to determine peak and ultimate shear strength values for materials to be exposed in temporary construction backcuts. The results of the testing are attached to this report.

4. *The Consultants will need to perform slope stability analysis for the existing portions of the landslide upslope of the site that will be left in place. How will this impact the project? The slope stability should include pertinent existing and proposed conditions under static and Pseudostatic conditions. Areas where the landslide mass will remain, will need to be evaluated to assess allowable slope deformations, if applicable.*

   There will be no landslide left in-place above the site, therefore we did not perform slope stability calculations for this scenario. All landslide materials will be removed from the slope above the proposed project. Any landslide removed below the proposed finished grade slope contours indicated on the project Civil Engineering plans will be replaced with engineered fill up to the finished contours along with appropriate back drains and/or subdrains.

5. *All temporary excavations and temporary slope conditions shall be identified and engineering analysis performed. This will require additional cross-sections and include the geologic conditions for the area of the temporary excavations. Based on the results of the analysis, potential mitigation measures shall be provided. These recommendations should provide any other constraints that will impact the property, off-site properties and*

the proposed mitigation. These temporary excavations may create adverse effects that should be discussed in the EIR.

One cross-section for analyzing temporary stability (Cross-Section D-D') has been created along the western property line through the landslide deposits. The Cross-Section represents a 1:1 (horizontal to vertical) approximately 80-foot high cut through the landslide deposits and into the Saugus Formation bedrock. The proposed houses have been set back from the western property line to provide an approximately 1:1 projection from the western sides of the house foundations through certified fill to native bedrock. The subsurface geometry illustrated in the cross-section was based on the Grading Plan by Jensen Design & Survey, aerial photograph review interpretations, and boring/test pit log data obtained during the field study.

The "across bedding" strengths for landslide deposits used in the slope stability calculations were based on composite peak, ultimate shear strength data obtained by this office from direct shear testing on relatively undisturbed samples taken from within the borings. "Along Bedding" strengths were not used because the strike and dip of the bedrock units and slide planes are to the south (i.e. not out of the proposed cut slope). Density data were based on the results of moisture/density tests.

Cross-Section D-D' was analyzed using the GSTABL7 v.2 program for circular type failures. Analyses were performed for both static stability for Cross-Section D-D'. In each circular analysis, 100 trial failure surfaces were initiated from 10 initiation points near the toe of slope to search for the minimum factors of safety. Circular failures were analyzed using the Bishop Method. Analyses were run for each of the "peak" shear strength values attached to this report. For static conditions, the minimum factor of safety of the slope depicted in Cross Section A-A' for rotational type failures was found to be 1.220 for the composite peak shear strength data and 1.098 for the composite ultimate shear strength data.

Slope stability analyses is also included for a 1.5:1 gradient temporary cut slope. For static conditions, the minimum factor of safety of the slope depicted in Cross Section D-D' for rotational type failures was found to be 1.514 for the composite peak shear strength data and 1.359 for the composite ultimate shear strength data.

Acceptable minimum factors of safety for static temporary slope conditions are typically considered to be 1.15. All factors-of-safety met these minimum values (see attached plots of the slopes showing the failure surfaces and minimum factors of safety). Based on these analyses, deep-seated "gross" failures along the proposed 1:1 temporary construction slope to be located on the west side of the project should not be anticipated.

6. *The Consultant states there will be landslide debris left in place. How will this material impact the existing and proposed conditions? Based on RJR's review, several conditions including but not limited to long term settlement, construction safety, and adverse effects of the development's subsurface water exist that need to be evaluated.*

Some landslide will remain along the western and southern property lines. The landslide deposits will be overlaid with a certified fill. The proposed houses will be setback from the fill over landslide condition so that a 1:1 projection from the foundations to the Saugus Formation bedrock materials will pass through certified fill.

7. *The Consultant will need to evaluate the presence of the fault mapped thru or adjacent to the site. The postulated location of the fault should be shown on the geologic map.*

A zone of faulting was discovered in borings BA-11, -17, and -18. Dr. Tom Rockwell and Dr. Larry Gurrola logged the trench and have concluded that the faulting is potentially active. A potentially active fault shows evidence of surface displacement during Quaternary time (last 1.6 million years) and does not typically require structural setbacks. A letter describing the conclusions of fault trenching was prepared by Dr. Larry Gurrola and is attached to this report. For the zone of potentially active faulting there are no recommended structural setback from the fault zone, but other construction related requirements such as geo-grid layers below the houses that are placed over the fault zone could be required during preparation of future design-level geotechnical engineering reports. The fault/landslide exploration trenches were observed by Jim O'Tousa with RJR Engineering Group.

8. *Depending on the method of removal, engineered fill will be placed on landslide debris. This potential condition is mentioned on Page 8 of the report. Potential settlement and the potential impacts should be evaluated as a part of the project feasibility to ensure that no adverse affects will occur to off-site properties.*

Engineering fill will be placed over landslide materials along the west and south property lines. The final grades on the western side of the project are lower in elevation than the existing grade. Therefore, the surcharge effects of the fill over landslide areas should not create a worse condition than the existing condition. Filling over the landslide deposits along the southern property line will only be required on the western one-third of the southern property line length. No adverse affects from filling over the landslide deposits are anticipated.

9. *The Consultant has not evaluated and assessed the groundwater regime. The Consultant will need to evaluate the groundwater levels across the site. No consideration was given to its impact on the construction phase or removal and recompaction. This mitigation may not be possible. This issue may create adverse impacts that the EIR should address. If dewatering is recommended, any potential adverse affects on off-site property should be evaluated and discussed in the EIR.*

Groundwater was encountered in boring BA-4 at 77 feet, BA-12 at 40 feet (rising to 35.5 feet), and BA-13B at 65 feet. All three of these boring had the groundwater within the landslide deposits. The groundwater appears to be primarily located near the natural drainage on the western portion of the subject property. Other areas of the site where deeper borings were drilled did not encounter groundwater within the landslide deposits or within the underlying Saugus Formation bedrock. As mentioned in the referenced Geotechnical Feasibility Report, dewatering during rough grading and permanent

subdrains may be necessary to mitigate groundwater at and near the natural drainage located on the western portion of the property.

Dewatering that is thought to be limited to the area at and near the natural drainage on the western portion of the site is not anticipated to effect off-site properties.

10. *The limits of removal may require the repositioning of structures based on Page 9 of the report. Therefore the Tentative Map as presented may need to be re-designed. Given the nature of the map, the fact that the horizontal and vertical control is restricted, a better understanding of the boundary conditions, the impacts of grading on off-site properties and utilities is required to demonstrate feasibility.*

    The Tentative Map has been revised to show the house pads on the western portion of the property set back sufficiently to the east from the western property line to accommodate landslide removal depths with anticipated 1:1 temporary back cuts.

11. *The Consultant should provide a basic plan demonstrating how the grading operation will occur on site. Given the topography and site restrictions it is unclear how stockpile can be located on-site, even if the repair is done in sections. Will off-site storage or hauling be required? This may be a significant impact that should be discussed in the EIR.*

    When selected by the owner, the project Contractor will determine how the grading operation will occur. At that time we can review the Contractor's plan of removals and fill placement to determine if there are any geotechnical issues. It is our understanding that offsite fills and stockpiling will be performed during grading as shown on the Off-Site Grading Exhibit by Jensen Design and Survey. Some of the dirt may be used by local projects.

12. *The report should provide a preliminary method for construction that demonstrates how the grading for the landslide removal could be accomplished. Such as removal and export of the upper portions of the slide (unloading of driving force) prior to removing and slide from the toe areas, then during removals of the bottom (toe) of the slide, the location for stockpiling soil without any adverse effects from stockpiling, and the method to control failure(s) from extending offsite.*

    As in Response Comment 11, the contractor will determine his method of landslide removal and fill placement that we will subsequently review for any geotechnical issues. It is anticipated the first phase of grading will be removing the top of the landslide and placing it in an off-site fill. After this is completed, and any other excess materials is similarly removed, remedial removals of the landslide will be initiated. How this will be accomplished hasnot been determined, but it may involve a north-south slot that will be worked from east-to-west or vice-versa. Stockpiling locations are unknown at this time, but any stockpiling location will be reviewed by the project Geotechnical Engineer and Engineering Geologist.

13. *A temporary excavation map and any necessary cross sections should be provided as part of the evaluation and analysis to illustrate the various conditions illustrated above, and how these conditions will be mitigated.*

    As previously mentioned in Comments 11 and 12, the project Contractor (not yet chosen) will determine a plan of grading operation that will be reviewed by the Owners and Consultants for adequacy prior to construction.

14. *Any available previous work for the site or surrounding areas should be included in the report, where applicable.*

    We are not aware of any available previous work for the subject site or surrounding area.

RJR REVIEW

Civil Engineering
Land Planning
Hydrology/Flood Control
Geotechnical Engineering
Geology/Seismic Hazards
Public Works Services
Storm Water Management

July 20, 2007

RINCON CONSULTANTS
790 E. Santa Clara Street
Ventura, California 93001

Attention: Mr. Joe Power, AICP

Subject: **FEASIBILITY ISSUES**
TENTATIVE TRACT MAP NO. 5475
CAMARILLO, CALIFORNIA

Dear Mr. Powers:

RJR Engineering Group (RJR) has prepared this letter in response to our preliminary evaluation and review of the report prepared by Earth System Southern California report entitled: "Geotechnical Feasibility Report for Tract 5475, Santa Paula Area of Ventura County, California"; dated April, 2006.

The cursory reviews performed by Robert Anderson, RCE and James O'Tousa, CEG raise several concerns that the feasibility of the site has not been clearly demonstrated and several outstanding issues will need to be resolved by the Consultant(s) before a further assessment can be made. The intention of the Tentative Tract report should be to demonstrate feasibility for all project phases, identify all potential hazards and provide the necessary mitigation measures or schemes, or indicate over-riding considerations. The details and specifics of the mitigation measures are then evaluated in the EIR, and later addressed by the Consultant. At this time, it is the opinion of RJR that the Consultant has not adequately characterized the landslide limits, depths, and geometry. As well, the report does not identify or adequately characterize several issues. In some cases, the report makes note of the issues but states that the work will be performed at a later date. It is the opinion of RJR that work needs to be performed at this time prior to the EIR, so that the potential impacts and mitigation measures can be fully assessed.

The following outlines the major areas of concern:

1. The report does not provide a map delineating the overall limits of the landslide. A discussion of how the landslide limits were determined should be provided. These limits

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should be augmented and supported by field and subsurface exploration. The geologic map should include a north arrow and have all geologic data plotted on the map;

2. Additional subsurface exploration is required to characterize the geologic conditions, landslide geometry, and material properties for purposes of engineering analysis. This will require additional work to further characterize and the define the landslide in the southern, eastern and western areas;

3. The Consultant will need to further characterize the shear strengths of the materials underlying the site for the engineering analysis;

4. The Consultants will need to perform slope stability analysis for the existing portions of the landslide upslope of the site that will be left in place. How will this impact the project? The slope stability should include pertinent existing and proposed conditions under static and psuedostatic conditions. Areas where the landslide mass will remain, will need to be evaluated to assess allowable slope deformations, if applicable.

5. All temporary excavations and temporary slope conditions shall be identified and engineering analysis performed. This will require additional cross-sections and include the geologic conditions for the area of the temporary excavations. Based on the results of the analysis, potential mitigation measures shall be provided. These recommendations should provide any other constraints that will impact the property, off-site properties and the proposed mitigation. These temporary excavations may create adverse effects that should be discussed in the EIR.

6. The Consultant states there will be landslide debris left in place. How will this material impact the existing and proposed conditions? Based on RJR's review, several conditions including but not limited long term settlement, construction safety, and adverse effects of the development's subsurface water exist that need to be evaluated.

7. The Consultant will need to evaluate the presence of the fault mapped thru or adjacent to the site. The postulated location of the fault should be shown on the geologic map.

8. Depending on the method of removal, engineered fill will be placed on landslide debris. This potential condition is mentioned on Page 8 of the report. Potential settlement and the potential impacts should be evaluated as a part of the project feasibility to ensure that no adverse affects will occur to off-site properties.

9. The Consultant has not evaluated and assessed the groundwater regime. The Consultant will need to evaluate the groundwater levels across the site. No consideration was given to its impact on the construction phase or removal and recompaction. This mitigation may not be possible. This issue may create adverse impacts that the EIR should address. If dewatering is recommended, any potential adverse affects on off-site property should be evaluated and discussed in the EIR.

10. The limits of removal may require the repositioning of structures based on Page 9 of the report. Therefore the Tentative Map as presented may need to be re-designed. Given the nature of the map, the fact that the horizontal and vertical control is restricted, a better understanding of the boundary conditions, the impacts of grading on off-site properties and utilities is required to demonstrate feasibility.

11. The Consultant should provide a basic plan demonstrating how the grading operation will occur on site. Given the topography and site restrictions it is unclear how stockpile can be located on-site, even if the repair is done in sections. Will off-site storage or hauling be required? This may be a significant impact that should be discussed in the EIR.

12. The report should provide a preliminary method for construction that demonstrates the grading for the landslide removal could be accomplished. Such as removal and export of the upper portions of the slide (unloading of driving force) prior to removing any slide from the toe areas, then during removals of the bottom (toe) of the slide, the location for stockpiling soil without any adverse effects from stockpiling, and the method to control failure(s) from extending offsite.

13. A temporary excavation map and any necessary cross sections should be provided as part of the evaluation and analysis to illustrate the various conditions illustrated above, and how these conditions will be mitigated.

14. Any available previous work for the site or surrounding areas should be included in the report, where applicable.

Once these issues have been addressed, RJR can continue in preparation of the feasibility assessment for the EIR. If you have any questions, please do not hesitate to give us a call at (805) 650-5125.

Sincerely,

RJR ENGINEERING GROUP

Robert W. Anderson, N.S.P.E., P.E., JD
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
ROBERT W. ANDERSON
C058383
Exp. 12-31-08
CIVIL
STATE OF CALIFORNIA

BORING LOGS (BA-9 TO BA-18)

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: BA-9
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: February 8, 2008
DRILL RIG: Tri-Valley
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						GW			**PLEISTOCENE ALLUVIUM:** 0.0' to 35.0' Sandy cobbles with little boulders and gravel clasts-supported; moist; moderately loose to very dense; soft matrix; subrounded to rounded cobbles and boulders. Cobbles mostly 6 to 12 in. and boudler to 12 to 30 in. dia.; clasts present fall hazard. Channel deposits.
10									
20									
30									
40									
50									
60									
70									Cave-in at 35 to 40 ft. Geologist lowered downhole but not logged in detail due to falling cobbles and boulders. Bentonite seal placed at 10 ft. Total Depth = 65 ft. No groundwater encountered.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: BA-10
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: 2/11/08
DRILL RIG: Tri-Valley
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0									Plastic Sonotube
5						GW			**SOIL/PLEISTOCENE ALLUVIUM:** Orange-brown slightly sandy gravelly clay with cobbles; very stiff; matrix-supported; moist. At 3.75 feet becomes clast-supported sandy gravelly-cobbles with clay; very dense; moist; massive. At 7 feet - Same as above with few boulders to 18 inches in diameter; subrounded to rounded clasts, very dense.
10			■						
15									At 13 feet - Same as above with moderate calcium carbonate concretion. At 17 feet - Boulders up to 24 inches diameter; moderately loose zone from 17 to 20 feet.
20			■			GW			**PLEISTOCENE ALLUVIUM:** Brown slightly sandy gravel with cobbles and boulders; moderately loose to medium dense matrix.
25									At 24.25 feet - Zones that are weakly cemented. At 26.5 feet - Caving conditions
30			■						
35						GW			**PLEISTOCENE ALLUVIUM:** Slightly orange-brown clayey sandy gravel to cobbles and few to some boulders to 30 inches diameter; subrounded to few rounded clasts; massive clast-supported; moist; very dense to hard; moderately cemented and calcium cemented matrix.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
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PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: BA-10
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: 2/11/08 to 2/13/08
DRILL RIG: Tri-Valley
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40–50			■			GW			**PLEISTOCENE ALLUVIUM:** Slightly orange-brown clayey sandy gravel to cobbles and few to some boulders to 30 inches diameter; subrounded to few rounded clasts; massive clast-supported; moist; very dense to hard; moderately cemented and calcium cemented matrix.
50–70			■						**SAUGUS FORMATION BEDROCK:** Olive clayey siltstone and yellow-brown fine sandstone with some firm to very firm silt; medium dense sand; moist; bedding N76E/26SE; abrupt erosional contact at 51 feet; 1/2 inch to 4 inch beds; few laminae 1/4-1/6 inch thick. At 54.5 N65E/29SE bedding. At 57 feet - N69E/26SE laminae. At 58 feet - N70E/24SE laminae. At 63.75 feet - N74E/30SE bedding. At 65 feet - N71E/29SE laminae.
70–75									Final Depth at 70 feet. No groundwater encountered. Quickly logged from 17 feet to 30 feet because of loose cobbles and boulders.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: BA-11
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: February 8 & 9, 2008
DRILL RIG: Tri-Valley
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0									0-2.5' Plastic Sonotube
						ML			**PLEISTOCENE ALLUVIUM:** Strong orangish brown gravelly sandy silt, very moist to wet, stiff to very stiff.
5						ML			**PLEISTOCENE ALLUVIUM:** Slightly clayey sandy silt, slightly moist to moist, stiff to very stiff. At 5.0' 1-1/2" thick calcium carbonate horizon, disrupted colluvial soil.
10						ML			**PLEISTOCENE ALLUVIUM:** Orangish brown slightly sandy silt, few gravel up to 1/2" in diameter, many krotovina structures and calcium carbonate nodules, slightly moist, very stiff.
15						GM			**PLEISTOCENE ALLUVIUM:** Slightly reddish brown silty very coarse sandy cobbles and gravel, trace boulders up to 1.25' in diameter, mostly 8" to 10" cobble-sized subrounded clasts, clast supported, slightly moist, loose to medium dense.
20						ML SM			**PLEISTOCENE ALLUVIUM:** Olive brown silty and clayey silt, some very fine sands, 1/16" to 3/16" laminae, slightly moist, very stiff. Cased from 0-20' on 2/8/08 for logging on the 2/9/08.
25						SP			**SAUGUS FORMATION:** Pale brown very fine to fine sand, laminated, bedding of N61E/8NW.
30									At 30.0' laminae of N66E/15SW.
						SP			At 30.5' Fault Zone A, 8" wide calcium carbonate cemented zone, N88E/77NW, strike-slip fault.
						SM			**SAUGUS FORMATION:** Slightly gravelly very coarse sand, slightly to moderately cemented, massive, dense to very dense.
35									SAUGUS FORMATION: Laminated 1/8" to 3/16" silty very coarse sand to fine to medium sand, dense to medium dense. At 39.0' 1" to 2" stratified silty fine to medium sand to slightly clayey silty fine to medium sand, slightly moist, medium dense.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: BA-11
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: February 8 & 9, 2008
DRILL RIG: Tri-Valley
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40						SM			Same as above.
45						CL ML			**SAUGUS FORMATION:** Stratified 1/4" to 1/2" thick medium olive brown to slightly reddish brown clay to clayey silt to silt, moist stiff.
50						SM			**SAUGUS FORMATION:** Yellowish brown very coarse sand to medium sand, some minor olive brown silt, laminated 1/8" to 3/16", minor beds 1/2" thick, medium dense to dense, N37W/3SW.
						CL ML			**SAUGUS FORMATION:** Stratified 1/4" to 1/2" thick medium olive brown to slightly reddish brown clay to clayey silt to silt, moist stiff.
55						SM ML			**SAUGUS FORMATION:** Orangish brown to yellowish brown sand, stratified 2" to 4" thick, mixed with clayey silt to silt laminae, medium dense sand and stiff silt, slightly moist.
60						CL ML SM			**SAUGUS FORMATION:** Pale brown to olive brown to yellowish brown clay to clayey silt to very fine silty sand, laminated 1/16" to 3/16", averaging 1/8" laminae. Fault at 60.0', 6" wide fault zone, N71E/75NW. At 62.0' N78E/25NW laminae, fault splay off of zone A into bedding. At 62.5' Fault splay off of zone A, N12E/72W. At 63.25' Fault splay off of zone B, N40E/56SE. At 64.0' Fault gouge in zone B, 6" wide zone, very strongly expressed, polished surfaces, N78E/74NW, caving in along shear planes, slicken lines oriented 31@043, reverse-left lateral fault. At 64.75' N65E/36NW laminae on hanging wall. At 65.0' N74W/29NE Fault splay, 1/4" to 1/2" clay gouge.
65						ML SM			**SAUGUS FORMATION:** Yellowish brown to olive brown clayey silt to very fine silty sand, stratified about 2" thick, 1" to 4" range in thickness, slightly moist, medium dense sand and stiff silts. At 65.25' N83E/59NW Fault zone, 6" wide clay gouge zone. At 65.75' N78W/23NE strata, footwall, Fault, 1/16" wide N78E/54NW, slicken lines and mullions on polished surfaces, left-lateral reverse fault. At 66.75' N62E/8NW, low angle fault splay, 1" to 2" dark olive brown clay gouge, highly plastic, polished surfaces. At 67.0' 1/16" wide clay gouge, N87E/77SE, Fault splay, N72W/32SW 2" sand pipe along fault splay, south-side down displacement. From 66.75' to 68.0' warped and convoluted beds. At 69.5' N52E/26NW planar contact, becomes alternating yellowish brown to olive brown silt and silty very fine sand, laminated 1/16" to 3/16" wide, occasional 1/4" beds. At 73.0' N46E/20NW laminae, moist, medium dense to dense sand to stiff silt. Final Depth: 80.0 feet, Groundwater was not encountered.
70									
75									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: BA-12
PROJECT NAME: Tentative Tract 5375
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: February 7, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0									Plastic Sonotube.
						ML			**SOIL:** Brown to slightly reddish-brown clayey silt; few cobbles up to 9-inch diameter; trace gravel; very stiff to stiff; moist; grades to:
						ML			**SOIL:** Brown clayey silt, very stiff to hard; trace cobbles to 6-inch diameter; moist.
5									At 7 feet - Becomes moderately stiff to firm.
10						SC			**LANDSLIDE DEPOSITS** - Brown clayey fine to medium sands with some silt; massive; medium dense; slightly moist.
15						SM			**LANDSLIDE DEPOSITS** - Abrupt undulatory contact brown and yellowish-brown medium to fine sands and silts; slightly moist; medium dense and firm; occasional disrupted bed. At 16.25 N69W/24NW disrupted beds.
									LANDSLIDE DEPOSITS - Irregular and stepped contact N68W/28NE to very fine silty sand with cobbles and trace boulders with clay pods; slightly moist, massive, medium dense.
						SM			**LANDSLIDE DEPOSITS** - Irregular and wavy contact N44W/12NW to silty very coarse sand with some clay; slightly moist; occasional stepped and broken beds N33W/29NE in a massive matrix.
20						SM			

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 12
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: February 7, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
20									At 21.25' - N17W39NE 6-inch long broken beds. At 21.5' - N77E/19NW discontinuous and broken beds.
						SM			**LANDSLIDE DEPOSITS** - Red-brown silty fine sand with trace boulders and few cobbles and clay pods to 3 to 5-inch diameter; convoluted and broken 1 to 3-inch beds; medium dense to locally loose; slightly moist. Bedding ranges from N52W/10NE to N40W/58NE.
25									At 24' - N8E/21NW 12-inch long broken beds.
						SW			**LANDSLIDE DEPOSITS** - Abrupt irregular contact to yellow-brown silty very coarse to fine sands with some cobbles to 9-inch dia; some broken beds with abrupt terminations at N45W/23NE to N15W/86NE; dense to dense; slightly moist.
30						ML			**LANDSLIDE DEPOSITS** - Massive red-brown to yellow-brown medium sandy silt; pods of olive clay to 3-inch diameter; trace boulders to 16-inch diameter; moist, firm to stiff.
35									Total depth at 40 feet. Groundwater level; initially encountered at 40.0' and subsquently rose to 35.5'. Bentonite seals placed at 10.0' and 20.0'.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 13B
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: March 27, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**FILL** - Brown gravelly sandy silt; very firm to stiff; trace cobbles.
5						SM			**SOIL:** Pale-brown slightly cobbly sitly sand with little gravel and trace boulders to 18 inch diameter; slightly moist; moderately loose to locally medium dense.
10						GW			**LANDSLIDE DEPOSITS:** Sandy gravel-cobbles with few to little boulders to 20 inch diameter; moderately loose to loose; caving from 8 to 10 feet; clast-supported. At 10 feet - Same as above with little silt and clay; medium dense mostly matrix supported.
15									
20						GW			**LANDSLIDE DEPOSITS:** Slightly reddish-brown; medium coarse sandy gravel; cobbles with few boulders to 24 inches diameter. At 19 feet - Same as above but transitions to dense to very dense; moderate calcium carbonate cementation. At 21 feet - Boulder from 21 to 23 feet.
25									At 24.25 feet - Same as above except medium dense and boulders to 18 inch diameter; subangular to subrounded boulders; very weak cementation. At 28 feet - Same as above but becomes dense to very dense; moderate clay and calcium carbonate cementation.
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 13B
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: March 27, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40						ML			**LANDSLIDE DEPOSITS:** Highly undulatory contact to: slightly clayey very fine sandy silt; stiff to very stiff; moist with few little gravel and trace.
45			■			SM			**LANDSLIDE DEPOSITS:** Flat-lying planar contact to: Slightly orange-brown silty sand with pockets of fine gravelly sand. At 46 feet - Grades to medium-coarse sand; moist; medium dense. At 49 feet - Gravelly-cobbly sand moderately loose.
50									
						ML			**LANDSLIDE DEPOSITS:** Pale brown sandy silt; moist; firm to very firm. At 53 feet - Slightly orange-red brown; broken laminae w/ pods of olive clayey silt; slightly gravelly; very coarse sands with few cobbles.
55			■						
						SW			
						SM			**LANDSLIDE DEPOSITS:** Very coarse sand with trace of fine gravel with olive clayey silt pods to 4 inch diameter; subangular to angular pods.
60									**LANDSLIDE DEPOSITS:** Medium brown silty sand; medium dense; becomes medium sand at 65 feet. Attempt to sample at 65 feet but sandy material sloughs out of sample tube.
65									
70									
75									
									SAUGUS FORMATION BEDROCK: Silty sandstone, medium dense to dense.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

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BORING NO: 13B
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: March 27, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
80									**SAUGUS FORMATION BEDROCK:** Silty sandstone, medium dense to dense.
85									
90									Final Depth = 81 feet Groundwater was encountered at 65 feet, no downhole logging was performed below 65 feet.
95									
100									
105									
110									
115									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

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PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 14
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: March 27, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0–7						CL			**SOIL:** Brown clayey sand to sandy clay with trace of fine gravel moderately fine; slightly moist.
7–12						GP			**LANDSLIDE DEPOSITS:** Reddish-brown sandy gravels with little to few cobbles; medium dense to dense; moist, slightly moist.
12–14						SM			**LANDSLIDE DEPOSITS:** Red-brown sandy silt with some gravel and lenses of coarse sand; medium dense sand.
14–19						SW			**LANDSLIDE DEPOSITS:** Slightly gravelly to cobbly coarse sand; moderately loose to medium dense.
19–21						SW			**LANDSLIDE DEPOSITS:** Gravelly coarse sands; moderately loose to medium dense; slightly moist.
21–25						GM			**LANDSLIDE DEPOSITS:** Gravelly coarse sand with horizons or pods sandy silt and clayey silt randomly oriented laminae in pods to 5 inches diameter; slightly moist; medium dense sand matrix. Broken bedding at 23 feet.
25–32						SM			**LANDSLIDE DEPOSITS:** Pale-brown silt; sandy silts and silty sand; occasional broken laminae; medium dense sand and firm silts; slightly moist to moist.
32–35						SP			**LANDSLIDE DEPOSITS:** Gravelly very coarse sands with 3 to 5 inch pods of clayey silt; medium dense to dense sand stiff silt; weakly to moderately centered pods locally moderately loose to loose. At 35 feet, slightly moist to moist.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

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PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 1 4
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: March 27, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40						SP			
45			■			SM			**LANDSLIDE DEPOSITS:** Highly wavy convoluted and abrupted contact to: olive-brown silty sands with pods of brown clayey silt; occasional broken laminae or flare structures; massive. At 46.5 feet - Grades to slighty olive-brown silty sands; massive; moist. At 47.5 feet - Olive brown clay seam approximately 1/4-inch thick; N70W/21SW; slightly polished surface. At 49.75 feet - Highly convoluted flare structures with a 1/16 inches clay seam N73W/14SW polished surfaces.
50						SP			**LANDSLIDE DEPOSITS:** N80W/15SW slightly wavy contact to: brown gravelly sand to sandy gravel with trace cobbles to 3 in diameter massive; medium dense. At 53 feet flat-lying gravel lag in a coarse sand matrix.
55			■			SM			**LANDSLIDE DEPOSITS:** Olive-brown to brown silty fine to medium sand; moist; medium dense sand to locally moderately loose, spaced approximately 1.0 feet to 1.5 feet are subparallel 1/8 inch to 1/4 inch clay seams with polished surfaces, and slicken lines N78W/27SW. At 56.5 feet; moderately; soft plastic. At 58 feet - Very coarse sand with fine gravel medium dense; massive. At 62 feet - P-bag from 1/2 inch clay seam wet; plastic moderately firm - soft; N86W/23SW. Seep along north wall, 2 inch thick coarse to fine sand heaving in and flowing into borehole. At 63.75 feet a 2.5 inch thick sand flowing into hole from north wall of borehole. At 64 feet N65SE/21SE 1/2 inch clay; subparallel clay seam from 64 to 64.25 feet, plastic; wet. At 64.25 silty sand; wet; flowing into hole; not logged or observed below 64.25 feet.
60	■		■						
65	■		■						**SAUGUS FORMATION BEDROCK (?):** Very coarse to coarse sand with trace gravel; observed in cuttings; wet; samples slough out of sampling tube.
70									
75									Total depth at 80 feet Groundwater not encountered, but wet caving soils.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 15
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: March 27, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**SOIL:** Medium gray-brown sandy silt slightly moist; firm; roots to 1/2 inch diameter, grades to:
5						ML			**SOIL:** Slightly sandy silt with pods of dark brown slightly clayey silt and few gravel to cobbles; slightly moist; roots to 1/4 inch, massive.
10 15						SM			**SOIL:** Grades to moderately loose silty fine to coarse sands with some gravel and few cobbles. At 10 feet - Weakly cemented and medium dense to dense. At 14.5 feet - Same as above with horizons or lenses of gravelly silt and clayey silt; flat-lying to randomly oriented firm silts; slightly moist. At 16.5 feet - Scattered cobbles to 6 inches in diameter.
20						SW			**SOIL:** Grades to slightly cobble gravelly sands with pods of olive-brown clayey silt; moist medium dense sands.
25 30						SW/ ML			**SOIL:** Grades to slightly gravelly coarse sands to sandy clayey silt; moist; medium dense; structure - flat-lying to slightly northern dipping. At 29 feet - Juxtaposition of pods of brown clayey silt; olive-brown silty clay and dark brown sandy silt; weak - moderate calcium carbonate lamitation blocking structure.
35						SM/ ML			**LANDSLIDE DEPOSITS:** Olive-brown very fine sandy silts, dark brown silty sands, and olive clayey silts, slightly moist; lenses to block structure.
						GW			**LANDSLIDE DEPOSITS:** Silty very coarse sandy gravel; dense; weak calcuim carbonate cementation; slightly moist; massive.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

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BORING NO: 15
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: March 27, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40						GW			
45, 50						SW			**LANDSLIDE DEPOSITS:** Grades to very coarse to medium sand with clayey silt pods to 4 inches diameter; pods of calcium carbonate; cemented silts and very fine silty sands; massive. At 48 feet - Flat-lying and convoluted silty stringers.
						SP			**LANDSLIDE DEPOSITS:** Slightly gravelly sands olive-brown silts and pods at clayey silt and dark olive clay medium dense to moderately loose sands.
55						ML			**LANDSLIDE DEPOSITS:** Olive-brown clayey silts; fine to coarse sand; orange-brown silty sands; medium clay laminae convoluted with flare structures; discontinuous; firm; moist.
						SW			**LANDSLIDE DEPOSITS:** Very coarse to very fine sand with trace gravel; slightly moist; medium dense; discontinuous laminae. At 57.5 feet very coarse sand laminae N77W/38SW.
60						SM/ ML			**LANDSLIDE DEPOSITS:** Orange-brown silts; olive-brown clayey silts and brown slightly silty fine to coarse sands; very firm silts medium dense to moderately loose sands; slightly moist discontinuous 5 inch to 8 inch laminae and silt stringer; convoluted N13E/51SW.
65						GW			**LANDSLIDE DEPOSITS:** Gravelly-cobbly very coarse sandy; pods of clayey silt with decayed organics; medium dense to dense.
70, 75						SW			**LANDSLIDE DEPOSITS:** Grades to: Slightly gravelly very coarse sand; moist; medium dense with pockets of loose sand; discontinuous silt stringers; flat lying to N51W/13NE, some minor decaying organics. At 72 feet - Flat-lying silt stringers/laminae.
						SM/ ML			**LANDSLIDE DEPOSITS:** Slight wavy contact N62E/5NW to: Brown silts; olive-brown clayey silts and gray-brown medium to fine sand; moist; stiff silts 3 inches to 6 inches long; discontinuous bedding contacts; flare structures; medium dense sands.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 15
PROJECT NAME: Tentatve Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: March 27, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
80						SM/ ML			
						CL			**LANDSLIDE DEPOSITS:** N52E/22SE olive-brown slightly silty clay; thin stringers of pale-brown silt and thin seams at clay with polished surfaces; 1/16 to 1/8 inch thick N73F/28SE at 84 feet.
85	X								**LANDSLIDE DEPOSITS:** N80F/27S slide plane; plastic stiff; moist; slightly sticky; amastomosing polished slicks; 2 to 3 inches thick. At 90.25 feet traction zone - olive-brown clayey silt with thin clay seams 1/8 inch thick with polished surfaces N62E/33SE very firm to stiff clay; stiff silt; moist olive-brown clay. At 91.75 N55E/35SE base of traction zone; clay seam 2 inches thick; plastic; polished surfaces.
90	X					CL			
									SAUGUS FORMATION BEDROCK: Slightly silty sandstone; well graded; moist; caving-in. At 94.5 with some gravel-cobbles loose to moderately loose; observed down to 91.75 feet.
95									
100									
105									Total Depth = 100 feet. No groundwater encountered
110									
115									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: BA-16
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: March 1, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						SM			**LANDSLIDE DEPOSITS:** Dark brown silty fine to medium sand with some cobbles (increasing with depth).
						SM			Light to medium brown slightly clayey silty fine to medium sand.
10			■			SM			Medium brown slightly clayey silty fine sand.
						SM			Reddish brown silty fine sand.
20			■			SM			Light yellowish brown silty fine sand.
						SM			Whitish gray silty fine sand with some subrounded gravel.
						GW			Brown sandy gravel with cobbles, caving.
30						SM			Whitish gray silty fine sand with some subrounded gravel.
						GW			Brown sandy gravel with cobbles, caving.
40									Geologist did not downhole log the boring because of caving soils at various depths within the boring.
50									Total Depth = 41 ft. No groundwater encountered.
60									
70									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: BA-17
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: April 4, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0									Plastic Sonotube.
						ML			**SOIL:** Medium brown slightly clayey sandy silt; pedogenic calcium carbonate cementation; trace sand; stiff; slightly moist.
5									
						SM			**PLEISTOCENE ALLUVIUM:** Brown silts and very fine sand; bedded; 1/4-inch 9-inch thick beds; N90W/19NW beds; moist, very firm to firm silts; medium dense and moderately loose sands; minor pale brown clayey silts; laminated.
10									At 13 feet - N90W/13S beds.
15									At 15.75 feet - Faults; two strands with 1/2 to 1-inch calcium carbonate cemented gouge, southern strand at N83W/77NW rolls over to N87E/73SW at 14.0; northern strand N84W/90.
									At 16 feet - N90E/19NW beds.
						SM			**PLEISTOCENE ALLUVIUM:** Brown silts and very fine sand; laminated up to 1/4-inch thick; N90W/19NW laminae; moist, very firm and medium dense.
20									At 18.5 feet - Faults; 3 in clay gouge, N80E/69NW with north side up offsets; bifurcates upward to 3 splays; N60/990-86NW, N75E/75NW, N77E/65NW at 17.25.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 1 7
PROJECT NAME: 32 Acres
PROJECT NUMBER: VT-23066-02
BORING LOCATION: Surface Elevation = 40 feet

DRILLING DATE: April 4, 2008
DRILL RIG: Terra Firma
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
20						CL			**PLEISTOCENE ALLUVIUM:** Dark brown clay and pale brown clayey silts; laminated with 1/16 to 1/8-inch laminae at N81E/9NW to flat-lying against faults.
						SW			**PLEISTOCENE ALLUVIUM:** At 22.0' Fault; 2.5 inch clay gouge N84W/76NE with north side up offset; fault splay bifurcates up to N70E/68NW and N69W/71SW faults at 20.5'. Gravelly very coarse sands; bedded with 3 to 6 inch beds; dense; slightly moist.
25									At 24 feet - Fault; 2 inch clay gouge; N57W/64SW 3-inch south-side down.
									At 27 feet - Faults; two subparalled splays with 1/8 to 1/2 inch wide clay gouge; N59W/85NE north side up offset.
						SM			**PLEISTOCENE ALLUVIUM:** Alternating gray-brown slightly fine gravelly very coarse sand and yellow-brown medium to fine sands; bedded; 2 to 3 inch beds, medium dense to dense; moist; N83E/15NW.
30									**SAUGUS FORMATION BEDROCK:** Erosional and slightly wavy contact N85W/13NW to olive-brown clayey silts; bedded; 1/4 to 1/2 inch beds; stiff; moist.
									SAUGUS FORMATION BEDROCK: Planar contact N73E/11NW to dark olive-brown clayey silts and pale olive-brown medium to fine sands; 1/8 inch laminae; moist; stiff silts and medium dense sands.
35									**SAUGUS FORMATION BEDROCK:** N72E/12NW planar contact to slightly gravelly very coarse sand; massive; dense; moist.
									At 34.5 Fault; 3 inch wide calcium carbonate cemented gouge, N65W/77NE. Olive-brown clayey silt with minor pale brown very fine sands and pale olive-brown silts; 1/16 to 1/8 inch laminated silts and 1/4 to 1/2 inch bedded sands, N75E/26NW beds, moist, very firm to stiff silts; medium dense to dense sands.
40									Total Depth - 40 ft. No groundwater encountered

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: BA-18
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: April 5, 2008
DRILL RIG: Tri-Valley
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						SM			**ARTIFICIAL FILL:** Dark brown silty sand, some gravel, trace to few cobbles.
						SM			**SOIL:** Dark brown silty sand, some fine gravel, trace to few cobbles, moist, dense.
5						GM			**PLEISTOCENE ALLUVIUM:** Very coarse sandy gravel, some cobbles, loose to medium dense, locally dense. At 10.0' Fault, N75W/67, calcium carbonate cemented gouge.
10						SM			Pale brown silty fine to medium sand, trace coarse sand, minor sandy silt, bedded, soft silt and loose sand.
15						SM			Very coarse to coarse sand, some fine gravel lags, trace to few silt, bedded N81E/11NW. At 16.5' Fault, 2-1/2" wide, N60W/90, At 18.75' N40W/78SW and N63W/80NE fault with 1' offset.
20						SM			Very fine sand to silty sand to slightly fine gravelly very coarse to corse sand, slightly moist, loose to medium dense. At 20.5' : three fault splays, 1/4" to 1/2" spread, 1 fault zone, N58W/72SW, N70W/90, and N30W/65SW.
						SM			At 22.0' 4-1/2" wide fault zone, pale olive brown clay gouge, N70W/58SW. Very coarse to coarse sand, some basal fine gravel lags, erosional basal contact, poor stratification.
25									At 26.75' Fault, 2-1/2" wide clay gouge, N60W/80SW. Pale brown to brown to dark olive brown clayey silt and silty clay, 1/16" to 1/4" laminae, few 1/4" to 1" beds, moist, very stiff.
30						ML CL			At 28.0' Bedding of N85W/10NE, Fault 2" thick of clay gouge, anastomosing splays, splays upward N55W/90, minimum 4" vertical offset, north-side up, N80E/90, conjugate faults in vertical plane. At 29.0' N63E/10NW laminae. At 29.5' N74E/71NW, 1/8" thick clay gouge. At 31.5' Fault, 1/8" thick clay gouge, apparent normal displacement, N60E/69NW. At 32.5' Fault, north-size up, N82W/12NE laminae.
35						SP			Slightly gravelly very corse sand, some fine gravel lag, massive, erosional basal contact to unit below; N76E/15NW bedding.
						ML SM			**SAUGUS FORMATION:** Bedded olive brown clayey silt to silty very fine sand to very fine to medium sand, slightly moist; to pale brown to pale olive brown 1/8" to 1/4" laminated silts to clayey silts, very stiff, some climbing ripples in cross lamination.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

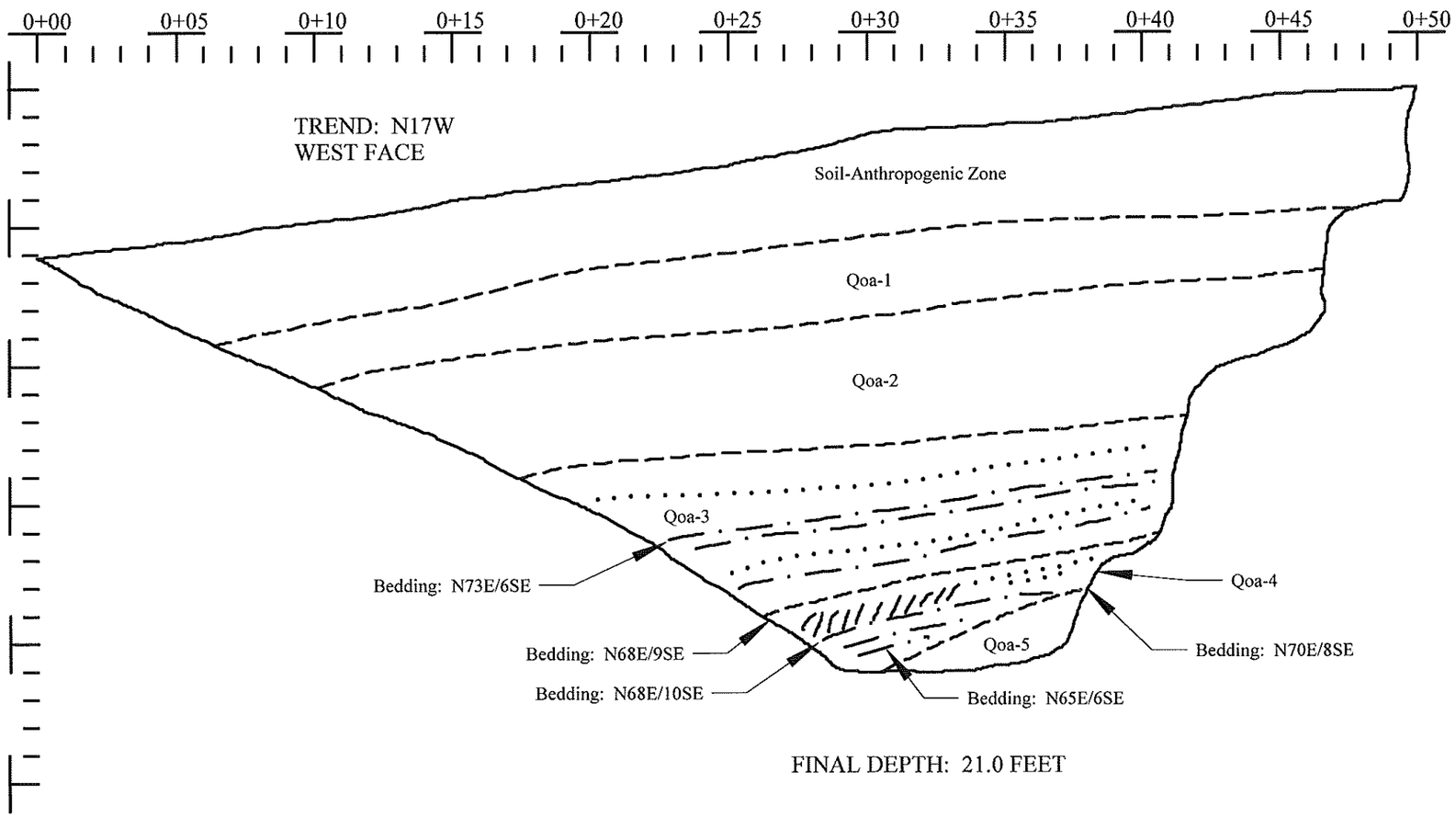
BORING NO: BA-18
PROJECT NAME: Tentative Tract 5475
PROJECT NUMBER: VT-23066-04
BORING LOCATION: Per Plan

DRILLING DATE: April 5, 2008
DRILL RIG: Tri-Valley
DRILLING METHOD: 24" Bucket Auger
LOGGED BY: Dr. Larry Gurrola

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6"	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40									Final Depth: 40.0 feet Groundwater was not encountered.
45									
50									
55									
60									
65									
70									
75									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

TEST PITS LOGS (TP-30 TO TP-33)



FINAL DEPTH: 21.0 FEET

DESCRIPTIONS

Soil-Anthropogenic Zone (SM): Dark brown silty fine sand, porous, some clay, few to little gravel, trace cobbles, many roots, slightly moist, loose in upper 12" to medium dense.

Qoa-1 (SC): Brown to slightly orangish brown clayey sand, some cobbles and gravel, trace boulders up to 18" in diameter, weak cementation, slighlty moist, dense.

Qoa-2 (GM): Pale brown silty very coarse sandy cobbly gravel conglomerate, trace boulders, clast supported, locally matrix supported, weak calcium carbonate cementation, debris flow deposit, slightly moist.

Qoa-3 (ML/SM): Laminated dark brown silty medium sand to pale brown silt to pale olive brown silty sand, 1/16" to 1/4" laminae, moist, medium dense to stiff.

Qoa-4 (ML/SM): Pale brown silt to slightly orangish brown coarse to medium sand to dark brown silty medium sand, 1/16" to 1/4" laminae, 1" to 6" strata, with climbing ripples, slightly moist, dense to very stiff.

Qoa-5 (GW): Very coarse sandy cobble conglomerate, some clay and gravel, few to little boulders up to 30" in diameter, moderately indurated, weak to moderate cementation, clast supported, subrounded to rounded clasts, locally loose sands, mostly very dense.

Qoa = Older Alluvium

SCALE: 1" = 5' (VERTICAL & HORIZONTAL)

LOGGED BY: Larry Gurrola

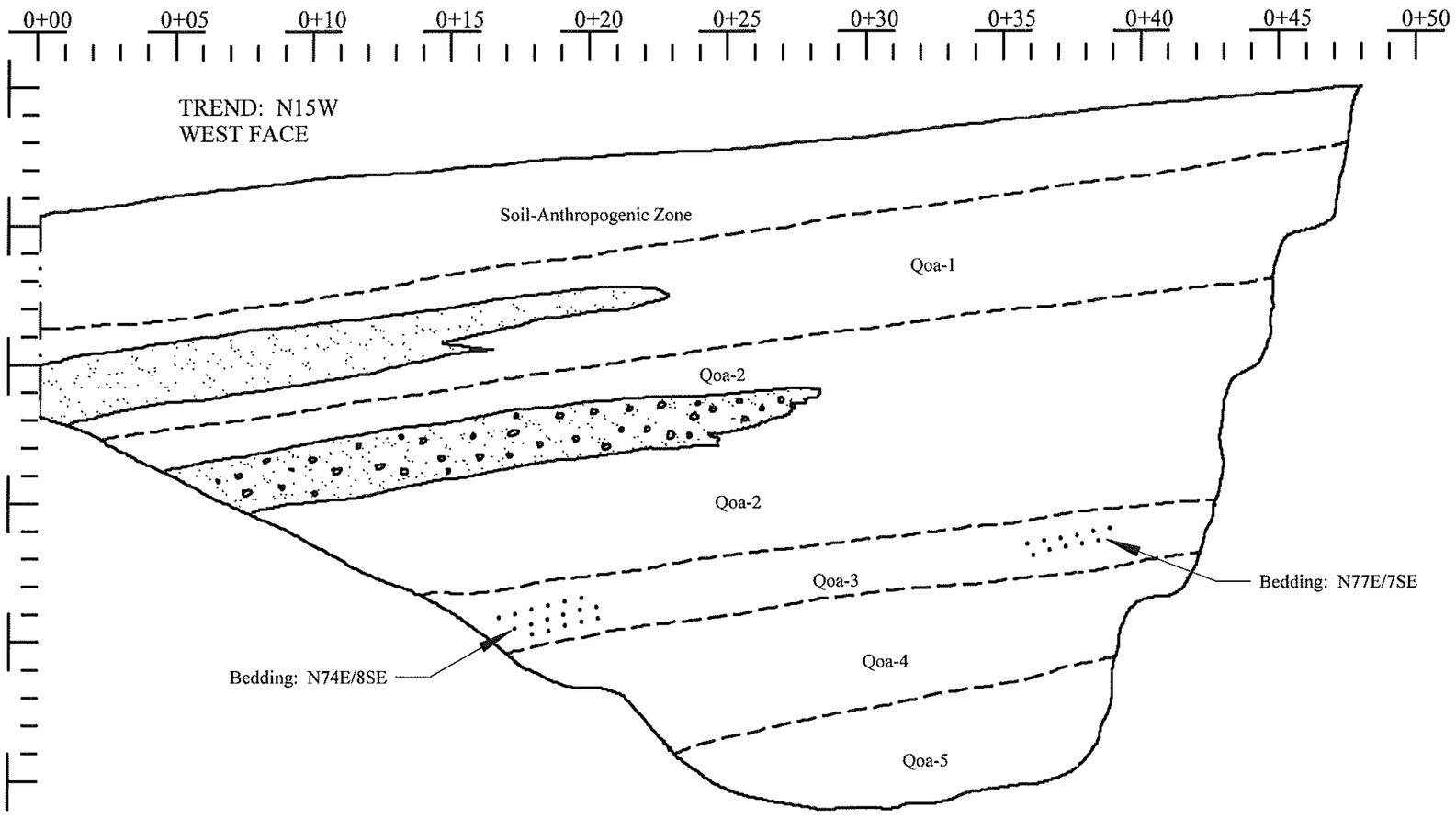
EARTH SYSTEMS
SOUTHERN CALIFORNIA
1731-A Walter Street, Ventura, CA. 93003
Phone: 805-642-6727 Fax: 805-642-1325

TEST PIT #30

32.0 Acres, Santa Paula

Feb 14, 2008

VT-23066-03



FINAL DEPTH: 26.0 FEET

DESCRIPTIONS

Soil-Anthropogenic Zone (SM): Dark brown silty fine sand, porous, some clay, few to little gravel, trace cobbles, many roots, slightly moist, loose in upper 12" to medium dense.

Qoa-1 (GC/GM): Bouldery cobble conglomerate, some clayey very coarse sand, clast supported, lateral transition to very coarse to coarse sand, some cobbles, little to some gravel, very dense to dense.

Qoa-2 (GM/SM): Very pale olive brown silty cobbly gravelly very coarse sand, some silt, massive with some interbeds of very sandy fine gravel 2.5' thick and minor very coarse sand strata, 2" to 4" thick, slightly moist, dense.

Qoa-3 (SM): Pale olive brown coarse sand to dark brown silty medium sand and pale brown silty gravelly very coarse sand, 6" thick gravelly sand strata, 1/4" to 2" sand strata, slightly moist to moist.

Qoa-4 (GW): Pale brown very coarse sandy gravel, clast supported, massive, slightly moist, dense.

Qoa-5 (GW): Bouldery sandy cobbles, reverse grading of large clasts, clast supported, massive, locally loose to dense.

Qoa = Older Alluvium

SCALE: 1" = 5' (VERTICAL & HORIZONTAL)

LOGGED BY: Larry Gurrola

EARTH SYSTEMS
SOUTHERN CALIFORNIA

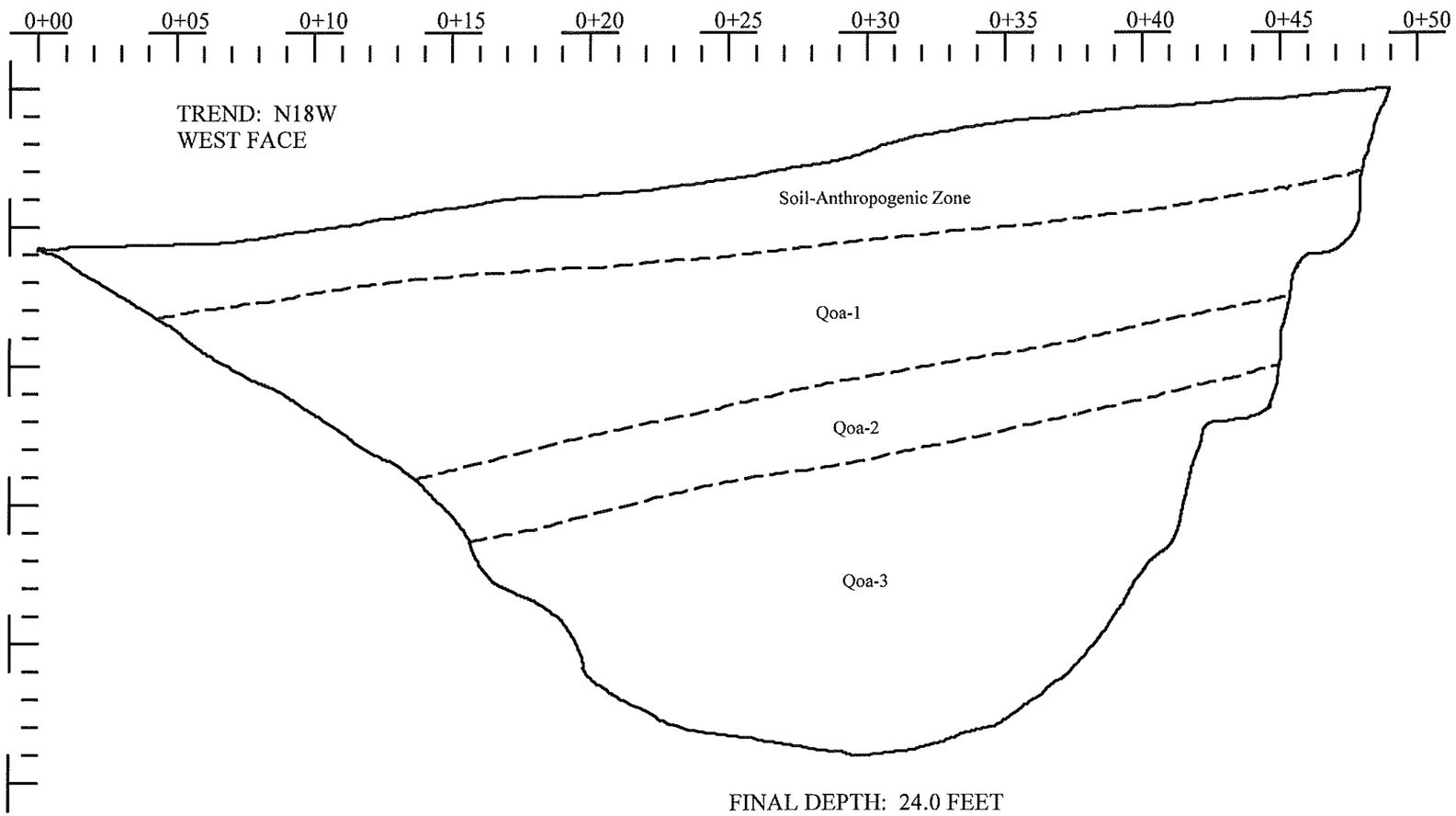
1731-A Walter Street, Ventura, CA. 93003
Phone: 805-642-6727 Fax: 805-642-1325

TEST PIT #31

32.0 Acres, Santa Paula

Feb 14, 2008

VT-23066-03



DESCRIPTIONS

Soil-Anthropogenic Zone (ML): Dark brown sandy clayey silt, little gravel, trace to few cobbles, fine roots, massive, slightly moist, stiff to very stiff.

Qoa-1 (GM/SM): Slightly orangish brown cobbly very coarse sand, some gravel, trace boulders, weak reverse grading, massive, weak calcium carbonate cementation, slightly moist, dense.

Qoa-2 (ML/SM): Dark brown very fine sandy silt to silty sand, few to little cobbles and gravel, massive, moist, medium dense to dense.

Qoa-3 (GM): Bouldery cobbly very coarse to coarse gravel, some silt and clayey, little to some boulders up to 42" in diameter, rounded to subrounded, gravel supported, massive, moist, medium dense to dense.

Qoa = Older Alluvium

SCALE: 1" = 5' (VERTICAL & HORIZONTAL)

LOGGED BY: Larry Gurrola

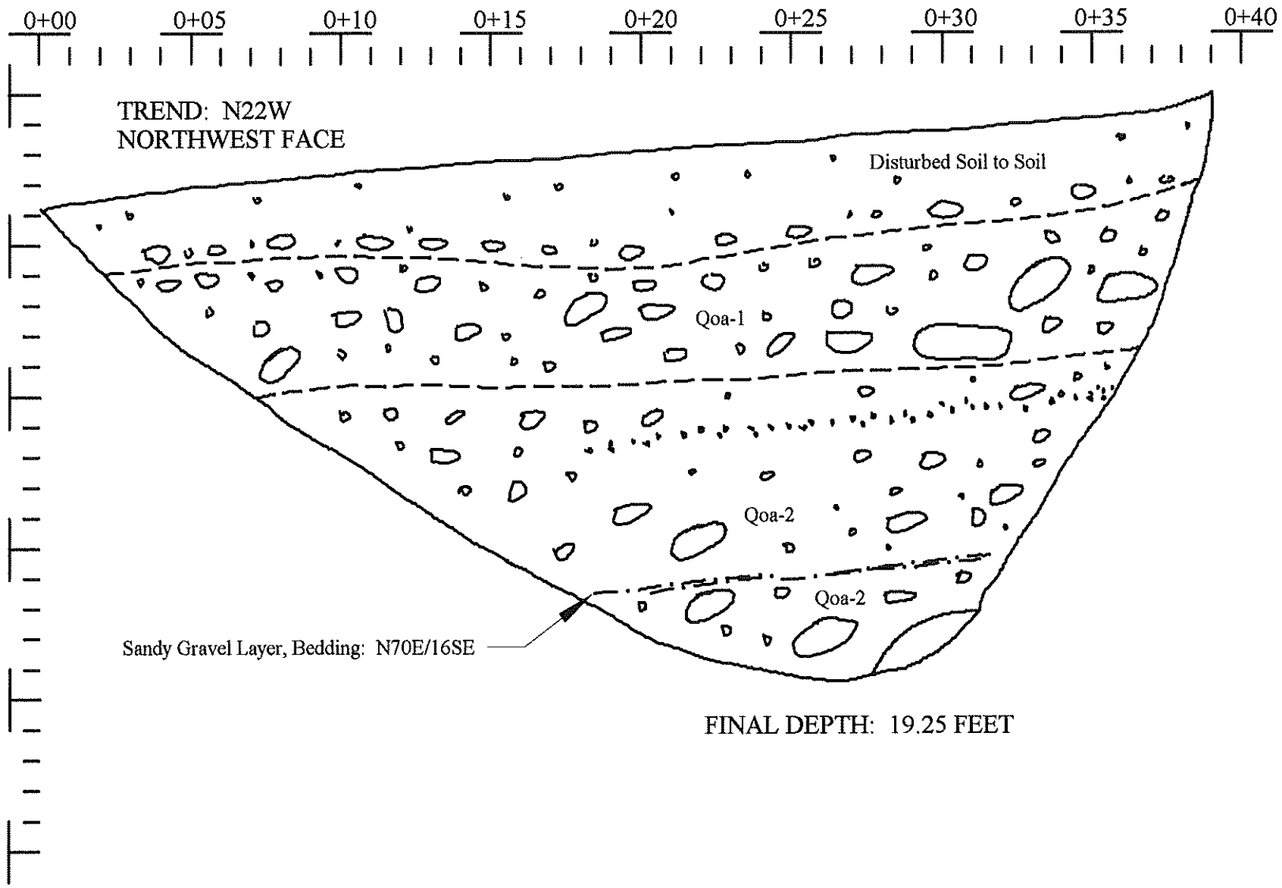
EARTH SYSTEMS
SOUTHERN CALIFORNIA
1731-A Walter Street, Ventura, CA. 93003
Phone: 805-642-6727 Fax: 805-642-1325

TEST PIT #32

32.0 Acres, Santa Paula

Feb 14, 2008

VT-23066-03



FINAL DEPTH: 19.25 FEET

DESCRIPTIONS

Disturbed Soil to Soil (SM): Dark brown silty fine to coarse sand down to 1.5' to 2.0' then becomes silty fine to coarse sand, few to little gravel and cobbles, few small boulders, trace roots, moist, loose to medium dense.

Qoa-1 (SM/GM): Reddish brown gravelly silty sand, some cobbles and boulders up to 2.5' in diameter, rounded to subrounded, moist, medium dense.

Qoa-2 (GM/SM): Moderate reddish brown to dark yellowish brown silty sandy gravel and cobbles with thin interbeds of gravelly sand, some boulders up to 1.5' in diameter, trace large boulders up to 3.0' in diameter, moist, medium dense to dense.

Qoa = Older Alluvium

SCALE: 1" = 5' (VERTICAL & HORIZONTAL)

LOGGED BY: Wesley Smith

EARTH SYSTEMS
SOUTHERN CALIFORNIA
1731-A Walter Street, Ventura, CA. 93003
Phone: 805-642-6727 Fax: 805-642-1325

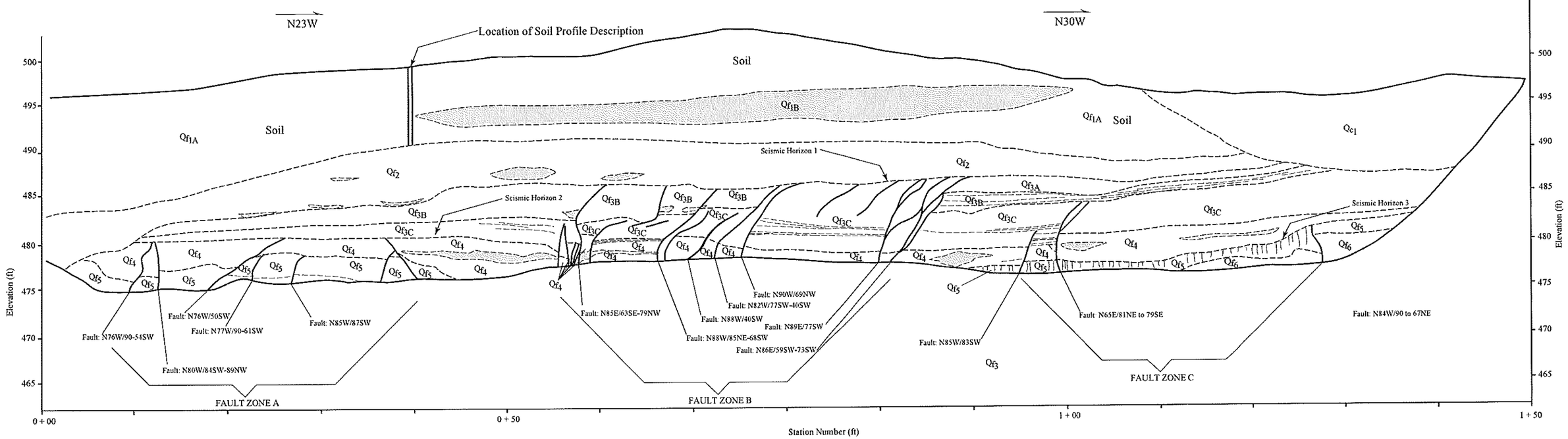
TEST PIT #33

32.0 Acres, Santa Paula

Feb 14, 2008

VT-23066-03

FAULT TRENCH LOGS (T-1 TO T-4)



UNITS

Q_{c1} - Medium brown to dark brown silty sandy clay to sandy clay with silt; few gravel to cobbles; trace boulders; stiff; moist.

Q_{f1A} - Sandy clay with cobble to gravel; dry; very stiff; massive; strong clay and calcium carbonate cementation.

Q_{f1B} - Clayey gravel to gravelly clay with sand; very dense; strong clay and calcium carbonate cementation; massive.

Q_{f2} - Slightly reddish-brown fine to medium sandy gravel with Monterey shale clasts; subrounded to subangular clasts; dry and dense; massive to bedded.

Seismic Horizon 1

Q_{f3A} - Light gray-brown to pale brown silts with little to trace clay; very fine sand lenses; bedded to laminated; dry and stiff; weak cementation.

Q_{f3B} - Light gray-brown coarse to medium sandy gravel; subrounded to subangular clasts; dry and dense; massive to laminated.

Seismic Horizon 2

Q_{f3C} - Light gray-brown to pale brown silts to slightly sandy silts with trace clay; very fine sand lenses; bedded to laminated; dry and stiff; weak to moderate cementation.

Q_{f4} - White to very pale gray very coarse sand with little to fine gravel; subrounded to rounded clasts; dense and dry; massive to bedded.

Seismic Horizon 3

Q_{f5} - Pale Yellow to white to light gray silty very fine sand with gravel; medium dense; dry; weak to moderate calcium carbonate cementation.

Q_{f6} - Pale yellow-brown to white to light gray silty very fine sand; medium dense; weak to moderate cementation; massive to laminated.

Seismic horizons 1, 2, and 3 indicate stratigraphic position of paleoearthquakes numbers 1, 2, and 3. Each horizon represents a paleoearthquake with faulted and displaced units below the horizon. Units that overlie the horizon are not faulted for that horizon and were deposited after the paleoearthquake. Therefore, these unfaulted, overlying geologic and pedogenic soil units provide minimum ages for the last earthquake denoted seismic horizon number 1.

SCALE

5 feet

0 — 5 feet

No Vertical Exaggeration

LEGEND

Fault

Bedding Contact, Location Approximate

Laminae

Sandy Gravel-Cobble Lens

Paleosol

Holocene

Q_{c1} Colluvium

Soil Soil - Base of BC Horizon

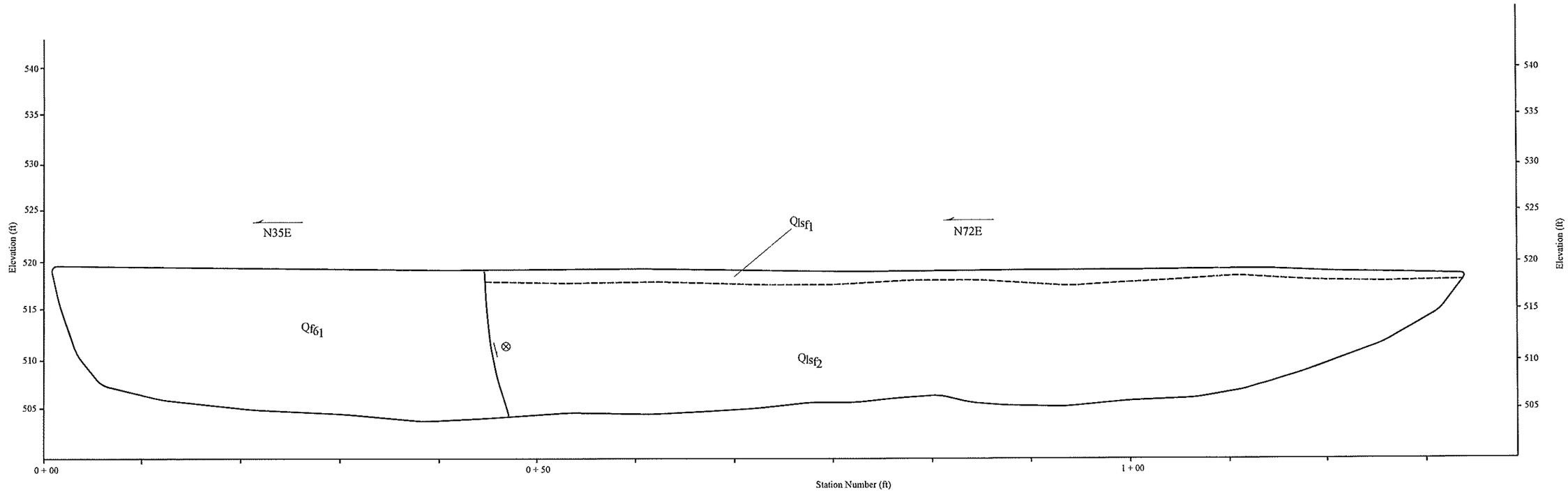
Pleistocene

$Q_{f6_{1-6}}$ Alluvial Fan Deposits

TENATIVE TRACT 5475
TRENCH T-1 LOG

EARTH SYSTEMS SOUTHERN CALIFORNIA

VT-23966-04	September 2009



SCALE

5 feet

0 5 feet

No Vertical Exaggeration

LEGEND

Landslide shear, arrow indicates relative slip motion

Bedding contact, location approximate

Laminae

Landslide displacment towards viewer

Landslide displacment away from viewer

UNITS

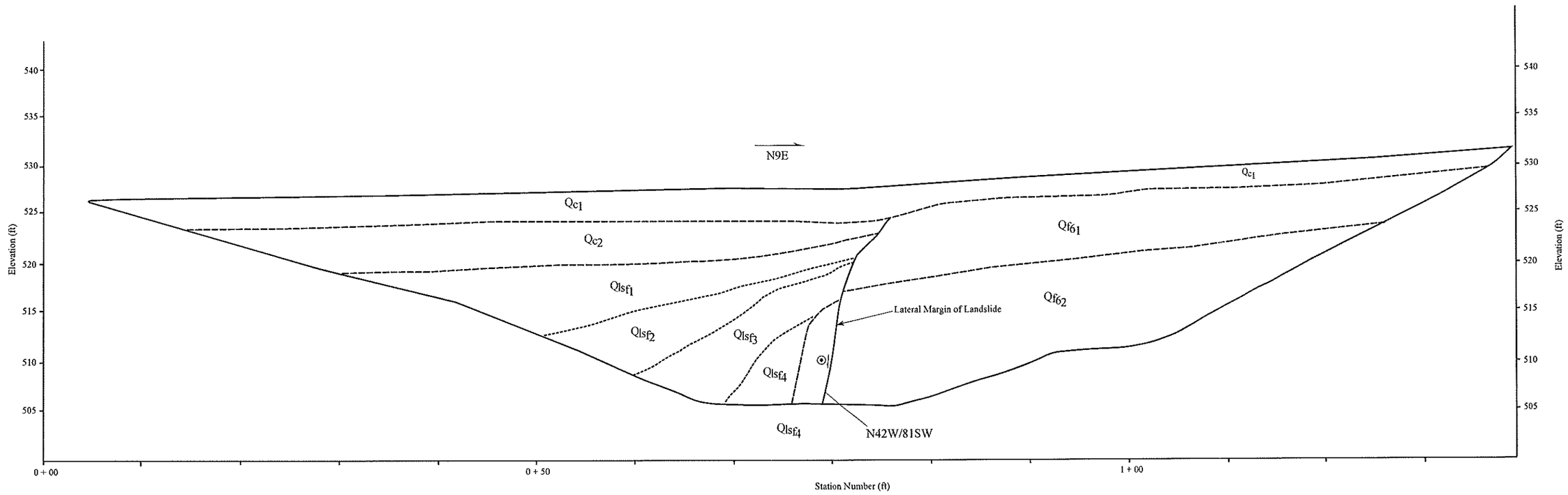
Af	Artificial Fill
Soil	Soil
Qls	Landslide Deposits
QTs	Saugus Formation

$Qlsf_1$	Medium brown silty sandy gravel with little cobbles; some fractured cobble and boulder clasts; loose to medium dense; slightly moist to dry.
$Qlsf_2$	Medium brown sandy cobbles-boulders with little silt and gravel; boulders to 2.0 ft dia.; clast-supported; some fractured cobble and boulder clasts; medium dense to loose; slightly moist to dry.
$Qf6_1$	Medium brown sandy cobbles-boulders with some gravel, massive; clasts-supported; dense; slightly moist to dry.

TENTATIVE TRACT 5475
TRENCH T-2 LOG

EARTH SYSTEMS SOUTHERN CALIFORNIA

VT-23966-04	September 2009



SCALE

5 feet

0 — 5 feet

No Vertical Exaggeration

LEGEND

Landslide shear, arrow indicates relative slip motion

Bedding contact, location approximate

Laminae

Landslide displacment towards viewer

Landslide displacment away from viewer

UNITS

Holocene	Af	Artificial Fill
	Soil	Soil
	Q_{ls}	Landslide Deposits
Pleistocene	QT_s	Saugus Formation

Qc_1 Colluvial Unit 1- Slightly yellow-brown very coarse-grained sand lenses with fine gravel; SP; slightly moist; medium dense.

Qc_2 Colluvial Unit 2 - Dark brown to gray-brown clayey silt to very fine sandy silt with little clay trace fine gravel; firm to very firm; slightly moist to dry.

$Qlsf_1$ Medium brown silty very fine sand with few gravel to cobbles and trace boulders to 1.5 ft dia.; medium dense to loose; slightly moist to dry.

$Qlsf_2$ Strong brown silty very fine sand with some cobbles-boulders and trace boulders to 1.5 ft dia.; medium dense to loose; slightly moist to dry.

$Qlsf_3$ Medium to strong brown slightly cobbly sandy gravel with little to few boulders; fractured boulder and cobble clasts; subangular to subrounded clasts; boulders to 3 ft. dia. medium dense to loose; slightly moist to dry.

$Qlsf_4$ Medium brown block slump breccia composed of slightly cobbly sandy gravel boulders; fractured boulder and cobble clasts; subangular to subrounded clasts; boulders up to 3 ft. dia. medium dense to loose; slightly moist to dry.

$Qlsf_f$ Medium brown fissure fill composed of slightly gravelly sandy silt to silty sand with few to some cobbles; loose; slightly moist to dry.

Qf_{61} Brown slightly clayey to clayey sandy cobbles with little to trace fine boulders, clasts-supported; dense; slightly moist to dry.

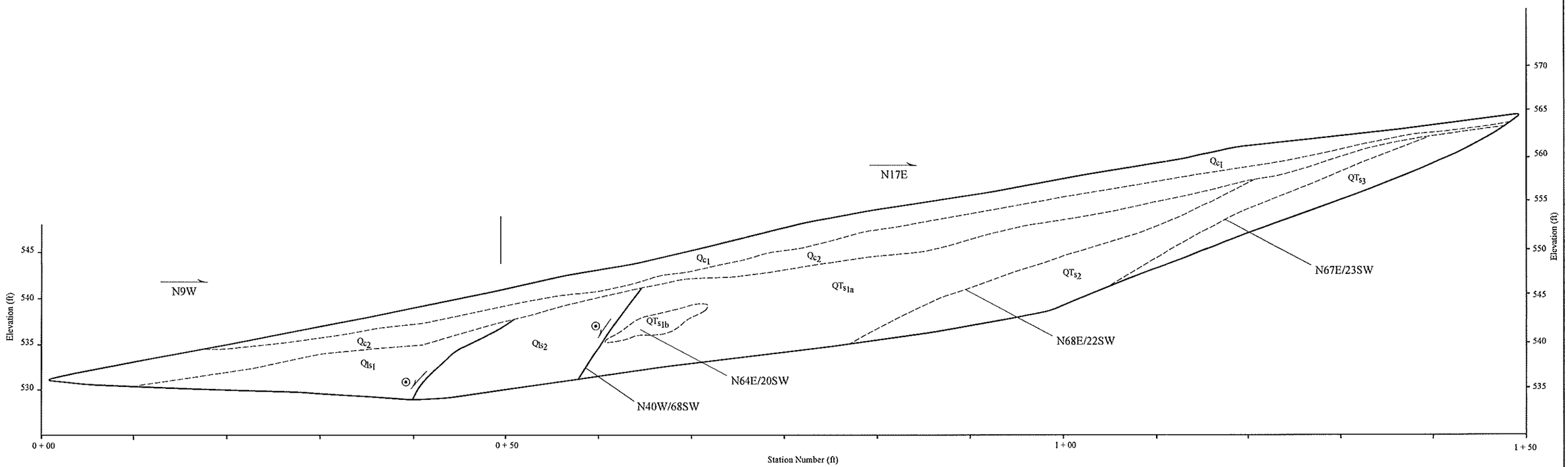
Qf_{62} Brown slightly clayey to clayey sandy cobbles with few to some fine boulders, clasts-supported; very dense; slightly moist to dry.

TENTATIVE TRACT 5475
TRENCH T-3 LOG

EARTH SYSTEMS SOUTHERN CALIFORNIA

VT-23966-04	September 2009

T-1 and T-2 Matchline



UNITS

Q_{c1} - Moderate brown and olive-brown silty sand with trace to few gravel; SM; massive; slightly moist; medium dense to loose; common krotovina structures.

Q_{c2} - Pale brown to slightly olive-brown silty sand with gravel, SM; massive; slightly moist; medium dense to loose; common krotovina structures.

Ql_{s1} - Slightly reddish-brown to orangish-brown cobbly silty sand with little gravel; GP; medium dense to dense, locally moderately loose;; dry to slightly moist; trace boulders.

Ql_{s2} - Pale red-brown and orangish-brown silty sand with cobbles and trace boulders; SM; medium dense to dense; locally moderately loose; dry to slightly moist.

QT_{s1a} - Slightly yellowish-brown silty fine to very fine sand with little to few gravel; SP-SM; massive to bedded; minor clayey silt laminae and minor very coarse-grained sand lenses; slightly moist; medium dense; weak calcium carbonate cementation..

QT_{s1b} - Slightly yellow-brown very coarse-grained sand lenses with fine gravel; SP; slightly moist; medium dense.

QT_{s2} - Yellow-brown very fine grained sandy silt; SM-ML; scattered fine-grained gravel; moist; massive; stiff; upper 3 inches of unit is capped with clayey silt; weak calcium carbonate cementation.

SCALE

5 feet

0 5 feet

No Vertical Exaggeration

LEGEND

Landslide shear, arrow indicates relative slip motion

Bedding contact, location approximate

Laminae

Landslide displacment towards viewer

Landslide displacment away from viewer

Holocene

A_f Artificial Fill

Soil Soil

Ql_s Landslide Deposits

Pleistocene

QT_s Saugus Formation

TENATIVE TRACT 5475
TRENCH T-4 LOG

EARTH SYSTEMS SOUTHERN CALIFORNIA

VT-23966-04	September2009

BA-5 T.D.=95.0 ft.
Q_{ls}: 0-72.5 ft.
QT_s: 72.5-95.0 ft
Q_{ls} gouge @ 62.0 ft, 64.0 ft., and 72.0 ft.
@48.0 ft. Apparent 10-15 to 10-15
@62.0 ft. 40
@64.0 ft 40
@71-72.0 ft 25
@79.0 ft. QT_s 31

BA-6 T.D.=38.0 ft.
Q_{ls}: 0-38.0 ft.
Downhole logged to 25.0' due to caving conditions.

BA-16 T.D.=41.00 ft.
Q_{ls}: 0-41.0 ft.
Not downhole logged due to caving conditions.

BA-4 T.D.=77.0 ft.
Q_{ls}: 0-77.0 ft.
Downhole logged to 65.0' due to caving conditions.
@44.0 ft. Apparent 38
@57.0 ft. Apparent 32
@65.0 ft Apparent

BA-15 T.D.=100.0 ft.
Q_{ls}: 0-91.75 ft.
Traction zone @ 90.0-91.75 ft.
QT_s: 91.75-100.0 ft.
@57.0 ft. Apparent 38
@58.0 ft. Apparent 22
@66.5 ft Apparent 13
@72.0 ft Apparent
@77.5 ft. Apparent
@82.0 ft. 22
@90.0 ft. 27
@90.25 ft. 33
@91.75 QT_s 35

BA-3 T.D.=101.0 ft.
Q_{ls}: 0-83.0 ft.
Q_{ls} gouge @ 83.0 ft, Traction zone @ 83.5-85.0 ft.
QT_s@85.0-101.0 ft.
@65.0 ft Apparent
@73.0 ft. Apparent
@75.0 ft. Apparent
@82.0 ft. Apparent
@83.5 ft. QT_s 27
@88.0 ft 25
@94.0 ft. 28
@92.0 ft. 28
@95.0 ft 26
@96.0 ft. 29

BA-14 T.D.=81.0 ft.
Soil 0-7.0 ft.
Q_{ls}: 7.0-64.25 ft.
Q_{ls} gouge @ 56.5 ft, 62.0 ft., and 64.0 ft.
Traction zone @ 64.25-65.0 ft.
QT_s@65.0-81.0 ft.
@47.75 ft. Apparent 21
@49.25 ft. Apparent 14
@ 50.5 ft. Apparent 15
@53.0 ft. Apparent
@56.5 ft. 27
@58.0 ft Apparent
@62.0 ft. 23
@63.75 ft. Seep
@64.5 ft. 21 to 21

BA-13B T.D.=70.0 ft.
Downhole logged to 65.0' due to caving conditions.
A_f: 0-1.0 ft.
Q_{ls}: 1.0-78.0 ft.
Q_{ls} gouge @ 72.0 ft. and 78.0 ft.
QT_s@78.0-81.0 ft.

BA-12 T.D.=40.0 ft.
GW encountered at 40.0 ft. and rose to 35.5 ft.
Soil: 2.0-10.5 ft.
Q_{ls}: 10.5-40.0 ft.
@16.25 ft. Apparent 24
@18.0 ft. Apparent 28
@19.0 ft. Apparent 12
@21.25 ft. Apparent 39
@23.5 ft. Apparent 58 to 10
@24.0 ft. Apparent 21
@27.0 ft. Apparent 86 to 23

BA-7 T.D.=35.0 ft.
Q_{ls}: 0-29.0 ft.
QT_s: 29.0-35.0
@23.0 ft 56
@27.0 ft.. 35
@29.0 ft. 41 QT_s
@30.0 ft 43

BA-8 T.D.=25.00 ft.
Q_{ls}: 0-25.0 ft.
Downhole logged to 20.0' due to caving conditions.

BA-11 T.D.=80.0 ft.
Qf_6: 2.5-24.5 ft.
QT_s: 24.5 ft.-80.0 ft.
@24.5 ft. 8 Qf_6
@30.0 ft 15 QT_s
@30.5 ft. 77
@49.0 ft. 3
@60.0 ft. 75
@64.0 ft. 74
@64.7-65.0 ft. 36 29
@67.0 ft. 77
@73.0 ft. 20

BA-17 T.D.=40.0 ft.
Soil: 2.5-8.0 ft.
Qf_6: 8.0-30.5 ft.
QT_s: 30.5-40.0 ft.
@8.0 ft. 19 Qf_6
@13.0 ft. 13
@15.75 ft. 77 90
@16.0 ft. 19
@17.5 ft. 19
@18.5 ft. 60-90 65,75
@20.0 ft. 19
@22.0 ft. 76
@24.0 ft. 64
@27.0 ft. 85
@30.5 ft. 13 QT_s
@31.5 ft. 11
@34.5 ft. 77 26

BA-18 T.D.=40.0 ft.
A_f: 0-2.0 ft.
Soil: 2.0-10.5 ft.
Qf_6: 10.5-35.0 ft.
QT_s: 35.0-40.0 ft.
@16.0 ft. Qf_6 11
@16.5 ft.
@20.5 ft.
@22.0 ft. 58
@26.5 ft. 80
@28.0 ft. 10 90
@29.0 ft. 10
@31.5 ft. 69
@32.5 ft. Qf_6 12

BA-10 T.D.=70.0 ft.
Qf_6: 0'-51.0 ft.
QT_s: 51.0-70.0 ft.
@51.0 ft. QT_s 26
@54.5 ft. 29
@57.0 ft. 26
@58.0 ft. 24
@63.75 ft. 30
@65.0 ft. 29

BA-2 T.D.=40.0 ft.
Q_{ls}: 0-26.0 ft.
QT_s: 26.0-40.0 ft.
@28.0 ft. QT_s 30

BA-1 T.D.=40.0 ft.
Q_{ls}: 0-22.0 ft.
QT_s: 22.0-40.0 ft.
@23.0 ft. 30 QT_s
@33.0 ft. 33

BA-9 T.D.=65.0 ft.
Downhole logged to 35.0 ft. due to caving conditions.
Qf_6@0-35.0 ft

Topographic base map and Tract 3634 Plan provided by Jensen Design & Survey , Inc., dated July 18, 2006.

EXPLANATION

- Qls_a — Recent or Active Landslide Deposit
- Qo_a — Older Alluvium
- Qls_2 — Late Pleistocene (?) Landslide Deposit; Qls_1 is Younger Deposit
- QT_s — Saugus Formation

SYMBOLS

- Formation Contact
- C — C' Cross-Section C-C'
- Qls Landslide Deposit
- Landslide Head Scarp
- 35 Bedding Attitude
- 21 — 21 Landslide Shear Surface Dip and Direction of Movement
- 85 Fault with Dip Shown
- TP-29 T.D.=12.0' — Approximate Location Of Test-Pit Number 29, Total Depth Equals 12 Feet
- BA18 T.D.=40.0' — Approximate Location Of Bucket-Auger Borehole Number 8, Total Depth Equals 12 Feet
- B-6 T.D.=7.5' — Approximate Location Of Geotechnical Borehole Number 6, Total Depth Equals 7.5 Feet

23066-04

TRACT 5475
SITE PLAN/GEOLOGIC MAP

EARTH SYSTEMS SOUTHERN CALIFORNIA

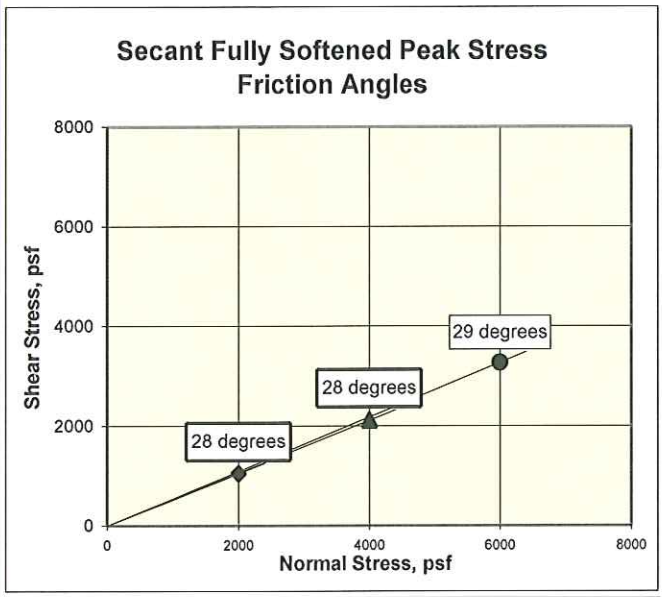
VT-23066-04	September 2009

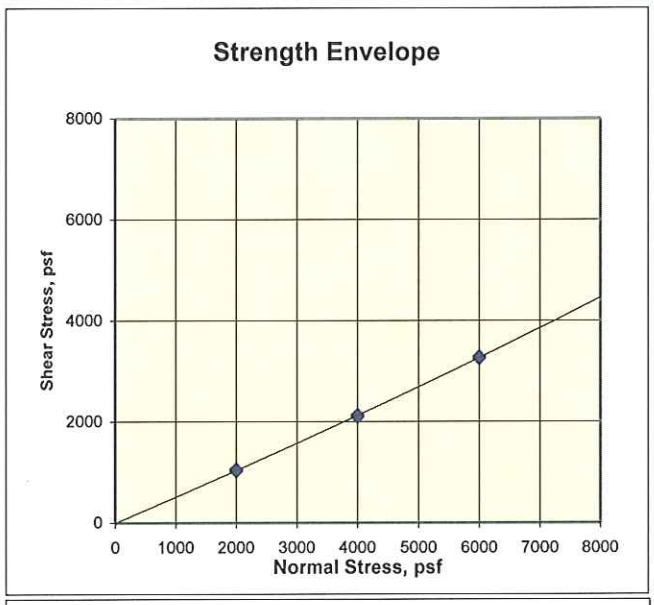
SITE PLAN / GEOLOGIC MAP

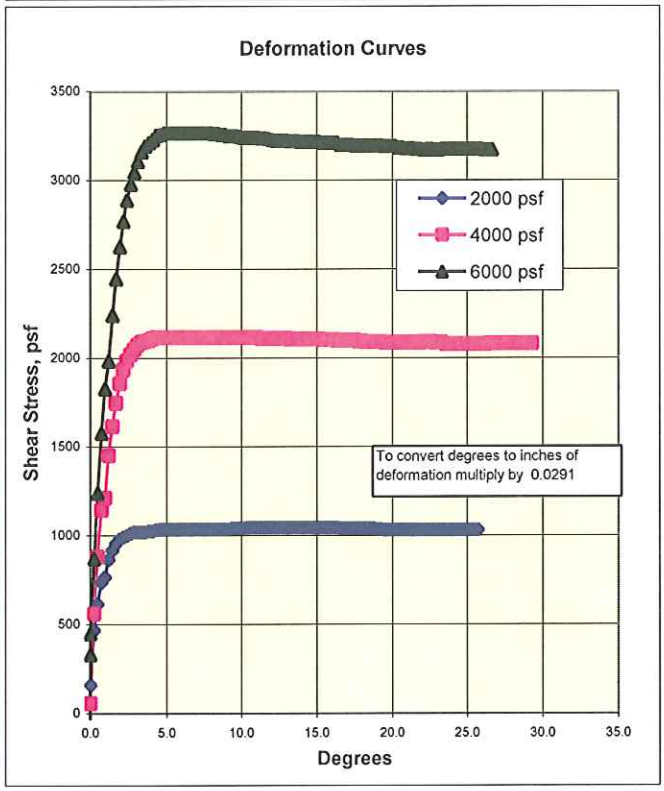
LABORATORY TEST DATA

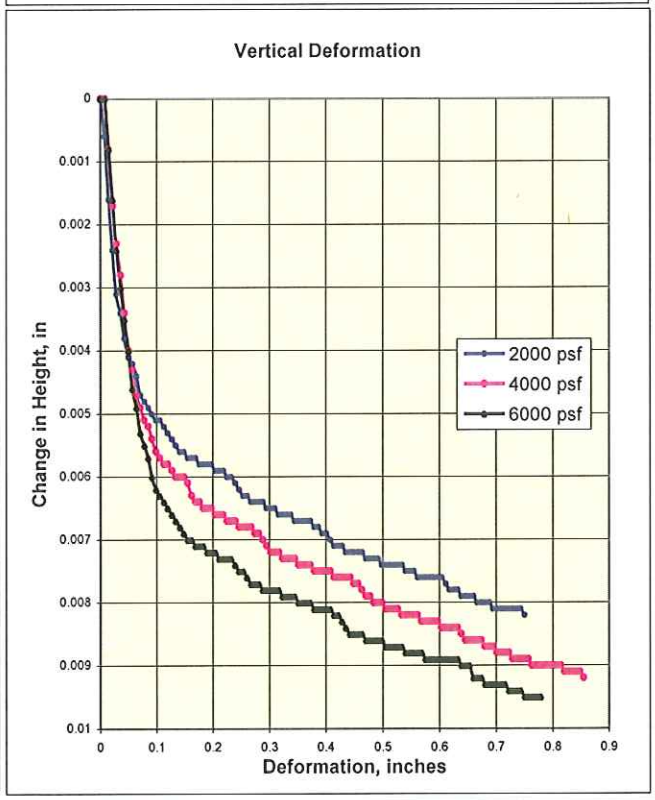
Drained, Peak Torsional Ring Shear Test ASTM D 6467

Job No.:	218-039a	**Boring:**	BA-14	**Date:**	7/22/2009	**Undisturbed:**	
Client:	Earth Systems So. Cal	**Sample:**		**By:**	PJ	**Peak:**	
Project:	Anderson 32 - VT2306-04	**Depth:**	62	**Checked:**	DC	**Residual:**	
Soil Type:	Yellowish Brown Lean CLAY			**Clay, %:**	17	**Fully Softened:**	X
Remarks:	A small friction correction was applied to each point.			**LL:**	37	**Peak:**	X
Normal Stress, psf	2000	4000	6000	**PL:**	22	**Residual:**	
Secant Phi, deg.	28	28	29				



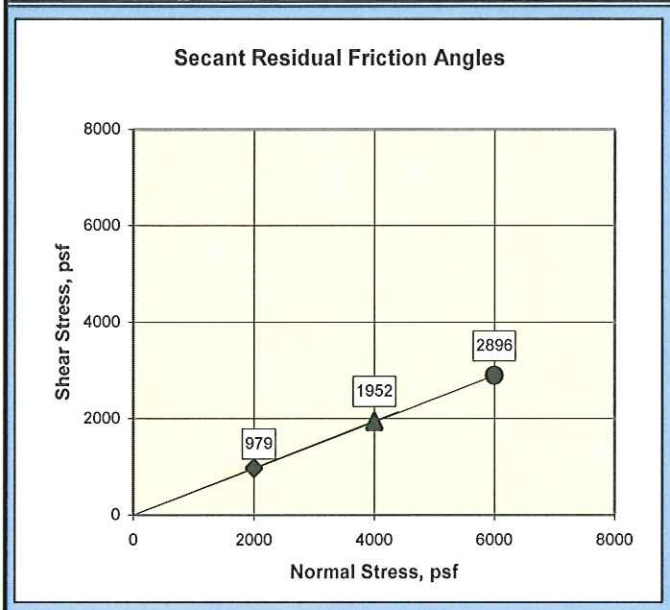


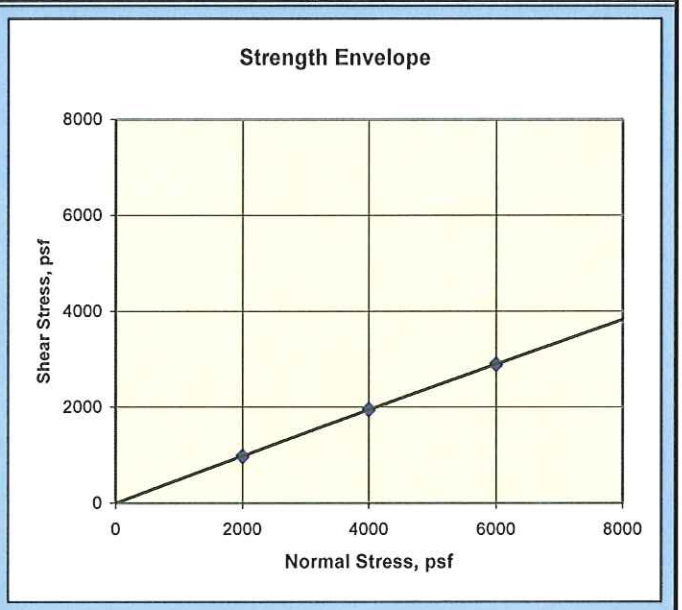


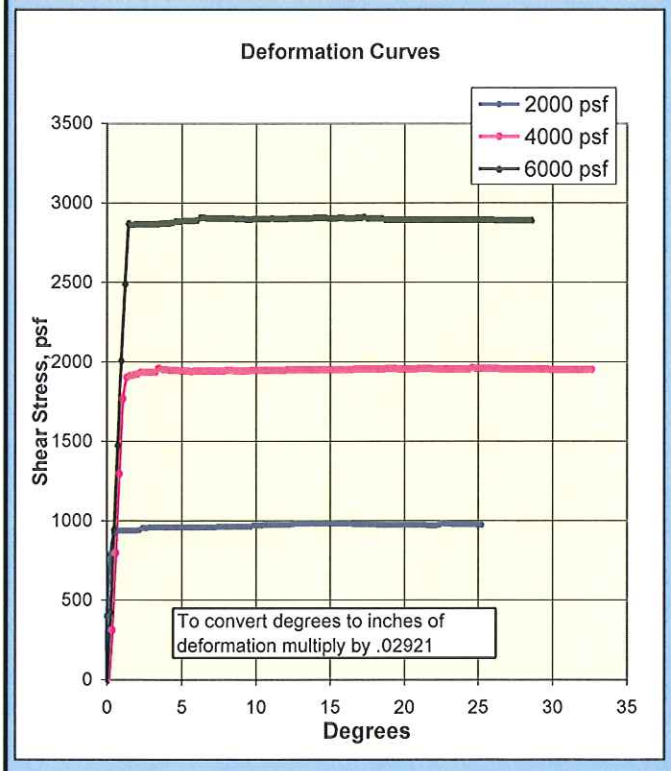


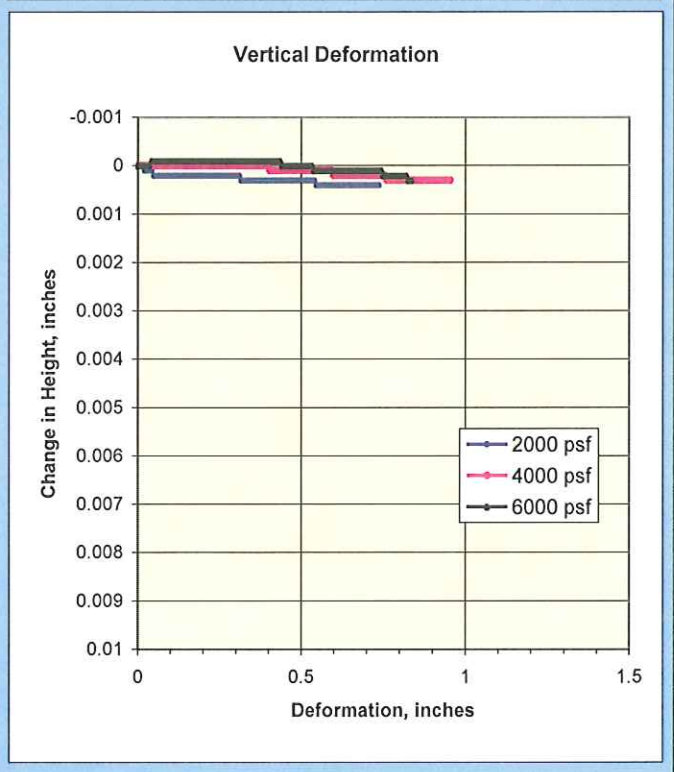
Drained, Residual Torsional Ring Shear Test ASTM D 6467

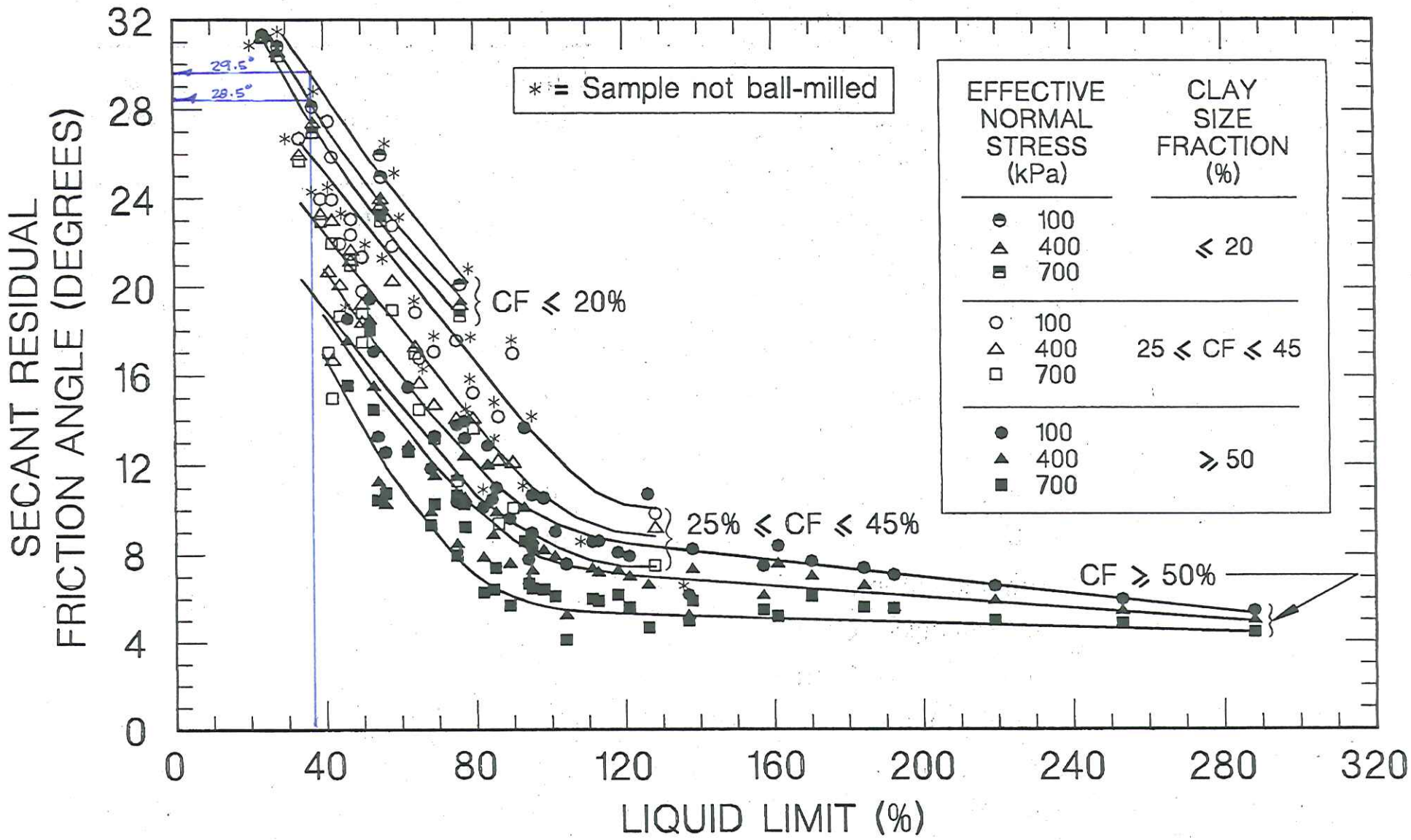
Job No.:	218-039b	**Boring:**	BA-14	**Date:**	7/22/2009	**Undisturbed:**	
Client:	Earth Systems So. Cal	**Sample:**		**By:**	PJ	**Peak:**	
Project:	Anderson 32 - VT2306-04	**Depth:**	62	**Checked:**	DC	**Residual:**	
Soil Type:	Yellowish Brown Lean CLAY			**Clay, %:**	17	**Fully Softened:**	X
Remarks:	A small friction correction was applied to each point.			**LL:**	37	**Peak:**	
Normal Stress, psf	2000	4000	6000	**PL:**	22	**Residual:**	X
Secant Phi, deg.	26	26	26				









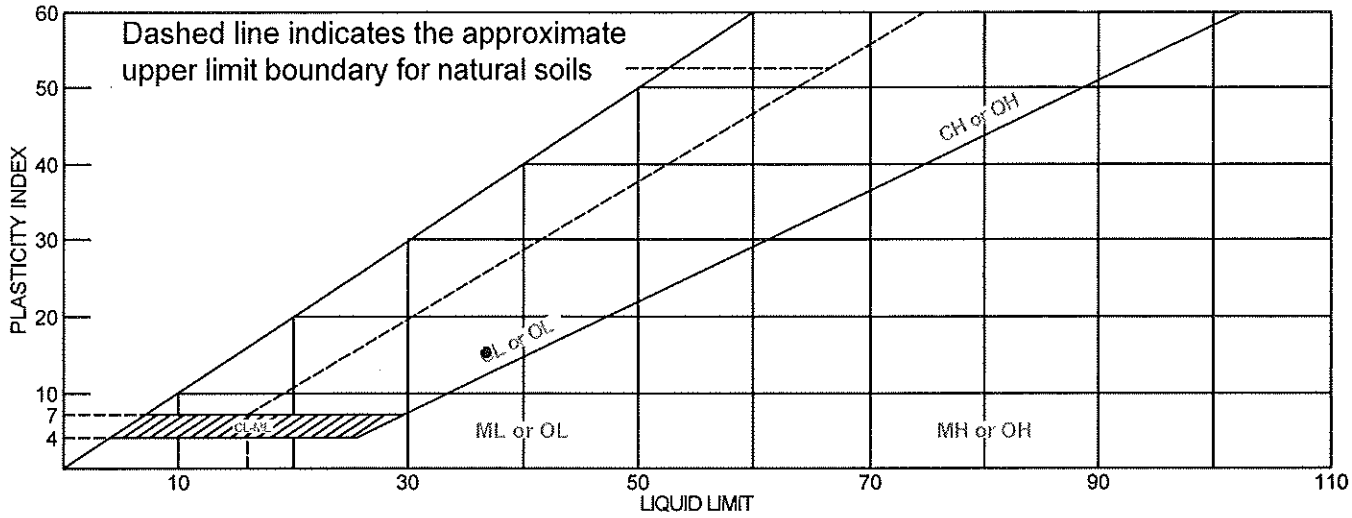


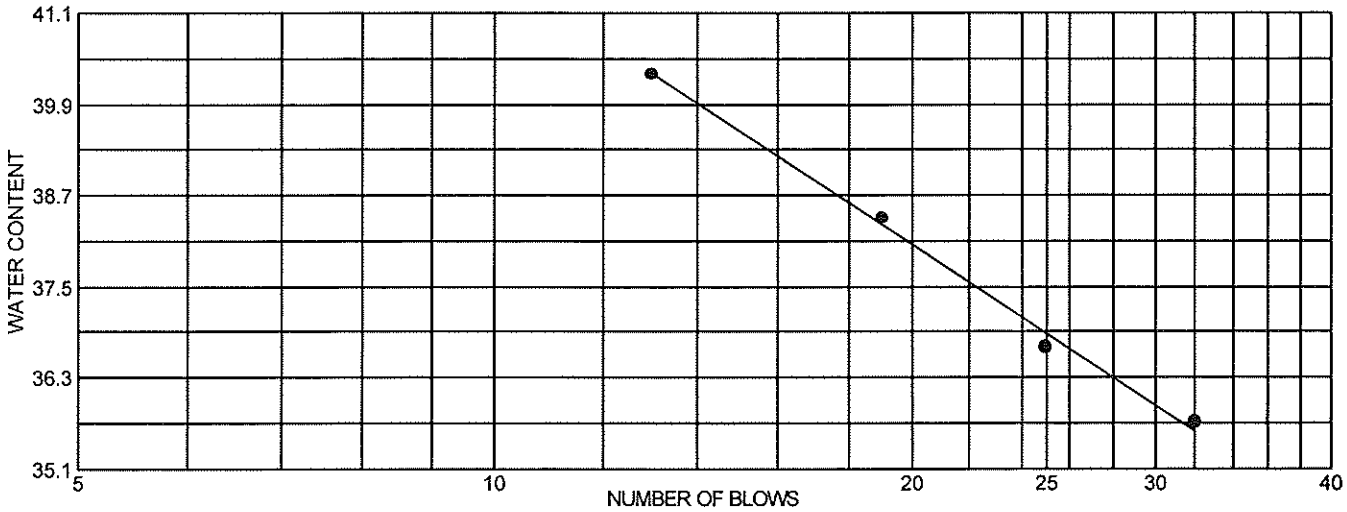
. Secant residual friction angle relationships with liquid limit, clay-size fraction, and effective normal s

ing on Empirical Correlations

be seen that the higher the liquid limit and cla

LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Yellowish Brown Lean CLAY	36.9	21.7	15.2	95.4	85.3	CL

Project No. 218-039 **Client:** Earth Systems Southern California

Project: Anderson 32 - VT-23066-04

● **Source:** BA-14 **Elev./Depth:** 62'

Remarks:

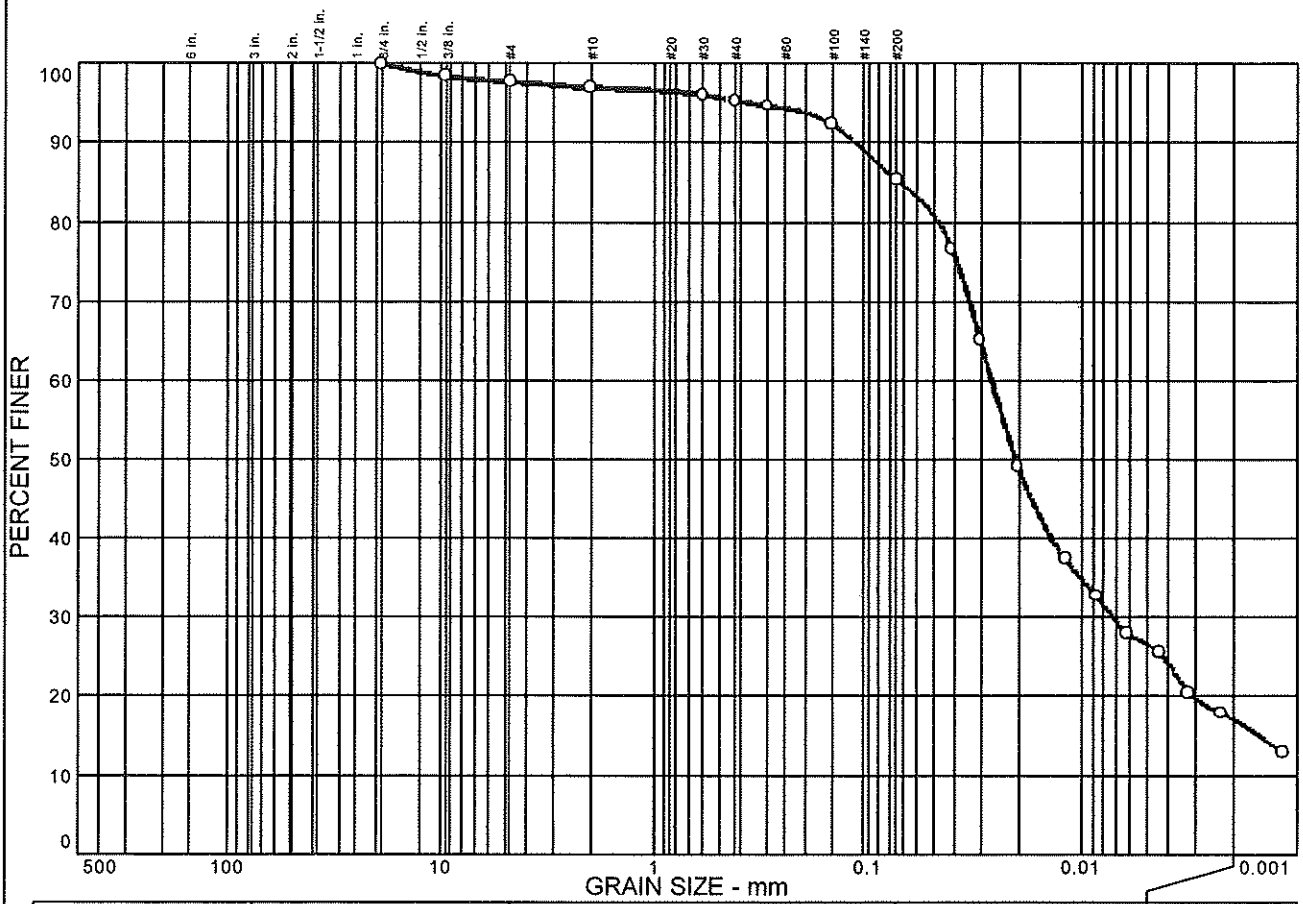
● Sample was prepared using the wet prep method.

LIQUID AND PLASTIC LIMITS TEST REPORT

COOPER TESTING LABORATORY

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	2.3	12.4	68.2	17.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4 in.	100.0		
3/8 in.	98.4		
#4	97.7		
#10	97.0		
#30	96.1		
#40	95.4		
#50	94.7		
#100	92.4		
#200	85.3		
0.0416 mm.	76.6		
0.0305 mm.	65.1		
0.0202 mm.	49.2		
0.0121 mm.	37.4		
0.0086 mm.	32.7		
0.0062 mm.	28.0		
0.0044 mm.	25.6		
0.0032 mm.	20.5		
0.0023 mm.	17.9		
0.0012 mm.	12.9		

* (no specification provided)

Soil Description

Yellowish Brown Lean CLAY

Atterberg Limits

PL= 21.7 LL= 36.9 PI= 15.2

Coefficients

D_{85}= 0.0726 D_{60}= 0.0270 D_{50}= 0.0207
D_{30}= 0.0073 D_{15}= 0.0015 D_{10}=
C_u= C_c=

Classification

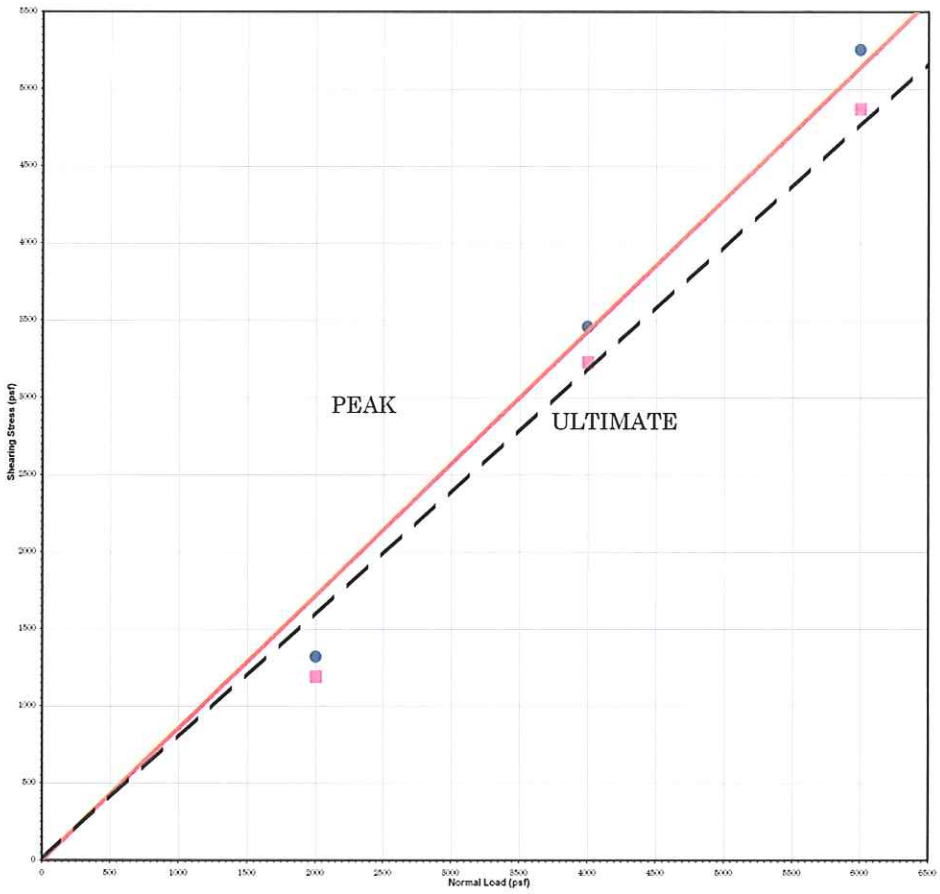
USCS= CL AASHTO=

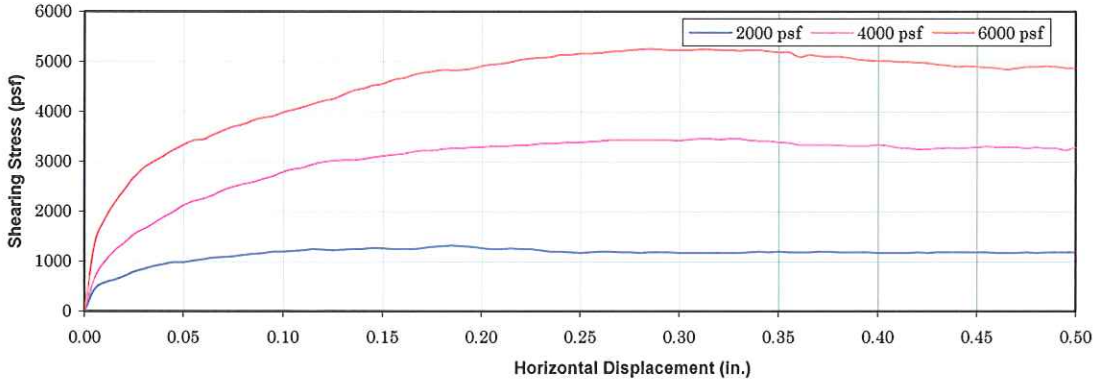
Remarks

Sample No.: **Source of Sample:** BA-14 **Date:**
Location: **Elev./Depth:** 62'

COOPER TESTING LABORATORY

Client: Earth Systems Southern California
Project: Anderson 32 - VT-23066-04
Project No: 218-039 **Figure**





DIRECT SHEAR DATA*

Sample Location: BA-14 at 35 feet

Material: Clayey Fine To Coarse Sand With Gravel (SC)

Dry Density (pcf): 97.2

	Initial	Final
Moisture Content (%):	6.6	23.4
Saturation (%):	25	100
	Peak	Ultimate
ϕ Angle of Friction (degrees):	45	43
c Cohesive Strength (psf):	0	0

Test Type: Peak and Ulitimate

Shear Rate (in/min): 0.01

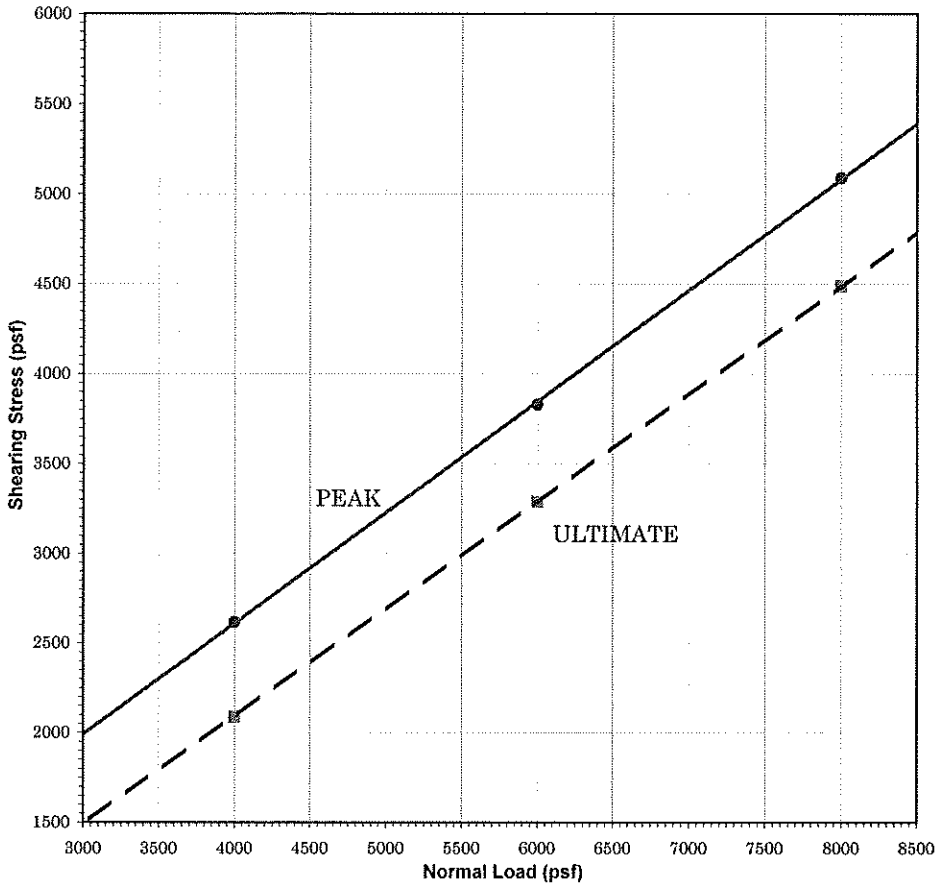
* Test Method: ASTM D-3080

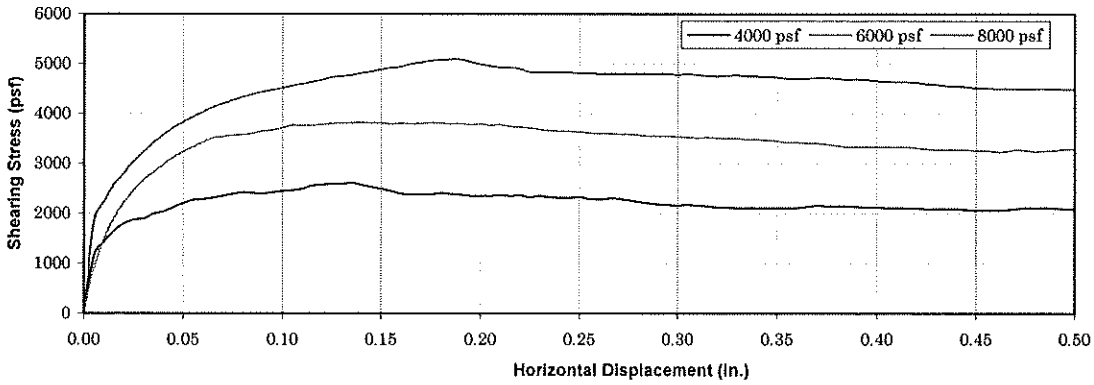
DIRECT SHEAR TEST

Anderson 32

Earth Systems Southern California

7/24/2009 | VT-23066-04





DIRECT SHEAR DATA*

Sample Location: BA-14 at 65 feet
Material: Clayey Silt With Fine Sand (ML)
Dry Density (pcf): 99.2

	Initial	Final
Moisture Content (%):	18.6	24.2
Saturation (%):	73	100
	Peak	Ultimate
ϕ Angle of Friction (degrees):	32	31
c Cohesive Strength (psf):	130	0

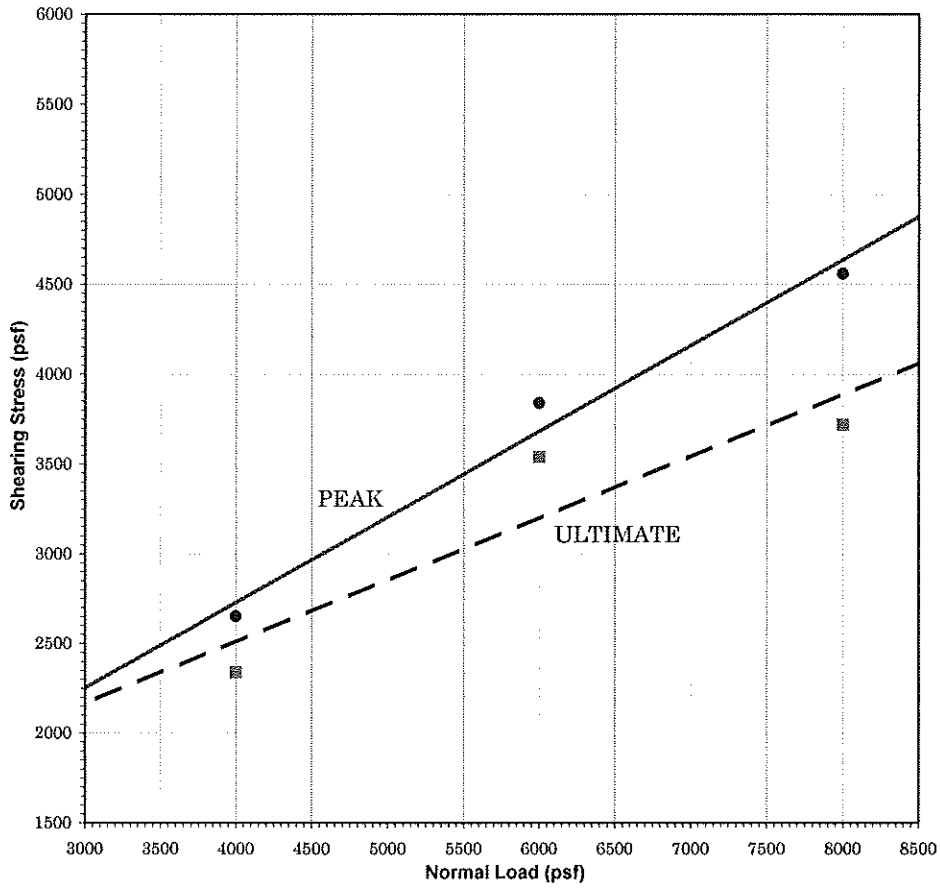
Test Type: Peak and Ulitimate
Shear Rate (in/min): 0.005
* Test Method: ASTM D-3080

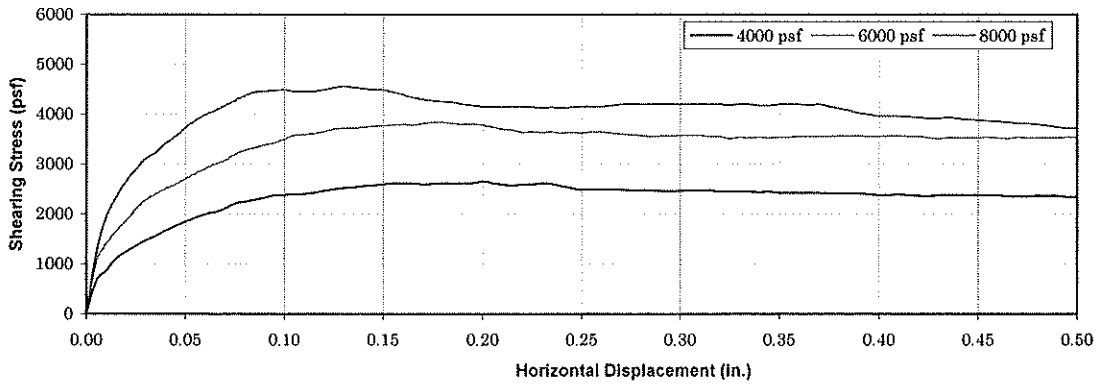
DIRECT SHEAR TEST

Anderson 32

Earth Systems
Southern California

7/24/2009 | VT-23066-04





DIRECT SHEAR DATA*

Sample Location: BA-10 at 60 feet
Material: Clayey Silt With Fine Sand (ML)
Dry Density (pcf): 105.7

	Initial	Final
Moisture Content (%):	13.8	20.2
Saturation (%):	64	100
	Peak	Ultimate
ϕ Angle of Friction (degrees):	26	19
c Cohesive Strength (psf):	820	1130

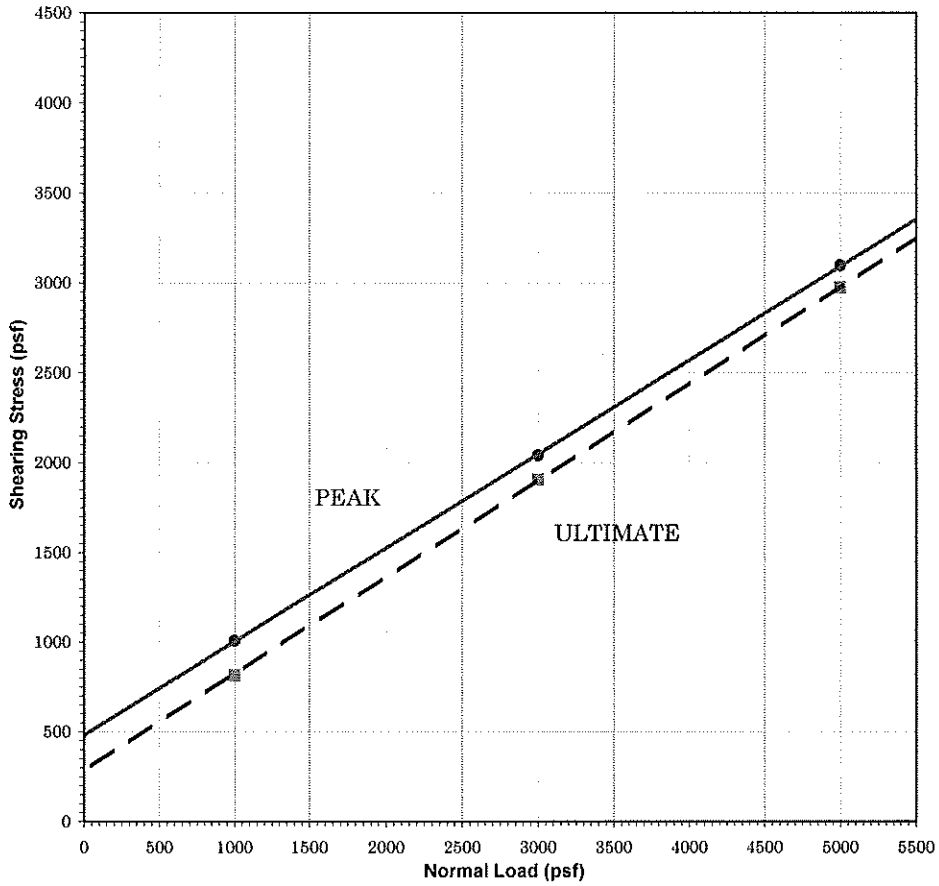
Test Type: Peak and Ulitimate
Shear Rate (in/min): 0.01
* Test Method: ASTM D-3080

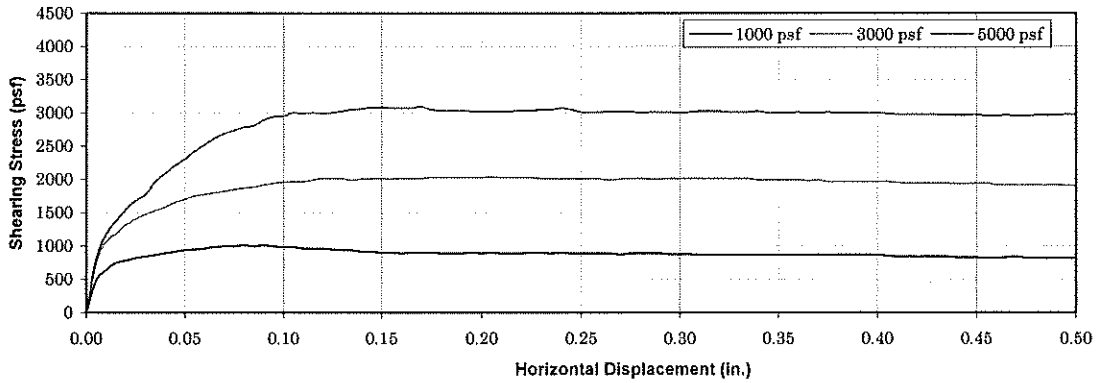
DIRECT SHEAR TEST

Anderson 32

Earth Systems
Southern California

7/24/2009 | VT-23066-04





DIRECT SHEAR DATA*

Sample Location: BA-10 at 30 feet
Material: Sandy Clay (CL)
Dry Density (pcf): 115.4

	Initial	Final
Moisture Content (%):	10.7	16.6
Saturation (%):	64	100
	Peak	Ultimate
ϕ Angle of Friction (degrees):	28	28
c Cohesive Strength (psf):	480	280

Test Type: Peak and Ulitimate
Shear Rate (in/min): 0.01
* Test Method: ASTM D-3080

DIRECT SHEAR TEST

Anderson 32

Earth Systems
Southern California

7/24/2009 | VT-23066-04

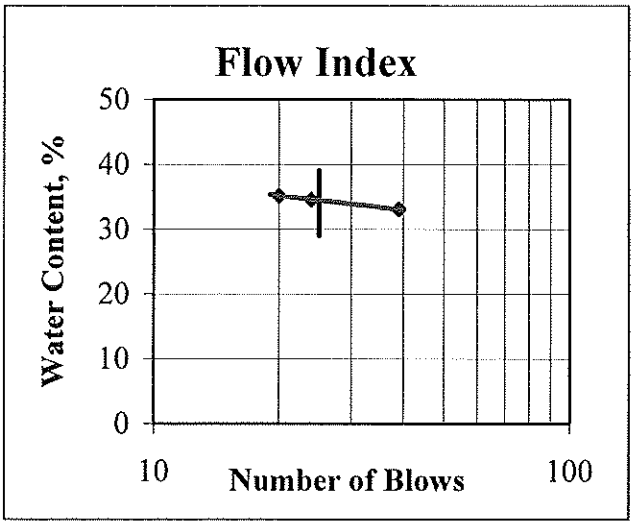
File No.: VT-23066-04 July 24, 2009
Lab No.:

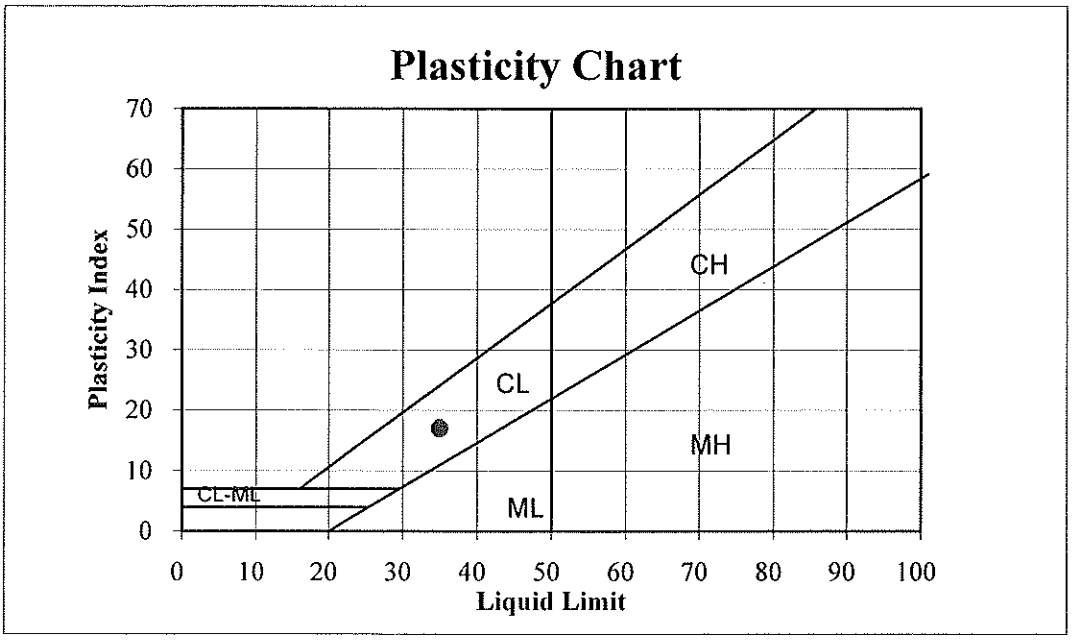
PLASTICITY INDEX

ASTM D 4318

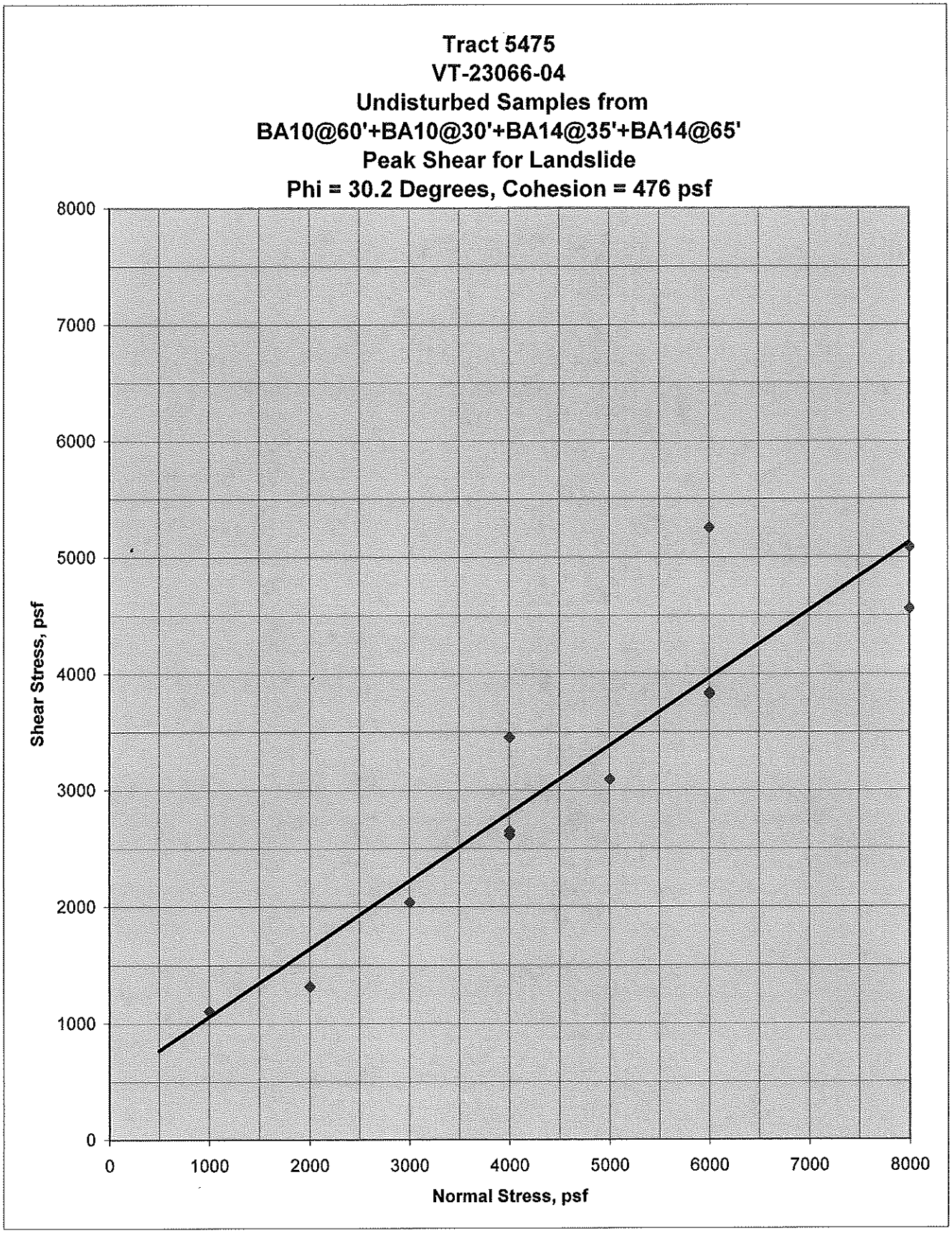
Job Name: Anderson 32
Sample ID: BA-13 at 78 feet
Soil Description: Brown Silty Clay With Fine Sand (CL)

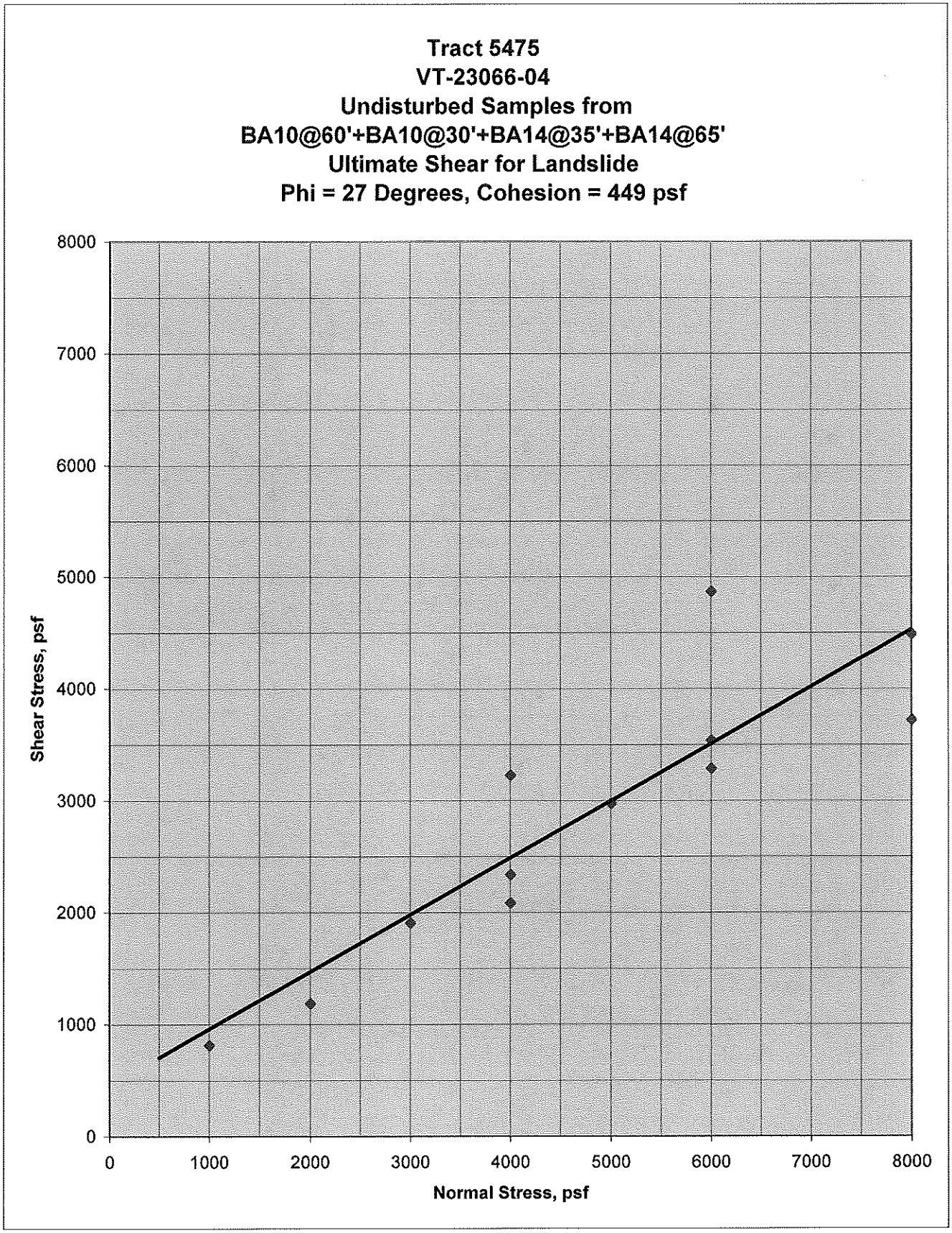
DATA SUMMARY				TEST RESULTS	
Number of Blows:	20	24	39	**LIQUID LIMIT**	**35**
Water Content, %	35.2	34.6	33.1	**PLASTIC LIMIT**	**18**
				PLASTICITY INDEX	**17**





COMPOSITE SHEAR DIAGRAMS


Tract 5475
VT-23066-04
Undisturbed Samples from
BA10@60'+BA10@30'+BA14@35'+BA14@65'
Peak Shear for Landslide
Phi = 30.2 Degrees, Cohesion = 476 psf
Shear Stress, psf
Normal Stress, psf
0
1000
2000
3000
4000
5000
6000
7000
8000

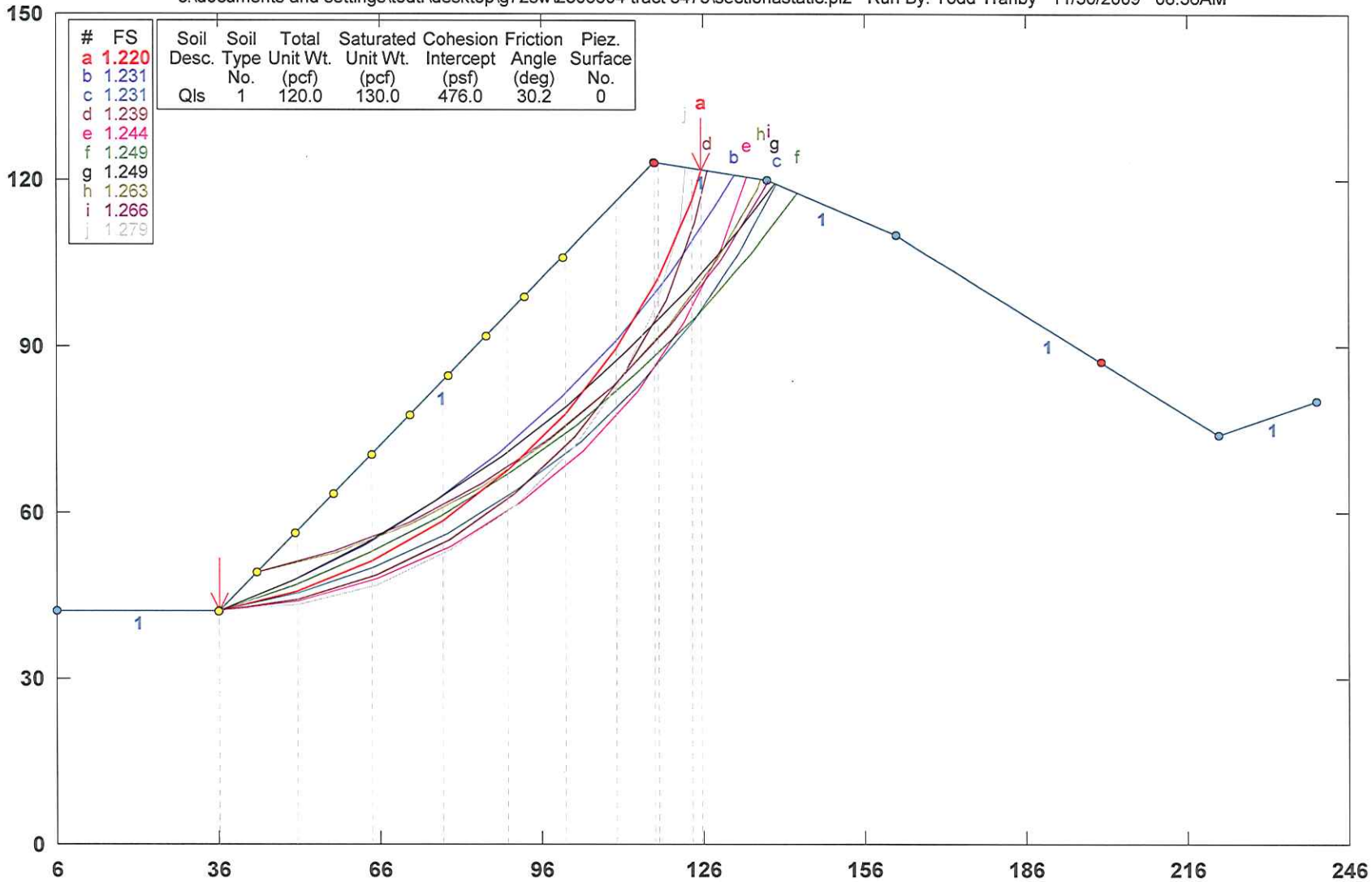

Tract 5475
VT-23066-04
Undisturbed Samples from
BA10@60'+BA10@30'+BA14@35'+BA14@65'
Ultimate Shear for Landslide
Phi = 27 Degrees, Cohesion = 449 psf
Shear Stress, psf
Normal Stress, psf
0
1000
2000
3000
4000
5000
6000
7000
8000

SLOPE STABILITY ANALYSIS

Static Analysis, Peak Shear Data, 1:1 Gradient Backcut

Tract 5475 Section D-D, Static

c:\documents and settings\todtr\desktop\g72sw\2306604 tract 5475\sectionastatic.pl2 Run By: Todd Tranby 11/30/2009 08:36AM



GSTABL7 v.2 FSmin=1.220

Safety Factors Are Calculated By The Modified Bishop Method

GSTABL7

```
                    ***  GSTABL7  ***
              ** GSTABL7 by Garry H. Gregory, P.E. **
   ** Original Version 1.0, January 1996; Current Version 2.004, June 2003 **
          (All Rights Reserved-Unauthorized Use Prohibited)
*******************************************************************************
                  SLOPE STABILITY ANALYSIS SYSTEM
       Modified Bishop, Simplified Janbu, or GLE Method of Slices.
       (Includes Spencer & Morgenstern-Price Type Analysis)
       Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
       Nonlinear Undrained Shear Strength, Curved Phi Envelope,
       Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
       Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.
*******************************************************************************
   Analysis Run Date:        11/30/2009
   Time of Run:              08:36AM
   Run By:                   Todd Tranby
   Input Data Filename:      C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.in
   Output Filename:          C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.OUT
   Unit System:              English
   Plotted Output Filename:  C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.PLT
   PROBLEM DESCRIPTION:  Tract 5475
                         Section D-D, Static
   BOUNDARY COORDINATES
        Note: User origin value specified.
        Add 6.00 to X-values and 0.00 to Y-values listed.

       6 Top   Boundaries
       6 Total Boundaries
   Boundary     X-Left     Y-Left    X-Right    Y-Right    Soil Type
      No.        (ft)       (ft)       (ft)       (ft)     Below Bnd
       1         6.00      42.00      36.00      42.00        1
       2        36.00      42.00     117.00     123.00        1
       3       117.00     123.00     138.00     120.00        1
       4       138.00     120.00     162.00     110.00        1
       5       162.00     110.00     222.00      74.00        1
       6       222.00      74.00     240.00      80.00        1
   Default Y-Origin = 0.00(ft)
   Default X-Plus Value = 0.00(ft)
   Default Y-Plus Value = 0.00(ft)
  ISOTROPIC SOIL PARAMETERS
    1 Type(s) of Soil
   Soil  Total  Saturated  Cohesion Friction   Pore   Pressure   Piez.
   Type Unit Wt. Unit Wt. Intercept   Angle  Pressure Constant Surface
    No.  (pcf)    (pcf)     (psf)     (deg)    Param.   (psf)     No.
     1   120.0    130.0     476.0     30.2    0.00      0.0      0
   A Critical Failure Surface Searching Method, Using A Random
   Technique For Generating Circular Surfaces, Has Been Specified.
   1000 Trial Surfaces Have Been Generated.
    100 Surface(s) Initiate(s) From Each Of    10 Points Equally Spaced
   Along The Ground Surface Between  X =  36.00(ft)
                                  and  X = 100.00(ft)
   Each Surface Terminates Between   X = 117.00(ft)
                                 and   X = 200.00(ft)
   Unless Further Limitations Were Imposed, The Minimum Elevation
   At Which A Surface Extends Is  Y =      4.00(ft)
   15.00(ft) Line Segments Define Each Trial Failure Surface.
   The Factor Of Safety For The Trial Failure Surface Defined
   By The Coordinates Listed Below Is Misleading.
   Failure Surface Defined By 11 Coordinate Points
     Point      X-Surf      Y-Surf
      No.        (ft)        (ft)
       1         78.67       84.67
       2         89.30       74.08
       3        101.78       65.77
       4        115.65       60.05
```

5	130.36	57.13
6	145.36	57.14
7	160.08	60.06
8	173.94	65.79
9	186.42	74.11
10	197.05	84.70
11	199.09	87.74

Factor Of Safety For The Preceding Specified Surface =-60.869
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.43	74.22
3	102.01	66.04
4	115.91	60.42
5	130.64	57.57
6	145.64	57.60
7	160.36	60.50
8	174.24	66.17
9	186.78	74.40
10	197.51	84.89
11	199.37	87.58

Factor Of Safety For The Preceding Specified Surface =-56.840
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	92.49	78.85
3	106.89	74.65
4	121.67	72.10
5	136.65	71.26
6	151.63	72.12
7	166.41	74.68
8	180.80	78.90
9	194.62	84.73
10	199.52	87.49

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.79	74.61
3	102.60	66.80
4	116.65	61.53
5	131.43	58.97
6	146.42	59.21
7	161.11	62.25
8	174.97	67.98
9	187.52	76.20
10	198.32	86.62
11	199.10	87.74

Factor Of Safety For The Preceding Specified Surface =-68.802
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.31	74.10
3	101.80	65.79
4	115.65	60.04

5	130.36	57.07
6	145.36	56.99
7	160.09	59.81
8	174.00	65.42
9	186.57	73.60
10	197.33	84.06
11	199.65	87.41

Factor Of Safety For The Preceding Specified Surface =-50.890
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	90.72	75.73
3	104.11	68.98
4	118.46	64.62
5	133.35	62.77
6	148.33	63.48
7	162.97	66.74
8	176.84	72.45
9	189.54	80.45
10	198.22	88.27

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.42	74.21
3	102.00	66.05
4	115.94	60.50
5	130.69	57.78
6	145.69	58.00
7	160.36	61.14
8	174.13	67.09
9	186.47	75.61
10	196.92	86.38
11	198.16	88.30

Factor Of Safety For The Preceding Specified Surface =-95.889
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	91.58	77.03
3	105.46	71.36
4	120.03	67.77
5	134.96	66.36
6	149.94	67.14
7	164.64	70.11
8	178.76	75.19
9	191.98	82.28
10	199.23	87.66

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.83	74.65
3	102.67	66.88
4	116.71	61.62
5	131.49	59.06

6	146.49	59.28
7	161.19	62.27
8	175.08	67.94
9	187.68	76.08
10	198.55	86.41
11	199.38	87.57

Factor Of Safety For The Preceding Specified Surface =-62.171
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	90.27	75.16
3	103.36	67.84
4	117.54	62.95
5	132.36	60.63
6	147.36	60.97
7	162.06	63.95
8	176.00	69.47
9	188.76	77.37
10	199.82	87.31

Factor Of Safety For The Preceding Specified Surface =-58.957
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	91.06	76.21
3	104.63	69.83
4	119.05	65.68
5	133.94	63.87
6	148.93	64.45
7	163.63	67.40
8	177.69	72.64
9	190.73	80.05
10	199.80	87.32

Factor Of Safety For The Preceding Specified Surface =-66.294
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.33	74.12
3	101.84	65.83
4	115.70	60.11
5	130.41	57.18
6	145.41	57.13
7	160.14	59.99
8	174.04	65.63
9	186.59	73.84
10	197.31	84.33
11	199.50	87.50

Factor Of Safety For The Preceding Specified Surface =-53.518
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	92.10	78.00
3	106.28	73.11
4	120.97	70.08
5	135.93	68.97
6	150.91	69.79

7	165.66	72.52
8	179.93	77.13
9	193.50	83.54
10	199.59	87.45

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.28	74.07
3	101.78	65.77
4	115.66	60.10
5	130.40	57.27
6	145.40	57.40
7	160.07	60.49
8	173.86	66.40
9	186.21	74.92
10	196.64	85.70
11	198.27	88.24

Factor Of Safety For The Preceding Specified Surface =-85.977
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	98.75	84.24
3	112.79	78.97
4	127.52	76.12
5	142.51	75.77
6	157.36	77.92
7	171.63	82.52
8	184.94	89.44
9	189.95	93.23

Factor Of Safety For The Preceding Specified Surface =-43.136
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	96.65	81.45
3	109.38	73.51
4	123.44	68.29
5	138.27	66.01
6	153.25	66.75
7	167.78	70.48
8	181.26	77.06
9	193.14	86.21
10	196.04	89.57

Factor Of Safety For The Preceding Specified Surface =-14.891
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	97.35	82.24
3	110.73	75.46
4	125.27	71.77
5	140.27	71.35
6	154.99	74.21
7	168.73	80.23
8	180.82	89.11
9	186.32	95.41

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	96.39	81.17
3	108.86	72.84
4	122.72	67.11
5	137.44	64.20
6	152.44	64.21
7	167.14	67.16
8	180.99	72.92
9	193.45	81.28
10	199.59	87.45

Factor Of Safety For The Preceding Specified Surface =-11.340
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	99.70	86.19
3	114.20	82.35
4	129.06	80.34
5	144.06	80.17
6	158.97	81.85
7	173.55	85.36
8	187.59	90.64
9	191.15	92.51

Factor Of Safety For The Preceding Specified Surface =-40.626
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	97.47	82.38
3	110.71	75.33
4	125.03	70.86
5	139.93	69.14
6	154.89	70.22
7	169.39	74.07
8	182.92	80.55
9	195.00	89.43
10	195.46	89.92

Factor Of Safety For The Preceding Specified Surface =-16.024
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	97.72	82.70
3	111.28	76.30
4	125.88	72.83
5	140.87	72.46
6	155.62	75.20
7	169.48	80.93
8	181.86	89.40
9	187.13	94.92

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point	X-Surf	Y-Surf

No.	(ft)	(ft)
1	85.78	91.78
2	96.84	81.65
3	109.73	73.98
4	123.91	69.07
5	138.78	67.15
6	153.74	68.28
7	168.16	72.42
8	181.44	79.39
9	193.03	88.92
10	194.37	90.58

Factor Of Safety For The Preceding Specified Surface =-17.805
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points
################### SOME LINES SKIPPED ###################
Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Evaluated. They Are
Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Modified Bishop Method * *
Total Number of Trial Surfaces Attempted = 1000
Number of Trial Surfaces with Misleading FS = 119
Number of Trial Surfaces With Valid FS = 881
Percentage of Trial Surfaces With Non-Valid FS Solutions
of the Total Attempted = 11.9 %
Statistical Data On All Valid FS Values:
FS Max = 394.135 FS Min = 1.220 FS Ave = 7.777
Standard Deviation = 23.118 Coefficient of Variation = 297.27 %
Failure Surface Specified By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	36.000	42.000
2	50.527	45.736
3	64.459	51.296
4	77.567	58.589
5	89.637	67.494
6	100.472	77.868
7	109.894	89.539
8	117.749	102.318
9	123.909	115.995
10	125.663	121.762

Circle Center At X = 14.456 ; Y = 156.496 ; and Radius = 116.505
Factor of Safety
*** 1.220 ***
Individual data on the 10 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	14.5	9405.8	0.0	0.0	0.	0.	0.0	0.0	0.0
2	13.9	25038.1	0.0	0.0	0.	0.	0.0	0.0	0.0
3	13.1	34716.0	0.0	0.0	0.	0.	0.0	0.0	0.0
4	12.1	38470.2	0.0	0.0	0.	0.	0.0	0.0	0.0
5	10.8	36889.5	0.0	0.0	0.	0.	0.0	0.0	0.0
6	9.4	31068.9	0.0	0.0	0.	0.	0.0	0.0	0.0
7	7.1	20574.9	0.0	0.0	0.	0.	0.0	0.0	0.0
8	0.7	1908.7	0.0	0.0	0.	0.	0.0	0.0	0.0
9	6.2	9829.0	0.0	0.0	0.	0.	0.0	0.0	0.0
10	1.8	633.3	0.0	0.0	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	36.000	42.000
2	49.939	47.541
3	63.369	54.223
4	76.195	62.000
5	88.329	70.818

```
    6         99.687       80.616
    7        110.190       91.325
    8        119.764      102.872
    9        128.344      115.176
   10        131.666      120.905
Circle Center At X =   -22.870 ; Y =   210.822 ; and Radius =   178.791
       Factor of Safety
      ***    1.231   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         50.645       45.246
    3         64.863       50.026
    4         78.493       56.287
    5         91.383       63.959
    6        103.386       72.954
    7        114.368       83.172
    8        124.204       94.497
    9        132.784      106.801
   10        139.659      119.309
Circle Center At X =    12.864 ; Y =   181.172 ; and Radius =   141.082
       Factor of Safety
      ***    1.231   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         50.838       44.202
    3         65.182       48.588
    4         78.713       55.062
    5         91.129       63.478
    6        102.154       73.650
    7        111.541       85.349
    8        119.081       98.317
    9        124.606      112.262
   10        126.771      121.604
Circle Center At X =    28.946 ; Y =   141.598 ; and Radius =    99.847
       Factor of Safety
      ***    1.239   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         50.871       43.964
    3         65.332       47.947
    4         79.112       53.873
    5         91.949       61.633
    6        103.602       71.078
    7        113.851       82.030
    8        122.502       94.284
    9        129.393      107.608
   10        133.977      120.575
Circle Center At X =    29.241 ; Y =   150.801 ; and Radius =   109.011
       Factor of Safety
      ***    1.244   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         50.211       46.799
    3         64.038       52.617
    4         77.406       59.421
    5         90.245       67.176
    6        102.488       75.842
    7        114.071       85.373
    8        124.932       95.719
```

```
    9        135.015      106.825
   10        143.532      117.695
Circle Center At X =   -22.855 ; Y =   239.836 ; and Radius =   206.405
       Factor of Safety
      ***    1.249   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         49.845       47.773
    3         63.290       54.423
    4         76.280       61.923
    5         88.762       70.242
    6        100.685       79.344
    7        111.998       89.194
    8        122.655       99.750
    9        132.612      110.968
   10        139.243      119.482
Circle Center At X =   -46.343 ; Y =   259.246 ; and Radius =   232.328
       Factor of Safety
      ***    1.249   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         43.111       49.111
    2         57.672       52.716
    3         71.729       57.949
    4         85.102       64.744
    5         97.617       73.013
    6        109.112       82.649
    7        119.440       93.527
    8        128.467      105.507
    9        136.075      118.434
   10        136.845      120.165
Circle Center At X =    18.916 ; Y =   178.382 ; and Radius =   131.516
       Factor of Safety
      ***    1.263   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         43.111       49.111
    2         57.611       52.953
    3         71.619       58.316
    4         84.978       65.139
    5         97.534       73.344
    6        109.147       82.839
    7        119.683       93.516
    8        129.023      105.253
    9        137.062      117.917
   10        138.075      119.969
Circle Center At X =    14.582 ; Y =   186.412 ; and Radius =   140.233
       Factor of Safety
      ***    1.266   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         50.954       43.177
    3         65.480       46.918
    4         79.142       53.110
    5         91.530       61.568
    6        102.272       72.037
    7        111.045       84.204
    8        117.587       97.703
    9        121.700      112.128
   10        122.751      122.178
Circle Center At X =    36.886 ; Y =   128.062 ; and Radius =    86.066
```

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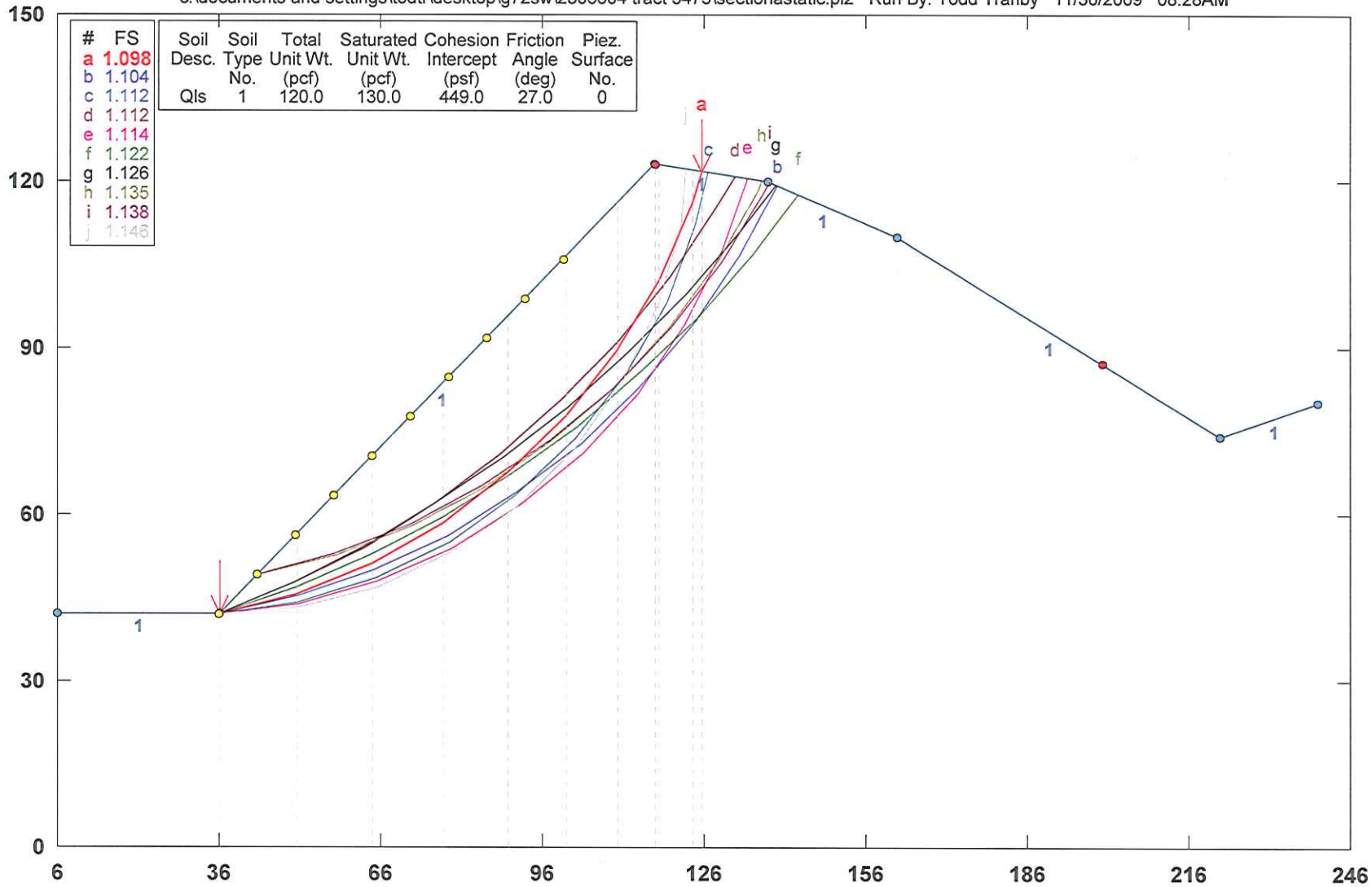
 Factor of Safety
***    1.279   ***
    **** END OF GSTABL7 OUTPUT ****
```

SLOPE STABILITY ANALYSIS

Static Analysis, Ultimate Shear Data, 1:1 Gradient Backcut

Tract 5475 Section D-D, Static

c:\documents and settings\todtr\desktop\g72sw\2306604 tract 5475\sectionastatic.pl2 Run By: Todd Tranby 11/30/2009 08:28AM



GSTABL7 v.2 FSmin=1.098

Safety Factors Are Calculated By The Modified Bishop Method

GSTABL7

```
                    *** GSTABL7 ***
              ** GSTABL7 by Garry H. Gregory, P.E. **
   ** Original Version 1.0, January 1996; Current Version 2.004, June 2003 **
          (All Rights Reserved-Unauthorized Use Prohibited)
*******************************************************************************
                  SLOPE STABILITY ANALYSIS SYSTEM
      Modified Bishop, Simplified Janbu, or GLE Method of Slices.
      (Includes Spencer & Morgenstern-Price Type Analysis)
      Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
      Nonlinear Undrained Shear Strength, Curved Phi Envelope,
      Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
      Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.
*******************************************************************************
Analysis Run Date:        11/30/2009
Time of Run:              08:28AM
Run By:                   Todd Tranby
Input Data Filename:      C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.in
Output Filename:          C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.OUT
Unit System:              English
Plotted Output Filename:  C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.PLT
PROBLEM DESCRIPTION:  Tract 5475
                      Section D-D, Static
BOUNDARY COORDINATES
     Note: User origin value specified.
     Add 0.50 to X-values and 0.00 to Y-values listed.

    6 Top   Boundaries
    6 Total Boundaries
Boundary     X-Left     Y-Left    X-Right    Y-Right    Soil Type
   No.        (ft)       (ft)       (ft)       (ft)     Below Bnd
    1         6.00      42.00      36.00      42.00        1
    2        36.00      42.00     117.00     123.00        1
    3       117.00     123.00     138.00     120.00        1
    4       138.00     120.00     162.00     110.00        1
    5       162.00     110.00     222.00      74.00        1
    6       222.00      74.00     240.00      80.00        1
Default Y-Origin = 0.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)
ISOTROPIC SOIL PARAMETERS
 1 Type(s) of Soil
Soil  Total  Saturated  Cohesion Friction   Pore   Pressure   Piez.
Type Unit Wt. Unit Wt. Intercept   Angle  Pressure Constant Surface
 No.  (pcf)    (pcf)     (psf)     (deg)    Param.   (psf)     No.
  1   120.0    130.0     449.0     27.0    0.00       0.0      0
A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.
1000 Trial Surfaces Have Been Generated.
 100 Surface(s) Initiate(s) From Each Of    10 Points Equally Spaced
Along The Ground Surface Between  X =  36.00(ft)
                              and  X = 100.00(ft)
Each Surface Terminates Between   X = 117.00(ft)
                              and   X = 200.00(ft)
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is  Y =      4.00(ft)
15.00(ft) Line Segments Define Each Trial Failure Surface.
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         78.67       84.67
    2         89.30       74.08
    3        101.78       65.77
    4        115.65       60.05
```

5	130.36	57.13
6	145.36	57.14
7	160.08	60.06
8	173.94	65.79
9	186.42	74.11
10	197.05	84.70
11	199.09	87.74

Factor Of Safety For The Preceding Specified Surface =-53.900
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.43	74.22
3	102.01	66.04
4	115.91	60.42
5	130.64	57.57
6	145.64	57.60
7	160.36	60.50
8	174.24	66.17
9	186.78	74.40
10	197.51	84.89
11	199.37	87.58

Factor Of Safety For The Preceding Specified Surface =-50.336
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	92.49	78.85
3	106.89	74.65
4	121.67	72.10
5	136.65	71.26
6	151.63	72.12
7	166.41	74.68
8	180.80	78.90
9	194.62	84.73
10	199.52	87.49

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.79	74.61
3	102.60	66.80
4	116.65	61.53
5	131.43	58.97
6	146.42	59.21
7	161.11	62.25
8	174.97	67.98
9	187.52	76.20
10	198.32	86.62
11	199.10	87.74

Factor Of Safety For The Preceding Specified Surface =-60.943
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.31	74.10
3	101.80	65.79
4	115.65	60.04

5	130.36	57.07
6	145.36	56.99
7	160.09	59.81
8	174.00	65.42
9	186.57	73.60
10	197.33	84.06
11	199.65	87.41

Factor Of Safety For The Preceding Specified Surface =-45.063
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	90.72	75.73
3	104.11	68.98
4	118.46	64.62
5	133.35	62.77
6	148.33	63.48
7	162.97	66.74
8	176.84	72.45
9	189.54	80.45
10	198.22	88.27

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.42	74.21
3	102.00	66.05
4	115.94	60.50
5	130.69	57.78
6	145.69	58.00
7	160.36	61.14
8	174.13	67.09
9	186.47	75.61
10	196.92	86.38
11	198.16	88.30

Factor Of Safety For The Preceding Specified Surface =-84.920
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	91.58	77.03
3	105.46	71.36
4	120.03	67.77
5	134.96	66.36
6	149.94	67.14
7	164.64	70.11
8	178.76	75.19
9	191.98	82.28
10	199.23	87.66

Factor Of Safety For The Preceding Specified Surface =-97.321
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.83	74.65
3	102.67	66.88
4	116.71	61.62
5	131.49	59.06

6	146.49	59.28
7	161.19	62.27
8	175.08	67.94
9	187.68	76.08
10	198.55	86.41
11	199.38	87.57

Factor Of Safety For The Preceding Specified Surface =-55.070
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	90.27	75.16
3	103.36	67.84
4	117.54	62.95
5	132.36	60.63
6	147.36	60.97
7	162.06	63.95
8	176.00	69.47
9	188.76	77.37
10	199.82	87.31

Factor Of Safety For The Preceding Specified Surface =-52.235
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	91.06	76.21
3	104.63	69.83
4	119.05	65.68
5	133.94	63.87
6	148.93	64.45
7	163.63	67.40
8	177.69	72.64
9	190.73	80.05
10	199.80	87.32

Factor Of Safety For The Preceding Specified Surface =-58.767
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.33	74.12
3	101.84	65.83
4	115.70	60.11
5	130.41	57.18
6	145.41	57.13
7	160.14	59.99
8	174.04	65.63
9	186.59	73.84
10	197.31	84.33
11	199.50	87.50

Factor Of Safety For The Preceding Specified Surface =-47.392
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	92.10	78.00
3	106.28	73.11
4	120.97	70.08
5	135.93	68.97
6	150.91	69.79

7	165.66	72.52
8	179.93	77.13
9	193.50	83.54
10	199.59	87.45

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.67	84.67
2	89.28	74.07
3	101.78	65.77
4	115.66	60.10
5	130.40	57.27
6	145.40	57.40
7	160.07	60.49
8	173.86	66.40
9	186.21	74.92
10	196.64	85.70
11	198.27	88.24

Factor Of Safety For The Preceding Specified Surface =-76.136
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	98.75	84.24
3	112.79	78.97
4	127.52	76.12
5	142.51	75.77
6	157.36	77.92
7	171.63	82.52
8	184.94	89.44
9	189.95	93.23

Factor Of Safety For The Preceding Specified Surface =-38.329
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	96.65	81.45
3	109.38	73.51
4	123.44	68.29
5	138.27	66.01
6	153.25	66.75
7	167.78	70.48
8	181.26	77.06
9	193.14	86.21
10	196.04	89.57

Factor Of Safety For The Preceding Specified Surface =-13.206
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	97.35	82.24
3	110.73	75.46
4	125.27	71.77
5	140.27	71.35
6	154.99	74.21
7	168.73	80.23
8	180.82	89.11
9	186.32	95.41

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	96.39	81.17
3	108.86	72.84
4	122.72	67.11
5	137.44	64.20
6	152.44	64.21
7	167.14	67.16
8	180.99	72.92
9	193.45	81.28
10	199.59	87.45

Factor Of Safety For The Preceding Specified Surface =-10.054
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	99.70	86.19
3	114.20	82.35
4	129.06	80.34
5	144.06	80.17
6	158.97	81.85
7	173.55	85.36
8	187.59	90.64
9	191.15	92.51

Factor Of Safety For The Preceding Specified Surface =-36.143
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	97.47	82.38
3	110.71	75.33
4	125.03	70.86
5	139.93	69.14
6	154.89	70.22
7	169.39	74.07
8	182.92	80.55
9	195.00	89.43
10	195.46	89.92

Factor Of Safety For The Preceding Specified Surface =-14.220
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	85.78	91.78
2	97.72	82.70
3	111.28	76.30
4	125.88	72.83
5	140.87	72.46
6	155.62	75.20
7	169.48	80.93
8	181.86	89.40
9	187.13	94.92

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point	X-Surf	Y-Surf

No.	(ft)	(ft)
1	85.78	91.78
2	96.84	81.65
3	109.73	73.98
4	123.91	69.07
5	138.78	67.15
6	153.74	68.28
7	168.16	72.42
8	181.44	79.39
9	193.03	88.92
10	194.37	90.58

Factor Of Safety For The Preceding Specified Surface =-15.794
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points
#################### SOME LINES SKIPPED ####################
Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Evaluated. They Are
Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Modified Bishop Method * *
Total Number of Trial Surfaces Attempted = 1000
Number of Trial Surfaces with Misleading FS = 119
Number of Trial Surfaces With Valid FS = 881
Percentage of Trial Surfaces With Non-Valid FS Solutions
of the Total Attempted = 11.9 %
Statistical Data On All Valid FS Values:
FS Max = 466.963 FS Min = 1.098 FS Ave = 7.969
Standard Deviation = 29.829 Coefficient of Variation = 374.30 %
Failure Surface Specified By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	36.000	42.000
2	50.527	45.736
3	64.459	51.296
4	77.567	58.589
5	89.637	67.494
6	100.472	77.868
7	109.894	89.539
8	117.749	102.318
9	123.909	115.995
10	125.663	121.762

Circle Center At X = 14.456 ; Y = 156.496 ; and Radius = 116.505
Factor of Safety
*** 1.098 ***
Individual data on the 10 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	14.5	9405.8	0.0	0.0	0.	0.	0.0	0.0	0.0
2	13.9	25038.1	0.0	0.0	0.	0.	0.0	0.0	0.0
3	13.1	34716.0	0.0	0.0	0.	0.	0.0	0.0	0.0
4	12.1	38470.2	0.0	0.0	0.	0.	0.0	0.0	0.0
5	10.8	36889.5	0.0	0.0	0.	0.	0.0	0.0	0.0
6	9.4	31068.9	0.0	0.0	0.	0.	0.0	0.0	0.0
7	7.1	20574.9	0.0	0.0	0.	0.	0.0	0.0	0.0
8	0.7	1908.7	0.0	0.0	0.	0.	0.0	0.0	0.0
9	6.2	9829.0	0.0	0.0	0.	0.	0.0	0.0	0.0
10	1.8	633.3	0.0	0.0	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	36.000	42.000
2	50.645	45.246
3	64.863	50.026
4	78.493	56.287
5	91.383	63.959

```
    6        103.386       72.954
    7        114.368       83.172
    8        124.204       94.497
    9        132.784      106.801
   10        139.659      119.309
Circle Center At X =    12.864 ; Y =   181.172 ; and Radius =   141.082
       Factor of Safety
      ***    1.104   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         50.838       44.202
    3         65.182       48.588
    4         78.713       55.062
    5         91.129       63.478
    6        102.154       73.650
    7        111.541       85.349
    8        119.081       98.317
    9        124.606      112.262
   10        126.771      121.604
Circle Center At X =    28.946 ; Y =   141.598 ; and Radius =    99.847
       Factor of Safety
      ***    1.112   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         49.939       47.541
    3         63.369       54.223
    4         76.195       62.000
    5         88.329       70.818
    6         99.687       80.616
    7        110.190       91.325
    8        119.764      102.872
    9        128.344      115.176
   10        131.666      120.905
Circle Center At X =   -22.870 ; Y =   210.822 ; and Radius =   178.791
       Factor of Safety
      ***    1.112   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         50.871       43.964
    3         65.332       47.947
    4         79.112       53.873
    5         91.949       61.633
    6        103.602       71.078
    7        113.851       82.030
    8        122.502       94.284
    9        129.393      107.608
   10        133.977      120.575
Circle Center At X =    29.241 ; Y =   150.801 ; and Radius =   109.011
       Factor of Safety
      ***    1.114   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         36.000       42.000
    2         50.211       46.799
    3         64.038       52.617
    4         77.406       59.421
    5         90.245       67.176
    6        102.488       75.842
    7        114.071       85.373
    8        124.932       95.719
```

```
    9        135.015      106.825
   10        143.532      117.695
Circle Center At X =   -22.855 ; Y =   239.836 ; and Radius =   206.405
       Factor of Safety
      ***    1.122   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1        36.000       42.000
    2        49.845       47.773
    3        63.290       54.423
    4        76.280       61.923
    5        88.762       70.242
    6       100.685       79.344
    7       111.998       89.194
    8       122.655       99.750
    9       132.612      110.968
   10       139.243      119.482
Circle Center At X =   -46.343 ; Y =   259.246 ; and Radius =   232.328
       Factor of Safety
      ***    1.126   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1        43.111       49.111
    2        57.672       52.716
    3        71.729       57.949
    4        85.102       64.744
    5        97.617       73.013
    6       109.112       82.649
    7       119.440       93.527
    8       128.467      105.507
    9       136.075      118.434
   10       136.845      120.165
Circle Center At X =    18.916 ; Y =   178.382 ; and Radius =   131.516
       Factor of Safety
      ***    1.135   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1        43.111       49.111
    2        57.611       52.953
    3        71.619       58.316
    4        84.978       65.139
    5        97.534       73.344
    6       109.147       82.839
    7       119.683       93.516
    8       129.023      105.253
    9       137.062      117.917
   10       138.075      119.969
Circle Center At X =    14.582 ; Y =   186.412 ; and Radius =   140.233
       Factor of Safety
      ***    1.138   ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1        36.000       42.000
    2        50.954       43.177
    3        65.480       46.918
    4        79.142       53.110
    5        91.530       61.568
    6       102.272       72.037
    7       111.045       84.204
    8       117.587       97.703
    9       121.700      112.128
   10       122.751      122.178
Circle Center At X =    36.886 ; Y =   128.062 ; and Radius =    86.066
```

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 Factor of Safety
***    1.146   ***
    **** END OF GSTABL7 OUTPUT ****
```
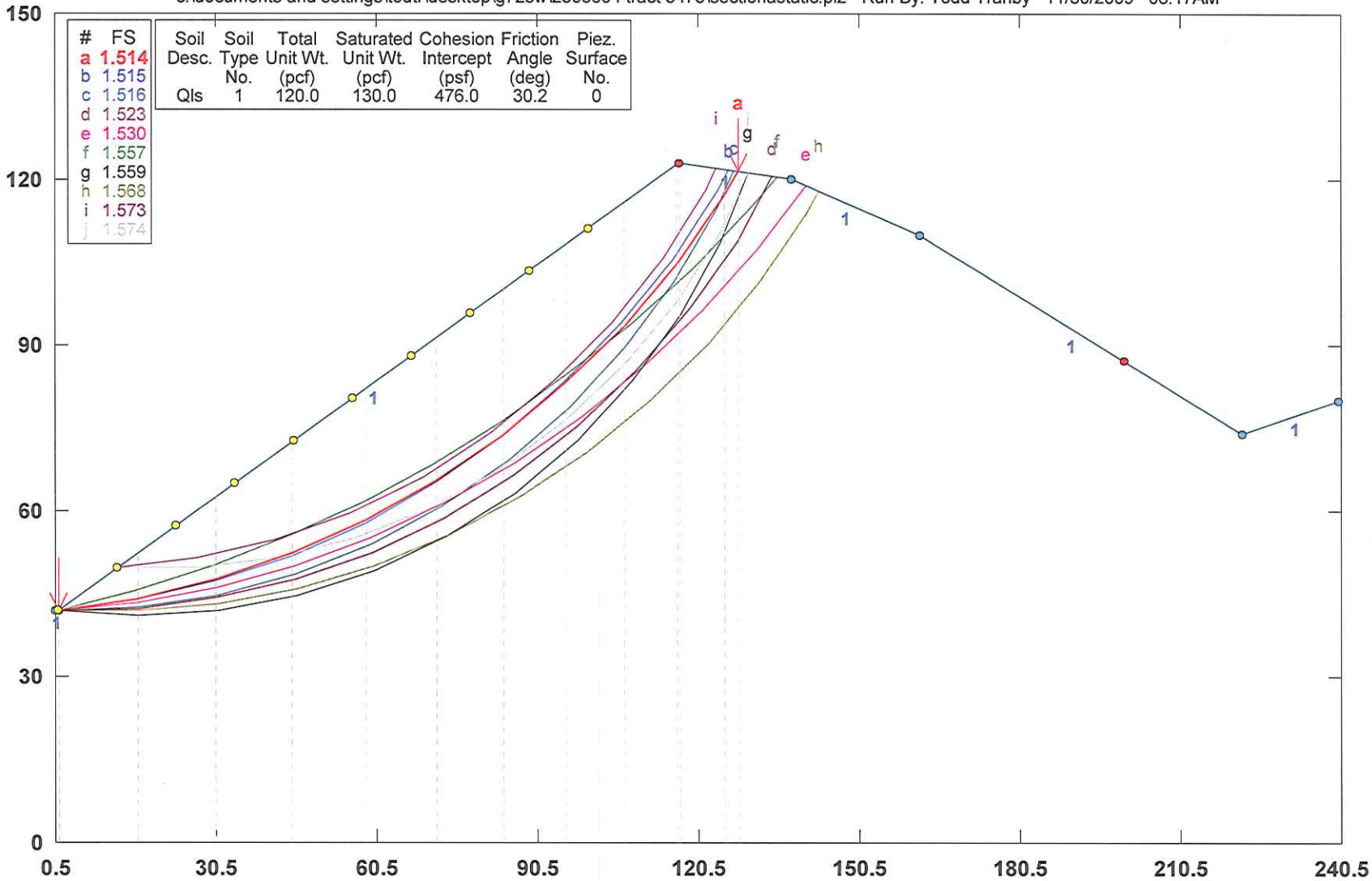

SLOPE STABILITY ANALYSIS

Static Analysis, Peak Shear Data, 1.5:1 Gradient Backcut

Tract 5475 Section D-D, Static

c:\documents and settings\todtr\desktop\g72sw\2306604 tract 5475\sectionastatic.pl2 Run By: Todd Tranby 11/30/2009 08:17AM



GSTABL7 v.2 FSmin=1.514

Safety Factors Are Calculated By The Modified Bishop Method

GSTABL7

```
                          *** GSTABL7 ***
                    ** GSTABL7 by Garry H. Gregory, P.E. **
     ** Original Version 1.0, January 1996; Current Version 2.004, June 2003 **
                (All Rights Reserved-Unauthorized Use Prohibited)
*******************************************************************************
                      SLOPE STABILITY ANALYSIS SYSTEM
          Modified Bishop, Simplified Janbu, or GLE Method of Slices.
          (Includes Spencer & Morgenstern-Price Type Analysis)
          Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
          Nonlinear Undrained Shear Strength, Curved Phi Envelope,
          Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
          Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.
*******************************************************************************
    Analysis Run Date:        11/30/2009
    Time of Run:              08:17AM
    Run By:                   Todd Tranby
    Input Data Filename:      C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.in
    Output Filename:          C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.OUT
    Unit System:              English
    Plotted Output Filename:  C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.PLT
    PROBLEM DESCRIPTION:  Tract 5475
                          Section D-D, Static
    BOUNDARY COORDINATES
         Note: User origin value specified.
         Add 0.50 to X-values and 0.00 to Y-values listed.

        6 Top   Boundaries
        6 Total Boundaries
    Boundary     X-Left     Y-Left    X-Right    Y-Right    Soil Type
       No.        (ft)       (ft)       (ft)       (ft)     Below Bnd
        1         0.50      42.00       1.00      42.00        1
        2         1.00      42.00     117.00     123.00        1
        3       117.00     123.00     138.00     120.00        1
        4       138.00     120.00     162.00     110.00        1
        5       162.00     110.00     222.00      74.00        1
        6       222.00      74.00     240.00      80.00        1
    Default Y-Origin = 0.00(ft)
    Default X-Plus Value = 0.00(ft)
    Default Y-Plus Value = 0.00(ft)
   ISOTROPIC SOIL PARAMETERS
     1 Type(s) of Soil
    Soil  Total  Saturated  Cohesion Friction   Pore   Pressure   Piez.
    Type Unit Wt. Unit Wt. Intercept   Angle  Pressure Constant Surface
     No.  (pcf)    (pcf)     (psf)     (deg)    Param.   (psf)     No.
      1   120.0    130.0     476.0     30.2    0.00       0.0      0
    A Critical Failure Surface Searching Method, Using A Random
    Technique For Generating Circular Surfaces, Has Been Specified.
    1000 Trial Surfaces Have Been Generated.
     100 Surface(s) Initiate(s) From Each Of    10 Points Equally Spaced
    Along The Ground Surface Between  X =   1.00(ft)
                                  and  X = 100.00(ft)
    Each Surface Terminates Between   X = 117.00(ft)
                                  and   X = 200.00(ft)
    Unless Further Limitations Were Imposed, The Minimum Elevation
    At Which A Surface Extends Is  Y =      4.00(ft)
    15.00(ft) Line Segments Define Each Trial Failure Surface.
    The Factor Of Safety For The Trial Failure Surface Defined
    By The Coordinates Listed Below Is Misleading.
    Failure Surface Defined By 11 Coordinate Points
      Point      X-Surf      Y-Surf
       No.        (ft)        (ft)
        1         67.00       88.09
        2         80.91       82.47
        3         95.28       78.17
```

4	109.99	75.24
5	124.91	73.70
6	139.91	73.55
7	154.86	74.80
8	169.62	77.45
9	184.08	81.46
10	198.09	86.80
11	199.50	87.50

Factor Of Safety For The Preceding Specified Surface =-56.643
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	78.12	78.02
3	90.75	69.93
4	104.56	64.06
5	119.14	60.56
6	134.11	59.53
7	149.03	61.00
8	163.51	64.92
9	177.14	71.20
10	189.53	79.65
11	198.40	88.16

Factor Of Safety For The Preceding Specified Surface =-68.815
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	77.63	77.50
3	89.92	68.90
4	103.51	62.55
5	117.99	58.64
6	132.93	57.28
7	147.88	58.51
8	162.39	62.31
9	176.03	68.54
10	188.40	77.03
11	199.12	87.53
12	199.22	87.67

Factor Of Safety For The Preceding Specified Surface =-54.935
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	78.07	77.96
3	90.66	69.81
4	104.43	63.86
5	118.99	60.27
6	133.95	59.14
7	148.89	60.51
8	163.39	64.34
9	177.06	70.51
10	189.52	78.87
11	198.98	87.81

Factor Of Safety For The Preceding Specified Surface =-56.802
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09

2	77.75	77.63
3	90.14	69.17
4	103.80	62.96
5	118.32	59.20
6	133.27	57.98
7	148.20	59.35
8	162.68	63.27
9	176.28	69.62
10	188.58	78.20
11	198.52	88.09

Factor Of Safety For The Preceding Specified Surface =-67.801
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	79.68	80.07
3	93.30	73.80
4	107.64	69.39
5	122.43	66.92
6	137.43	66.43
7	152.35	67.93
8	166.95	71.40
9	180.95	76.77
10	194.12	83.95
11	199.21	87.67

Factor Of Safety For The Preceding Specified Surface =-52.712
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	77.73	77.61
3	90.09	69.10
4	103.70	62.81
5	118.19	58.92
6	133.13	57.55
7	148.08	58.72
8	162.62	62.42
9	176.32	68.53
10	188.79	76.87
11	199.66	87.20
12	199.76	87.34

Factor Of Safety For The Preceding Specified Surface =-47.192
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	78.65	78.64
3	91.64	71.14
4	105.65	65.79
5	120.34	62.71
6	135.32	61.98
7	150.23	63.62
8	164.69	67.60
9	178.35	73.80
10	190.86	82.07
11	197.85	88.49

Factor Of Safety For The Preceding Specified Surface =-85.618
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point	X-Surf	Y-Surf

No.	(ft)	(ft)
1	67.00	88.09
2	80.77	82.15
3	95.09	77.66
4	109.79	74.68
5	124.72	73.24
6	139.72	73.35
7	154.63	75.01
8	169.28	78.20
9	183.53	82.89
10	197.06	88.96

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	80.29	81.12
3	94.29	75.76
4	108.83	72.06
5	123.70	70.07
6	138.70	69.84
7	153.62	71.35
8	168.27	74.59
9	182.44	79.51
10	195.93	86.05
11	198.83	87.90

Factor Of Safety For The Preceding Specified Surface =-64.970
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	79.20	79.36
3	92.52	72.46
4	106.69	67.53
5	121.41	64.67
6	136.39	63.93
7	151.33	65.34
8	165.91	68.86
9	179.84	74.42
10	192.83	81.91
11	199.75	87.35

Factor Of Safety For The Preceding Specified Surface =-44.288
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	88.66	85.21
3	101.01	76.70
4	114.67	70.49
5	129.20	66.78
6	144.16	65.68
7	159.08	67.23
8	173.49	71.38
9	186.95	78.00
10	199.04	86.89
11	199.58	87.45

Factor Of Safety For The Preceding Specified Surface =-10.172
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point	X-Surf	Y-Surf

No.	(ft)	(ft)
1	78.00	95.77
2	91.17	88.58
3	105.08	82.96
4	119.54	78.98
5	134.36	76.69
6	149.35	76.12
7	164.31	77.27
8	179.03	80.14
9	193.32	84.68
10	199.54	87.48

Factor Of Safety For The Preceding Specified Surface = -9.294
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	89.47	86.10
3	102.34	78.39
4	116.27	72.83
5	130.91	69.57
6	145.88	68.69
7	160.81	70.22
8	175.29	74.10
9	188.97	80.25
10	199.74	87.35

Factor Of Safety For The Preceding Specified Surface = -9.669
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	92.93	94.36
3	107.89	93.22
4	122.87	92.35
5	137.85	91.75
6	152.85	91.42
7	167.85	91.35
8	182.85	91.55
9	192.25	91.85

Factor Of Safety For The Preceding Specified Surface =-21.497
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	92.39	91.52
3	107.01	88.19
4	121.82	85.80
5	136.75	84.34
6	151.74	83.83
7	166.73	84.27
8	181.67	85.66
9	196.49	87.98
10	198.10	88.34

Factor Of Safety For The Preceding Specified Surface =-10.691
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	90.47	87.43
3	104.15	81.27

4	118.66	77.47
5	133.60	76.12
6	148.55	77.26
7	163.11	80.87
8	176.87	86.84
9	188.27	94.24

Factor Of Safety For The Preceding Specified Surface =-30.401
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	89.61	86.26
3	102.70	78.94
4	116.87	74.03
5	131.68	71.67
6	146.68	71.94
7	161.40	74.84
8	175.38	80.26
9	188.20	88.06
10	192.40	91.76

Factor Of Safety For The Preceding Specified Surface =-16.643
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	90.73	87.83
3	104.54	81.97
4	119.08	78.31
5	134.02	76.95
6	148.99	77.93
7	163.63	81.20
8	177.58	86.71
9	189.32	93.61

Factor Of Safety For The Preceding Specified Surface =-25.018
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	92.95	94.55
3	107.91	93.51
4	122.89	92.66
5	137.87	91.98
6	152.87	91.48
7	167.86	91.17
8	182.86	91.03
9	193.56	91.06

Factor Of Safety For The Preceding Specified Surface =-18.765
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	88.84	85.40
3	101.39	77.19
4	115.23	71.40
5	129.90	68.24
6	144.89	67.80
7	159.71	70.10
8	173.86	75.07
9	186.87	82.53

```
   10        195.53       89.88
Factor Of Safety For The Preceding Specified Surface =-13.056
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By  9 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          78.00        95.77
    2          89.46        86.09
    3         102.64        78.93
    4         116.99        74.55
    5         131.92        73.16
    6         146.84        74.80
    7         161.11        79.40
    8         174.17        86.78
    9         184.99        96.21
Factor Of Safety For The Preceding Specified Surface =-92.024
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
  ##################### SOME LINES SKIPPED #####################
      Following Are Displayed The Ten Most Critical Of The Trial
      Failure Surfaces Evaluated. They Are
      Ordered - Most Critical First.
      * * Safety Factors Are Calculated By The Modified Bishop Method * *
      Total Number of Trial Surfaces Attempted =  1000
      Number of Trial Surfaces with Misleading FS =  120
      Number of Trial Surfaces With Valid FS =  880
      Percentage of Trial Surfaces With Non-Valid FS Solutions
      of the Total Attempted =  12.0 %
      Statistical Data On All Valid FS Values:
         FS Max = 302.807   FS Min =   1.514   FS Ave =   6.994
         Standard Deviation =   20.094   Coefficient of Variation =  287.31 %
      Failure Surface Specified By 12 Coordinate Points
        Point       X-Surf       Y-Surf
         No.         (ft)         (ft)
          1          1.000       42.000
          2         15.846       44.142
          3         30.444       47.591
          4         44.680       52.319
          5         58.440       58.289
          6         71.618       65.456
          7         84.109       73.761
          8         95.815       83.140
          9        106.644       93.519
         10        116.511      104.817
         11        125.339      116.944
         12        128.028      121.425
      Circle Center At X =   -15.481 ; Y =   209.652 ; and Radius =   168.460
             Factor of Safety
            ***    1.514   ***
           Individual data on the    12  slices
                        Water  Water     Tie     Tie     Earthquake
                        Force  Force     Force   Force      Force   Surcharge
Slice  Width   Weight    Top    Bot     Norm    Tan     Hor     Ver    Load
 No.    (ft)    (lbs)   (lbs)  (lbs)    (lbs)   (lbs)   (lbs)   (lbs)  (lbs)
  1     14.8    7326.6    0.0    0.0       0.      0.     0.0     0.0    0.0
  2     14.6   20316.1    0.0    0.0       0.      0.     0.0     0.0    0.0
  3     14.2   30023.6    0.0    0.0       0.      0.     0.0     0.0    0.0
  4     13.8   36329.0    0.0    0.0       0.      0.     0.0     0.0    0.0
  5     13.2   39275.5    0.0    0.0       0.      0.     0.0     0.0    0.0
  6     12.5   39066.9    0.0    0.0       0.      0.     0.0     0.0    0.0
  7     11.7   36058.6    0.0    0.0       0.      0.     0.0     0.0    0.0
  8     10.8   30744.0    0.0    0.0       0.      0.     0.0     0.0    0.0
  9      9.9   23735.4    0.0    0.0       0.      0.     0.0     0.0    0.0
 10      0.5    1036.9    0.0    0.0       0.      0.     0.0     0.0    0.0
 11      8.3   11195.5    0.0    0.0       0.      0.     0.0     0.0    0.0
 12      2.7     784.8    0.0    0.0       0.      0.     0.0     0.0    0.0
```

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.000	42.000
2	15.876	43.927
3	30.504	47.245
4	44.756	51.924
5	58.504	57.923
6	71.627	65.189
7	84.008	73.657
8	95.537	83.252
9	106.113	93.890
10	115.641	105.475
11	124.037	117.905
12	126.109	121.699

Circle Center At X = -11.803 ; Y = 200.142 ; and Radius = 158.659

Factor of Safety

*** 1.515 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.000	42.000
2	15.990	42.551
3	30.828	44.749
4	45.334	48.568
5	59.331	53.960
6	72.650	60.860
7	85.128	69.184
8	96.614	78.832
9	106.967	89.686
10	116.063	101.613
11	123.791	114.469
12	127.052	121.564

Circle Center At X = 3.663 ; Y = 177.416 ; and Radius = 135.442

Factor of Safety

*** 1.516 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.000	42.000
2	15.996	42.340
3	30.878	44.219
4	45.488	47.617
5	59.671	52.499
6	73.278	58.813
7	86.163	66.491
8	98.192	75.454
9	109.235	85.605
10	119.177	96.837
11	127.911	109.031
12	134.460	120.506

Circle Center At X = 5.260 ; Y = 187.452 ; and Radius = 145.514

Factor of Safety

*** 1.523 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.000	42.000
2	15.926	43.485
3	30.683	46.174
4	45.174	50.051
5	59.302	55.089
6	72.976	61.255
7	86.106	68.509
8	98.604	76.803
9	110.389	86.082
10	121.384	96.286

```
   11        131.516      107.347
   12        140.526      118.947
Circle Center At X =    -9.817 ; Y =   226.587 ; and Radius =   184.904
       Factor of Safety
      ***    1.530   ***
Failure Surface Specified By 12 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          1.000       42.000
    2         15.569       45.571
    3         29.896       50.012
    4         43.931       55.307
    5         57.621       61.436
    6         70.919       68.377
    7         83.774       76.106
    8         96.142       84.593
    9        107.977       93.809
   10        119.237      103.720
   11        129.880      114.290
   12        135.318      120.383
Circle Center At X =   -50.670 ; Y =   284.816 ; and Radius =   248.253
       Factor of Safety
      ***    1.557   ***
Failure Surface Specified By 12 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          1.000       42.000
    2         15.963       40.952
    3         30.940       41.782
    4         45.696       44.476
    5         60.000       48.993
    6         73.628       55.261
    7         86.366       63.182
    8         98.014       72.633
    9        108.391       83.464
   10        117.333       95.507
   11        124.701      108.573
   12        129.849      121.164
Circle Center At X =    16.868 ; Y =   160.615 ; and Radius =   119.671
       Factor of Safety
      ***    1.559   ***
Failure Surface Specified By 13 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          1.000       42.000
    2         15.999       41.826
    3         30.944       43.113
    4         45.692       45.850
    5         60.103       50.011
    6         74.041       55.555
    7         87.372       62.430
    8         99.971       70.572
    9        111.716       79.902
   10        122.497       90.331
   11        132.211      101.761
   12        140.765      114.083
   13        142.924      117.948
Circle Center At X =    10.285 ; Y =   195.538 ; and Radius =   153.818
       Factor of Safety
      ***    1.568   ***
Failure Surface Specified By 11 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         12.000       49.681
    2         26.902       51.394
    3         41.523       54.744
    4         55.684       59.689
```

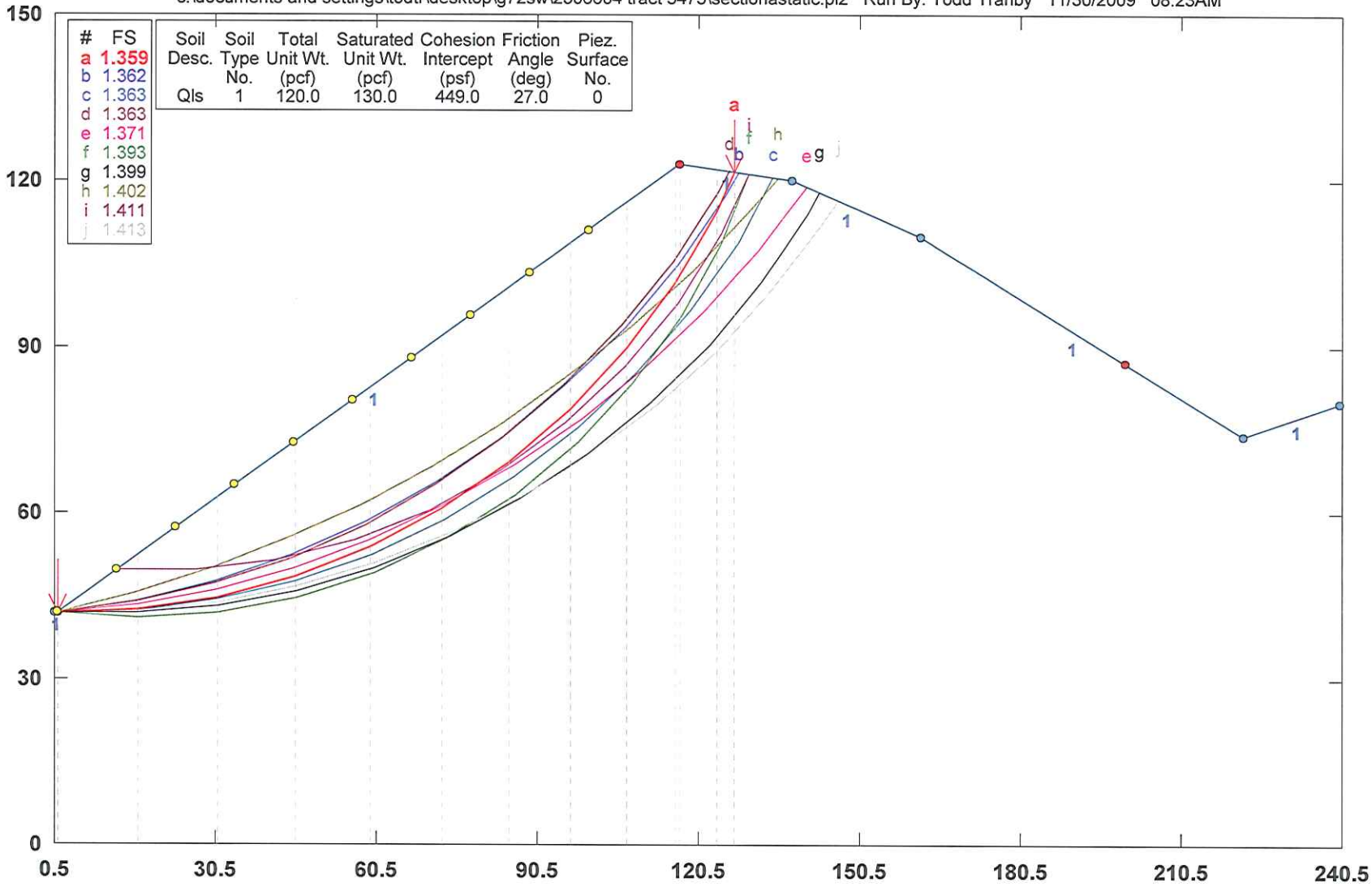
```
    5         69.212       66.169
    6         81.941       74.105
    7         93.715       83.399
    8        104.389       93.938
    9        113.833      105.592
   10        121.931      118.218
   11        123.816      122.026
Circle Center At X =     4.000 ; Y =   184.944 ; and Radius =   135.500
       Factor of Safety
      ***    1.573   ***
Failure Surface Specified By 11 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         12.000       49.681
    2         27.000       49.617
    3         41.891       51.423
    4         56.441       55.069
    5         70.424       60.499
    6         83.621       67.628
    7         95.828       76.346
    8        106.854       86.516
    9        116.527       97.980
   10        124.697      110.560
   11        129.835      121.166
Circle Center At X =    20.008 ; Y =   169.607 ; and Radius =   120.193
       Factor of Safety
      ***    1.574   ***
          **** END OF GSTABL7 OUTPUT ****
```

SLOPE STABILITY ANALYSIS

Static Analysis, Ultimate Shear Data, 1.5:1 Gradient Backcut

Tract 5475 Section D-D, Static

c:\documents and settings\todtr\desktop\g72sw\2306604 tract 5475\sectionastatic.pl2 Run By: Todd Tranby 11/30/2009 08:23AM



GSTABL7 v.2 FSmin=1.359

Safety Factors Are Calculated By The Modified Bishop Method

GSTABL7

```
                    *** GSTABL7 ***
              ** GSTABL7 by Garry H. Gregory, P.E. **
   ** Original Version 1.0, January 1996; Current Version 2.004, June 2003 **
          (All Rights Reserved-Unauthorized Use Prohibited)
*******************************************************************************
                  SLOPE STABILITY ANALYSIS SYSTEM
       Modified Bishop, Simplified Janbu, or GLE Method of Slices.
       (Includes Spencer & Morgenstern-Price Type Analysis)
       Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
       Nonlinear Undrained Shear Strength, Curved Phi Envelope,
       Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
       Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.
*******************************************************************************
Analysis Run Date:        11/30/2009
Time of Run:              08:23AM
Run By:                   Todd Tranby
Input Data Filename:      C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.in
Output Filename:          C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.OUT
Unit System:              English
Plotted Output Filename:  C:\Documents and Settings\todtr\Desktop\G72SW\2306604 Tract
5475\sectionastatic.PLT
PROBLEM DESCRIPTION:  Tract 5475
                      Section D-D, Static
BOUNDARY COORDINATES
     Note: User origin value specified.
     Add 0.50 to X-values and 0.00 to Y-values listed.

    6 Top   Boundaries
    6 Total Boundaries
Boundary     X-Left     Y-Left    X-Right    Y-Right    Soil Type
   No.        (ft)       (ft)       (ft)       (ft)     Below Bnd
    1         0.50      42.00       1.00      42.00        1
    2         1.00      42.00     117.00     123.00        1
    3       117.00     123.00     138.00     120.00        1
    4       138.00     120.00     162.00     110.00        1
    5       162.00     110.00     222.00      74.00        1
    6       222.00      74.00     240.00      80.00        1
Default Y-Origin = 0.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)
ISOTROPIC SOIL PARAMETERS
 1 Type(s) of Soil
Soil  Total  Saturated  Cohesion Friction   Pore   Pressure   Piez.
Type Unit Wt. Unit Wt. Intercept   Angle  Pressure Constant Surface
 No.  (pcf)    (pcf)     (psf)     (deg)    Param.   (psf)     No.
  1   120.0    130.0     449.0     27.0    0.00       0.0      0
A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.
1000 Trial Surfaces Have Been Generated.
 100 Surface(s) Initiate(s) From Each Of    10 Points Equally Spaced
Along The Ground Surface Between  X =   1.00(ft)
                              and  X = 100.00(ft)
Each Surface Terminates Between   X = 117.00(ft)
                              and   X = 200.00(ft)
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is  Y =      4.00(ft)
15.00(ft) Line Segments Define Each Trial Failure Surface.
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         67.00       88.09
    2         80.91       82.47
    3         95.28       78.17
    4        109.99       75.24
```

5	124.91	73.70
6	139.91	73.55
7	154.86	74.80
8	169.62	77.45
9	184.08	81.46
10	198.09	86.80
11	199.50	87.50

Factor Of Safety For The Preceding Specified Surface =-50.315
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	78.12	78.02
3	90.75	69.93
4	104.56	64.06
5	119.14	60.56
6	134.11	59.53
7	149.03	61.00
8	163.51	64.92
9	177.14	71.20
10	189.53	79.65
11	198.40	88.16

Factor Of Safety For The Preceding Specified Surface =-60.962
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	77.63	77.50
3	89.92	68.90
4	103.51	62.55
5	117.99	58.64
6	132.93	57.28
7	147.88	58.51
8	162.39	62.31
9	176.03	68.54
10	188.40	77.03
11	199.12	87.53
12	199.22	87.67

Factor Of Safety For The Preceding Specified Surface =-48.650
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	78.07	77.96
3	90.66	69.81
4	104.43	63.86
5	118.99	60.27
6	133.95	59.14
7	148.89	60.51
8	163.39	64.34
9	177.06	70.51
10	189.52	78.87
11	198.98	87.81

Factor Of Safety For The Preceding Specified Surface =-50.318
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	77.75	77.63

3	90.14	69.17
4	103.80	62.96
5	118.32	59.20
6	133.27	57.98
7	148.20	59.35
8	162.68	63.27
9	176.28	69.62
10	188.58	78.20
11	198.52	88.09

Factor Of Safety For The Preceding Specified Surface =-60.051
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	79.68	80.07
3	93.30	73.80
4	107.64	69.39
5	122.43	66.92
6	137.43	66.43
7	152.35	67.93
8	166.95	71.40
9	180.95	76.77
10	194.12	83.95
11	199.21	87.67

Factor Of Safety For The Preceding Specified Surface =-46.751
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	77.73	77.61
3	90.09	69.10
4	103.70	62.81
5	118.19	58.92
6	133.13	57.55
7	148.08	58.72
8	162.62	62.42
9	176.32	68.53
10	188.79	76.87
11	199.66	87.20
12	199.76	87.34

Factor Of Safety For The Preceding Specified Surface =-41.795
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	78.65	78.64
3	91.64	71.14
4	105.65	65.79
5	120.34	62.71
6	135.32	61.98
7	150.23	63.62
8	164.69	67.60
9	178.35	73.80
10	190.86	82.07
11	197.85	88.49

Factor Of Safety For The Preceding Specified Surface =-75.876
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)

1	67.00	88.09
2	80.77	82.15
3	95.09	77.66
4	109.79	74.68
5	124.72	73.24
6	139.72	73.35
7	154.63	75.01
8	169.28	78.20
9	183.53	82.89
10	197.06	88.96

Factor Of Safety For The Preceding Specified Surface =*******
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	80.29	81.12
3	94.29	75.76
4	108.83	72.06
5	123.70	70.07
6	138.70	69.84
7	153.62	71.35
8	168.27	74.59
9	182.44	79.51
10	195.93	86.05
11	198.83	87.90

Factor Of Safety For The Preceding Specified Surface =-57.661
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	67.00	88.09
2	79.20	79.36
3	92.52	72.46
4	106.69	67.53
5	121.41	64.67
6	136.39	63.93
7	151.33	65.34
8	165.91	68.86
9	179.84	74.42
10	192.83	81.91
11	199.75	87.35

Factor Of Safety For The Preceding Specified Surface =-39.262
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	88.66	85.21
3	101.01	76.70
4	114.67	70.49
5	129.20	66.78
6	144.16	65.68
7	159.08	67.23
8	173.49	71.38
9	186.95	78.00
10	199.04	86.89
11	199.58	87.45

Factor Of Safety For The Preceding Specified Surface = -9.022
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)

1	78.00	95.77
2	91.17	88.58
3	105.08	82.96
4	119.54	78.98
5	134.36	76.69
6	149.35	76.12
7	164.31	77.27
8	179.03	80.14
9	193.32	84.68
10	199.54	87.48

Factor Of Safety For The Preceding Specified Surface = -8.263
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	89.47	86.10
3	102.34	78.39
4	116.27	72.83
5	130.91	69.57
6	145.88	68.69
7	160.81	70.22
8	175.29	74.10
9	188.97	80.25
10	199.74	87.35

Factor Of Safety For The Preceding Specified Surface = -8.581
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	92.93	94.36
3	107.89	93.22
4	122.87	92.35
5	137.85	91.75
6	152.85	91.42
7	167.85	91.35
8	182.85	91.55
9	192.25	91.85

Factor Of Safety For The Preceding Specified Surface =-19.220
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	92.39	91.52
3	107.01	88.19
4	121.82	85.80
5	136.75	84.34
6	151.74	83.83
7	166.73	84.27
8	181.67	85.66
9	196.49	87.98
10	198.10	88.34

Factor Of Safety For The Preceding Specified Surface = -9.529
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	90.47	87.43
3	104.15	81.27
4	118.66	77.47

5	133.60	76.12
6	148.55	77.26
7	163.11	80.87
8	176.87	86.84
9	188.27	94.24

Factor Of Safety For The Preceding Specified Surface =-27.019
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	89.61	86.26
3	102.70	78.94
4	116.87	74.03
5	131.68	71.67
6	146.68	71.94
7	161.40	74.84
8	175.38	80.26
9	188.20	88.06
10	192.40	91.76

Factor Of Safety For The Preceding Specified Surface =-14.776
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	90.73	87.83
3	104.54	81.97
4	119.08	78.31
5	134.02	76.95
6	148.99	77.93
7	163.63	81.20
8	177.58	86.71
9	189.32	93.61

Factor Of Safety For The Preceding Specified Surface =-22.240
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	92.95	94.55
3	107.91	93.51
4	122.89	92.66
5	137.87	91.98
6	152.87	91.48
7	167.86	91.17
8	182.86	91.03
9	193.56	91.06

Factor Of Safety For The Preceding Specified Surface =-16.780
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	88.84	85.40
3	101.39	77.19
4	115.23	71.40
5	129.90	68.24
6	144.89	67.80
7	159.71	70.10
8	173.86	75.07
9	186.87	82.53
10	195.53	89.88

Factor Of Safety For The Preceding Specified Surface =-11.583
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
Failure Surface Defined By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	78.00	95.77
2	89.46	86.09
3	102.64	78.93
4	116.99	74.55
5	131.92	73.16
6	146.84	74.80
7	161.11	79.40
8	174.17	86.78
9	184.99	96.21

Factor Of Safety For The Preceding Specified Surface =-81.727
The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.
#################### SOME LINES SKIPPED ####################
Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Evaluated. They Are
Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Modified Bishop Method * *
Total Number of Trial Surfaces Attempted = 1000
Number of Trial Surfaces with Misleading FS = 120
Number of Trial Surfaces With Valid FS = 880
Percentage of Trial Surfaces With Non-Valid FS Solutions
of the Total Attempted = 12.0 %
Statistical Data On All Valid FS Values:
FS Max = 461.737 FS Min = 1.359 FS Ave = 6.762
Standard Deviation = 23.570 Coefficient of Variation = 348.56 %
Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.000	42.000
2	15.990	42.551
3	30.828	44.749
4	45.334	48.568
5	59.331	53.960
6	72.650	60.860
7	85.128	69.184
8	96.614	78.832
9	106.967	89.686
10	116.063	101.613
11	123.791	114.469
12	127.052	121.564

Circle Center At X = 3.663 ; Y = 177.416 ; and Radius = 135.442
Factor of Safety
*** 1.359 ***
Individual data on the 12 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	15.0	8918.2	0.0	0.0	0.	0.	0.0	0.0	0.0
2	14.8	24923.2	0.0	0.0	0.	0.	0.0	0.0	0.0
3	14.5	36962.5	0.0	0.0	0.	0.	0.0	0.0	0.0
4	14.0	44647.0	0.0	0.0	0.	0.	0.0	0.0	0.0
5	13.3	47901.6	0.0	0.0	0.	0.	0.0	0.0	0.0
6	12.5	46966.0	0.0	0.0	0.	0.	0.0	0.0	0.0
7	11.5	42377.2	0.0	0.0	0.	0.	0.0	0.0	0.0
8	10.4	34938.7	0.0	0.0	0.	0.	0.0	0.0	0.0
9	9.1	25673.5	0.0	0.0	0.	0.	0.0	0.0	0.0
10	0.9	2279.3	0.0	0.0	0.	0.	0.0	0.0	0.0
11	6.8	11160.1	0.0	0.0	0.	0.	0.0	0.0	0.0
12	3.3	1479.5	0.0	0.0	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.000	42.000
2	15.846	44.142
3	30.444	47.591
4	44.680	52.319
5	58.440	58.289
6	71.618	65.456
7	84.109	73.761
8	95.815	83.140
9	106.644	93.519
10	116.511	104.817
11	125.339	116.944
12	128.028	121.425

Circle Center At X = -15.481 ; Y = 209.652 ; and Radius = 168.460

Factor of Safety

*** 1.362 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.000	42.000
2	15.996	42.340
3	30.878	44.219
4	45.488	47.617
5	59.671	52.499
6	73.278	58.813
7	86.163	66.491
8	98.192	75.454
9	109.235	85.605
10	119.177	96.837
11	127.911	109.031
12	134.460	120.506

Circle Center At X = 5.260 ; Y = 187.452 ; and Radius = 145.514

Factor of Safety

*** 1.363 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.000	42.000
2	15.876	43.927
3	30.504	47.245
4	44.756	51.924
5	58.504	57.923
6	71.627	65.189
7	84.008	73.657
8	95.537	83.252
9	106.113	93.890
10	115.641	105.475
11	124.037	117.905
12	126.109	121.699

Circle Center At X = -11.803 ; Y = 200.142 ; and Radius = 158.659

Factor of Safety

*** 1.363 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.000	42.000
2	15.926	43.485
3	30.683	46.174
4	45.174	50.051
5	59.302	55.089
6	72.976	61.255
7	86.106	68.509
8	98.604	76.803
9	110.389	86.082
10	121.384	96.286
11	131.516	107.347

```
   12        140.526      118.947
Circle Center At X =    -9.817 ; Y =   226.587 ; and Radius =   184.904
       Factor of Safety
      ***    1.371   ***
Failure Surface Specified By 12 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          1.000       42.000
    2         15.963       40.952
    3         30.940       41.782
    4         45.696       44.476
    5         60.000       48.993
    6         73.628       55.261
    7         86.366       63.182
    8         98.014       72.633
    9        108.391       83.464
   10        117.333       95.507
   11        124.701      108.573
   12        129.849      121.164
Circle Center At X =    16.868 ; Y =   160.615 ; and Radius =   119.671
       Factor of Safety
      ***    1.393   ***
Failure Surface Specified By 13 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          1.000       42.000
    2         15.999       41.826
    3         30.944       43.113
    4         45.692       45.850
    5         60.103       50.011
    6         74.041       55.555
    7         87.372       62.430
    8         99.971       70.572
    9        111.716       79.902
   10        122.497       90.331
   11        132.211      101.761
   12        140.765      114.083
   13        142.924      117.948
Circle Center At X =    10.285 ; Y =   195.538 ; and Radius =   153.818
       Factor of Safety
      ***    1.399   ***
Failure Surface Specified By 12 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1          1.000       42.000
    2         15.569       45.571
    3         29.896       50.012
    4         43.931       55.307
    5         57.621       61.436
    6         70.919       68.377
    7         83.774       76.106
    8         96.142       84.593
    9        107.977       93.809
   10        119.237      103.720
   11        129.880      114.290
   12        135.318      120.383
Circle Center At X =   -50.670 ; Y =   284.816 ; and Radius =   248.253
       Factor of Safety
      ***    1.402   ***
Failure Surface Specified By 11 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         12.000       49.681
    2         27.000       49.617
    3         41.891       51.423
    4         56.441       55.069
    5         70.424       60.499
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     6          83.621        67.628
     7          95.828        76.346
     8         106.854        86.516
     9         116.527        97.980
    10         124.697       110.560
    11         129.835       121.166
Circle Center At X =    20.008 ; Y =   169.607 ; and Radius =   120.193
       Factor of Safety
      ***    1.411   ***
Failure Surface Specified By 13 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1           1.000        42.000
    2          15.998        42.227
    3          30.918        43.775
    4          45.644        46.631
    5          60.060        50.774
    6          74.056        56.170
    7          87.521        62.780
    8         100.352        70.549
    9         112.448        79.420
   10         123.716        89.321
   11         134.067       100.177
   12         143.422       111.903
   13         146.453       116.478
Circle Center At X =     5.929 ; Y =   211.996 ; and Radius =   170.067
       Factor of Safety
      ***    1.413   ***
          **** END OF GSTABL7 OUTPUT ****
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FAULT ACTIVITY REPORT

EARTH SYSTEMS SOUTHERN CALIFORNIA

FAULT ACTIVITY REPORT
TENTATIVE TRACT 5475
SANTA PAULA, CALIFORNIA

BY

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September 30, 2009

Re: Fault-Trench Investigation, Tentative Tract 5475, Santa Paula, California.

This letter report describes the data and conclusions of a fault trench that was excavated on the eastern margin of Tentative Tract 5475, Santa Paula, California. The investigation involved logging the trench stratigraphy and fault strands, establishing seismic horizons, and determination of minimum age of soil formation for non-faulted soil units. The investigation was lead by the Project Geologist, Todd Tranby of ESSC and trench logging and descriptions were done by Larry D. Gurrola, Ph.D. Soils morphology analysis and age estimation were conducted by Professor Thomas K. Rockwell from San Diego State University. Jim Otusa of RJR, Inc., who is performing a review for the County of Ventura, observed the trench exposure on October 9, 2009. The trench data, approximate ages based on soil morphology, and conclusions were presented to Mr. Otusa at that time. Specific questions concerning the chronology and stratigraphy were addressed and the findings were accepted by Mr. Otusa.

Methodology

Subsurface investigation of landslides on the subject property included bucket-auger boring borings. Specifically, bucket-auger boring BA-11 revealed alluvial and Saugus Formation units that were displaced by mostly steeply dipping north-and south-dipping faults Site Plan/Geologic Map. Additional borings, BA-17 and BA-18, were drilled to constrain the fault zone and confirm the deformation was fault-related and not landslide-related deformation.

A 150 ft. long fault trench was excavated in the location of bucket-auger borings numbers 11, 17, and 18. The trench was excavated on an east-facing slope with the axis of the trench situated on an existing access road. The western slope was cut and benched forming a continuous exposure that was approximately 16 feet (Trench Log T-1). The trench walls and were surveyed by Jensen Design Survey Company on the Site Plan/Geologic Map.

The trench walls were cleaned and a grid constructed on the western wall to provide relative reference points for logging of the stratigraphy and fault splays. The trench was logged at a scale of one inch equals five feet. Fault splays were logged in

detail and each splay was mapped up section until it was overlain by non-faulted or non-deformed and continuous stratigraphic units. The position of the uppermost faulted unit for each fault splay was noted and defined as a fault tip. The position of the fault tip in the stratigraphic section where overlying units are not faulted or deformed defines a seismic horizon. A seismic horizon is the position in the stratigraphic record for a paleoearthquake that deforms and/or offsets units below but not above the horizon. Therefore, if the age of the overlying and undeformed units is determined, then the age provides a minimum age for that paleoearthquake and fault activity is established.

A pedogenic soil formed on the upper trench units was identified and logged. Professor Thomas K. Rockwell conducted a field analysis of pedogenic soil morphology and development in order to estimate the minimum age for the degree of soil formation. Dr. Rockwell conducted his Ph.D. research on establishing soils chronosequences in Ventura region and has done extensive research formation on pedogenic soils.

Trench Stratigraphy

Trench T-1 exposes a section of Pleistocene alluvial units with a younger colluvial deposit in the northern part of the trench shown on the Trench Log T-1. The alluvial units can be subdivided into upper and lower units where the lower section of consist of coarse-grained alluvium. The coarse-grained alluvium consists of medium to coarse sands and sandy gravel, silty sands, and silts with clay. The upper section consists of fine-grained silts and sandy silts.

The two alluvial subunits were derived from two different sources: a lower section of gravelly sand, silty sand and silt strata composed of clastics dominated by Coldwater sandstone clasts and minor Monterey clasts and an upper section of silts and sandy silts. The sandstone clasts are subrounded and derived from the Santa Paula Creek drainage. Clastics derived from the Santa Clara River are expected to have a significant percentage of granitic, metamorphic, and other exotic clast types that are not locally derived.

The lower alluvial units are the result of stream terrace deposition as a fill sequence, as opposed to a strath terrace, and these deposits accumulated during a period of regional aggradation. The likely cause of this aggradation is sea level rise, as the site is in close proximity to the coast along a major river that will undoubtedly respond to sea level fluctuations. This interpretation is important in understanding the actual age of the exposed alluvium, as discussed later. The deposition of the lower alluvium occurred at the confluence of Santa Paula Creek and the Santa Clara River which was either downstream from their present confluence or in the vicinity of the site.

The lower alluvial subunit is overlain by an upper fine-grained Monterey-rich alluvial subunit that we interpret as being derived from the Tertiary rocks of Sulphur Mountain. The minor amount of Coldwater clasts are interpreted to have been derived from higher terraces that are dominated by this clast assemblage. These sediments were

deposited along the margins of the small drainage which is adjacent to and northeast of the site.

A soil is developed on the uppermost units of the trench and the base of the BC-horizons is delineated on the log T-1. The parent material for the soil is the silts and sandy silts. The profile description is a composite profile and was conducted where slope erosion has partially denuded the soil profile.

Trench Faulting And Soil Chronology

Faulting at the site is limited to the lower section of alluvium exposed in the Trench Log T-1. The northwest- to northeast-striking faults exhibit apparent north-side up displacement son north-dipping faults and south-side down displacements on south-dipping faults. Additionally, there is juxtaposition of units with different thicknesses across fault splays. This is likely the result of oblique slip faulting where there is a significant component of strike-slip motion on the faults.

There are three main fault zones designated fault zones A, B, and C which are shown on the Fault Trench Log T-1. The fault zones are based on the proximity and position of the youngest and faulted alluvial unit. The position of the youngest faulted unit for each fault defines seismic horizon 3 where the fault tip is overlain by non-faulted units. The seismic horizon represents the position of a paleoearthquake in the trench stratigraphy. Fault Zone C consists of three faults where the northernmost fault defines the oldest seismic horizon which is situated between unit Q_{f5} and overlying unit Q_{f4}. This represents the oldest paleoearthquake for all the faults in the trench. The two southern faults of Fault Zone C penetrate higher in the stratigraphy which is likely the result of slip associated with seismic horizons 1 and 2.

Fault Zone A displaces units Q_{f5} and Q_{f4} and is overlain by unit Q_{f3C} which defines seismic horizon 2. This horizon identifies a paleoearthquake that occurred after the deposition of Q_{f4} and prior to the deposition of Q_{f3C}. These fault likely accommodated slip for the paleoearthquake associated with seismic horizon 3. Fault Zone B consists of the most developed fault zone with several subparallel fault splays. This zone displaces up through units Q_{f3C} to Q_{f3A} and is overlain by Q_{f2} and the base of the pedogenic soil. The paleoearthquake associated with seismic horizon 1 occurred prior to the deposition of Q_{f2} and to the formation of the pedogenic soil. Therefore, the estimated age of the soil post-dates the most recent earthquake as revealed by the trench stratigraphy and is a minimum age for fault activity.

Soil Descriptions and Estimated Age

We described the soil profile exposed in the trench to place some age constraints on the ages of the alluvial units. We note that there is no buried soil between the Santa Paula Creek and Sulphur Mountain alluvial units, nor did we observe evidence of significant erosion between their depositional periods. Therefore, the time lapse between

depositions of these two units was likely minor. Thus, the soil provides an estimate of the minimum age of the deeply buried faulted alluvium.

More importantly, the profile is degraded, as it is a hillslope exposure on an eroded slope. The description was made 2-3 m (7-10 feet) below the top of the geomorphic terrace surface, so the age estimate is also a minimum value from this perspective. Thus, the minimum age we present is likely a gross under-estimate of the true age of the deposit and faulting, which we discuss more thoroughly later.

The soil profile description is presented in Table 1. We use standard SCS soil nomenclature for the description and compare this profile to those described and dated in Ventura Basin (Rockwell, 1983, Rockwell et al., 1985; 1988; Rockwell, 1988). For comparison purposes, we calculated the soil development index (SDI) value for this soil profile (Harden, 1982, Rockwell, 1983), assuming a parent material of very fine loamy sand with a color of 2.5Y 6/2m, 6/3d, structureless with soft, non-sticky and non-plastic consistence. The calculated SDI value for the entire profile at 400 cm depth is 141,0 with a maximum horizon index of 0.78. Rockwell (1983) calculated SDI values at 380 depth for coarse-grained cobbly soils, and at 250 cm depth for fine-grained variants. As the parent alluvium for the soil in this study is predominantly finer-grained, we compare primarily to the fine-grained chronosequence described and dated by Rockwell (1983). However, because the deposits also contained some clasts, we make the comparison to the coarse-grained chronosequence as well. In both cases, the estimated age is a minimum for the terrace surface for the reasons described earlier in this report.

For the fine-grained comparison, we normalize the profile to 250 cm depth, which yields an SDI value of 123.1 for the profile. Table 2 shows the date fine-grained soils for this region, along with their associated SDI values. An SDI of 123 best correlates to between the Q6a and Q6b soils along the Ventura River, which suggests a minimum age of between 45 ka and 60 ka.

For the coarse-grained comparison, we normalize the profile to 380 cm depth, the same depth used by Rockwell (1983) (Table 3). This yields an SDI value of 140.1, which when compared to the dated coarse-grained soils along the Ventura River, best correlates to between the Q5b and Q6a soils. In that the soil described in this report has both fine- and coarse-grained characteristics, we take the likely minimum age for the profile to be in the 40-50 ka range, with a maximum range of 30-60 ka.

Table 1. Profile Description

Horizon	Depth (cm)	Description
A	0-46	10YR 3/2.5m, 5/3d; L; 2m-csbk; h; so,po; vm RT pores; c f-m roots; a,i:
Bt1	46-89	7.5YR 4/5m, 4/6d; CL; 3m-cabk; eh; vs,vp; 3-4mkpo, 3n-mkpf &cl; matrix is silty sand with no clay; m f RT pores; f f roots; c-g, s:
Bt2	89-133	10YR 4/6m, 5/6d; fSL-SCL; m-ccsbk; vh; p,s-vs; 2n&1mkpf, 3mkcl, 3n&mkpo; f-c f. RT pores; f roots; g,s:
BC	133-265	10YR 4/6m, 5/6d; fSL; m-scsbk; h-vh; ss, ps; 2n&vmkpf, po; f,c RT pores; f roots; g,s:
C	265-400+	2.5Y 5/4m 6.5/4d; fSL-L (no clay); m-1sbk & sg; sh, so,po; no clay films.

Table 2. Soil Development Indices For Fine-Grained Ventura River Soils (From Rockwell, 1983).

Geomorphic Surface	Approx. Age (ka)	Index Values	SDI Mean (number)
Qt4	10	48.0, 47.4, 65.0	53.5 (3)
Qt5b	29	98.4	98.4 (1)
Qt6a	45	118.1	118.1 (1)
Qt6b	60	140.6	140.6 (1)

Table 3. Soil Development Indices For Coarsed-Grained Ventura River Soils (From Rockwell, 1983).

Geomorphic Surface	Approx. Age (ka)	Index Values	SDI Mean (number)
Qt5a1	16	73.4, 66.4	69.8 (2)
Qt5a2	20	47.7,82.9, 67.6 79.4, 68.3	69.2 (5)
Qt5b1	20-29	110.1, 87.4, 93.3	96.9 (3)
Qt5b2	29	83.4, 119.0 150.6, 111.5	116.1 (4)
Qt6a	38	150.8, 149.9, 139.4	146.7 (3)
Qt6b	55	163.2, 153.4, 142.4	153 (3)
Qt6c	90	175.9, 175.1, 150.6 145.6	161.8 (4)
Qt7	160-200	192.5	192.5 (1)

Actual Age of the Fill Terrace Surface

The ~30 feet (9 m) of alluvial fill likely accumulated during a period of sea level rise. The terrace surface is at an elevation of about 300 feet (90 m) above the modern Santa Clara River, so there has likely been a similar amount of actual uplift. For the Santa Paula area, Rockwell (1983, 1988) documents Q5 and Q6 surfaces at elevations of XXX above Santa Paula Creek, suggesting an uplift rate of about 0.5-1 mm/yr. Applying this uplift rate for the terrace in this study suggests an age of 90-180 ka.

Another approach is to correlate the aggradation of the terrace fill to a period of sea level rise. The timing of eustatic sea level history is well-known (Shackleton and Opdyke, 1973, Bloom et al., 1974), and major aggradations occurred at the end of the penultimate glaciation (Stage 6-5 transition of Shackleton and Opdyke, 1973) between 150 and 130 ka, with the close of the early Wisconsinan glaciation at 60-70 ka, and at the close of the late Wisconsinan glaciation at 18-10 ka. The soil development precludes the youngest of these age ranges, and considering the amount of erosion from the surface

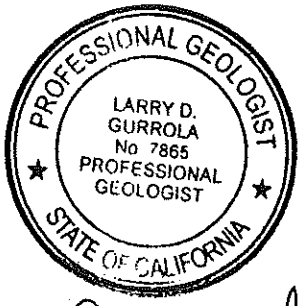
along with the strength of the soil, likely also discounts the intermediate aggradation. Thus, the most likely age for the terrace correlates to the period of sea level rise leading to the Stage 5 (last) interglacial period from 150 ka to 130 ka.

Conclusions

All of the above observations and interpretations argue that: 1) the terrace is Pleistocene in age, and based on the strength of soil development, is a minimum of 40-50 ka; 2) based on the degree of erosion from the terrace surface, the actual terrace age is likely considerably older than the minimum age suggested by soil development; 3) using the local and regional uplift rate suggests an age of 90-180 ka; 4) if the terrace is correctly interpreted as a fill that correlates with a period of sea level rise, the most likely correlation period is during the Stage 6 to 5 transition between 150 ka and 130 ka.

Considering that the fault only cuts the lower portion of the Santa Paula Creek alluvium and is clearly overlain by unfaulted alluvium from Santa Paula Creek and the nearby tributary drainage, it is clear that the timing of last fault motion is most likely a minimum of 130 thousand years ago. Based on this finding, we consider the fault as potentially active, as defined by the State of California, and do not consider this a constraint for development.

Respectfully submitted,



Larry D. Gurrola, Ph.D.
Professional Geologist 7865

BA-5 T.D.=95.0 ft.
Q_{ls}: 0-72.5 ft.
QT_s: 72.5-95.0 ft
Q_{ls} gouge @ 62.0 ft, 64.0 ft., and 72.0 ft.
@48.0 ft. Apparent 10-15 to 10-15
@62.0 ft. 40
@64.0 ft 40
@71-72.0 ft 25
@79.0 ft. QT_s 31

BA-6 T.D.=38.0 ft.
Q_{ls}: 0-38.0 ft.
Downhole logged to 25.0' due to caving conditions.

BA-16 T.D.=41.00 ft.
Q_{ls}: 0-41.0 ft.
Not downhole logged due to caving conditions.

BA-4 T.D.=77.0 ft.
Q_{ls}: 0-77.0 ft.
Downhole logged to 65.0' due to caving conditions.
@44.0 ft. Apparent 38
@57.0 ft. Apparent 32
@65.0 ft Apparent

BA-15 T.D.=100.0 ft.
Q_{ls}: 0-91.75 ft.
Traction zone @ 90.0-91.75 ft.
QT_s: 91.75-100.0 ft.
@57.0 ft. Apparent 38
@58.0 ft. Apparent 22
@66.5 ft Apparent 13
@72.0 ft Apparent
@77.5 ft. Apparent
@82.0 ft. 22
@90.0 ft. 27
@90.25 ft. 33
@91.75 QT_s 35

BA-3 T.D.=101.0 ft.
Q_{ls}: 0-83.0 ft.
Q_{ls} gouge @ 83.0 ft, Traction zone @ 83.5-85.0 ft.
QT_s@85.0-101.0 ft.
@65.0 ft Apparent
@73.0 ft. Apparent
@75.0 ft. Apparent
@82.0 ft. Apparent
@83.5 ft. QT_s 27
@88.0 ft 25
@94.0 ft. 28
@92.0 ft. 28
@95.0 ft 26
@96.0 ft. 29

BA-14 T.D.=81.0 ft.
Soil 0-7.0 ft.
Q_{ls}: 7.0-64.25 ft.
Q_{ls} gouge @ 56.5 ft, 62.0 ft., and 64.0 ft.
Traction zone @ 64.25-65.0 ft.
QT_s@65.0-81.0 ft.
@47.75 ft. Apparent 21
@49.25 ft. Apparent 14
@ 50.5 ft. Apparent 15
@53.0 ft. Apparent
@56.5 ft. 27
@58.0 ft Apparent
@62.0 ft. 23
@63.75 ft. Seep
@64.5 ft. 21 to 21

BA-13B T.D.=70.0 ft.
Downhole logged to 65.0' due to caving conditions.
A_f: 0-1.0 ft.
Q_{ls}: 1.0-78.0 ft.
Q_{ls} gouge @ 72.0 ft. and 78.0 ft.
QT_s@78.0-81.0 ft.

BA-12 T.D.=40.0 ft.
GW encountered at 40.0 ft. and rose to 35.5 ft.
Soil: 2.0-10.5 ft.
Q_{ls}: 10.5-40.0 ft.
@16.25 ft. Apparent 24
@18.0 ft. Apparent 28
@19.0 ft. Apparent 12
@21.25 ft. Apparent 39
@23.5 ft. Apparent 58 to 10
@24.0 ft. Apparent 21
@27.0 ft. Apparent 86 to 23

BA-7 T.D.=35.0 ft.
Q_{ls}: 0-29.0 ft.
QT_s: 29.0-35.0
@23.0 ft 56
@27.0 ft.. 35
@29.0 ft. 41 QT_s
@30.0 ft 43

BA-8 T.D.=25.00 ft.
Q_{ls}: 0-25.0 ft.
Downhole logged to 20.0' due to caving conditions.

BA-11 T.D.=80.0 ft.
Qf_6: 2.5-24.5 ft.
QT_s: 24.5 ft.-80.0 ft.
@24.5 ft. 8 Qf_6
@30.0 ft 15 QT_s
@30.5 ft. 77
@49.0 ft. 3
@60.0 ft. 75
@64.0 ft. 74
@64.7-65.0 ft. 36 29
@67.0 ft. 77
@73.0 ft. 20

BA-17 T.D.=40.0 ft.
Soil: 2.5-8.0 ft.
Qf_6: 8.0-30.5 ft.
QT_s: 30.5-40.0 ft.
@8.0 ft. 19 Qf_6
@13.0 ft. 13
@15.75 ft. 77 90
@16.0 ft. 19
@17.5 ft. 19
@18.5 ft. 60-90 65,75
@20.0 ft. 19
@22.0 ft. 76
@24.0 ft. 64
@27.0 ft. 85
@30.5 ft. 13 QT_s
@31.5 ft. 11
@34.5 ft. 77 26

BA-18 T.D.=40.0 ft.
A_f: 0-2.0 ft.
Soil: 2.0-10.5 ft.
Qf_6: 10.5-35.0 ft.
QT_s: 35.0-40.0 ft.
@16.0 ft. Qf_6 11
@16.5 ft.
@20.5 ft.
@22.0 ft. 58
@26.5 ft. 80
@28.0 ft. 10 90
@29.0 ft. 10
@31.5 ft. 69
@32.5 ft. Qf_6 12

BA-10 T.D.=70.0 ft.
Qf_6: 0'-51.0 ft.
QT_s: 51.0-70.0 ft.
@51.0 ft. QT_s 26
@54.5 ft. 29
@57.0 ft. 26
@58.0 ft. 24
@63.75 ft. 30
@65.0 ft. 29

BA-2 T.D.=40.0 ft.
Q_{ls}: 0-26.0 ft.
QT_s: 26.0-40.0 ft.
@28.0 ft. QT_s 30

BA-1 T.D.=40.0 ft.
Q_{ls}: 0-22.0 ft.
QT_s: 22.0-40.0 ft.
@23.0 ft. 30 QT_s
@33.0 ft. 33

BA-9 T.D.=65.0 ft.
Downhole logged to 35.0 ft. due to caving conditions.
Qf_6@0-35.0 ft

Topographic base map and Tract 3634 Plan provided by Jensen Design & Survey , Inc., dated July 18, 2006.

EXPLANATION

- Qls_a — Recent or Active Landslide Deposit
- Qo_a — Older Alluvium
- Qls_2 — Late Pleistocene (?) Landslide Deposit; Qls_1 is Younger Deposit
- QT_s — Saugus Formation

SYMBOLS

- Formation Contact
- C — C' Cross-Section C-C'
- Qls Landslide Deposit
- Landslide Head Scarp
- 35 Bedding Attitude
- 21 — 21 Landslide Shear Surface Dip and Direction of Movement
- 85 Fault with Dip Shown
- TP-29 T.D.=12.0' — Approximate Location Of Test-Pit Number 29, Total Depth Equals 12 Feet
- BA18 T.D.=40.0' — Approximate Location Of Bucket-Auger Borehole Number 8, Total Depth Equals 12 Feet
- B-6 T.D.=7.5' — Approximate Location Of Geotechnical Borehole Number 6, Total Depth Equals 7.5 Feet

23066-04

TRACT 5475
SITE PLAN/GEOLOGIC MAP

EARTH SYSTEMS SOUTHERN CALIFORNIA

VT-23066-04	September 2009

Earth Systems
Southern California

1731-A Walter Street
Ventura, CA 93003
(805) 642-6727
FAX (805) 642-1325

October 22, 2010

VT-23066-04
10-10-87

Keith Hagaman
12121 Wilshire Boulevard, Suite 959
Los Angeles, California 90025

Project: Tentative Tract 5475
Santa Paula, California
Subject: Response to Review
References:
1. Geotechnical Feasibility Report, Tract 5475, Santa Paula Area of Ventura County, California. File No. VT-23066-02, Report No. 06-04-38, April 2006, Earth Systems Southern California
2. Response to Review, Tentative Tract 5475, Santa Paula Area of Ventura County, California. File No. VT-23066-04, Report 09-11-49, November 30, 2009, Earth Systems Southern California

This report is a response to an email from RJR Engineering regarding that company's review of Geologic and Geotechnical data provided by Earth Systems Southern California for Tentative Tract 5475 in Santa Paula, California. RJR Engineering's comments are renunerated below and are followed by a response.

1. *Landslide Map: Please include the location of the Cross Sections on this map so the two maps can be correlated.*

   Cross-Sections A-A', B-B', C-C', D-D', and E-E' have been approximately located on the Google based landslide map

2. *Cross Section: For instance, BA 12 and BA 13 are not depicted on Section A-A. Please update all sections so we can finish the review. Also, please extend Cross Section C – C to Foothill Road.*

   The sections have been updated to show relevant more recent borings. Section C-C' has been extended to Foothill Road.

3. *Cross Section D-D: This Cross Section was used for temporary stability and is illustrated in the computer printouts but not provided in the report. Please provide this with the other updated sections.*

Section D-D' is a simple section that is probably adequately depicted by the section provided with the analyses. However, we are providing a section drawn to the same scale as the other sections. We have also added cross section E-E' in the southwest part of the site near the existing offsite house.

4. *Temporary Slope Analysis – Factors of Safety: In general, Ventura County standards and are 1.25 for temporary stability not 1.15 for static conditions. Please provide the analysis and recommendations for temporary stability.*

   We have contacted Ventura County about this standard, of which we were not aware. We found that it is not a written standard and that other, lower factors-of - safety would be considered by the County. However, we believe that a factor-of safety of 1.25 for a temporary backcut is reasonable for the proposed construction slope on the western boundary of the tract because the slopes will be cut into landslide debris, and because their heights suggest that the durations for which they will be exposed are more likely to be months than days.

   Analysis of a construction slope at Section D-D' is attached. A factor of safety for static conditions of 1.27 was determined.

5. *Shear Strengths: Calculations were provided with Peak and Ultimate. It is unclear why peak strengths would be used in a landslide mass. Please provide a discussion and analysis for temporary analysis using appropriate shear strength.*

   Calculations were done at both ultimate and peak strength levels to bracket the problem and ascertain what the implications of various assumptions would have on the factor-of-safety. Calculations were done (and presented) with ultimate strength values, and the factors-of-safety for 1 horizontal to 1 vertical and 1.5 horizontal to 1 vertical slopes estimated by the analyses to be 1.10 and 1.36, respectively. Interpolation suggests that a factor-of-safety of 1.25 can be obtained with a temporary slope gradient in the range of 1.3 vertical to 1 horizontal when ultimate strength parameters of the landslide debris are used.

   That this slope gradient could achieve a factor-of-safety of about 1.25 was confirmed by calculations that are attached. Also, a section with level ground at the top of the backcut (Section E-E') was assumed (as would be found for a cut near the limits of grading west of the property line of the existing residence in the southwest corner of the site) and the factor-of-safety was similar. This analysis also is attached.

6. *Temporary Analysis – Characterization: The temporary analysis was performed and may (or may not be updated for Section D-D), a section for Temporary analysis should be performed at the residence (southern condition) both extending to the north and the east and/or depict how the temp ex will be constructed in these areas, how*

far from the PL etc. Based on projecting Section A-A' and BA-12, it appears that the depths are on the order of 78 feet in depth.

Boring No. BA-12 suggests that the depths of fill near the property lines on the east and north sides of the existing residence near the southwest corner of the project are about the same as that studied for Section D-D' (78 feet). Also, analyses performed include those for level ground at the top of the construction slope (Section E-E') and negatively sloping ground at the top of the construction slope (Section D-D'). Because this brackets the possibilities (a section north of the house, like Section D-D', woud have a negative slope beyond the top of the construction slope), no new analyses appear to be necessary.

7. Fill over Landslide Debris: *Based on the results of Item 6, all three of these conditions will in fact place engineered fill over landslide debris with proposed residential lots (i.e., 37, 64, 65, 66, 14 thru 17, etc.). Depending on the temporary excavations and property line offsets. Please provide sections thru the offsite southern lot and western properties for the temp stability and also provide sections for the permanent condition that illustrates the ultimate fill over slide debris condition.*

Section have been prepared to show the anticipated grading in these areas.

Section D-D' passes through Lot 37 and is just below Lot 64. The cross section depicts the anticipated contact between the Q_{ls} and Q_{ts}, a 1.3H:1V landslide debris removal construction slope descending from near the closest projection of a property line, and a 1H:1V projection up from the toe of the construction slope at its intersection with the underlying bedrock. This final projection intersects the proposed ground surface west and just off of Lot 37. Hence, it does not appear that any landslide debris will be left in place under Lot 37 or within a 1H:1V projection down from the edge of the pad in the post graded state of the tract as it is currently proposed.

By observation, it can see noted that the pads on Lot Nos. 17, 16, 15, and 14, all share the same most critical point at the top of the landslide debris construction slope. This point is about 75 feet westerly of the northeast corner of the property line of the house southwest of Tract 5475. (Note that the limit of grading is west of the easterly property line of the before mention house and off the project site.) Hence, only this most critical section (Section E-E') has been plotted for analysis

Section E-E' depicts the anticipated contact between the Q_{ls} and Q_{ts}, a 1.3H:1V landslide debris removal construction slope descending from near the closest projection construction limit, and a 1H:1V projection up from the toe of the construction slope at its intersection with the underlying bedrock. This final projection appears to intersect the proposed ground surface 20 feet into the pad (and 20 feet from the street) on Lot 16. This should be near of in front of the proposed

home's setback from the street, and if it is not, at a minimum 20-foot building setback from the front edge of the lot should be established. Hence, it does not appear that any landslide debris will be left in place under the proposed house on Lot 16 or within a 1H:1V projection down from the edge of the house proposed for Lot 16 in the post graded state of the tract as it is currently proposed and if the recommended building setback is established.

Because Lot Nos. 17, 15, and 14 are farther removed from the most critical limit of the top of the construction slope (35 feet, 35, feet, and 50 feet, respectively) it can be deduced that these lots will similarly not be underlain by landslide debris or that there will be any landslide debris within a 1H:1V projection down from the edge of their pads in the post graded state of the tract as it is currently proposed.

8. Detention Basin: *How will the detention facility be constructed? If the basin is a soft bottom structure how does this impact the overall stability where infiltration may be directed into landslide debris with fill over it.*

   The finish design of the detention facility west of Lot 64 is unknown. However, the basin will be built in fill that overlies landslide debris (based on nearby Section D-D'). Hence, water infiltration from this detention basis should not be allowed as it might trigger unwanted settlement. Therefore, it is recommended that the basin be designed with an impermeable liner.

9. Geotechnical Sections: *The consultant should provide cross sections that illustrate the ultimate condition (ie show on Sections A-A' etc the engineered fill key etc). Please provide slope analysis that illustrates that the ultimate condition provides sufficient support to provide the site with a 1.5 (static) and 1.1 (Pseudostatic) condition, assuming no downslope support from the slide debris or use residual values if you can reasonably assume that the remaining slide debris will not mobilize.*

   The fill in Section A-A' will sit on benched Qts with a general gradient of about 8H:1V near the bottom of the project to about 4H:1V near the upper part of the fill. For a simple block analogy, the friction angle between the block and slope plane would need to be about 21 degrees to hold the block into place with a 1.5 factor-of-safety on a 4H:1V slope. So, complicated and detailed analyses appear unnecessary as a friction angle of 21 degrees is most certainly attainable with the fill.

   However, if it is assumed that no support will be provided by the landslide that is to remain south of the fill at the bottom end of Section A-A' (as if it did not exist), there would be a 130-foot high slope, which with periodic 8-foot wide benches would have an average gradient of about 2.25:1. This gradient slope has been analyzed with assumed soil properties to determine what properties are necessary to achieve a factor-of-safety of 1.5. One set of values were a unit weight of 130 pcf, a friction angle of 32 degrees, and a cohesion of 50 psf. This analysis is not presented here,

but can be readily confirmed with Singh's charts. What is important is that the soil values needed to attain a factor-of-safety of 1.5 appear to be well within expectations for fill derived from the landslide debris and underlying bedrock.

Respectfully submitted,

EARTH SYSTEMS SOUTHERN CALIFORNIA

Todd J. Tranby
Engineering Geologist

PROFESSIONAL GEOLOGIST
TODD J. TRANBY
NO. 2078
CERTIFIED
ENGINEERING
GEOLOGIST
EXPIRES 11-11
STATE OF CALIFORNIA

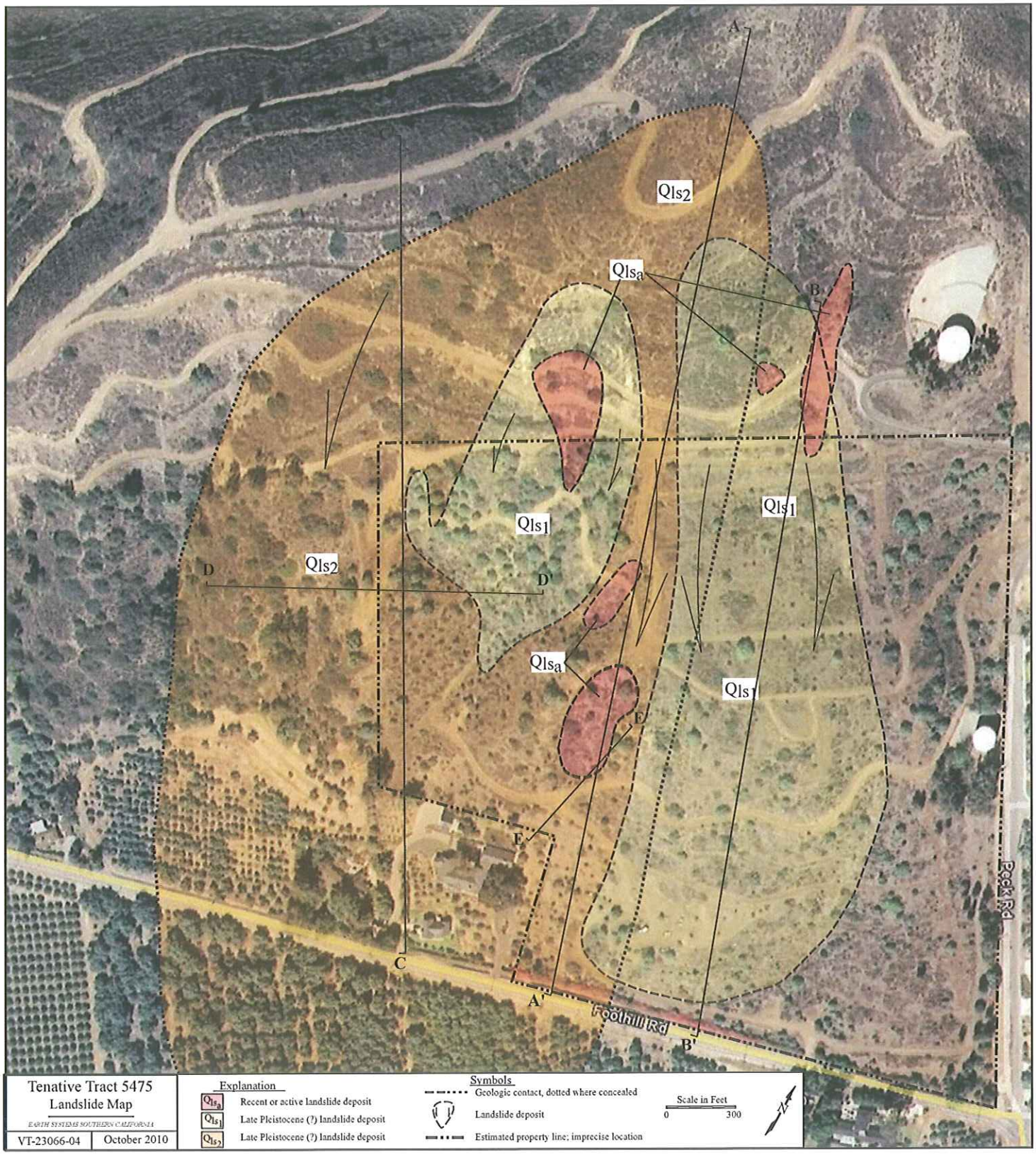
Reviewed and Approved

Richard M. Beard
Geotechnical Engineer

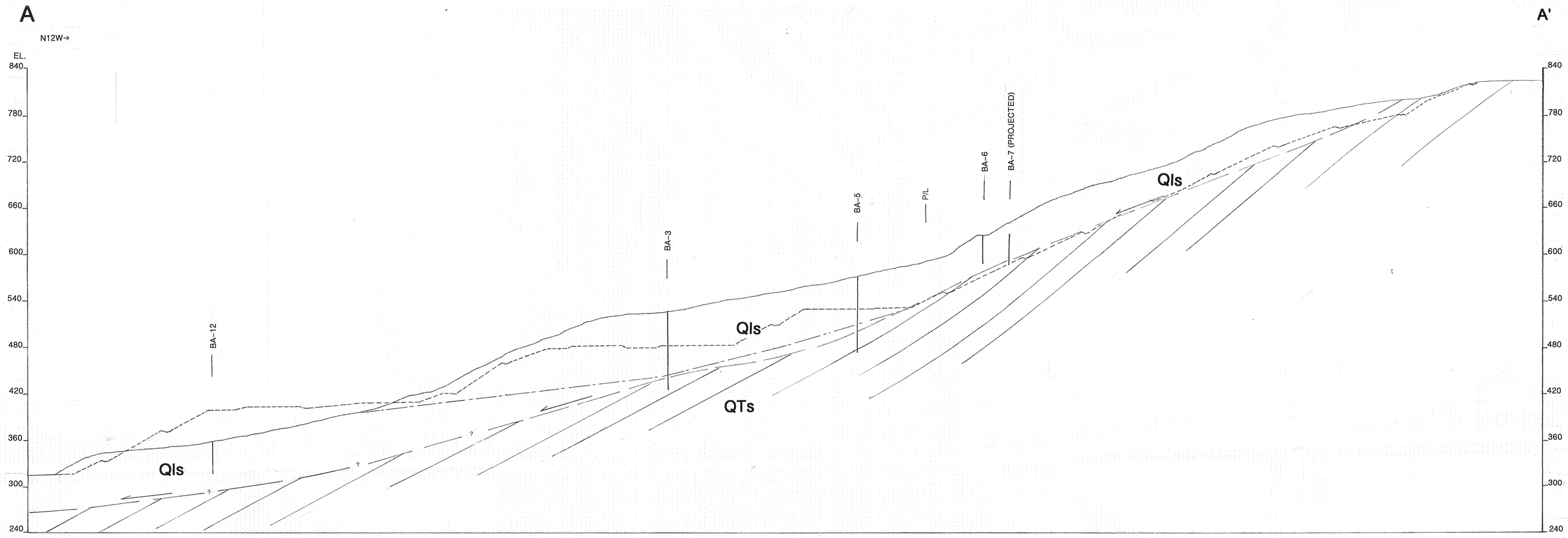
REGISTERED PROFESSIONAL ENGINEER
RICHARD MICHAEL BEARD
GE 128
Exp. 12-31-11
GEOTECHNICAL
STATE OF CALIFORNIA

Copies: 6 - Client
1 - Project File

Attached: *Revised Landslide Map*
Revised Site Plan/Geologic Map
Cross-Section A-A', B-B', and C-C'
Cross Section D-D'
Cross Section E-E'
Construction Slope Stability Analysis at Section D-D'
Construction Slope Stability Analysis at Section E-E'

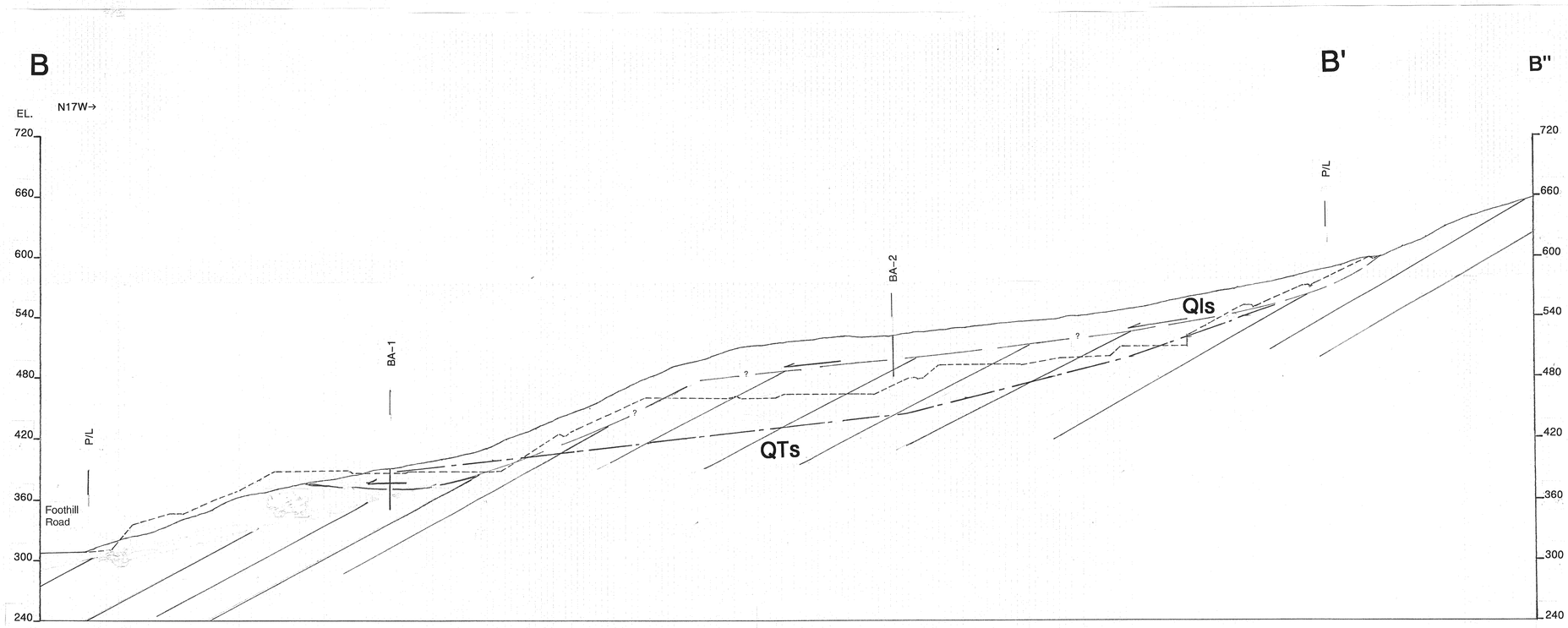

A
B
C
D
D'
E
E'
A'
B'
Qls2
Qlsa
Qls1
Qls1
Qls2
Qlsa
Qls1
Foothill Rd
Rock Rd
Tenative Tract 5475
Landslide Map
EARTH SYSTEMS SOUTHERN CALIFORNIA
VT-23066-04
October 2010
Explanation
Qlsa Recent or active landslide deposit
Qls1 Late Pleistocene (?) landslide deposit
Qls2 Late Pleistocene (?) landslide deposit
Symbols
Geologic contact, dotted where concealed
Landslide deposit
Estimated property line; imprecise location
Scale in Feet
0
300
N

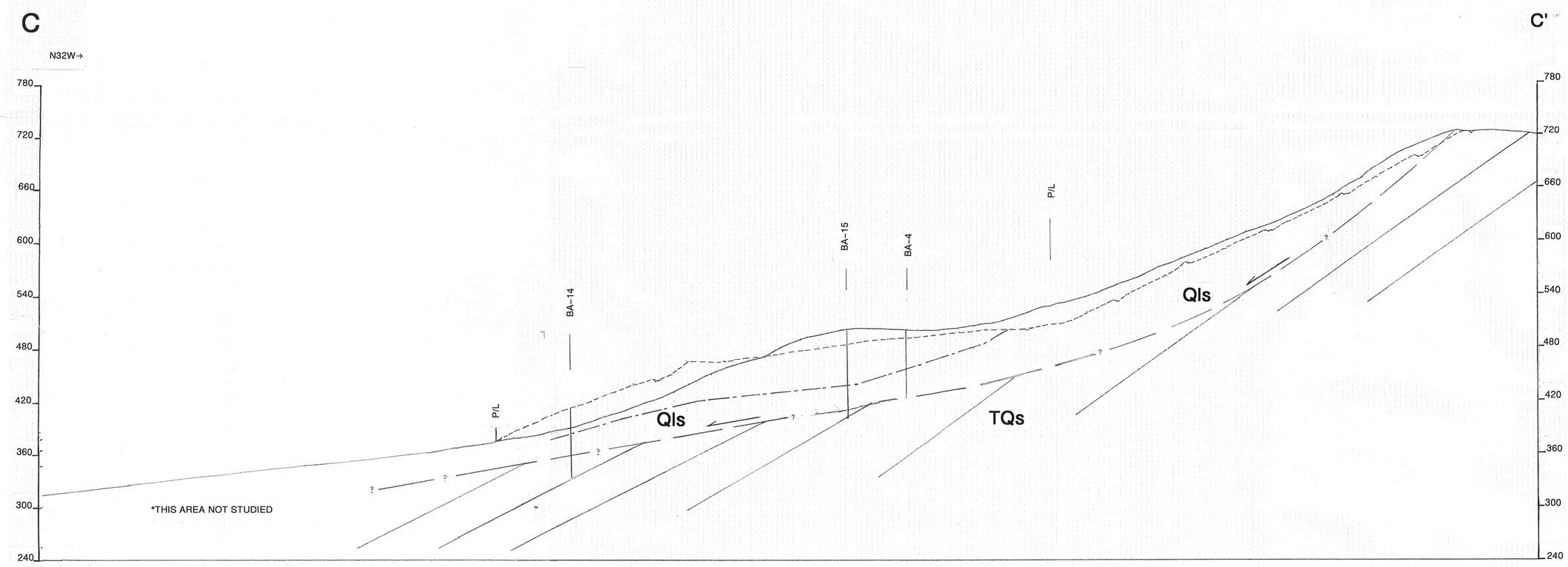
TENTATIVE TRACT 5475
SITE PLANGEOLOGIC MAP
EARTH SYSTEMS SOUTHERN CALIFORNIA
17-23966.dgn
Revised October 2010
Topographic base map and Tract 36634 Plan provided by Jensen Design & Survey , Inc., dated July 18, 2006.
SYMBOLS
Formation Contact
Cross-Section C-C'
Landslide Deposit
Bedding Attitude
Landslide-Shear Surface Dip and Direction of Movement
Fault with Dip Shown
EXPLANATION
Qhs Recent or Active Landslide Deposit
Qoa Older Alluvium
Qtp Late Pleistocene (?) Landslide Deposit; Qtp is Younger Deposit
QTs Saugus Formation
Approximate Location Of Test-Pit Number 29, Total Depth Equals 12 Feet
Approximate Location Of Backet-Auger Borehole Number 8, total depth equals 12 Feet
Approximate Location Of Geotechnical Borehole Number 6, total depth equals 5.5 Feet
FOOTHILL ROAD
"A" ST.
"C" ST.
MATCH LINE
Fault Zone
SCALE IN FEET
0 60 120 180
BA-11 TD=80.0 ft.
Qhs: 2.5-24.5 ft.
QTs: 24.5 ft.-80.0 ft.
@24.5 ft. 8 Qhs
@30.0 ft. 72 QTs
@36.5 ft. 3
@49.0 ft. 23
@60.0 ft. 74
@64.7-65.0 ft. 58 29
@67.0 ft. 72 11
@73.0 ft. 20
BA-7 TD=35.0 ft.
Qhs: 0-29.0 ft.
QTs: 29.0-35.0
@23.0 ft. 56
@27.0 ft. 35
@29.0 ft. 7 40 QTs
@30.0 ft. 47
BA-8 TD=25.00 ft.
Qhs: 0-25.0 ft.
Downhole logged to 20.0 ft. due to caving conditions.
BA-17 TD=40.0 ft.
Qhs: 2.5-8.0 ft.
QTs: 8.0-38.5 ft.
@8.0 ft. 19 12 Qhs
@13.0 ft. 17
@16.0 ft. 19 12
@17.5 ft. 60-90
@18.5 ft. 60-90
@20.0 ft. 19
@22.0 ft. 76
@24.0 ft. 24
@27.0 ft. 85
@30.5 ft. 32 11 QTs
@31.5 ft. 77
@34.5 ft. 26
BA-18 TD=40.0 ft.
Ar: 0-2.0 ft.
Qhs: 2.0-10.5 ft.
QTs: 10.-35.0 ft.
@16.0 ft. 1
@16.5 ft. 1
@20.5 ft. 5
@22.0 ft. 80 10
@26.5 ft. 90 10
@28.0 ft. 60
@29.0 ft. 60
@31.5 ft. 72
@32.5 ft. Qhs
BA-10 TD=70.0 ft.
Qhs: 0-5.0 ft.
QTs: 5.0-70.0 ft.
@5.0 ft. QTs 28
@54.5 ft. 29
@57.0 ft. 26
@58.0 ft. 34
@63.75 ft. 30
@65.0 ft. 29
BA-2 TD=40.0 ft.
Qhs: 0-26.0 ft.
QTs: 26.0-40.0 ft.
@28.0 ft. 30 QTs
BA-1 TD=40.0 ft.
Qhs: 0-22.0 ft.
QTs: 22.0-40.0 ft.
@23.0 ft. 30 QTs
33
BA-9 TD=65.0 ft.
Downhole logged to 35.0 ft. due to caving conditions.
Qhs:0-35.0 ft.
BA-6 TD=38.0 ft.
Qhs: 0-38.0 ft.
Downhole logged to 25.0 ft. due to caving conditions.
BA-14 TD=41.00 ft.
Qhs: 0-41.0 ft.
Not downhole logged due to caving conditions.
BA-4 TD=77.0 ft.
Qhs: 0-77.0 ft.
Downhole logged to 65.0' due to caving conditions.
@44.0 ft. Apparent 28
@57.0 ft. Apparent 32
@65.0 ft. Apparent 32
BA-15 TD=100.0 ft.
Qhs: 0-91.75 ft.
Traction zone @ 90.0-91.75 ft.
QTs: 91.75-100.0 ft.
@57.0 ft. Apparent 18
@58.0 ft. Apparent 22
@66.5 ft. Apparent 17 7
@72.0 ft. Apparent 1
@77.5 ft. Apparent 1 22
@82.0 ft. 27
@90.0 ft. 27
@90.25 ft. 33
@91.75 QTs 35
BA-5 TD=95.0 ft.
Qhs: 0-72.5 ft.
QTs: 72.5-95.0 ft
Qhs gouge @ 62.0 ft. 64.0 ft., and 72.0 ft.
@48.0 ft. Apparent 10 15
@62.0 ft. 45 40
@64.0 ft. 40
@71-72.0 ft. 25
@79.0 ft. QTs 31
BA-3 TD=101.0 ft.
Qhs: 0-85.0 ft.
Qhs gouge @ 83.0 ft.
Traction zone @ 85.5-85.0 ft.
QTs:@85.0-101.0 ft.
@65.0 ft. Apparent 1
@73.0 ft. Apparent 1
@75.0 ft. Apparent 1
@82.0 ft. Apparent 1
@85.0 ft. QTs 27
@88.0 ft. 25
@94.0 ft. 25
@92.0 ft. 25
@95.0 ft. 25
@96.0 ft. 72
BA-14 TD=85.0 ft.
Qhs: 0-70.0 ft.
Qhs gouge @ 56.5 ft. 70.64-25 ft.
Traction zone @ 64.25-65.0 ft.
QTs:@65.0-85.0 ft.
@47.75 ft. Apparent 21
@49.25 ft. Apparent 14
@ 50.5 ft. 15
@53.0 ft. Apparent 1
@56.5 ft. 27
@58.0 ft. Apparent 1
@62.0 ft. 23
@63.75 ft. Seep
@64.5 ft. 21 72
BA-13B TD=70.0 ft.
Downhole logged to 65.0' due to caving conditions.
Qhs: 0-1.0 ft.
Qhs gouge @ 72.0 ft.
QTs:@1.0-81.0 ft.
BA-12 TD=40.0 ft.
GW encountered at 40.0 ft. and rose to 35.5 ft.
Soil: 2.0-10.5 ft.
Qhs: 10.5-40.0 ft.
@16.25 ft. Apparent 24
@18.0 ft. Apparent 28
@19.0 ft. Apparent 12
@21.25 ft. Apparent 39
@23.5 ft. 38 to 10
@24.0 ft. Apparent 21
@27.0 ft. Apparent 60 to 23



EXISTING SURFACE
PROPOSED SURFACE
BOTTOM OF EXPORT
APPROXIMATE CONTACT

SCALE
0 60 120
1in. = 60 ft.
HORIZONTAL = VERTICAL





TRACT 5475
CROSS SECTIONS

SECTIONS A–A', B–B', AND C–C'

Earth Systems Southern California
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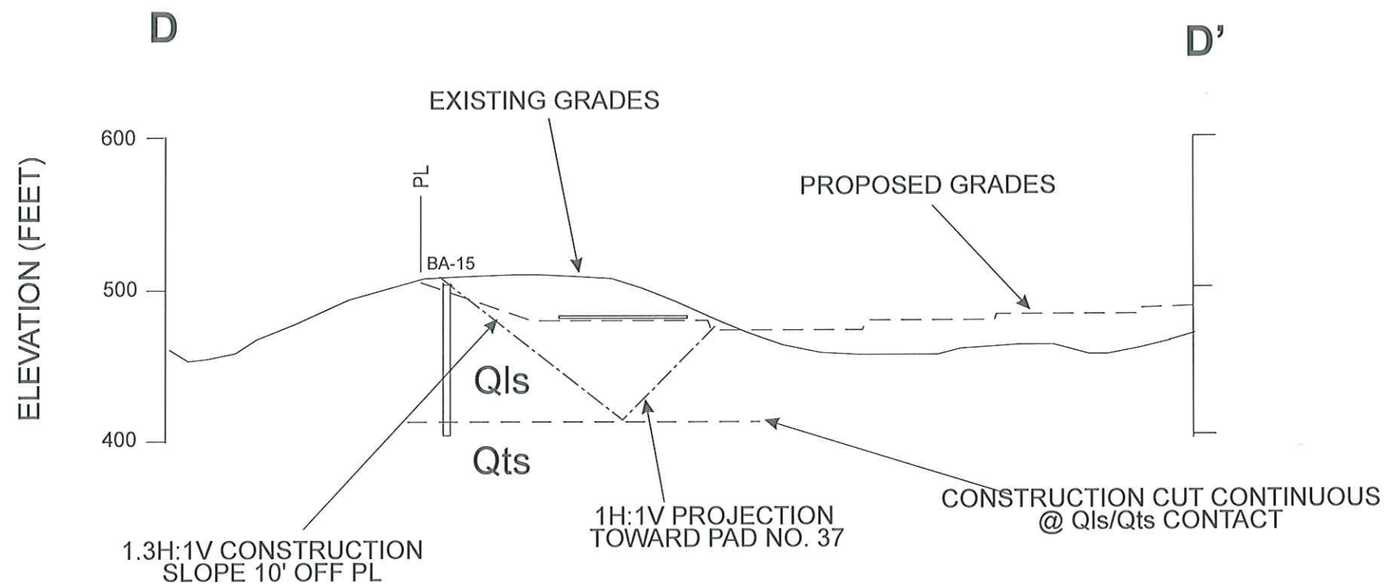
PH: (805) 642-6727 FAX: (805) 642-1325

REVISED OCTOBER 2010



Qls	LANDSLIDE DEPOSITS
Qts	SAUGUS FORMATION BEDROCK

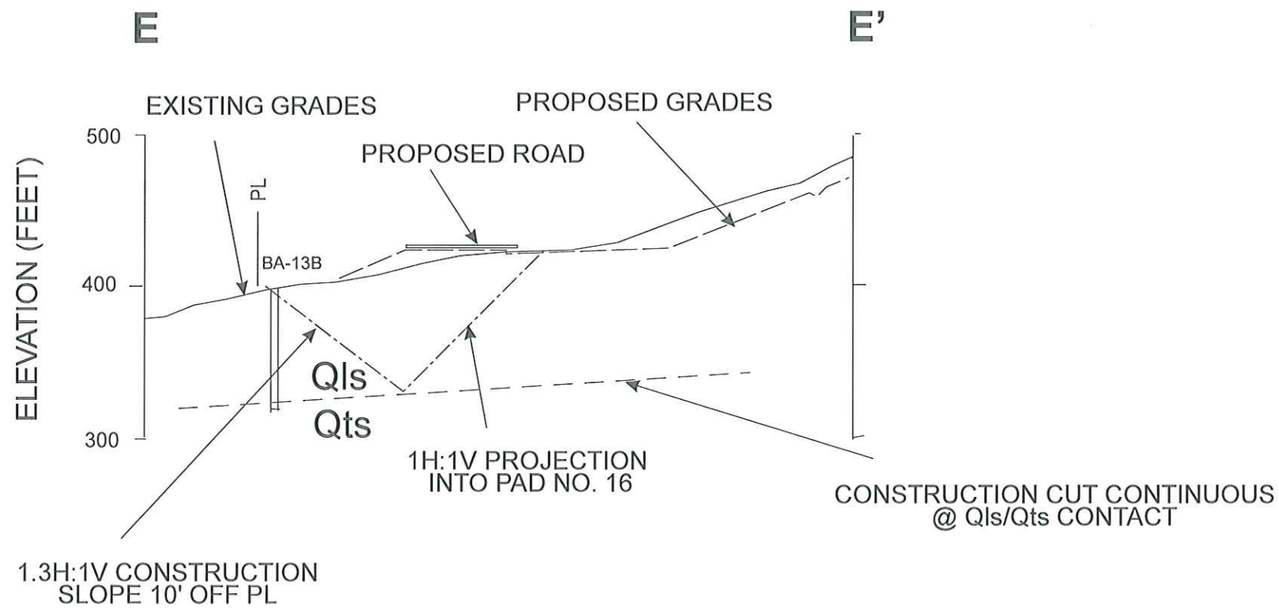
SCALE
1 in = 100 ft (H&V)

GEOLOGIC CROSS SECTION D-D'

TRACT 5475
VENTURA COUNTY, CALIFORNIA

Earth Systems
Southern California

OCTOBER 2010	VT-23066-03



Qls	LANDSLIDE DEPOSITS
Qts	SAUGUS FORMATION BEDROCK

SCALE
1 in = 100 ft (H&V)

GEOLOGIC CROSS SECTION E-E'

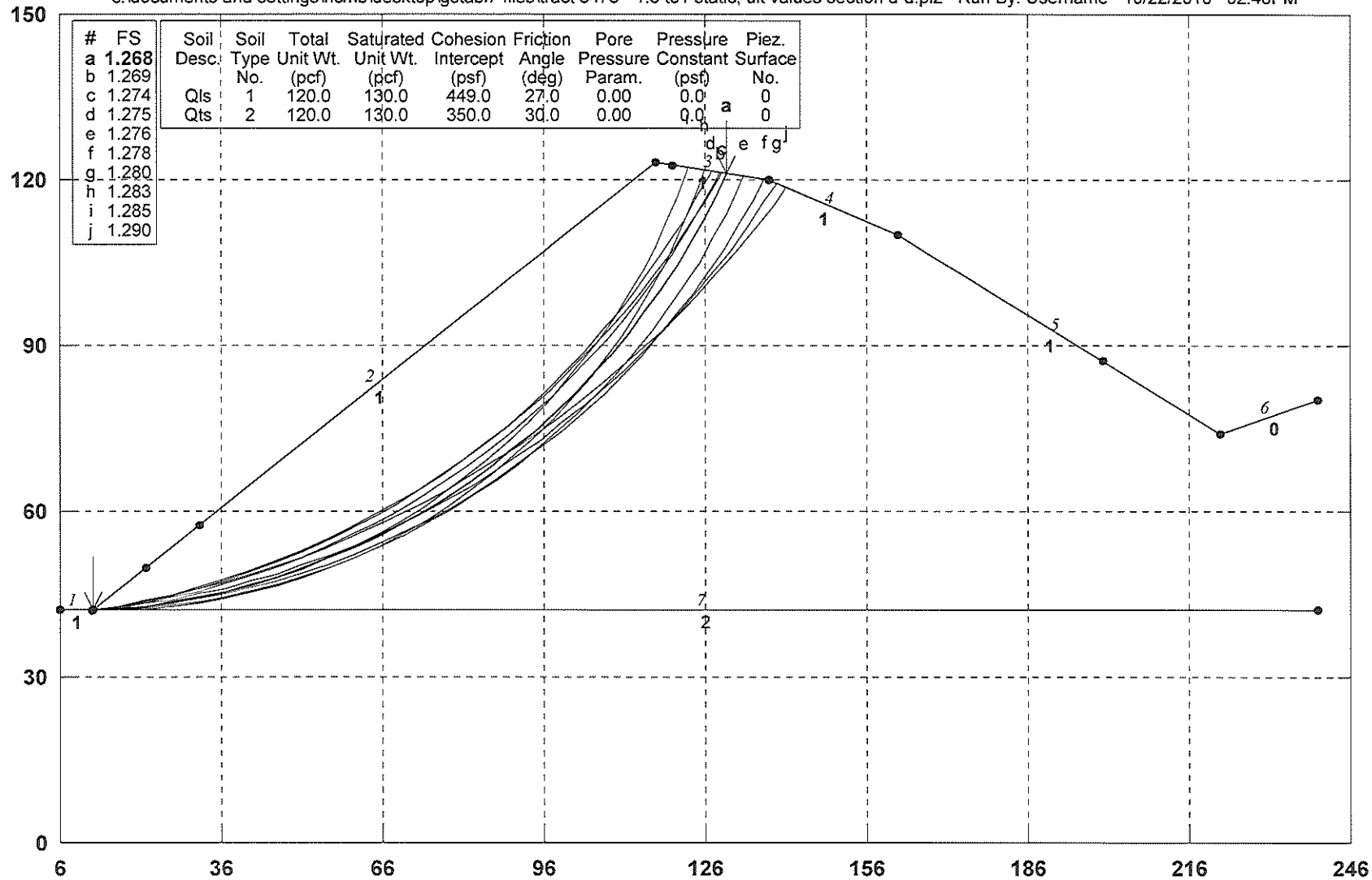
TRACT 5475
VENTURA COUNTY, CALIFORNIA

Earth Systems
Southern California

OCTOBER 2010	VT-23066-03

Tract 5475 Section D-D', Static

c:\documents and settings\ricmb\desktop\gstabl7 files\tract 5475 - 1.3 to1 static, ult values section d-d.pl2 Run By: Username 10/22/2010 02:48PM



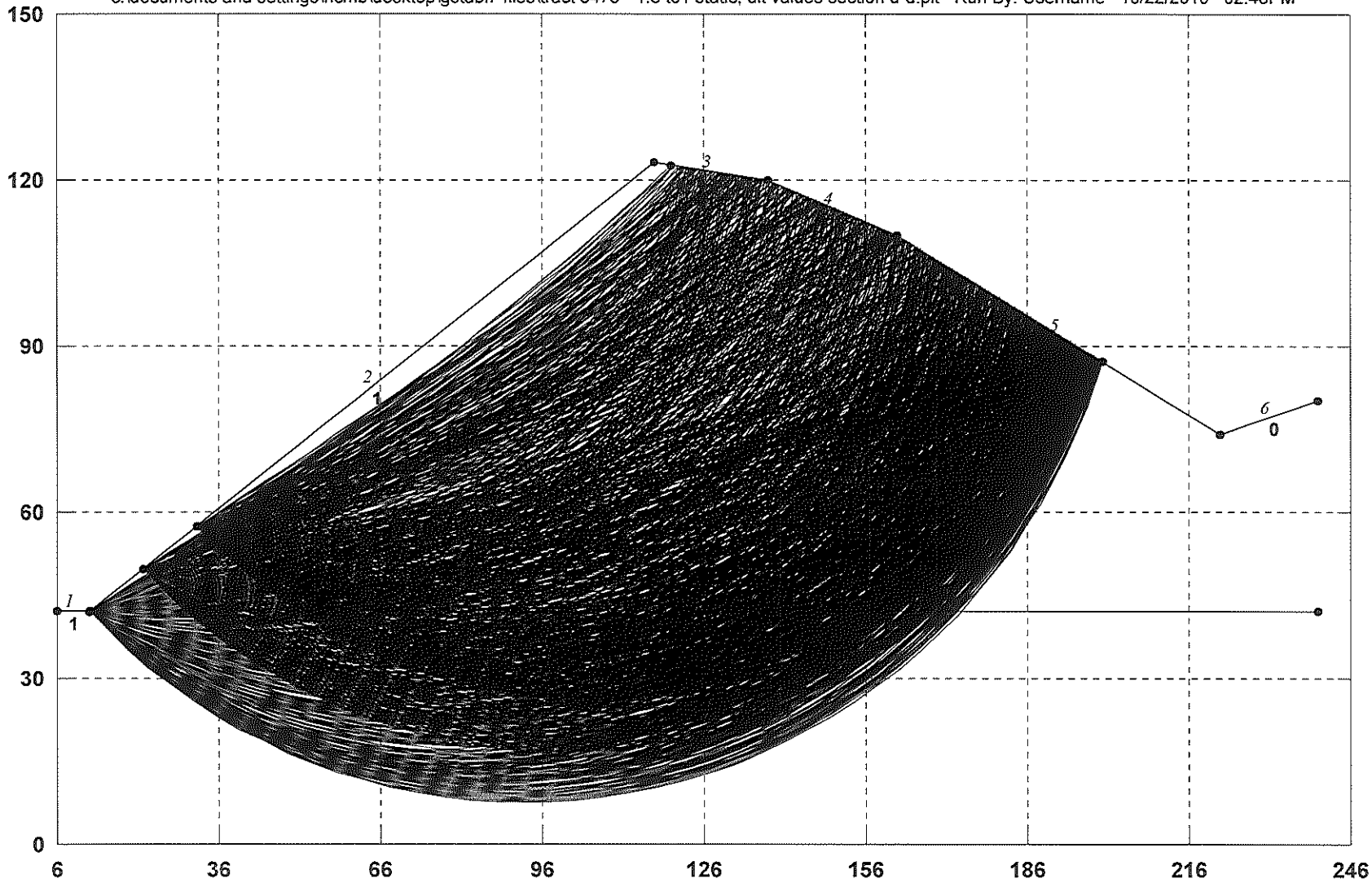
GSTABL7 v.2 FSmin=1.268

Safety Factors Are Calculated By The Modified Bishop Method

GSTABL7

Tract 5475 Section D-D', Static

c:\documents and settings\ricmb\desktop\gstabl7 files\tract 5475 - 1.3 to1 static, ult values section d-d.plt Run By: Username 10/22/2010 02:48PM



GSTABL7

```
                    *** GSTABL7 ***
              ** GSTABL7 by Garry H. Gregory, P.E. **
   ** Original Version 1.0, January 1996; Current Version 2.004, June 2003 **
            (All Rights Reserved-Unauthorized Use Prohibited)
*************************************************************************
                    SLOPE STABILITY ANALYSIS SYSTEM
       Modified Bishop, Simplified Janbu, or GLE Method of Slices.
       (Includes Spencer & Morgenstern-Price Type Analysis)
       Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
       Nonlinear Undrained Shear Strength, Curved Phi Envelope,
       Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
       Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.
*************************************************************************
Analysis Run Date:        10/22/2010
Time of Run:              02:48PM
Run By:                   Username
Input Data Filename:      C:\Documents and Settings\ricmb\Desktop\GSTABL7 FILES\tract
5475 - 1.3 to1 static, ult values section D-D.in
Output Filename:          C:\Documents and Settings\ricmb\Desktop\GSTABL7 FILES\tract
5475 - 1.3 to1 static, ult values section D-D.OUT
Unit System:              English
Plotted Output Filename:  C:\Documents and Settings\ricmb\Desktop\GSTABL7 FILES\tract
5475 - 1.3 to1 static, ult values section D-D.PLT
PROBLEM DESCRIPTION:  Tract 5475
                      Section D-D', Static
BOUNDARY COORDINATES
     Note: User origin value specified.
     Add 6.00 to X-values and 0.00 to Y-values listed.

    6 Top   Boundaries
    7 Total Boundaries
Boundary     X-Left     Y-Left    X-Right    Y-Right    Soil Type
   No.        (ft)       (ft)       (ft)       (ft)     Below Bnd
    1         6.00      42.00      12.00      42.00        1
    2        12.00      42.00     117.00     123.00        1
    3       117.00     123.00     138.00     120.00        1
    4       138.00     120.00     162.00     110.00        1
    5       162.00     110.00     222.00      74.00        1
    6       222.00      74.00     240.00      80.00        0
    7        12.00      42.00     240.00      42.00        2
Default Y-Origin = 0.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)
ISOTROPIC SOIL PARAMETERS
 2 Type(s) of Soil
Soil  Total  Saturated  Cohesion Friction   Pore   Pressure   Piez.
Type Unit Wt. Unit Wt. Intercept   Angle  Pressure Constant Surface
 No.  (pcf)    (pcf)     (psf)     (deg)    Param.   (psf)     No.
  1   120.0    130.0     449.0     27.0    0.00       0.0      0
  2   120.0    130.0     350.0     30.0    0.00       0.0      0
A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.
1500 Trial Surfaces Have Been Generated.
 500 Surface(s) Initiate(s) From Each Of     3 Points Equally Spaced
Along The Ground Surface Between  X =  12.00(ft)
                                 and  X =  32.00(ft)
Each Surface Terminates Between   X = 120.00(ft)
                                 and  X = 200.00(ft)
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is  Y =      4.00(ft)
 5.00(ft) Line Segments Define Each Trial Failure Surface.
Following Are Displayed The Ten Most Critical Of The Trial
      Failure Surfaces Evaluated. They Are
      Ordered - Most Critical First.
      * * Safety Factors Are Calculated By The Modified Bishop Method * *
      Total Number of Trial Surfaces Attempted =  1500
      Number of Trial Surfaces With Valid FS = 1500
      Statistical Data On All Valid FS Values:
```

FS Max = 5.270 FS Min = 1.268 FS Ave = 2.706
Standard Deviation = 0.971 Coefficient of Variation = 35.88 %

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.989	42.333
3	21.962	42.847
4	26.914	43.541
5	31.837	44.414
6	36.725	45.465
7	41.572	46.693
8	46.371	48.096
9	51.116	49.673
10	55.801	51.420
11	60.419	53.337
12	64.965	55.420
13	69.431	57.666
14	73.814	60.074
15	78.106	62.638
16	82.302	65.357
17	86.397	68.226
18	90.385	71.242
19	94.261	74.401
20	98.019	77.699
21	101.656	81.130
22	105.165	84.692
23	108.543	88.378
24	111.785	92.185
25	114.887	96.106
26	117.844	100.138
27	120.653	104.275
28	123.310	108.510
29	125.811	112.840
30	128.154	117.257
31	130.035	121.138

Circle Center At X = 5.327 ; Y = 179.565 ; and Radius = 137.727

Factor of Safety
*** 1.268 ***

Individual data on the 31 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	5.0	1052.4	0.0	0.0	0.	0.	0.0	0.0	0.0
2	5.0	3089.9	0.0	0.0	0.	0.	0.0	0.0	0.0
3	5.0	4992.2	0.0	0.0	0.	0.	0.0	0.0	0.0
4	4.9	6750.8	0.0	0.0	0.	0.	0.0	0.0	0.0
5	4.9	8358.3	0.0	0.0	0.	0.	0.0	0.0	0.0
6	4.8	9808.6	0.0	0.0	0.	0.	0.0	0.0	0.0
7	4.8	11096.9	0.0	0.0	0.	0.	0.0	0.0	0.0
8	4.7	12219.7	0.0	0.0	0.	0.	0.0	0.0	0.0
9	4.7	13174.5	0.0	0.0	0.	0.	0.0	0.0	0.0
10	4.6	13960.6	0.0	0.0	0.	0.	0.0	0.0	0.0
11	4.5	14578.3	0.0	0.0	0.	0.	0.0	0.0	0.0
12	4.5	15029.2	0.0	0.0	0.	0.	0.0	0.0	0.0
13	4.4	15316.3	0.0	0.0	0.	0.	0.0	0.0	0.0
14	4.3	15443.8	0.0	0.0	0.	0.	0.0	0.0	0.0
15	4.2	15417.1	0.0	0.0	0.	0.	0.0	0.0	0.0
16	4.1	15242.8	0.0	0.0	0.	0.	0.0	0.0	0.0
17	4.0	14928.8	0.0	0.0	0.	0.	0.0	0.0	0.0
18	3.9	14483.9	0.0	0.0	0.	0.	0.0	0.0	0.0
19	3.8	13918.1	0.0	0.0	0.	0.	0.0	0.0	0.0
20	3.6	13242.2	0.0	0.0	0.	0.	0.0	0.0	0.0
21	3.5	12468.2	0.0	0.0	0.	0.	0.0	0.0	0.0
22	3.4	11608.6	0.0	0.0	0.	0.	0.0	0.0	0.0
23	3.2	10676.9	0.0	0.0	0.	0.	0.0	0.0	0.0

24	3.1	9687.2	0.0	0.0	0.	0.	0.0	0.0	0.0
25	2.1	6248.3	0.0	0.0	0.	0.	0.0	0.0	0.0
26	0.8	2367.0	0.0	0.0	0.	0.	0.0	0.0	0.0
27	2.8	6900.5	0.0	0.0	0.	0.	0.0	0.0	0.0
28	2.7	5068.0	0.0	0.0	0.	0.	0.0	0.0	0.0
29	2.5	3375.4	0.0	0.0	0.	0.	0.0	0.0	0.0
30	2.3	1834.4	0.0	0.0	0.	0.	0.0	0.0	0.0
31	1.9	468.3	0.0	0.0	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.961	42.622
3	21.899	43.409
4	26.808	44.360
5	31.682	45.473
6	36.517	46.747
7	41.307	48.182
8	46.046	49.775
9	50.730	51.525
10	55.353	53.429
11	59.910	55.486
12	64.397	57.693
13	68.807	60.049
14	73.137	62.549
15	77.381	65.192
16	81.535	67.975
17	85.595	70.894
18	89.555	73.947
19	93.411	77.130
20	97.159	80.439
21	100.796	83.870
22	104.316	87.421
23	107.716	91.087
24	110.993	94.864
25	114.142	98.747
26	117.160	102.734
27	120.045	106.818
28	122.791	110.996
29	125.398	115.263
30	127.861	119.614
31	128.754	121.321

Circle Center At X = -4.234 ; Y = 191.519 ; and Radius = 150.398

Factor of Safety

*** 1.269 ***

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.935	42.807
3	21.842	43.764
4	26.718	44.872
5	31.557	46.128
6	36.356	47.532
7	41.110	49.083
8	45.813	50.779
9	50.463	52.618
10	55.053	54.599
11	59.581	56.720
12	64.042	58.978
13	68.432	61.373
14	72.746	63.900
15	76.980	66.559
16	81.131	69.346
17	85.195	72.260
18	89.167	75.296
19	93.044	78.453

20	96.823	81.728
21	100.500	85.116
22	104.071	88.616
23	107.532	92.224
24	110.882	95.936
25	114.116	99.749
26	117.232	103.659
27	120.227	107.663
28	123.097	111.757
29	125.841	115.938
30	128.455	120.200
31	129.070	121.276

Circle Center At X = -11.833 ; Y = 203.303 ; and Radius = 163.055

Factor of Safety

*** 1.274 ***

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.946	42.733
3	21.865	43.627
4	26.753	44.680
5	31.604	45.892
6	36.413	47.262
7	41.175	48.787
8	45.884	50.466
9	50.536	52.298
10	55.127	54.281
11	59.650	56.412
12	64.101	58.689
13	68.476	61.109
14	72.770	63.671
15	76.978	66.372
16	81.096	69.208
17	85.119	72.176
18	89.044	75.274
19	92.866	78.498
20	96.580	81.845
21	100.184	85.311
22	103.673	88.893
23	107.043	92.586
24	110.292	96.387
25	113.414	100.292
26	116.408	104.296
27	119.271	108.396
28	121.998	112.587
29	124.587	116.864
30	127.035	121.224
31	127.201	121.543

Circle Center At X = -8.034 ; Y = 194.219 ; and Radius = 153.532

Factor of Safety

*** 1.275 ***

Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.999	42.121
3	21.989	42.428
4	26.965	42.921
5	31.918	43.600
6	36.843	44.463
7	41.733	45.510
8	46.579	46.738
9	51.377	48.146
10	56.119	49.732
11	60.798	51.495
12	65.408	53.431

13	69.942	55.537
14	74.395	57.811
15	78.760	60.250
16	83.031	62.851
17	87.201	65.608
18	91.266	68.520
19	95.219	71.581
20	99.056	74.788
21	102.769	78.136
22	106.356	81.620
23	109.809	85.235
24	113.126	88.977
25	116.300	92.840
26	119.328	96.819
27	122.205	100.909
28	124.928	105.102
29	127.492	109.395
30	129.894	113.780
31	132.131	118.252
32	133.234	120.681

Circle Center At X = 11.288 ; Y = 175.838 ; and Radius = 133.840

Factor of Safety

*** 1.276 ***

Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.993	42.260
3	21.975	42.689
4	26.939	43.286
5	31.880	44.050
6	36.793	44.982
7	41.671	46.079
8	46.509	47.341
9	51.302	48.765
10	56.044	50.351
11	60.729	52.097
12	65.353	54.000
13	69.909	56.059
14	74.393	58.271
15	78.800	60.633
16	83.125	63.143
17	87.362	65.797
18	91.506	68.594
19	95.554	71.530
20	99.500	74.600
21	103.340	77.803
22	107.069	81.133
23	110.683	84.588
24	114.179	88.163
25	117.551	91.855
26	120.797	95.658
27	123.912	99.569
28	126.892	103.584
29	129.736	107.697
30	132.438	111.903
31	134.997	116.199
32	137.156	120.121

Circle Center At X = 6.829 ; Y = 189.600 ; and Radius = 147.690

Factor of Safety

*** 1.278 ***

Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.974	42.510
3	21.931	43.167

4	26.865	43.972
5	31.774	44.924
6	36.652	46.021
7	41.495	47.263
8	46.300	48.648
9	51.060	50.176
10	55.774	51.845
11	60.435	53.653
12	65.041	55.600
13	69.586	57.682
14	74.068	59.899
15	78.482	62.249
16	82.824	64.728
17	87.090	67.336
18	91.276	70.070
19	95.379	72.927
20	99.396	75.905
21	103.322	79.001
22	107.154	82.213
23	110.889	85.537
24	114.523	88.972
25	118.053	92.512
26	121.476	96.156
27	124.790	99.901
28	127.990	103.742
29	131.075	107.678
30	134.041	111.703
31	136.886	115.814
32	139.261	119.475

Circle Center At X = -2.624 ; Y = 209.280 ; and Radius = 167.918

Factor of Safety
*** 1.280 ***

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	17.000	42.019
3	21.995	42.249
4	26.975	42.690
5	31.933	43.341
6	36.858	44.201
7	41.743	45.268
8	46.578	46.540
9	51.356	48.016
10	56.067	49.692
11	60.702	51.565
12	65.255	53.632
13	69.716	55.890
14	74.078	58.334
15	78.333	60.961
16	82.473	63.764
17	86.490	66.740
18	90.379	69.884
19	94.131	73.188
20	97.741	76.648
21	101.201	80.257
22	104.506	84.010
23	107.649	87.898
24	110.625	91.916
25	113.429	96.056
26	116.055	100.310
27	118.500	104.672
28	120.758	109.133
29	122.825	113.686
30	124.699	118.322
31	125.910	121.727

Circle Center At X = 14.049 ; Y = 160.343 ; and Radius = 118.361

Factor of Safety
*** 1.283 ***

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.995	42.229
3	21.976	42.664
4	26.935	43.304
5	31.863	44.149
6	36.752	45.197
7	41.593	46.446
8	46.379	47.895
9	51.100	49.539
10	55.750	51.378
11	60.320	53.407
12	64.802	55.623
13	69.188	58.023
14	73.472	60.602
15	77.645	63.356
16	81.701	66.280
17	85.633	69.369
18	89.433	72.618
19	93.096	76.022
20	96.615	79.573
21	99.984	83.268
22	103.198	87.098
23	106.251	91.058
24	109.137	95.141
25	111.852	99.340
26	114.392	103.647
27	116.751	108.055
28	118.925	112.558
29	120.912	117.146
30	122.708	121.812
31	122.828	122.167

Circle Center At X = 8.966 ; Y = 162.896 ; and Radius = 120.934

Factor of Safety
*** 1.285 ***

Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.941	42.766
3	21.861	43.658
4	26.756	44.675
5	31.624	45.817
6	36.461	47.083
7	41.264	48.473
8	46.030	49.985
9	50.756	51.619
10	55.438	53.373
11	60.074	55.246
12	64.660	57.236
13	69.194	59.344
14	73.673	61.567
15	78.093	63.904
16	82.453	66.353
17	86.748	68.913
18	90.976	71.581
19	95.134	74.357
20	99.221	77.239
21	103.232	80.224
22	107.165	83.310
23	111.019	86.497
24	114.789	89.781
25	118.474	93.160

```
   26        122.072       96.632
   27        125.580      100.195
   28        128.995      103.847
   29        132.316      107.585
   30        135.540      111.406
   31        138.665      115.309
   32        141.212      118.662
Circle Center At X =   -15.443 ; Y =   235.477 ; and Radius =   195.414
       Factor of Safety
      ***    1.290   ***
          **** END OF GSTABL7 OUTPUT ****
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Tract 5475 Section E-E', Static

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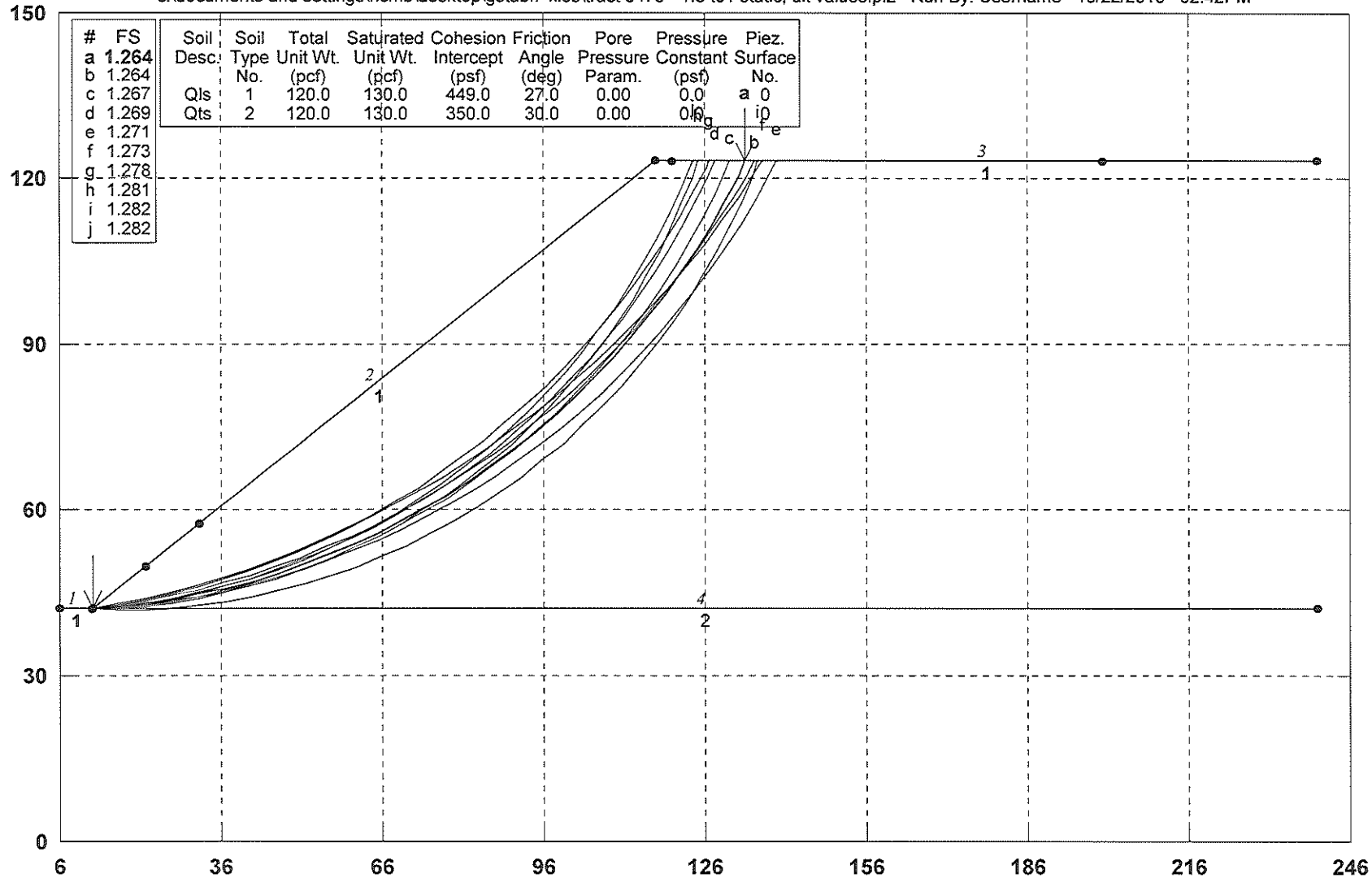


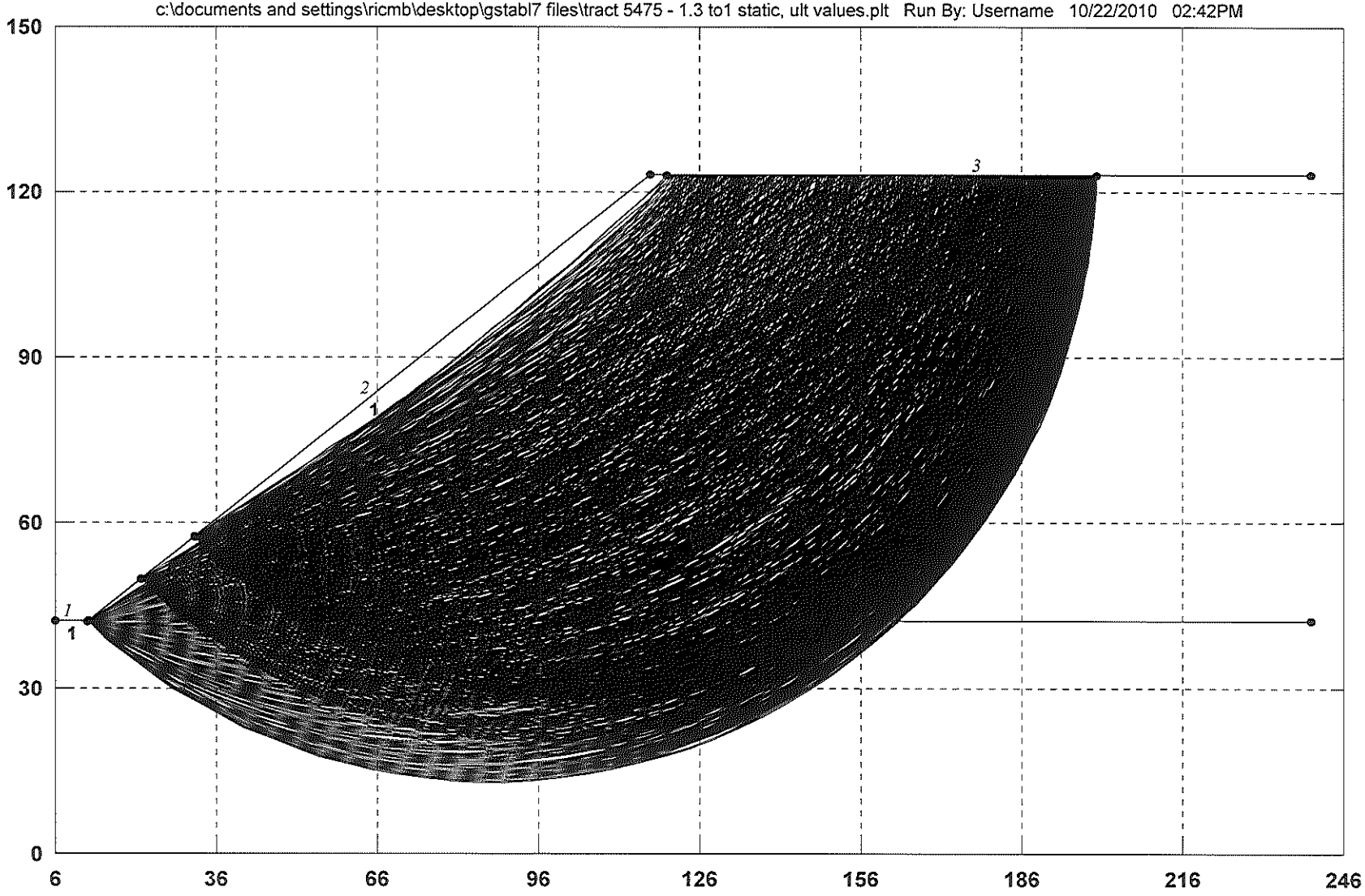
GSTABL7 v.2 FSmin=1.264

Safety Factors Are Calculated By The Modified Bishop Method

GSTABL7

Tract 5475 Section E-E', Static

c:\documents and settings\ricmb\desktop\gstabl7 files\tract 5475 - 1.3 to1 static, ult values.plt Run By: Username 10/22/2010 02:42PM



GSTABL7

```
                    *** GSTABL7 ***
              ** GSTABL7 by Garry H. Gregory, P.E. **
   ** Original Version 1.0, January 1996; Current Version 2.004, June 2003 **
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*******************************************************************************
                    SLOPE STABILITY ANALYSIS SYSTEM
       Modified Bishop, Simplified Janbu, or GLE Method of Slices.
       (Includes Spencer & Morgenstern-Price Type Analysis)
       Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
       Nonlinear Undrained Shear Strength, Curved Phi Envelope,
       Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
       Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.
*******************************************************************************
Analysis Run Date:        10/22/2010
Time of Run:              02:42PM
Run By:                   Username
Input Data Filename:      C:\Documents and Settings\ricmb\Desktop\GSTABL7 FILES\tract
5475 - 1.3 to1 static, ult values.in
Output Filename:          C:\Documents and Settings\ricmb\Desktop\GSTABL7 FILES\tract
5475 - 1.3 to1 static, ult values.OUT
Unit System:              English
Plotted Output Filename:  C:\Documents and Settings\ricmb\Desktop\GSTABL7 FILES\tract
5475 - 1.3 to1 static, ult values.PLT
PROBLEM DESCRIPTION:  Tract 5475
                      Section E-E', Static
BOUNDARY COORDINATES
     Note: User origin value specified.
```

Add 6.00 to X-values and 0.00 to Y-values listed.

3 Top Boundaries
4 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	6.00	42.00	12.00	42.00	1
2	12.00	42.00	117.00	123.00	1
3	117.00	123.00	240.00	123.00	1
4	12.00	42.00	240.00	42.00	2

Default Y-Origin = 0.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS
2 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	120.0	130.0	449.0	27.0	0.00	0.0	0
2	120.0	130.0	350.0	30.0	0.00	0.0	0

A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.
1500 Trial Surfaces Have Been Generated.
500 Surface(s) Initiate(s) From Each Of 3 Points Equally Spaced
Along The Ground Surface Between X = 12.00(ft)
and X = 32.00(ft)
Each Surface Terminates Between X = 120.00(ft)
and X = 200.00(ft)
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 4.00(ft)
5.00(ft) Line Segments Define Each Trial Failure Surface.
Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Evaluated. They Are
Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Modified Bishop Method * *
Total Number of Trial Surfaces Attempted = 1500
Number of Trial Surfaces With Valid FS = 1500
Statistical Data On All Valid FS Values:
FS Max = 3.303 FS Min = 1.264 FS Ave = 2.108
Standard Deviation = 0.568 Coefficient of Variation = 26.94 %
Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.984	42.398
3	21.952	42.967
4	26.897	43.705
5	31.814	44.613
6	36.697	45.689
7	41.540	46.932
8	46.337	48.340
9	51.084	49.912
10	55.773	51.646
11	60.401	53.540
12	64.961	55.591
13	69.448	57.797
14	73.856	60.156
15	78.181	62.665
16	82.418	65.320
17	86.561	68.120
18	90.605	71.059
19	94.547	74.136
20	98.380	77.346
21	102.101	80.686
22	105.706	84.151
23	109.189	87.738
24	112.547	91.442

25	115.777	95.260
26	118.873	99.185
27	121.833	103.215
28	124.654	107.344
29	127.330	111.567
30	129.861	115.879
31	132.242	120.276
32	133.599	123.000

Circle Center At X = 2.914 ; Y = 187.413 ; and Radius = 145.697

Factor of Safety

*** 1.264 ***

Individual data on the 32 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	5.0	1030.8	0.0	0.0	0.	0.	0.0	0.0	0.0
2	5.0	3027.4	0.0	0.0	0.	0.	0.0	0.0	0.0
3	4.9	4894.7	0.0	0.0	0.	0.	0.0	0.0	0.0
4	4.9	6625.3	0.0	0.0	0.	0.	0.0	0.0	0.0
5	4.9	8213.0	0.0	0.0	0.	0.	0.0	0.0	0.0
6	4.8	9652.5	0.0	0.0	0.	0.	0.0	0.0	0.0
7	4.8	10939.6	0.0	0.0	0.	0.	0.0	0.0	0.0
8	4.7	12071.1	0.0	0.0	0.	0.	0.0	0.0	0.0
9	4.7	13045.1	0.0	0.0	0.	0.	0.0	0.0	0.0
10	4.6	13860.6	0.0	0.0	0.	0.	0.0	0.0	0.0
11	4.6	14517.8	0.0	0.0	0.	0.	0.0	0.0	0.0
12	4.5	15017.9	0.0	0.0	0.	0.	0.0	0.0	0.0
13	4.4	15363.4	0.0	0.0	0.	0.	0.0	0.0	0.0
14	4.3	15557.6	0.0	0.0	0.	0.	0.0	0.0	0.0
15	4.2	15605.1	0.0	0.0	0.	0.	0.0	0.0	0.0
16	4.1	15511.3	0.0	0.0	0.	0.	0.0	0.0	0.0
17	4.0	15282.8	0.0	0.0	0.	0.	0.0	0.0	0.0
18	3.9	14926.9	0.0	0.0	0.	0.	0.0	0.0	0.0
19	3.8	14452.0	0.0	0.0	0.	0.	0.0	0.0	0.0
20	3.7	13867.3	0.0	0.0	0.	0.	0.0	0.0	0.0
21	3.6	13182.8	0.0	0.0	0.	0.	0.0	0.0	0.0
22	3.5	12409.2	0.0	0.0	0.	0.	0.0	0.0	0.0
23	3.4	11558.0	0.0	0.0	0.	0.	0.0	0.0	0.0
24	3.2	10641.3	0.0	0.0	0.	0.	0.0	0.0	0.0
25	1.2	3888.8	0.0	0.0	0.	0.	0.0	0.0	0.0
26	1.9	5620.5	0.0	0.0	0.	0.	0.0	0.0	0.0
27	3.0	7743.5	0.0	0.0	0.	0.	0.0	0.0	0.0
28	2.8	5997.0	0.0	0.0	0.	0.	0.0	0.0	0.0
29	2.7	4350.9	0.0	0.0	0.	0.	0.0	0.0	0.0
30	2.5	2817.0	0.0	0.0	0.	0.	0.0	0.0	0.0
31	2.4	1406.5	0.0	0.0	0.	0.	0.0	0.0	0.0
32	1.4	221.8	0.0	0.0	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.960	42.634
3	21.897	43.420
4	26.809	44.357
5	31.689	45.445
6	36.534	46.681
7	41.338	48.066
8	46.098	49.597
9	50.809	51.273
10	55.466	53.093
11	60.065	55.055
12	64.601	57.158
13	69.071	59.398
14	73.470	61.774
15	77.795	64.285
16	82.040	66.926

17	86.202	69.697
18	90.277	72.594
19	94.262	75.615
20	98.152	78.756
21	101.943	82.015
22	105.633	85.389
23	109.218	88.875
24	112.694	92.469
25	116.059	96.167
26	119.308	99.968
27	122.439	103.866
28	125.449	107.858
29	128.336	111.941
30	131.096	116.110
31	133.726	120.362
32	135.248	123.000

Circle Center At X = -6.165 ; Y = 203.906 ; and Radius = 162.922

Factor of Safety

*** 1.264 ***

Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.993	42.267
3	21.972	42.719
4	26.932	43.357
5	31.864	44.179
6	36.762	45.183
7	41.619	46.370
8	46.428	47.737
9	51.184	49.282
10	55.878	51.003
11	60.505	52.897
12	65.059	54.963
13	69.532	57.196
14	73.919	59.595
15	78.214	62.156
16	82.410	64.874
17	86.502	67.747
18	90.484	70.771
19	94.351	73.940
20	98.098	77.252
21	101.718	80.700
22	105.207	84.282
23	108.561	87.990
24	111.774	91.821
25	114.842	95.769
26	117.761	99.828
27	120.527	103.994
28	123.136	108.259
29	125.584	112.619
30	127.868	117.067
31	129.985	121.596
32	130.578	123.000

Circle Center At X = 7.358 ; Y = 176.090 ; and Radius = 134.171

Factor of Safety

*** 1.267 ***

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.978	42.467
3	21.936	43.113
4	26.868	43.937
5	31.767	44.937
6	36.626	46.113
7	41.441	47.464

8	46.203	48.986
9	50.908	50.679
10	55.549	52.541
11	60.119	54.567
12	64.614	56.757
13	69.027	59.108
14	73.353	61.615
15	77.586	64.277
16	81.720	67.089
17	85.750	70.048
18	89.672	73.150
19	93.479	76.392
20	97.167	79.768
21	100.731	83.274
22	104.167	86.907
23	107.470	90.661
24	110.636	94.531
25	113.660	98.512
26	116.539	102.600
27	119.269	106.789
28	121.847	111.073
29	124.269	115.447
30	126.532	119.906
31	127.965	123.000

Circle Center At X = 1.513 ; Y = 180.559 ; and Radius = 138.955

Factor of Safety

*** 1.269 ***

Failure Surface Specified By 33 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.989	42.330
3	21.965	42.823
4	26.922	43.478
5	31.854	44.295
6	36.758	45.273
7	41.627	46.411
8	46.456	47.708
9	51.239	49.162
10	55.973	50.771
11	60.652	52.535
12	65.270	54.451
13	69.824	56.517
14	74.307	58.731
15	78.715	61.090
16	83.044	63.592
17	87.289	66.235
18	91.445	69.015
19	95.507	71.929
20	99.473	74.975
21	103.336	78.149
22	107.094	81.447
23	110.741	84.867
24	114.275	88.404
25	117.691	92.055
26	120.986	95.816
27	124.156	99.683
28	127.198	103.651
29	130.108	107.717
30	132.884	111.875
31	135.523	116.123
32	138.021	120.454
33	139.380	123.000

Circle Center At X = 4.418 ; Y = 194.619 ; and Radius = 152.807

Factor of Safety

*** 1.271 ***

Failure Surface Specified By 32 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.923	42.876
3	21.820	43.884
4	26.688	45.023
5	31.524	46.294
6	36.324	47.694
7	41.085	49.223
8	45.802	50.880
9	50.473	52.664
10	55.095	54.572
11	59.663	56.605
12	64.174	58.760
13	68.626	61.036
14	73.015	63.431
15	77.338	65.944
16	81.592	68.572
17	85.773	71.314
18	89.879	74.168
19	93.906	77.131
20	97.852	80.202
21	101.714	83.378
22	105.488	86.657
23	109.173	90.036
24	112.766	93.514
25	116.263	97.087
26	119.663	100.753
27	122.963	104.510
28	126.160	108.354
29	129.253	112.283
30	132.238	116.294
31	135.114	120.383
32	136.851	123.000

Circle Center At X = -17.979 ; Y = 224.929 ; and Radius = 185.370

Factor of Safety

*** 1.273 ***

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.945	42.740
3	21.863	43.643
4	26.748	44.708
5	31.596	45.933
6	36.400	47.317
7	41.157	48.858
8	45.860	50.556
9	50.504	52.408
10	55.085	54.411
11	59.598	56.565
12	64.036	58.866
13	68.397	61.313
14	72.675	63.901
15	76.865	66.630
16	80.963	69.494
17	84.964	72.493
18	88.864	75.622
19	92.659	78.877
20	96.345	82.256
21	99.917	85.754
22	103.372	89.369
23	106.706	93.095
24	109.915	96.929
25	112.996	100.867
26	115.946	104.904
27	118.761	109.036

28	121.438	113.259
29	123.975	117.568
30	126.368	121.958
31	126.892	123.000

Circle Center At X = -7.981 ; Y = 192.352 ; and Radius = 151.674

Factor of Safety

*** 1.278 ***

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.997	42.170
3	21.983	42.547
4	26.949	43.128
5	31.887	43.914
6	36.788	44.902
7	41.645	46.092
8	46.448	47.480
9	51.190	49.066
10	55.862	50.845
11	60.458	52.816
12	64.968	54.974
13	69.385	57.317
14	73.702	59.839
15	77.912	62.538
16	82.006	65.407
17	85.979	68.443
18	89.824	71.640
19	93.533	74.993
20	97.101	78.496
21	100.522	82.142
22	103.789	85.927
23	106.898	89.843
24	109.842	93.884
25	112.618	98.043
26	115.219	102.313
27	117.643	106.686
28	119.884	111.156
29	121.939	115.714
30	123.805	120.353
31	124.745	123.000

Circle Center At X = 10.366 ; Y = 163.277 ; and Radius = 121.288

Factor of Safety

*** 1.281 ***

Failure Surface Specified By 33 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.999	41.880
3	21.998	41.957
4	26.990	42.231
5	31.968	42.700
6	36.924	43.366
7	41.849	44.225
8	46.737	45.278
9	51.580	46.522
10	56.370	47.956
11	61.100	49.577
12	65.762	51.383
13	70.350	53.371
14	74.856	55.538
15	79.274	57.880
16	83.595	60.395
17	87.815	63.078
18	91.926	65.924
19	95.921	68.930
20	99.795	72.091

21	103.542	75.402
22	107.156	78.857
23	110.631	82.452
24	113.961	86.182
25	117.143	90.039
26	120.170	94.018
27	123.038	98.114
28	125.744	102.319
29	128.281	106.627
30	130.647	111.032
31	132.838	115.526
32	134.851	120.103
33	135.990	123.000

Circle Center At X = 17.544 ; Y = 168.949 ; and Radius = 127.070

Factor of Safety

*** 1.282 ***

Failure Surface Specified By 31 Coordinate Points

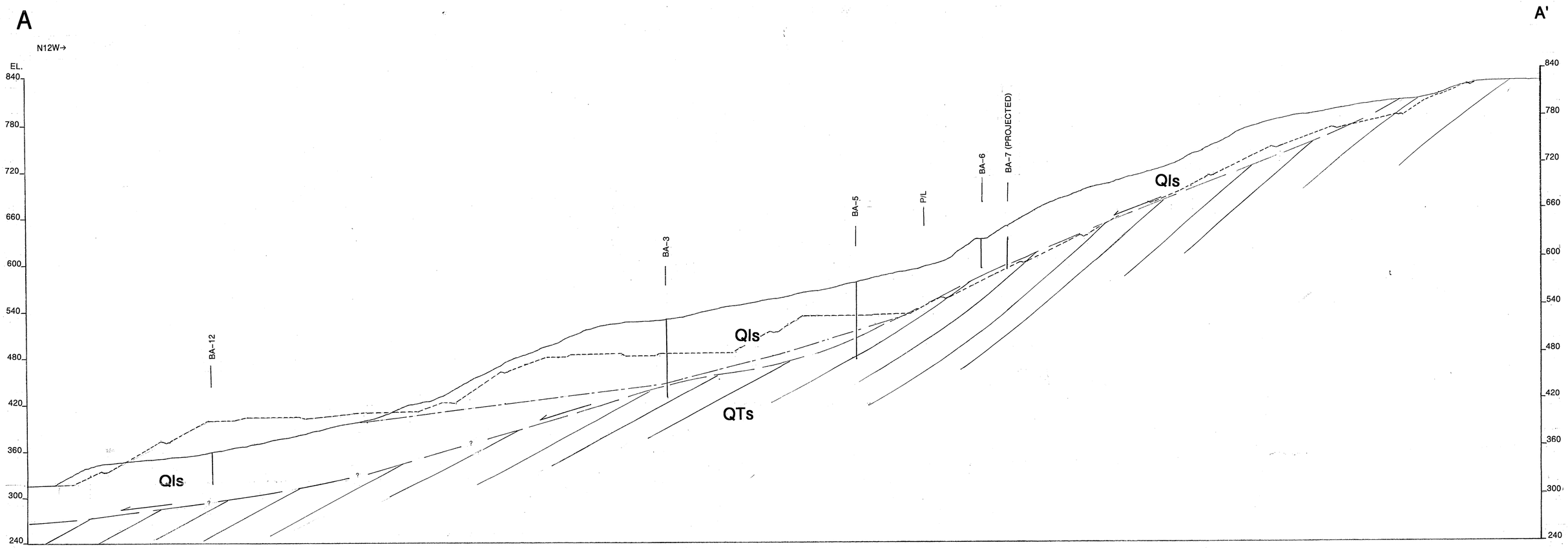
Point No.	X-Surf (ft)	Y-Surf (ft)
1	12.000	42.000
2	16.981	42.435
3	21.942	43.061
4	26.875	43.878
5	31.772	44.883
6	36.628	46.076
7	41.434	47.455
8	46.184	49.017
9	50.870	50.761
10	55.485	52.683
11	60.024	54.782
12	64.478	57.054
13	68.842	59.494
14	73.108	62.101
15	77.272	64.870
16	81.325	67.797
17	85.264	70.878
18	89.081	74.108
19	92.771	77.482
20	96.328	80.995
21	99.748	84.643
22	103.025	88.419
23	106.155	92.318
24	109.132	96.335
25	111.953	100.463
26	114.613	104.697
27	117.108	109.030
28	119.435	113.455
29	121.591	117.967
30	123.571	122.558
31	123.742	123.000

Circle Center At X = 3.175 ; Y = 171.762 ; and Radius = 130.062

Factor of Safety

*** 1.282 ***

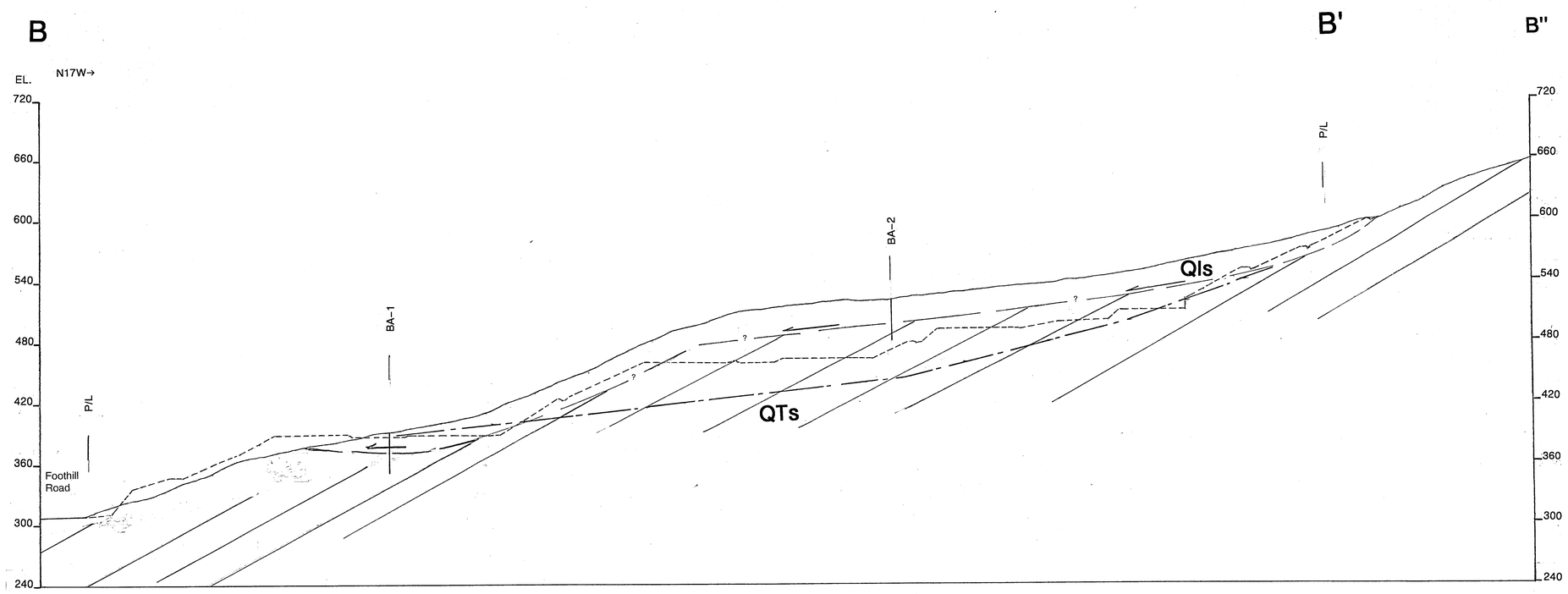
**** END OF GSTABL7 OUTPUT ****

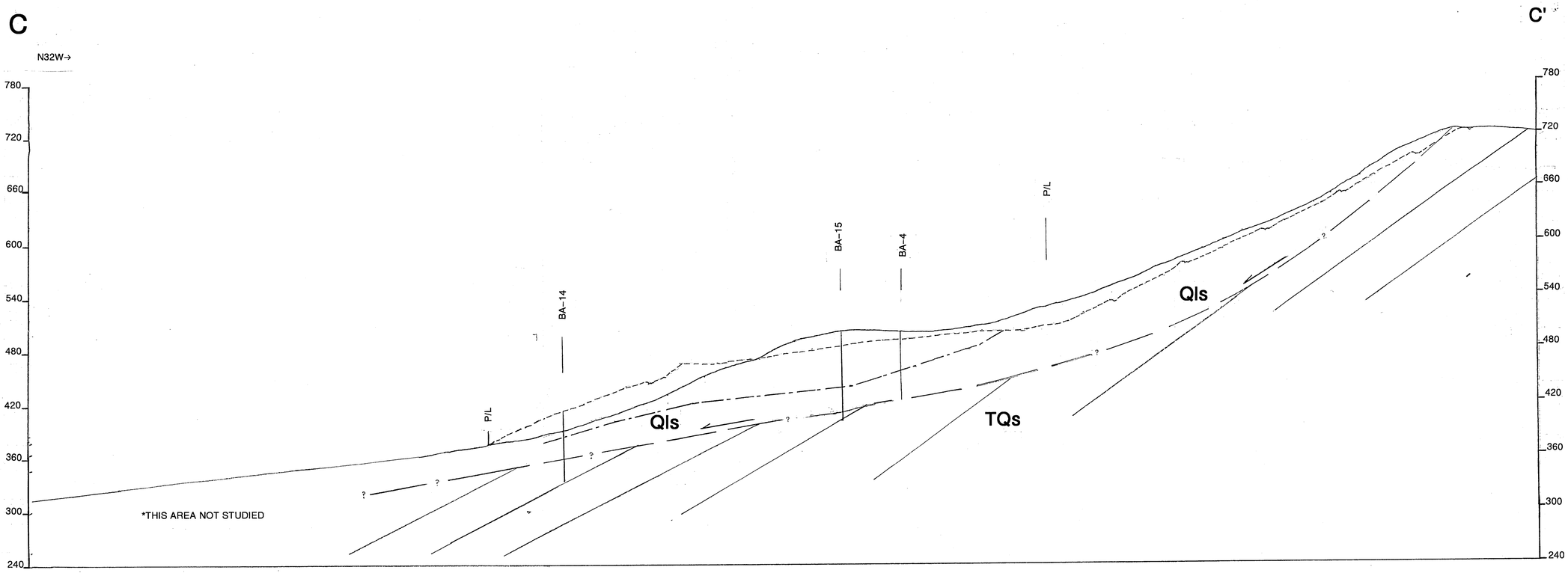


EXISTING SURFACE
PROPOSED SURFACE
BOTTOM OF EXPORT
APPROXIMATE CONTACT

SCALE
0 60 120
1in. = 60 ft.
HORIZONTAL = VERTICAL

*** The bottom of the Qls (landslide deposits) shown on the cross sections represents the minimum depth of removals during rough grading. The removals during rough grading will include keying and benching into firm Saugus Formation bedrock units**





TRACT 5475
CROSS SECTIONS

SECTIONS A-A', B-B', AND C-C'

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PH: (805) 642-6727 FAX: (805) 642-1325

REVISED OCTOBER 2010

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Southern California

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www.earthsystems.com

February 3, 2014

Project No.: VT-23066-04
Report No.: 14-2-1

Keith Hagaman
12121 Wilshire Boulevard, Suite 959
Los Angeles, California 90025

Project: Tentative Tract 5475
Santa Paula, California
Subject: Offsite Fill Disposal Areas
References:

1. Geotechnical Feasibility Report, Tract 5475, Santa Paula Area of Santa Paula, California. File No. VT-23066-02, Report No. 06-04-38, April 28, 2006, Earth Systems Southern California
2. Feasibility Issues, Tentative Tract Map No. 5475, Santa Paula, California, July 20, 2007, RJR Engineering Group
3. Response to Review (dated July 20, 2007), Tentative Tract 5475, Santa Paula Area of Santa Paula, California. File No. VT-23066-04, Report No. 09-11-49, November 30, 2009, Earth Systems Southern California
4. Feasibility Issues, Tentative Tract Map No. 5475, Santa Paula, California, September 29, 2010, RJR Engineering Group
5. Response to Review (Review Comments dated September 29, 2010), Tentative Tract 5475, Santa Paula Area of Santa Paula, California. File No. VT-23066-04, Report No. 10-10-87, October 22, 2010, Earth Systems Southern California
6. Feasibility Issues #3, Tentative Tract Map No. 5475, Santa Paula, California, November 20, 2010, RJR Engineering Group
7. Response to Review (Review Comments dated November 20, 2010), Tentative Tract 5475, Santa Paula Area of Santa Paula, California. File No. VT-23066-04, Report No. 12-7-15, July 13, 2012, Earth Systems Southern California

The rough grading of Tract 5475 will create about 700,000 cubic yards of export soils that will be placed as agricultural fill within an Adams Canyon property located adjacent and northwest of Tract 5475. The export soils will be placed within proposed two fill areas in canyons that have drainage axes generally trending in east-west directions as shown on the Jensen Design & Survey Off-Site Grading Exhibit (January 2014). The export soils will be trucked across private roadways from Tract 5475 to the proposed fill areas. The private roadways are existing agricultural roads that will not require significant grading modification to provide appropriate access for haul trucks. These proposed fill areas are for

agricultural use only and it is our understanding that no structures are planned to be supported by the fill.

Earth Systems Southern California (ESSC) has performed an engineering geologic and geotechnical engineering feasibility study of three fill placement areas, although the project will currently use only two of the disposal areas. The ESSC feasibility study included reviewing regional geology maps, reviewing historical stereographic aerial photographs, and performing geologic field reconnaissance. ESSC has prepared a Geologic Map of the Offsite Disposal Areas which indicates the general geology of the three fill placement areas (although only the northern and southernmost fill disposal areas will be used as previous discussed in this letter). The fill areas all lie within canyons exposing either stream terrace deposits or Saugus Formation bedrock on the canyon slopes and alluvium within the canyon bottoms. Some landslides are also exposed on the canyon slopes. It is feasible from an engineering geologic and geotechnical engineering perspective to place agricultural fill in the three proposed fill areas. The proposed fill to be placed within the canyon should be placed to 90% relative compaction to minimize erosion and should be keyed/benched into firm native materials. Subdrains and backdrains should be placed as determined necessary during fill placement. Fill placement adjacent to existing landslides should provide additional support at the toe of the landslides and should not increase hazards. The proposed fill placement will not be a nuisance or create a hazard condition to the subject property or to any off-site properties and should not require constant maintenance. The proposed grading should meet the minimum non-development standards set forth by the County of Ventura and the 2013 California Building Code. The project Civil Engineer should incorporate erosion control into their design.

Respectfully submitted,

EARTH SYSTEMS SOUTHERN CALIFORNIA

PROFESSIONAL GEOLOGIST
TODD J. TRANBY
NO. 2078
CERTIFIED
ENGINEERING
GEOLOGIST
EXPIRES 11-15
STATE OF CALIFORNIA

Todd J. Tranby
Engineering Geologist

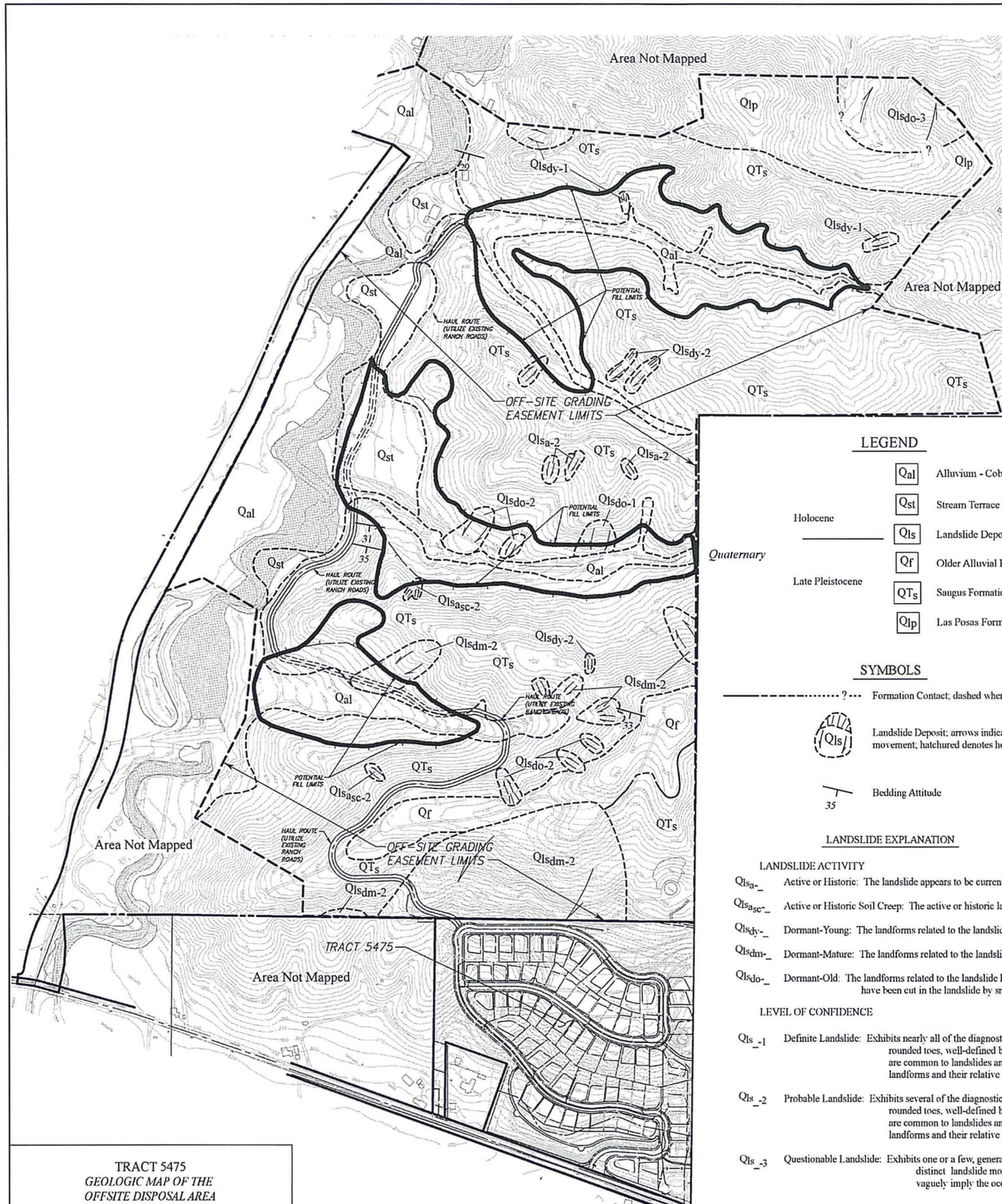
2/4/14

Reviewed and Approved

REGISTERED PROFESSIONAL ENGINEER
RICHARD MICHAEL BEARD
GE 128
Exp. 12-31-15
GEOTECHNICAL
STATE OF CALIFORNIA

Richard M. Beard
Geotechnical Engineer

Attached: Geologic Map of the Offsite Disposal Areas
Copies: 1 - Keith Hagaman
1 - Michael Piszker
1 - Rincon Consultants; Attention: Joe Power
1 - Project File



LEGEND

Quaternary	Holocene	Qal — Alluvium - Cobble and gravel sands with minor silts and clays
		Qst — Stream Terrace Deposits (Older Alluvium) - Cobble and gravel conglomerates with sands.
		Qls — Landslide Deposits (See Landslide Explanation)
	Late Pleistocene	Qf — Older Alluvial Fan Deposits - Cobble and gravel congomerates with minor boulder conglomerates
		QTs — Saugus Formation - Cobbly and Sandy Gravels, Sandstones (Friable); Minor Siltstones
		Qlp — Las Posas Formation - Sands and silts with minor clay

SYMBOLS

Formation Contact; dashed where approximate, dotted where concealed, quieried where questionable

Qls — Landslide Deposit; arrows indicate direction of movement; hatchured denotes headscarp area

35 — Bedding Attitude

LANDSLIDE EXPLANATION

LANDSLIDE ACTIVITY

$Qls_{a-_}$ Active or Historic: The landslide appears to be currently moving or have moved within historic time.

$Qls_{asc-_}$ Active or Historic Soil Creep: The active or historic landslide appears to be confined to the soil mantle or soil zone.

$Qls_{dy-_}$ Dormant-Young: The landforms related to the landslide are fresh and not eroded; no record of historic movement.

$Qls_{dm-_}$ Dormant-Mature: The landforms related to the landslide have been smoothed by erosion and vegetation.

$Qls_{do-_}$ Dormant-Old: The landforms related to the landslide have been greatly eroded and mollified; significant gullies or canyons have been cut in the landslide by small streams.

LEVEL OF CONFIDENCE

$Qls_{_-1}$ Definite Landslide: Exhibits nearly all of the diagnostic landslide features, including but not limited to headwall scarps, cracks, rounded toes, well-defined benches, closed depressions, springs, irregular or hummocky topography that are common to landslides and are indicative of mass movement of slope materials. The clarity of the landforms and their relative positions clearly show downslope movement.

$Qls_{_-2}$ Probable Landslide: Exhibits several of the diagnostic landslide features, including but not limited to headwall scarps, cracks, rounded toes, well-defined benches, closed depressions, springs, irregular or hummocky topography that are common to landslides and are indicative of mass movement of slope materials. The clarity of the landforms and their relative positions strongly suggest downslope movement, but other explanations are possible.

$Qls_{_-3}$ Questionable Landslide: Exhibits one or a few, generally very subdued features commonly associated with landslides. Typically lacks distinct landslide morphology but may exhibit disrupted terrain or other abnormal features that strongly to vaguely imply the occurrence of mass movement.

References Cited:
Tan, S. T., Clahan, K. B., and Irvine, P. J., 2004; Geologic Map of the Santa Paula 7.5' Quadrangle, California Department of Conversation, California Geological Survey.
Landslide classification scheme from Bezore and Wills, 2000; Div. Mines and Geology Open File Report 99-12.

TRACT 5475
GEOLOGIC MAP OF THE OFFSITE DISPOSAL AREA

EARTH SYSTEMS SOUTHERN CALIFORNIA

VT-23066-04	September 14, 2012

Appendix G

Phase I and II Environmental Assessment

Phase I and II Environmental Site Assessment

Tentative Tract 5475
Santa Paula, California

Prepared for:

City of Santa Paula

Prepared by:

Rincon Consultants, Inc.
September 28, 2007

Rincon Consultants, Inc.
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September 28, 2007
Project 07-24110

Anna Arroyo, Associate Planner
City of Santa Paula
970 Ventura Street
Santa Paula, CA 93061

Phase I & II Environmental Site Assessment
Tentative Tract 5475 EIR
Santa Paula, California

Dear Ms. Arroyo:

This report presents the findings of a Phase I and II Environmental Site Assessment (ESA) completed by Rincon Consultants, Inc. for the site located northwest of the intersection of Foothill Road and Peck Road in Santa Paula, California. The Phase I and II ESA was performed in accordance with our proposal dated July 10, 2007.

The accompanying report presents our findings and provides an opinion regarding the potential presence and impact of environmental site conditions. Our work program for this project, as referenced in our contract, is intended to meet the guidelines outlined in the American Society for Testing and Materials (ASTM), Standard Practice for Environmental Site Assessments: *Phase I Environmental Site Assessment Process* (ASTM Standard E-1527-05). Our scope of services, pursuant to ASTM practice, did not include any inquiries with respect to asbestos, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, or high voltage power lines.

Thank you for selecting Rincon for this project. If you have any questions or if we can be of any future assistance, please contact us.

Sincerely,
RINCON CONSULTANTS, INC.

Bart Templeman
Associated Environmental Scientist

Walter Hamann, PG, CEG, REA II
Vice President, Environmental Services

REGISTERED GEOLOGIST
WALTER E. HAMANN
No. EG 1635
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

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SANTA PAULA, CALIFORNIA 93060

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Appendix 3 – Interview Documentation (User Questionnaire, Transaction Screen Questionnaire)
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EXECUTIVE SUMMARY

This report presents the findings of a Phase I Environmental Site Assessment (ESA) for the property located northwest of the intersection of Foothill Road and North Peck Road in Santa Paula, California (Figure 1, Vicinity Map). The site is currently undeveloped.

The subject property consists of vacant land with a few old avocado trees. There are a few unimproved dirt roadways that traverse the subject property. Some debris and former agricultural equipment is located in a small clearing in the middle of the site. A water tank is located on the eastern edge of the site near Peck Road. The tank is identified as 200 Zone Reservoir #2 "Anderson Tank" and is owned by the City of Santa Clarita.

The site is located in an area that is primarily comprised of residential and agricultural land uses. Properties in the vicinity of the site include single family homes, avocado orchards and undeveloped land.

The adjacent property to the north and northwest of the subject property consists of undeveloped land with a network of unimproved dirt roadways. A water tank is also located to the north of the site. A residence (15709 Foothill Road) and an orchard is located southwest of the site. Foothill Road, then agriculture land is located on the adjacent property to the south. Peck Road, then residential development is located east of the site.

Review of a Track Info Services, LLC (TIS) database search indicated that seven sites with environmental listings were located in the vicinity of the subject property. Six of the sites were non-geocoded and therefore do not appear on the site map in the TIS report. After further research, with the exception of the oil gas well (X-14) that is listed as being located 0.13 miles to the northwest of the subject property, all six of the sites listed in the TIS database report were determined to be located over a mile away from the subject property.

Further research of the oil and gas well listed in the TIS database search indicated that this well is identified as Union Oil Co of California 'Ex-Mission' X-14. This well was reportedly drilled in 1967 to a depth of 12,390 feet. Records indicate that the well was a dry hole and was abandoned and plugged. According to Fred Pineta of the State of California, Division of Oil and Gas, this well was located approximately 5,090 feet north and 4,183 feet east of the intersection of Foothill Road and Briggs Road. This corresponds to a distance of approximately ½ mile to the northwest of the subject property.

Historical sources reviewed as part of the Phase I include aerial photographs (1938, 1947, 1959, 1964, 1970, 1989, 1994 and 2002) and topographic maps (1920, 1937, 1942, 1947, 1951, and 1967). The photos and maps reviewed indicate that the subject property has been in agricultural use from at least 1938 to 2002. From 1938 to 1970 , the agricultural use was focused on the southeastern portion of the site.

Based on the findings of this Phase I ESA, it is our opinion that the historic agricultural use of the subject property a recognized environmental condition (REC). The subject property has been used for agriculture dating back to at least 1938. Due to the historic use of the site for agriculture purposes, there is a potential that the property could be affected with pesticides or other chemicals used routinely in agricultural production.

To evaluate the significance of the recognized environmental condition (the historic agricultural use of the subject property) identified during the Phase I ESA, a Phase II ESA was conducted at

the site. Thirty-six borings (HA1 through HA36) were advanced to an approximate depth of 2.5 feet below ground surface. Two soil samples were collected from each boring. A near surface soil sample was collected from 0 to 0.5 feet below ground surface and a deeper sample was collected at approximately 2 to 2.5 feet below ground surface.

The shallow soil samples from boring HA1 through HA32 were composited on a 2:1 basis pursuant to the DTSC protocol for sampling agricultural areas. Sixteen soil samples were analyzed for pesticides by EPA method 8081A and for CCR Title 22 Metals by EPA Method 6010B/7471A. One sample for each composite sample (16 soil samples) were also analyzed discretely for arsenic by EPA Method 6010B. Pursuant to DTSC protocol, 4 shallow soil samples (HA33 through HA36) were also analyzed for CCR Title 22 Metals by EPA Method 6010B to determine the background concentrations of metals in soil. The 2-foot samples were held pending the results of the 0.5-foot samples.

The pesticide DDE was detected in the composite soil samples HA(5,6), HA(27,28) and HA(31,32) from 0.5-feet below grade at 6.94 micrograms per kilogram (µg/kg), 4.10 µg/kg and 4.39 µg/kg, respectively. The pesticide DDT was detected in the composite soil sample HA(5,6) at 7.74 µg/kg. Metals were detected in varying concentrations in the composite soil samples from 0.5 feet below grade and arsenic was detected in varying concentrations in the individual soil samples collected from 0.5 feet below grade.

Pesticides were compared to one-half of United States Environmental Protection Agency (USEPA) residential and industrial Preliminary Remediation Goals (PRGs) for pesticides. The detected levels of pesticides were all well below one-half of their respective PRGs. Metals were also compared to their respective PRGs for metals in soil. With the exception of arsenic, the detected concentrations of metals were all below their respective PRGs for residential and industrial properties.

For arsenic, normal background concentrations found in California soils are typically above the USEPA PRGs for both residential and industrial settings. Background concentrations of arsenic found in California soils (non-contaminated sites) range from 0.59 to 11.0 mg/kg and the arithmetic mean for arsenic in California soils (non-contaminated sites) is 3.54 mg/kg (Bradford et al., March 1996). The PRGs for residential and industrial settings for arsenic are 0.062 and 0.25 mg/kg, respectively. The USEPA states that generally they do not require cleanup below natural background levels. In light of this fact and in our experience, regulatory agencies typically consider the use of local or regional background concentrations as the threshold concentration. The detected concentrations of arsenic in soil samples collected from beneath the site ranged from 2.97 mg/kg to 9.89 mg/kg. The concentrations of arsenic detected fall within the range of normal background concentrations of arsenic found in California soils (0.59 to 11.0 mg/kg).

The detected concentrations of pesticides and metals were also compared to total threshold limit concentration (TTLC) levels established by the California Code of Regulations, Title 22, Chapter 11. The TTLC levels are used to determine whether soil would be classified as a hazardous or non-hazardous waste for disposal purposes. Detected pesticide and metal concentrations did not exceed their respective TTLC levels and were not high enough to warrant soluble (STLC) analysis.

Based on the results of the soil sampling and analysis conducted at the site, it does not appear that samples obtained from the subject property have been impacted with pesticides at a

concentration that exceeds the PRG-residential. Similarly, with the exception of arsenic, the metal concentrations were below the PRG-residential. The soil samples that contained arsenic concentrations were within the range of naturally occurring background concentrations for arsenic in western United States soils. No additional assessment is recommended for this site.

INTRODUCTION

This report presents the findings of a Phase I and II ESA conducted for the property located northwest of the intersection of Foothill Road and North Peck Road in Santa Paula, California. The Phase I and II ESA was performed by Rincon Consultants, Inc. for the City of Santa Paula in general conformance and our proposal dated July 10, 2007. The Phase I ESA was performed in general conformance with ASTM E 1527-05. The following sections present our findings and provide our opinion as to the potential presence and impact of environmental site conditions.

PURPOSE

The purpose of this Phase I ESA was to identify the possible presence of recognized environmental conditions associated with possible soil and groundwater contamination at the site.

A REC is defined pursuant to ASTM E 1527-05 as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

DETAILED SCOPE OF SERVICES

The scope of services conducted for this study is outlined below:

Phase I ESA

- Perform an on-site reconnaissance to identify obvious indicators of the existence of hazardous materials.
- Observe adjacent or nearby properties from public thoroughfares in an attempt to see if such properties are likely to use, store, generate, or dispose of hazardous materials.
- Obtain and review an environmental records database search from Track Info Services, LLC to obtain information about the potential for hazardous materials to exist at the site or at properties located in the vicinity of the site.
- Review the current U.S. Geological Survey (USGS) topographic map to obtain information about the site's topography and uses of the site and properties in the vicinity of the site.

- Review historic aerial photographs and topographic maps to obtain information about historic uses of the subject property and adjacent properties.
- Review California Division of Oil and Gas records to obtain information about historic oil and gas activity in the vicinity of the site.
- Provide an interview questionnaire to the property owner or a designated site representative identified to Rincon by the City of Santa Paula.
- Conduct an interview with the owner or designated representative.

Phase II ESA

- Prepare a Site Health and Safety Plan.
- Notify Underground Service Alert to identify known utility locations in the public right of way.
- Use a hand auger to advance 36 borings to 2.5 feet below grade on the subject property. Collect soil samples from 0 to 0.5 feet below grade and 2 to 2.5 feet below grade in each of the borings.
- Analyze 16 of the shallow soil samples using a 2:1 composite approach for pesticides by EPA method 8081 and 17 CCR total metals. Analyzed one sample from each composite sample for arsenic by EPA Method 6010B. Analyze 4 of the additional shallow soil samples from the areas not used for agricultural production for 17 CCR metals.

Our scope of services, pursuant to ASTM E 1527 practice, did not include any inquiries with respect to asbestos containing building materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, biological agents, mold or high voltage power lines.

SIGNIFICANT ASSUMPTIONS, LIMITATIONS, EXCEPTIONS, SPECIAL TERMS AND CONDITIONS

The City of Santa Paula has requested this assessment and will use the assessment to provide information for the purposes of developing said property. No other use or disclosure is intended or authorized by Rincon. The City of Santa Paula agrees to hold Rincon harmless for any inverse condemnation or devaluation of said property that may result if Rincon's report or information generated is used for other purposes. Also, this report is issued with the understanding that it is to be used only in its entirety. It is intended for use only by the client, and no other person or entity may rely upon the report without the express written consent of Rincon.

This work has been performed in accordance with good commercial, customary, and generally accepted environmental investigation practices for similar investigations conducted at this time and in this geographic area. No other guarantee or warranties, expressed or implied are provided.

The findings and opinions conveyed in this report are based on findings derived from a site reconnaissance, review of an environmental database report, specified regulatory records and historical sources, and comments made by interviewees. This report is not intended as a comprehensive site characterization and should not be construed as such. Standard data sources relied upon during the completion of Phase I ESAs may vary with regard to accuracy and completeness. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary analysis.

Rincon has not found evidence that hazardous materials or petroleum products exist at the site at levels likely to warrant mitigation. Rincon does not under any circumstances warrant or guarantee that not finding evidence of hazardous materials or petroleum products means that hazardous materials or petroleum products do not exist on the site. Additional research, including surface or subsurface sampling and analysis, can reduce the City of Santa Paula's risks, but no techniques commonly employed can eliminate these risks altogether. In addition, in accordance with our authorized work scope and contract, no attempt was made to check for the presence of asbestos, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, or high voltage power lines.

USER RELIANCE

This Phase I ESA was prepared for use solely and exclusively by the City of Santa Paula. This report shall not be relied upon by or transferred to any other party without the express written authorization of Rincon Consultants.

SITE DESCRIPTION

LOCATION AND LEGAL DESCRIPTION

The site is a 32.5-acre property located northwest of the intersection of Foothill Road and Peck Road in Santa Paula, California (Figure 2, Site and Adjacent Land Use Map). The property is bound on the east by Peck Road and on the south by Foothill Road and excludes the single family residence located at 15709 Foothill Road near the southwest corner of the property.

SITE AND VICINITY GENERAL CHARACTERISTICS

The site is located in an area that is primarily comprised of residential, agricultural and undeveloped land uses. Properties in the vicinity of the site include single family homes and avocado orchards.

CURRENT USE OF THE PROPERTY

The site is currently vacant.

DESCRIPTIONS OF STRUCTURES, ROADS, OTHER IMPROVEMENTS ON THE SITE (INCLUDING HEATING/COOLING SYSTEM, SEWAGE DISPOSAL, SOURCE OF POTABLE WATER)

No structures of any kind are located on the subject property with the exception of a water tank on the eastern edge of the site. Unimproved dirt roads traverse the site. Access to the site is available from a driveway on Foothill Street.

Water service is provided by Thermal Belt Mutual Water Company. No electrical, natural gas, sewer or solid waste hauling service is currently provided to the subject property.

CURRENT USES OF THE ADJOINING PROPERTIES

Current adjacent land uses are described in Table 1 and depicted on Figure 2, Site and Adjacent Land Use Map.

Table 1 - Current Uses of Adjacent Properties

Area	Use
Northern Property	Undeveloped.
Eastern Property	Peck Road, then residential and agricultural land use.
Western Property	Undeveloped land.
Southern Property	One single-family home, Foothill Road, then agricultural land use.

USER PROVIDED INFORMATION

As described in ASTM-05 Section 6, Anna Arroyo, assistant planner with the City of Santa Paula was interviewed for actual knowledge pertaining to the subject property to help identify the possibility of recognized environmental conditions in connection with the property. Ms. Arroyo completed the User Questionnaire as provided by ASTM-05 Appendix X3, prior to completion of the site reconnaissance. A copy of the completed questionnaire is included as Appendix 3.

TITLE RECORDS

Ms. Arroyo did not provide Rincon with a copy of title records for the subject property.

ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

Ms. Arroyo is unaware of any information pertaining to environmental liens or activity and use limitations for the subject property.

SPECIALIZED KNOWLEDGE

Ms. Arroyo did not provide Rincon with any information pertaining to specialized knowledge or experience regarding the property.

COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

Ms. Arroyo indicated that the subject property has been used in the past as a lemon orchard.

VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

Ms. Arroyo was not aware of any information pertaining to a valuation reduction for the subject property relative to any known environmental issues.

OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

Ms. Arroyo of the City of Santa Paula, indicated that based on her knowledge and experience related to the property, there are no obvious indicators that point to the presence or likely presence of contamination at the property.

REASON FOR PERFORMING PHASE I ESA

The purpose of this Phase I ESA was to identify the possible presence of recognized environmental conditions associated with possible soil and groundwater contamination at the site.

The client indicated that she is not aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property. The client also indicated that she is not aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the property. In addition, she is not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.

RECORDS REVIEW

PHYSICAL SETTING SOURCES

Topography

The current USGS topographic map, Santa Paula Quadrangle (1951, photorevised 1967) indicates that the site is situated at an elevation of about 300 to 500 feet above mean sea level with topography sloping steeply to the south. The adjacent topography consists of hills sloping to the south and relatively flat land south of the site.

Geology and Hydrogeology

The subject property is located within the Transverse Ranges geologic province. This area is characterized by east-west trending mountains and faults. Mountain ranges within this province include the Santa Ynez, Santa Susana, Topatopa, San Gabriel, Sierra Pelona, and San Bernardino mountains. Sedimentary basins include the Ventura, Soledad, and Ridge Basins, and the San Fernando Valley. Major drainages include the Santa Clara River, Big Tujunga Canyon, San Gabriel River, and Los Angeles River.

Mountain ranges in the Transverse Ranges are comprised of rocks that are progressively older from the west to east. East-west trending folds and faults predominate this area. Mountain ranges are separated by valleys, faults, and downwarps. Mid to late Pleistocene faulting uplifted the area, resulting in the present-day land forms. Geologic environments represented in the rocks found in the Transverse Ranges includes periods of non-marine deposits (Saugus, Mint Canyon, Sespe formations), marine deposits (Pico, Repetto, Monterey, San Fransisquito) volcanics (Conejo Volcanic series), and metamorphic or igneous rocks (Lowe Granodiorite, Pelona Schist, Mendenhall Gneiss). Important faults within this province include the San Andreas, San Gabriel, Red Mountain, Cucamonga, Raymond Hill, San Fernando, and Ventura faults. Many historical

earthquakes have been documented along these and other faults.

Site Geology

The subject site is located north of the Santa Clara River floodplain and south of the upper Ojai Valley. According to the Geologic Map of the Santa Paula Quadrangle by Thomas W. Dibblee Jr. (1992), the northern portion of the site is underlain by the Saugus Formation. The Saugus Formation consists of weakly consolidated brown pebble conglomerate and lesser amounts of light brown sandstone, greenish to reddish gray claystone and some paleosoils. The southern portion of the site consists of dissected remains of weakly consolidated, brown alluvial gravel, sand and silt.

Regional Groundwater Occurrence and Quality

The site is located within the Santa Paula groundwater basin of the Santa Clara River Valley. The Santa Paula Basin is located along the Santa Clara River, between the town of Saticoy and the Santa Paula Creek. The basin is bounded by the Sulphur Mountain foothills on the north and South Mountain to the south. The basin is elongated in a northeast-southwest direction, about 10 miles long and as much as 3.5 miles wide. The surface area of the basin is approximately 13,000 acres, and ranges in elevation from 130 feet above sea level near Saticoy to 270 feet above sea level near the City of Santa Paula. Ongoing uplift along the Oak Ridge and other faults has created a deep basin, with Plio-Pleistocene deposits exceeding 10,000 feet in thickness.

According to files reviewed on the State of California Geotracker database, groundwater elevations at a Chevron site located ¾ mile southeast of the subject property range from 10 to 15 feet below grade with a flow direction to the south.

STANDARD ENVIRONMENTAL RECORD SOURCES

Track Info Services, LLC (TIS) was contracted to provide a database search of public lists of sites that generate, store, treat or dispose of hazardous materials or sites for which a release or incident has occurred. The TIS search was conducted for the subject property and included data from surrounding sites within a specified radius of the property. A copy of the TIS report, which specifies the ASTM 05 search distance for each public list, is included as Appendix 1. As shown on the attached TIS report, Federal, State and County lists were reviewed as part of the research effort.

The subject property was not listed in the databases searched by TIS.

Sites that were identified within the ½ mile of the subject property are listed in Table 2, EDR Listing Summary of Sites Within ½ Mile of the Subject Property (see Appendix 1 for a complete listing of sites reported by EDR) and include sites that appear in the following databases:

> **FINDS**: Facility Index System – The index of identification numbers associated with a property of facility which the EPA has investigated or has been made aware of in conjunction with various regulatory programs. Each record indicates the EPA office that may have files on the site or facility.
>
> **STATE Other**: The California Department of Toxic Substances Control (DTSC) has developed an electronic database system with the information about sites that are known to be contaminated with hazardous substances as well as information on uncharacterized properties where further studies may reveal problems.

OIL GAS WELLS: Listing of completions, pluggings and permits. Data is obtained only from digital data provided by the California Department of Conversation.

RELEASES: Air and surfaces water releases. A subset of the ERNS National Response System database which have impacted only the air or water.

Table 2 - TIS Listing Summary of Sites Within ½ Mile of the Subject Property

Site Name	Site Address	Distance from Subject Property (miles)	Database Reference
Not Reported	Not Reported	0.13	OIL GAS WELLS
Tosco Distribution Co.	Santa Paula Pump Station	Not Reported	FINDS
Olivelands Elementary School	12465 Foothill Road	Not Reported	STATE-OTHER
Santa Paula Creek and Highway 150	Intersection of Santa Paula Creek Highway 150	Not Reported	RELEASES
12720 Santa Paula / Ojai Road	12720 Santa Paula / Ojai Road	Not Reported	RELEASES
Unocal	Santa Paula Field Salt Marsh Canyon	Not Reported	RELEASES
Unknown	Santa Paula Creek near Highway 150	Not Reported	RELEASES

Seven sites were listed in the databases searched by TIS as located in the vicinity of the subject property. Six of the sites were non-geocoded and therefore do not appear on the site map in the TIS report. After further research, with the exception of the oil gas well that is listed as being located 0.13 miles to the northwest of the subject property, all of the sites listed in the TIS database report were determined to be located over a mile away from the subject property.

The Oil Gas well listed as being located 0.13 miles from the subject site is reported to be well number X-14 in the TIS Site Detail Report. This former oil well is discussed in further detail below.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

Review of State of California Division of Oil and Gas Records

A review of the Division of Oil and Gas Munger Map Book (2003) indicates that one former oil well was located in the vicinity of the subject property. This well is identified as Union Oil Co

of California 'Ex-Mission' X-14. This well was reportedly drilled in 1967 to a depth of 12,390 feet. Records indicate that the well was a dry hole and was abandoned and plugged. According to Fred Pineta of the State of California, Division of Oil and Gas, this well was located approximately 5,090 feet North and 4,183 feet East of the intersection of Foothill Road and Briggs Road. This corresponds to a distance of approximately ½ mile to the northwest of the subject property. A Well Abandonment Report from the State of California Division of Oil and Gas is included in Appendix 2.

OTHER ENVIRONMENTAL RECORDS SOURCES

State of California Geotracker Database (checked on September 10, 2007) was checked to locate listings for hazardous material release site located in the vicinity of the subject property. No sites were listed on the subject property or within ½ mile of the subject property. The closest site to the subject property was a Chevron site located ¾ mile southeast of the subject property. No public wells were listed in the Geotracker database in the vicinity of the subject property.

As described earlier in our report, Ms. Arroyo is unaware of any information pertaining to environmental liens or activity and use limitations for the subject property.

HISTORICAL USE INFORMATION ON THE PROPERTY AND THE ADJOINING PROPERTIES

The historic records review completed for this Phase I ESA includes aerial photographs and topographic maps as detailed in the following sections. Table 3 provides a summary of the historical use information available for the subject property dating back to 1920. The records reviewed show no development of the property prior to 1937.

Several data gaps of greater than 5 years were identified in the historical records reviewed, from 1920 to 1937, from 1951 to 1959, from 1970 to 1989 and from 1994 to 2002. These data gaps are considered insignificant because the site use appears to be undeveloped until 1938 and then developed with agricultural use from 1938 to 2002.

Review of Historic Aerial Photographs

Aerial photographs from TIS's aerial photograph collection were reviewed on September 11, 2007. The date and source of each photograph and the observations noted during the review are summarized in Table 3. Copies of the aerial photographs are included in Appendix 1 (Historical Documents).

Review of Historic Topographic Maps

Historic topographic maps from Rincon's map collection were reviewed. Copies of the historic topographic maps are included in Appendix 1.

Table 3 lists the historical uses of the site based on our review of the available topographic maps.

Table 3 - Historical Use of the Subject Property and Adjacent Properties

Year	Use	Source
Subject Property		
1920	Depicted as undeveloped land.	TM (Santa Paula Quadrangle)

Year	Use	Source
1937	Depicted similar to the 1920 map.	TM (Santa Paula Quadrangle)
1938	The southeastern portion of the site is depicted as developed with an orchard.	AP
1942	Depicted as undeveloped land.	TM (Santa Paula Quadrangle)
1947	Depicted as developed with an orchard.	TM (Santa Paula Quadrangle)
1947	The southeastern portion of the site is depicted as developed with an orchard and an unimproved roadway is depicted as crossing the site.	AP
1951	The southeastern portion is depicted as developed with an orchard and the remainder of the site is depicted as shrubland.	TM (Santa Paula Quadrangle)
1959	Depicted similar to the 1947 photograph with another portion of the site depicted as agricultural land and a water tank depicted on the eastern side of the site.	AP
1964	Depicted similar to the 1959 photograph.	AP
1967	Depicted similar to the 1951 map.	TM (Santa Paula Quadrangle)
1970	Depicted similar to the 1964 photograph.	AP
1989	The entire site is depicted in use as an orchard and a few more unimproved roadways are depicted crossing the site.	AP
1994	Depicted similar to the 1989 photograph.	AP
2002	Depicted similar to the 1994 photograph.	AP
Northern Adjoining Parcels		
1920	Depicted as undeveloped land.	TM (Santa Paula Quadrangle)
1937	Depicted similar to the 1920 map.	TM (Santa Paula Quadrangle)
1938	Depicted as undeveloped land.	AP
1942	Depicted similar to the 1937 map.	TM (Santa Paula Quadrangle)
1947	Depicted similar to the 1942 map.	TM (Santa Paula Quadrangle)

Year	Use	Source
1947	Depicted similar to the 1938 photograph.	AP
1951	Depicted as undeveloped shrubland.	TM (Santa Paula Quadrangle)
1959	Depicted similar to the 1947 photograph.	AP
1964	Depicted similar to the 1959 photograph.	AP
1967	Depicted similar to the 1951 map.	TM (Santa Paula Quadrangle)
1970	Depicted similar to the 1964 photograph.	AP
1989	Depicted as undeveloped land with the exception of a water tank depicted north of the site and additional unimproved roadways.	AP
1994	Depicted similar to the 1989 photograph.	AP
2002	Depicted similar to the 1994 photograph.	AP
Eastern Adjoining Parcels		
1920	Depicted as undeveloped land with the exception of a few unimproved roadways.	TM (Santa Paula Quadrangle)
1937	Depicted similar to the 1920 map with the exception of a small structure depicted east of the site.	TM (Santa Paula Quadrangle)
1938	Depicted as developed with an orchard and a few unimproved roadways.	AP
1942	Depicted as undeveloped.	TM (Santa Paula Quadrangle)
1947	Depicted as developed with an orchard.	TM (Santa Paula Quadrangle)
1947	Depicted similar to the 1938 photo with a few farm related structures depicted east of the site.	AP
1951	Depicted similar to the 1947 map with additional structures depicted east of the site.	TM (Santa Paula Quadrangle)
1959	Depicted similar to the 1947 photograph.	AP
1964	Depicted as agricultural land.	AP
1967	Depicted similar to the 1951 map.	TM (Santa Paula Quadrangle)
1970	Peck Road, then new residential development is depicted east of the site.	AP

Year	Use	Source
1989	Depicted similar to the 1970 photograph with additional roadways depicted east of the site.	AP
1994	Depicted similar to the 1989 photograph with additional residential development depicted east of the site.	AP
2002	Depicted similar to the 1994 photograph.	AP
Southern Adjoining Parcels		
1920	Foothill Road, then undeveloped land is depicted south of the site.	TM (Santa Paula Quadrangle)
1937	Depicted similar to the 1920 map.	TM (Santa Paula Quadrangle)
1938	Foothill Road, then orchards and a few small structures are depicted south of the site.	AP
1942	Depicted similar to the 1937 map.	TM (Santa Paula Quadrangle)
1947	Depicted as developed with orchards and agricultural use.	TM (Santa Paula Quadrangle)
1947	Depicted similar to the 1938 photograph.	AP
1951	Depicted similar to the 1947 map with additional structures depicted south of the site.	TM (Santa Paula Quadrangle)
1959	Depicted similar to the 1947 photograph.	AP
1964	Depicted similar to the 1959 photograph with additional structures depicted just south of Foothill Road.	AP
1967	Depicted similar to the 1951 map	TM (Santa Paula Quadrangle)
1970	Depicted similar to the 1964 photograph.	AP
1989	Depicted similar to the 1970 photograph.	AP
1994	Depicted similar to the 1989 photograph.	AP
2002	Depicted similar to the 1994 photograph.	AP
Western Adjoining Parcels		
1920	Undeveloped land, then Adams Canyon and Adams Canyon Road is depicted west of the site.	TM (Santa Paula Quadrangle)
1937	Similar to the 1920 map.	TM (Santa Paula Quadrangle)

Year	Use	Source
1938	A few small structures, some orchards and undeveloped land is depicted west of the site.	AP
1942	Depicted similar to the 1937 map.	TM (Santa Paula Quadrangle)
1947	Depicted similar to the 1942 map with additional structures depicted west of the site.	TM (Santa Paula Quadrangle)
1947	Depicted similar to the 1938 photograph with an additional house depicted near the southwestern corner of the site.	AP
1951	Depicted similar to the 1947 map with additional structures depicted west of the site.	TM (Santa Paula Quadrangle)
1959	Depicted similar to the 1947 photograph.	AP
1964	Depicted similar to the 1959 photograph.	AP
1967	Depicted similar to the 1951 map.	TM (Santa Paula Quadrangle)
1970	Depicted similar to the 1964 photograph.	AP
1989	Depicted similar to the 1970 photograph.	AP
1994	Depicted similar to the 1989 photograph.	AP
2002	Depicted similar to the 1994 photograph.	AP
AP – Aerial Photograph TM – Topographic Map		

SITE RECONNAISSANCE AND INTERVIEWS

Rincon Consultants performed a reconnaissance of the site on September 12, 2007. The purpose of the reconnaissance was to observe existing site conditions and to obtain information indicating the possible presence of recognized environmental conditions in connection with the property.

INTERVIEWS

An interview questionnaire was provided to the property owner, Keith Hagaman, prior to the site reconnaissance. A copy of the completed questionnaire is included in Appendix 3. In addition to the designated site representative, we also interviewed the following individuals:

- Kevin Fildes, Fire Prevention Office, City of Santa Paula Fire Deparment.
- Rick Banelin – Staff worker, Ventura County Environmental Health Division

Interview with Owner

The following information is based on information obtained during the September 12, 2007 telephone interview with Keith Hagaman, the property owner, and our review of the completed questionnaire.

Mr. Hagaman indicated that there are no structures on the subject property. Mr. Hagaman indicated Del Fund No. 9 LP reportedly obtained ownership of the site in 1992 and before that the property belonged to Victor Schaff.

The owner indicated that he is not aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property. The owner also indicated that he is not aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the property. In addition, he is not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.

Interviews with Local Government Officials

Kevin Fildes, Fire Prevention Officer for the City of Santa Paula Fire Department was interviewed over the telephone on September 7, 2007. Mr. Fildes is familiar with the subject property and he was not aware of any hazardous materials releases or other environmental liabilities associated with the property or surrounding properties.

Rick Bandelin, staff worker at the Ventura County Environmental Health Division was interviewed over the telephone on September 7, 2007. Mr. Bandelin was not aware of any hazardous materials releases or other environmental liabilities associated with the property or surrounding properties. Mr. Bandelin did note that VCEHD cases are available in a searchable database on the VCEDH website. Rincon performed a search of the database and no listings for the subject property or adjacent properties were listed in the database.

SITE RECONNAISSANCE

Methodology and Limiting Conditions

The site reconnaissance was conducted by observing the subject property from dirt roads and walking paths.

Our observation of the subject property was not limited by any physical structures.

Current Use of the Property and Adjoining Properties

The subject property is currently vacant land. There are a few unimproved dirt roadways that traverse the subject property. Some debris and former agricultural equipment is located in a clearing in the middle of the site. A water tank is located on the eastern edge of the site near Peck Road. The tank is identified as 200 Zone Reservoir #2 “Anderson Tank” and is owned by the City of Santa Clarita.

The adjacent property to the north and northwest of the subject property consists of undeveloped land with a network of unimproved dirt roadways. A water tank is also located to the north of the site. A residence (15709 Foothill Road) and an orchard is located southwest of the site. Foothill Road, then agriculture land is located on the adjacent property to the south. Peck Road, then residential development is located east of the site.

Past Use of the Property and Adjoining Properties

Based on our Site Reconnaissance, it appears that the subject property has been previously developed with an orchard of avocado trees. Many of the tree stumps are still located throughout the subject property and are beginning to grow again. The tree stumps observed did not appear to be in any rows or focused in any one area, rather, they appeared to be randomly dispersed throughout the site.

Current or Past Uses in the Surrounding Area

Because the subject property is surrounded by agricultural land uses including row crops and orchards, it is possible that the subject property may have been in agricultural uses in the past.

Geologic, Hydrogeologic, Hydrologic and Topographic Conditions

The current topography of the site matches the most recent topographic map. No likely areas of fill material were observed on the site.

General Description of Structures

There are no structures located on the subject property with the exception of the water tank on the eastern edge of the site.

Access to the site is available from a driveway on Foothill Road.

Interior and Exterior Observations

The periphery of the subject property was observed from adjacent public thoroughfares. In addition, paths and dirt roads present onsite were traversed to determine their purpose. Based on our observations, it does not appear that onsite roads or paths were utilized as an avenue for disposal of hazardous substances or petroleum products.

Hazardous Substances and Petroleum Products

No hazardous substances or petroleum products were identified at the subject property.

Unidentified Substance Containers

Unidentified substance containers or unidentified containers that might contain hazardous substances were not observed during the site reconnaissance.

Storage Tanks

During the site reconnaissance, Rincon observed an above ground water tank on the eastern edge of the subject property. No other above-ground tanks or evidence of underground storage tanks was noted on the subject property. Mr. Hagaman indicated on his questionnaire, Appendix 3, that there have been no above or below ground storage tanks on the property other than the water tank.

Odors

During the site reconnaissance, Rincon did not identify any strong, pungent, or noxious odors. Mr. Hagaman indicated on his questionnaire, Appendix 3, that there have been no odors on the property**.**

Pools of liquid

During the site reconnaissance, Rincon did not identify any pools of liquid including standing surface water. In addition, sumps containing liquids likely to be hazardous substances or petroleum products were not observed. Mr. Hagaman indicated on his questionnaire, Appendix 3, that there have been no pools of liquid, standing water or sumps on the property.

Drums

During the site reconnaissance, Rincon did not observe evidence of drums onsite. Mr. Hagaman indicated on his questionnaire, Appendix 3, that there have been no drums on the property.

Indications of Polychlorinated Biphenyls (PCBs)

Mr. Hagaman indicated that there are no transformers or hydraulic equipment on this site. This equipment was not noted during Rincon's site visit.

Other Conditions of Concern

During the site reconnaissance Rincon did not note any of the following interior or exterior observations:

- *heating/cooling systems*
- *stains or corrosion*
- *drains, clarifiers, and sumps*
- *pits, ponds, and lagoons*
- *stained soil or stained pavement*
- *stressed vegetation*
- *fill material*
- *waste water*
- *wells*
- *septic systems/effluent disposal system*

During the site reconnaissance, Rincon observed an area with some solid waste and debris on the southern portion of the site in a clearing. The waste and debris consisted of old agricultural equipment, trailers, empty bins and crates, and a small boat.

FINDINGS

Known or suspect environmental conditions associated with the property include the following:

- The historic agricultural use of the subject property.

OPINION

The subject property has been used for agriculture dating back to at least 1938. Due to the historic use of the site for agriculture purposes, there is a potential that the property could be affected with pesticides or other chemicals used routinely in agricultural production. It is our opinion that the use of the subject property for agriculture represents a potential recognized environmental condition (REC).

CONCLUSIONS

Rincon has performed a Phase I ESA in general conformance with the scope and limitations of ASTM Practice E 1527-05 of the property located northwest of the intersection of Foothill Road and North Peck Road in Santa Paula, California,

This assessment has revealed evidence of one potential recognized environmental condition in connection with the property as follows: The historic use of the subject property as an avocado orchard.

DEVIATIONS

Deviations from ASTM Practice E 1527-05 were encountered during the completion of this Phase I ESA. Several data gaps of greater than 5 years were identified in the historical records reviewed, from 1920 to 1937, from 1951 to 1959, from 1970 to 1989 and from 1994 to 2002. These data gaps are considered insignificant because the site use appears to be undeveloped until 1938 and then developed with agricultural use from 1938 to 2002.

PHASE II ENVIRONMENTAL SITE ASSESSMENT

To evaluate the significance of the potential recognized environmental condition (the historic agricultural use of the subject property) identified during the Phase I ESA, a Phase II ESA was conducted at the site. The Phase II was conducted on September 18, 2007 and included the advancement of 36 soil borings on the subject property using a hand auger. The soil samples were collected and analyzed in compliance with the State of California Department of Toxic Substances Control (DTSC) protocol for agricultural sampling used at school sites (DTSC, Interim Guidance for Sampling Agricultural Fields for School Sites, Second Revision, August 26, 2002). Although this land is being considered for residential development and not as a school, the DTSC protocol was applied here as a reasonable approach to assessing the site for pesticide and metals contamination.

METHODOLOGY

SOIL SAMPLING

Thirty-six borings (HA1 through HA36) were advanced at the locations shown in Figure 4. The 36 borings were advanced to an approximate depth of 2.5 feet below ground surface. Two soil samples were collected from each boring. A near surface soil sample was collected from 0 to 0.5 feet below ground surface and a deeper sample was collected at approximately 2 to 2.5 feet below ground surface. A total of 72 soil samples were collected during this assessment.

The borings were advanced using a 4-inch diameter, stainless-steel hand auger. At the designated sampling depth, the soil samples were collected in 9 ounce glass jars. Samples were capped, labeled, and stored in a cooler with blue ice pending delivery to the analytical laboratory.

The borings were backfilled with the soil cuttings. The sampling equipment was decontaminated between uses by washing with a non-phosphate solution followed by a potable water rinse.

LABORATORY ANALYSIS

The soil samples were transported to American Scientific Laboratories of Los Angeles, California under chain-of-custody documentation. The shallow soil samples from boring HA1 through HA32 were composited on a 2:1 basis pursuant to the DTSC protocol for sampling agricultural areas. Sixteen soil samples were analyzed for pesticides by EPA method 8081A and for CCR Title 22 Metals by EPA Method 6010B/7471A . One sample for each composite sample (16 soil samples) were also analyzed discretely for arsenic by EPA Method 6010B. Pursuant to DTSC protocol, 4 shallow soil samples (HA33 through HA36) were also analyzed for CCR Title 22 Metals by EPA Method 6010B to determine the background concentrations of metals in soil. The 2-foot samples were held pending the results of the 0.5-foot samples.

RESULTS

No soil discoloration was noted for the soil samples collected. Soil was comprised primarily of light brown, dry, loose silty sand with cobblestones.

A summary of the soil analytical testing program is included in Tables 4 and 5. Copies of the laboratory analytical reports are included in Appendix 4. Pesticides were detected in three of the composite soil samples collected from 0.5 feet below grade. Varying concentrations of metals were detected in the composite soil samples collected from 0.5 feet below grade. Soil samples were collected from borings HA33 – HA36 to determine the average background concentrations of metals in the area. The levels of metals detected in the composite soil samples from 0.5 feet below grade were similar to the soil samples from borings HA33 through HA36.

Table 4 - Soil Analytical Results - Pesticides
Tentative Tract 5475, Santa Paula, California

Sample Designation	Depth (feet)	Chlorinated Pesticides						
		4,4'-DDD (DDD) (µg/kg)	4,4'-DDE (DDE) (µg/kg)	4,4'-DDT (DDT) (µg/kg)	Dieldrin (µg/kg)	Toxaphene (µg/kg)	Gamma-Chlordane (µg/kg)	alpha-Chlordane (µg/kg)
HA (1,2)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (3,4)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (5,6)	0.5	ND	6.94	7.74	ND	ND	ND	ND
HA (7,8)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (9,10)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (11,12)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (13,14)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (15,16)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (17,18)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (19,20)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (21,22)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (23,24)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (25,26)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (27,28)	0.5	ND	4.10	ND	ND	ND	ND	ND
HA (29,30)	0.5	ND	ND	ND	ND	ND	ND	ND
HA (31,32)	0.5	ND	4.39	ND	ND	ND	ND	ND
	PQL	4.00	4.00	4.00	4.00	170	2.00	2.00
	1/2 TTLC	500	500	500	4000	2500	1250	1250
	1/2 PRG-R	1200	850	850	15	220	800	800
	1/2 PRG-I	5000	3500	3500	65	800	3250	3250

ND - Not detected
PQL - Practical Quantitation Limits
1/2 TTLC - One-half of the Total threshold limit concentration
1/2 PRG-R - One-half of the United States Environmental Protection Agency Region 9 Preliminary Remediation Goal for residential sites (October 2004)
PRG-I - One-half of the United States Environmental Protection Agency Region 9 Preliminary Remediation Goal for industrial sites (October 2004)
µg/kg - micrograms per kilogram
Soil samples analyzed by American Scientific Laboratories

Analysis:

Pesticides - EPA Method 8081A

Table 5 - Soil Analytical Results- 17 CCR Metals
Tentative Tract 5475, Santa Paula, California

Sample Designation-Depth (ft)	17 CCR Metals Results in milligrams per kilogram (mg/kg)																
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molyb	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
HA (1,2) - 0.5	1.09	5.74	115	ND	ND	12.6	6.89	11.4	6.21	ND	1.44	22.4	ND	ND	ND	35.5	43.6
HA1 - 0.5	-	5.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (3,4) - 0.5	0.97	6.22	112	0.51	ND	14.7	5.63	11.5	7.01	ND	1.63	22.6	0.75	ND	ND	35.8	44.7
HA3 - 0.5	-	6.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (5,6) - 0.5	0.81	3.83	110	ND	0.67	9.6	5.3	10.1	9.72	ND	1.43	15.2	0.81	ND	ND	24.9	54.2
HA5 - 0.5	-	5.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (7,8) - 0.5	0.73	3.13	59.2	ND	ND	5.71	3.18	5.66	4.64	ND	0.96	9.17	ND	ND	ND	16.9	24.5
HA7 - 0.5	-	4.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (9,10) - 0.5	1.12	7.36	185	0.51	ND	17.3	7.82	15.5	11.7	ND	1.67	22.6	0.85	ND	ND	50.7	66.5
HA9 - 0.5	-	5.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (11,12) - 0.5	1.19	5.07	117	ND	ND	12.7	5.33	11.8	7.72	ND	1.47	21.5	0.53	ND	ND	31.5	53.9
HA11 - 0.5	-	9.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HA (13,14) - 0.5	1.01	7.37	97.3	ND	ND	12.8	5.51	12.1	6.13	ND	1.58	20	0.55	ND	ND	33	42.5
HA13 - 0.5	-	4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (15,16) - 0.5	1.1	5.59	116	ND	ND	12.7	6.87	12.7	8.79	ND	8.79	18.3	0.77	ND	ND	33.7	55.3
HA15 - 0.5	-	7.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (17,18) - 0.5	1.06	4.82	109	ND	ND	12.6	8.39	10.9	11.1	ND	1.17	16.3	0.69	ND	ND	31	62.5
HA17 - 0.5	-	5.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (19,20) - 0.5	0.96	6.09	106	ND	ND	13.4	7.04	11	7.35	ND	1.27	18.8	0.89	ND	ND	33.8	46.5
HA19 - 0.5	-	7.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (21,22) - 0.5	1.31	6.29	131	ND	ND	13.1	6.35	11.4	7.36	ND	1.39	17.7	0.73	ND	ND	33	51.8
HA21 - 0.5	-	3.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (23,24) - 0.5	0.98	4.96	128	ND	ND	12	6.17	12.6	9.63	ND	1.42	17.5	1.01	ND	ND	28.3	71.5

Table 5 - Soil Analytical Results- 17 CCR Metals
Tentative Tract 5475, Santa Paula, California

Sample Designation-Depth (ft)	17 CCR Metals Results in milligrams per kilogram (mg/kg)																
	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molyb	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
HA23 - 0.5	-	4.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (25,26) - 0.5	0.98	4.97	124	ND	ND	11.9	6.05	12.7	8.51	ND	1.29	15.4	0.7	ND	ND	28.9	52.1
HA25 - 0.5	-	5.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (27,28) - 0.5	1.25	6.23	140	ND	0.52	13.8	6.54	18.1	11.2	ND	1.6	19.2	0.88	ND	ND	32	80
HA27 - 0.5	-	2.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (29,30) - 0.5	0.8	4.15	107	ND	ND	10.3	5.09	19.3	9.52	ND	1.25	14.6	0.65	ND	ND	22.9	65.7
HA29 - 0.5	-	4.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA (31,32) - 0.5	1.19	8.59	98.4	ND	ND	13.1	5.23	20	12.9	ND	1.54	17.1	0.63	ND	ND	28.7	80.9
HA31 - 0.5	-	4.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA33 - 0.5	0.98	5.04	101	ND	ND	11.2	5.69	9.26	7.95	ND	1.22	15.3	0.74	ND	ND	28.3	41
HA34 - 0.5	1.05	5.45	125	ND	0.87	13.6	5.44	12.47	5.96	ND	2.05	24.2	0.56	ND	ND	36.9	46.6
HA35 - 0.5	0.77	5.73	89	ND	ND	10.9	5.39	9.94	5	ND	1.26	19.4	ND	ND	ND	28.3	35.3
HA36 - 0.5	1.09	5.51	115	ND	ND	13.3	5.51	11.5	5.39	ND	1.51	22.9	0.81	ND	ND	35.8	39.6
Detection Limit	0.50	0.25	0.50	0.50	0.50	0.50	0.50	0.50	0.25	0.20	0.50	0.50	0.50	0.50	0.50	0.50	0.50
STLC	15	5	100	0.75	1	5 or 560^	80	25	5	0.2	350	20	1	5	7	24	250
TTLC	500	500	10,000	75	100	500 or 2,500	8,000	2,500	1,000	20	3,500	2,000	100	500	700	2,400	5,000
PRG-R	31	0.062, 22	5,400	150	37	210	900	3,100	150	23	390	1,600	390	390	5.2	550	23,000
PRG-I	410	0.25, 260	67,000	1,900	450	450	1,900	41,000	750	310	5,100	20,000	5,100	5,100	67	7,200	100,000

mg/kg - milligrams per kilogram (parts per million)
- Not Analyzed
ND - Not detected
STLC - Soluble threshold limit concentration in miligrams per liter
TTLC - Total threshold limit concentration
PRG - United States Environmental Protection Agency Region 9 Preliminary Remediation Goal for residential (R) and industrial (I) sites (October 2004). For arsenic, range of values represents cancer and non-cancer endpoints
^ - STLC for Cr 3+ is 560 mg/L, and for Cr 6+ (Hexavalent Chromium) is 5 mg/L

Pesticides in Soil: The pesticide DDE was detected in the composite soil samples HA(5,6), HA(27,28) and HA(31,32) at 6.94 µg/kg, 4.10 µg/kg and 4.39 µg/kg, respectively. The pesticide DDT was detected in the composite soil sample HA(5,6) at 7.74 mg/kg. Pesticides were compared to one-half of United States Environmental Protection Agency (USEPA) residential and industrial Preliminary Remediation Goals (PRGs) for pesticides. The detected levels of pesticides were all well below one-half of their respective PRGs. The levels of pesticides were also compared to total threshold limit concentration (TTLC) levels established by the California Code of Regulations, Title 22, Chapter 11. The TTLC levels are used to determine whether soil would be classified as a hazardous or non-hazardous waste for disposal purposes. Detected metal concentrations did not exceed their respective TTLC levels and were not high enough to warrant soluble (STLC) analysis.

Metals in Soil*:* Metals were detected in varying concentrations in the composite soil samples collected and analyzed for metals and arsenic was detected at varying concentrations in the soil samples collected and analyzed for arsenic. Metals in soil were compared to residential and industrial PRGs for metals. With the exception of arsenic, the detected concentrations of metals were all below their respective PRGs for residential and industrial properties. For arsenic, normal background concentrations found in California soils are typically above the USEPA PRGs for both residential and industrial settings. Background concentrations of arsenic found in California soils (non-contaminated sites) range from 0.59 to 11.0 mg/kg and the arithmetic mean for arsenic in California soils (non-contaminated sites) is 3.54 mg/kg (Bradford et al., March 1996). The PRGs for residential and industrial settings for arsenic are 0.062 and 0.25 mg/kg, respectively. The USEPA states that generally they do not require cleanup below natural background levels. In light of this fact and in our experience, regulatory agencies typically consider the use of local or regional background concentrations as the threshold concentration. The detected concentrations of arsenic in soil samples collected from beneath the site ranged from 2.97 mg/kg to 9.89 mg/kg. The concentrations of arsenic detected fall within the range of normal background concentrations of arsenic found in California soils (0.59 to 11.0 mg/kg).

In addition, the levels of metals detected were compared to total threshold limit concentration TTLC levels established by the California Code of Regulations, Title 22, Chapter 11. The TTLC levels are used to determine whether soil would be classified as a hazardous or non-hazardous waste for disposal purposes. Detected metal concentrations did not exceed their respective TTLC levels and were not high enough to warrant soluble (STLC) analysis.

CONCLUSIONS

Based on the results of the soil sampling and analysis conducted at the site, it does not appear that samples obtained from the subject property have been impacted with pesticides at a concentration that exceeds the PRG-residential. Similarly, with the exception of arsenic, the metal concentrations were below the PRG-residential. The soil samples that contained arsenic concentrations were within the range of naturally occurring background concentrations for arsenic in western United States soils. No additional assessment is recommended for this site.

LIMITATIONS

This assessment was prepared for use solely and exclusively by the City of Santa Paula. This report shall not be relied upon by or transferred to any other party without the express written

authorization of Rincon Consultants. Our conclusions regarding the site are based on the results of a limited subsurface sampling program. The results of this evaluation are qualified by the fact that only limited sampling and analytical testing was conducted during this assessment. This scope was not intended to completely establish the quantities and distribution of contaminants present at the site or to determine the cost to remediate the site. The concentrations of contaminants measured at any given location may not be representative of conditions at other locations. Further, conditions may change at any particular location as a function of time in response to natural conditions, chemical reactions and other events. Conclusions regarding the condition of the site do not represent a warranty that all areas within the site are similar to those sampled.

REFERENCES

The following published reference materials were used in preparation of this Phase I ESA:

Environmental database: Track Info Services report dated August 30, 2007.

Geology: Geologic Map of the Santa Paula Quadrangle by Thomas W. Dibblee Jr. (1992).

Groundwater: California's Groundwater Bulletin 118, updated 2003.

Topography: USGS topographic map of the Santa Paula Quadrangle (1951, photorevised 1967).

Oil and gas records: Division of Oil and Gas Munger Map Book (2003). California Department of Conservation – Division of Oil and Gas.

Aerial photographs: Photos provided by TIS.

Historic topographic maps: Maps maintained by Rincon Consultants Inc.

SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

The qualified environmental professional that is responsible for preparing the report is Walt Hamann. His qualifications are summarized in the following section.

"We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312. We have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."

Signature	10-2-07 Date
Walt Hamann, PG, CEG, CHG, REA II Name	Vice President Title

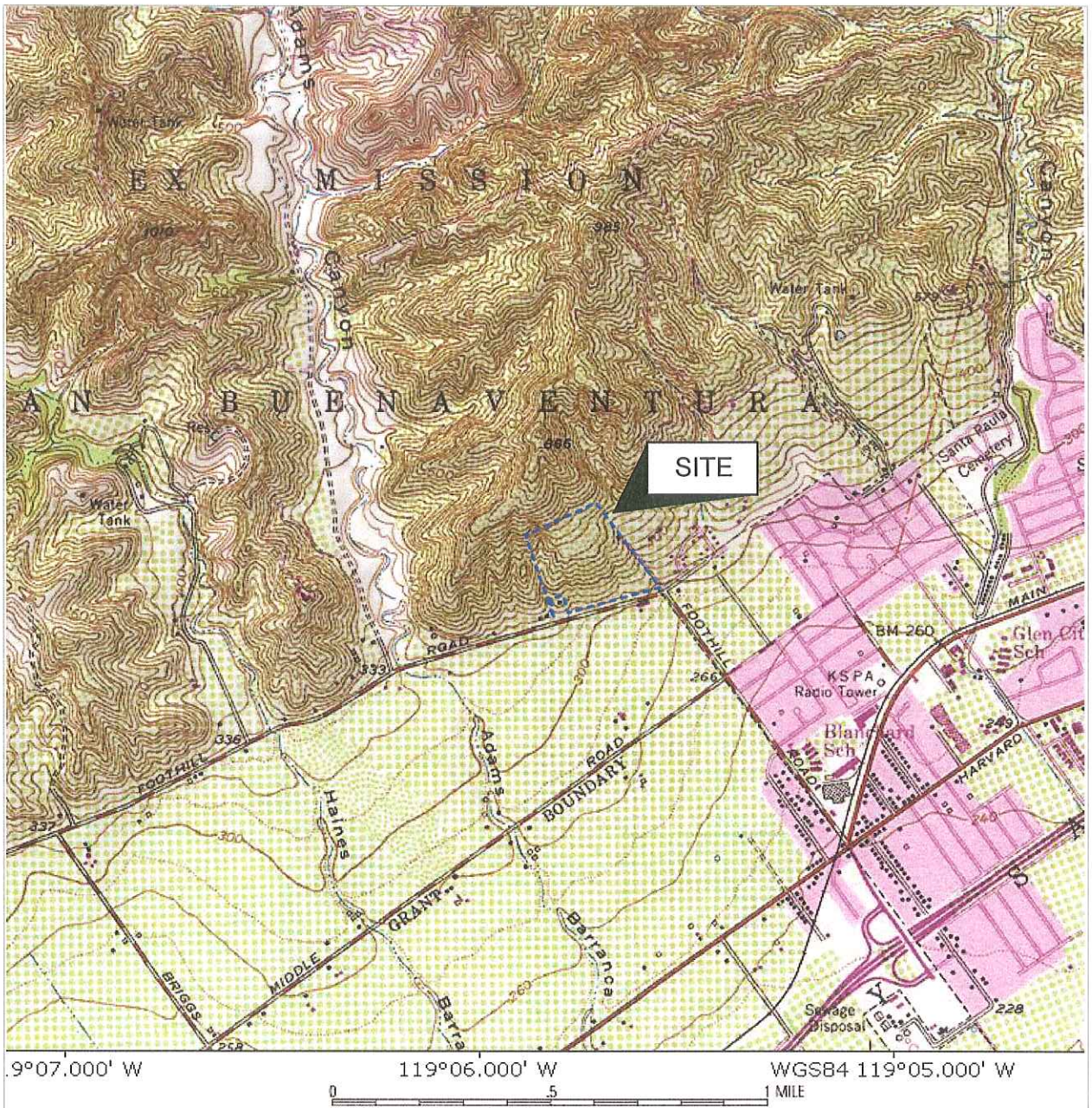
QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

The environmental professionals responsible for conducting this Phase I ESA and preparing the report include Bart Templeman and Walt Hamann. Their qualifications are summarized below.

Environmental Professional Qualifications	**2.1.1 (2) (i)** - Professional Engineer or Professional Geologist License or Registration, and 3 years of full-time relevant experience	**2.1.1 (2) (ii)** - Licensed or certified by the Federal Government, State, Tribe, or U.S. Territory to perform environmental inquiries	**2.1.1 (2) (iii)** – Baccalaureate or Higher Degree from and accredited institution of higher education in a discipline of engineering or science and the equivalent of 5 years of full-time relevant experience	**2.1.1 (2) (iii)** – Equivalent of 10 years of full-time relevant experience
Walt Hamann	PG	REA II	BS Geology 20 years exp.	20 years exp.

Walt Hamann, PG, CEG, CHG, REA II, is a Principal and Senior Geologist with Rincon Consultants. He holds a Bachelor of Arts degree in geology from the University of California, Santa Barbara and a Master of Science degree in geology from the University of California, Los Angeles. He has over 20 years of experience conducting assessment and remediation projects and has prepared or overseen the preparation of hundreds of Phase I and Phase II Environmental Site Assessments throughout California. Mr. Hamann is a Professional Geologist (#4742), Certified Engineering Geologist (#1635), Certified Hydrogeologist (#208) and Registered Environmental Assessor II (#20063) with the State of California.

Bart Templeman is an Associate Environmental Scientist with Rincon Consultants. He holds a Bachelor of Science degree in Physical Geography from the University of California, Santa Barbara, California. Mr. Templeman's responsibilities at Rincon include implementation of site assessments, subsurface investigations, and remedial activities. Mr. Templeman has experience with environmental assessment and remediation of soil and groundwater and preparation of environmental reports.



Source: USGS 1995

Site Boundary

NORTH

Vicinity Map

Figure 1

Source: Google Earth

Site Boundary

NORTH

1 Debris

2 Water Tank

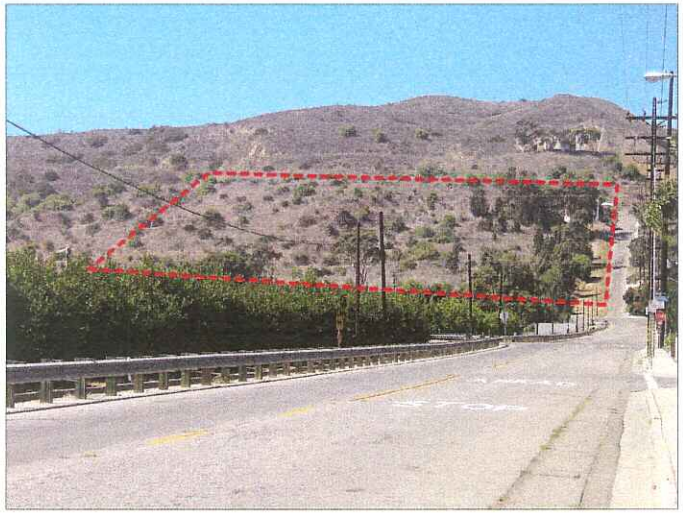
3 15709 Foothill Road (Residence)

0 510 1,020

approximate scale in feet

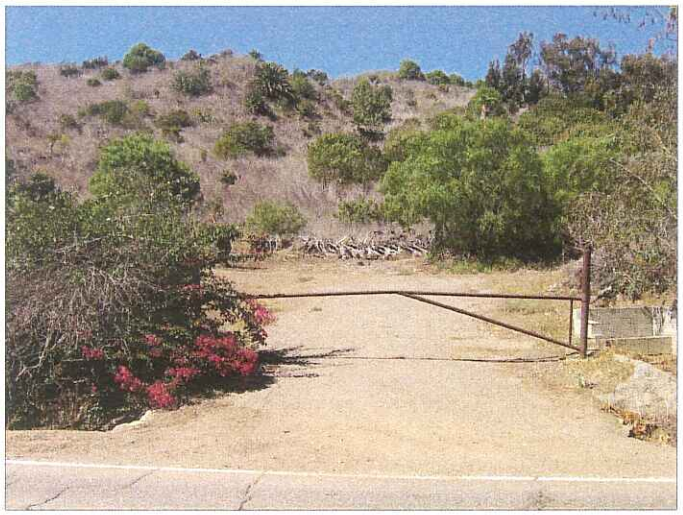
Site and Adjacent Land Use Map

Figure 2



View of the subject property (on the hillside) facing north from Peck Road.

View of the water tank on the eastern edge of the site near Peck Road.



View of the dirt road entrance to the site facing north from Foothill Road.

View of the southern edge of the site facing west along Foothill Road.

Site Photographs

Figure 3

View of the central portion of the site facing north.

View of the debris in the clearing in the central portion of the site.

View of the old agricultural equipment and debris in the central portion of the site.

View of the clearing in the central portion of the site facing south. The orchards in the adjacent property to the south are shown in the upper half of the photograph.

Site Photographs

Figure 3

View of one of the dirt roads on the northern half of the site.

View of the northern boundary of the site (dirt road) facing east.

View of northern portion of the site facing southeast.

View of the residence on Foothill Road adjacent to the southwest corner of the site.

Site Photographs

Figure 3

Source: Google Earth

Site Boundary

HA18 Hand Auger Boring Location

0 170 320
approximate scale in feet

NORTH

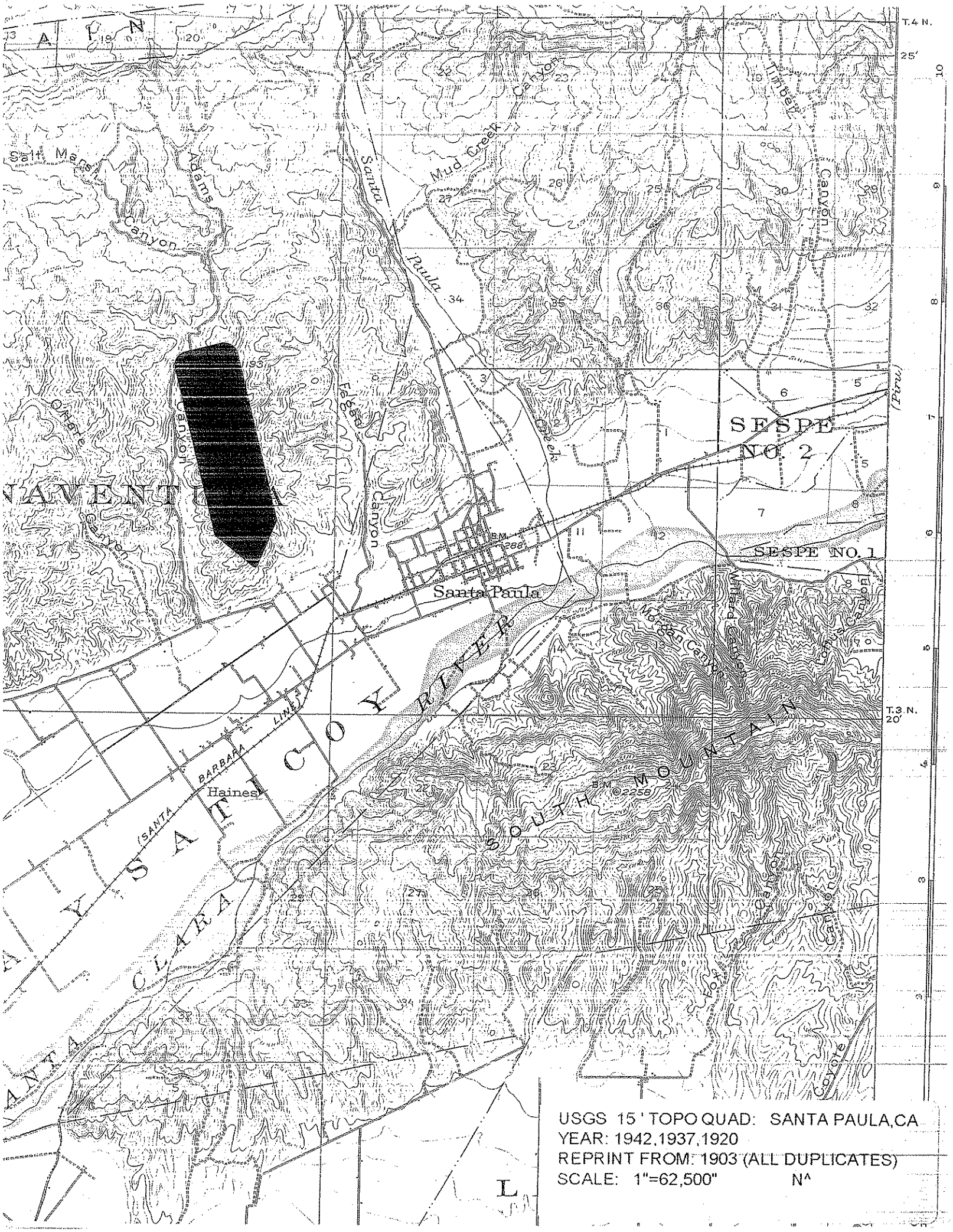
Hand Auger Sample Location Map

Figure 4

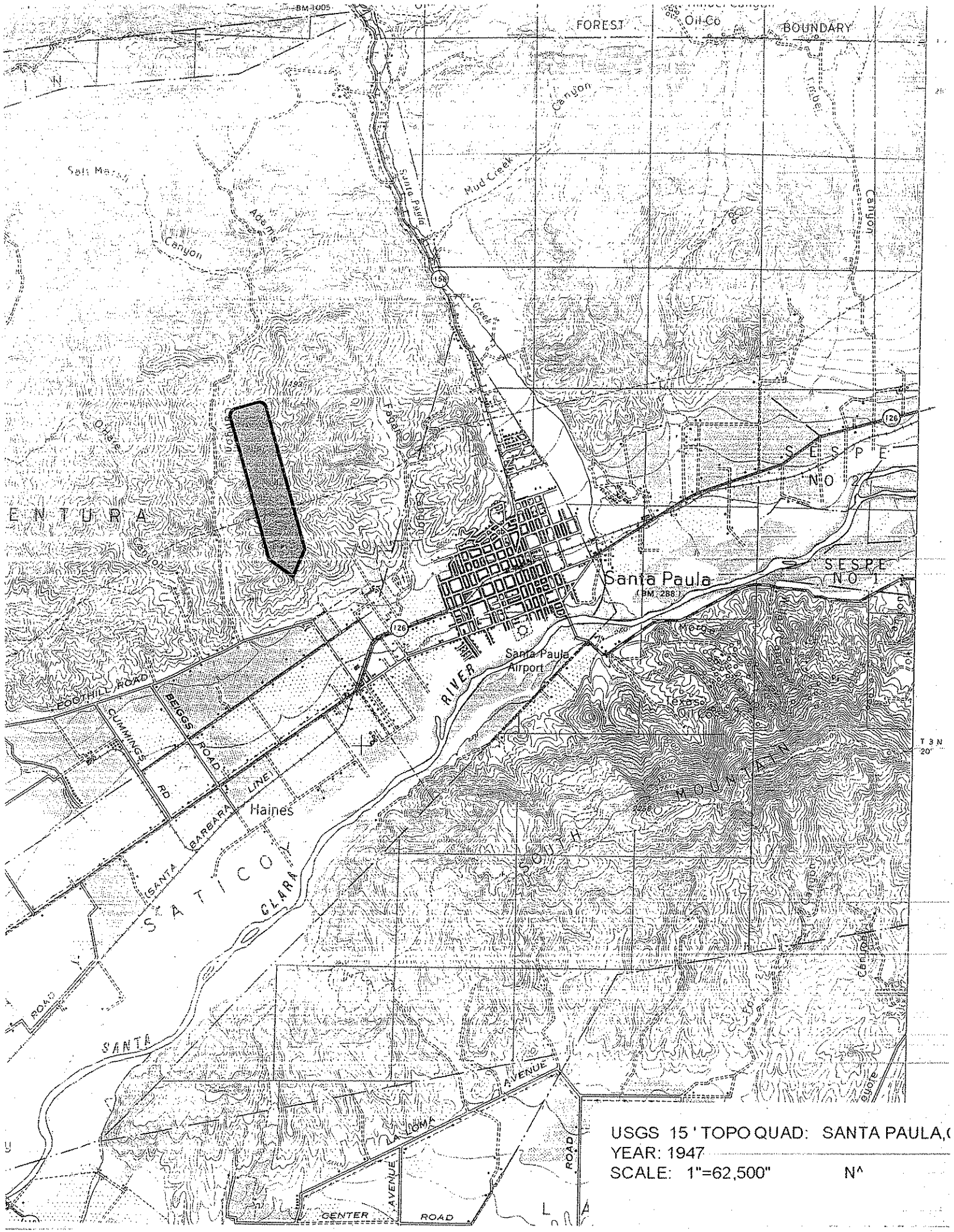
Appendix 1

Historical Research Documentation
(Aerial Photographs, Historical Topographical Maps)

USGS TOPO: SANTA PAULA,CA
EDITION: 1903
REPRINTED: 1920
SCALE: 1"=62,500"

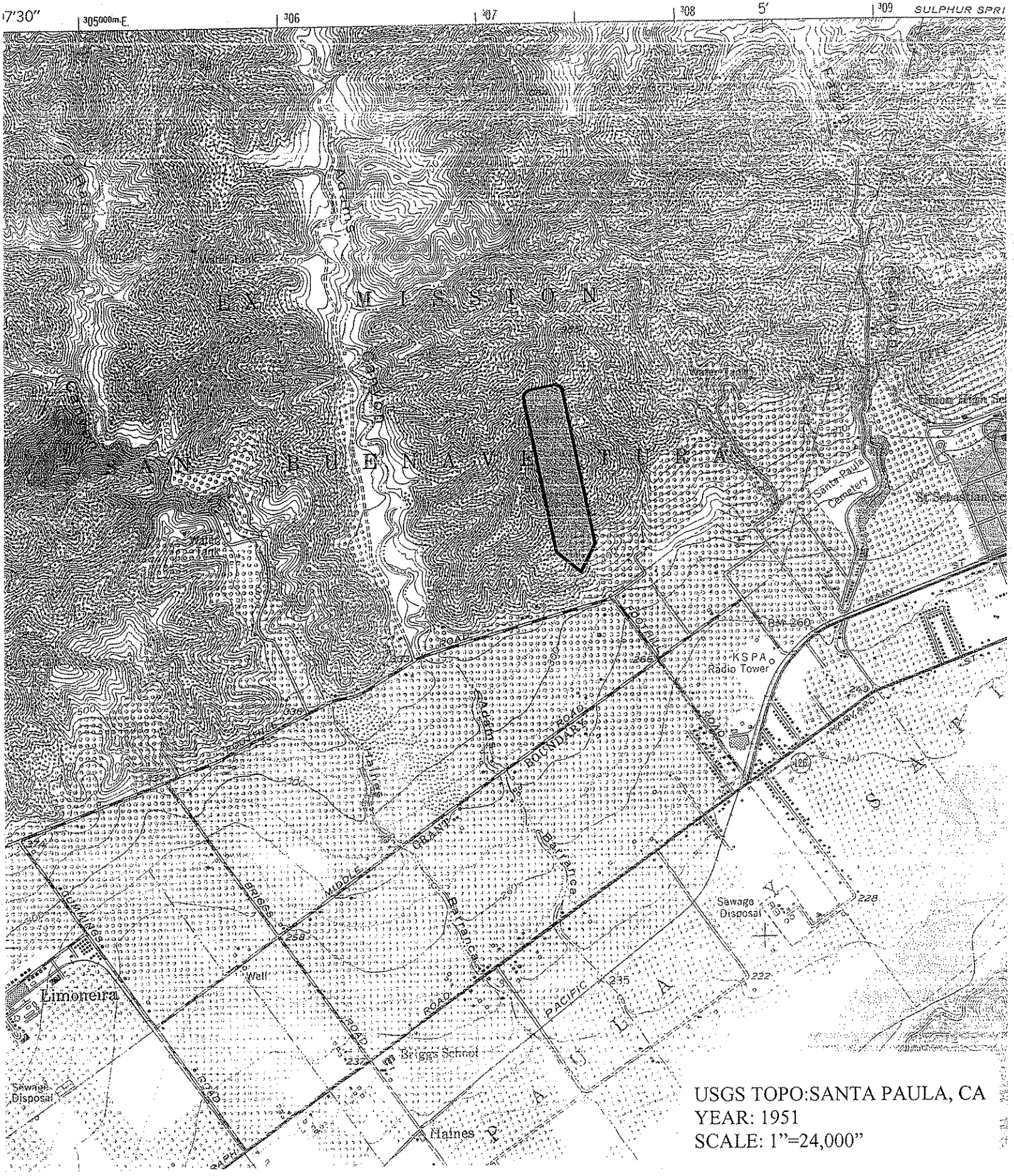


USGS 15' TOPO QUAD: SANTA PAULA,CA
YEAR: 1942,1937,1920
REPRINT FROM: 1903 (ALL DUPLICATES)
SCALE: 1"=62,500" N^



USGS 15' TOPO QUAD: SANTA PAULA,C
YEAR: 1947
SCALE: 1"=62,500" N^

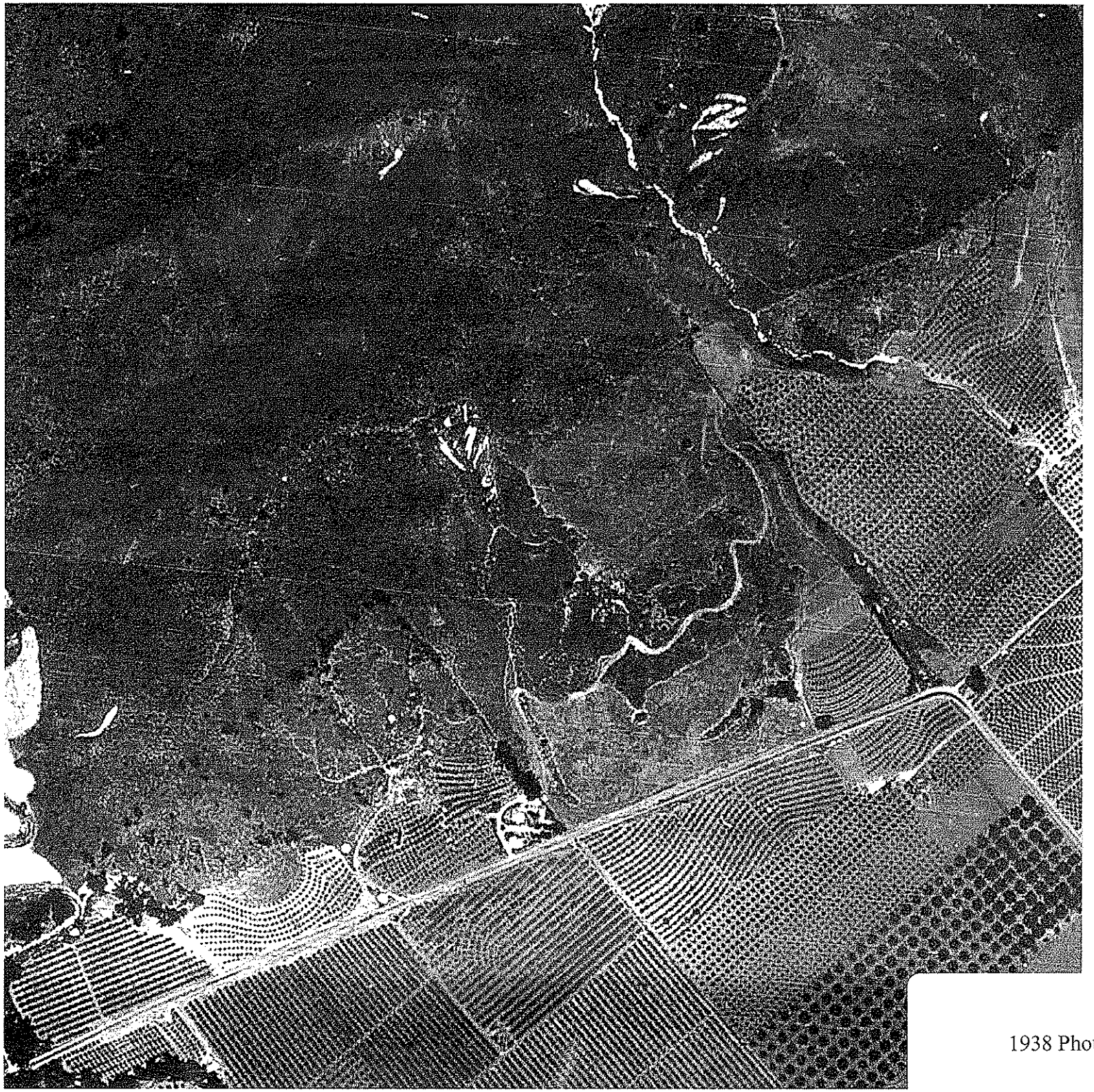
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



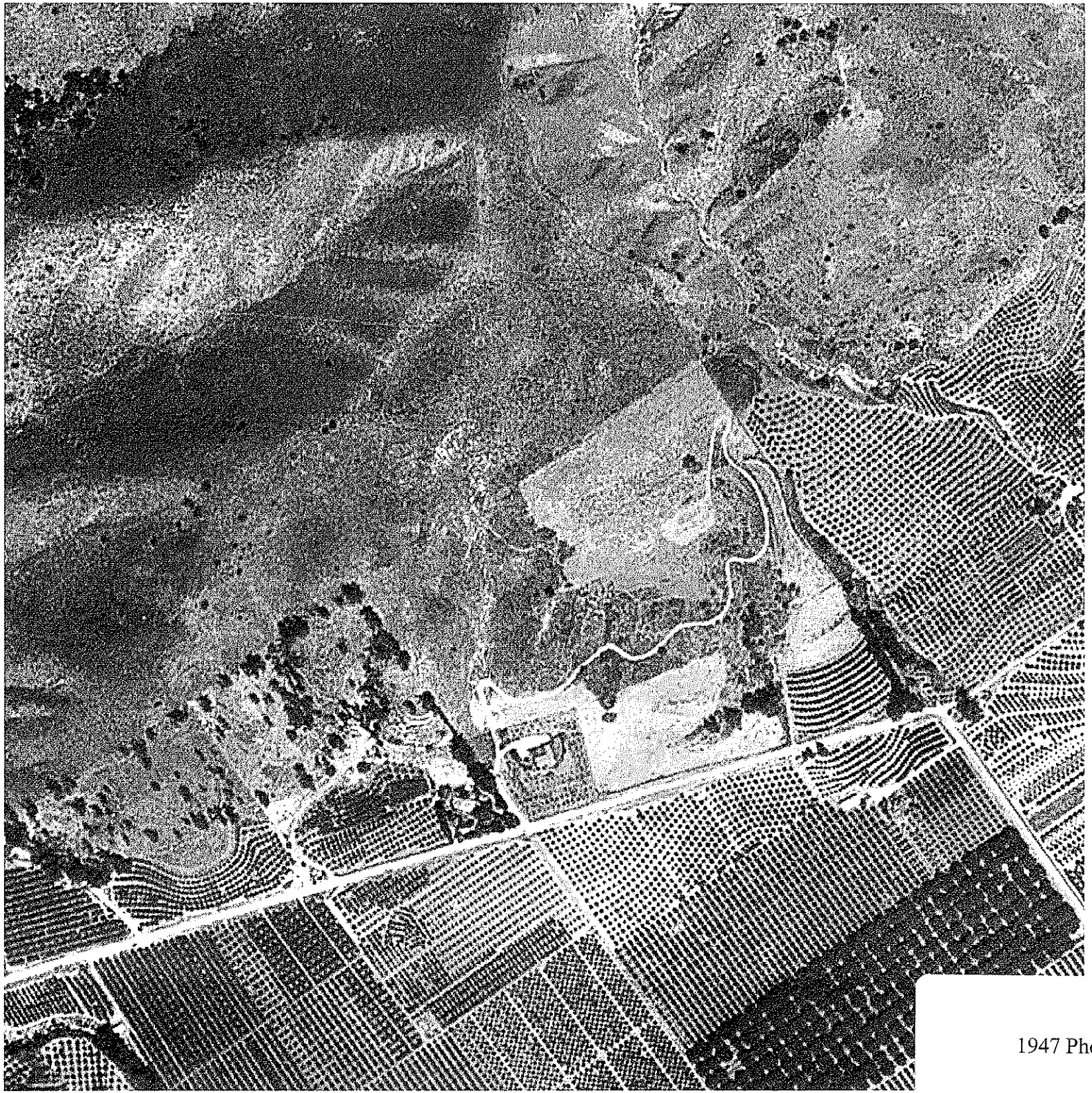
USGS TOPO:SANTA PAULA, CA
YEAR: 1951
SCALE: 1"=24,000"

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

USGS TOPO:SANTA PAULA, CA
YEAR: 1951
PHOTOREVISED: 1967
SCALE: 1"=24,000"



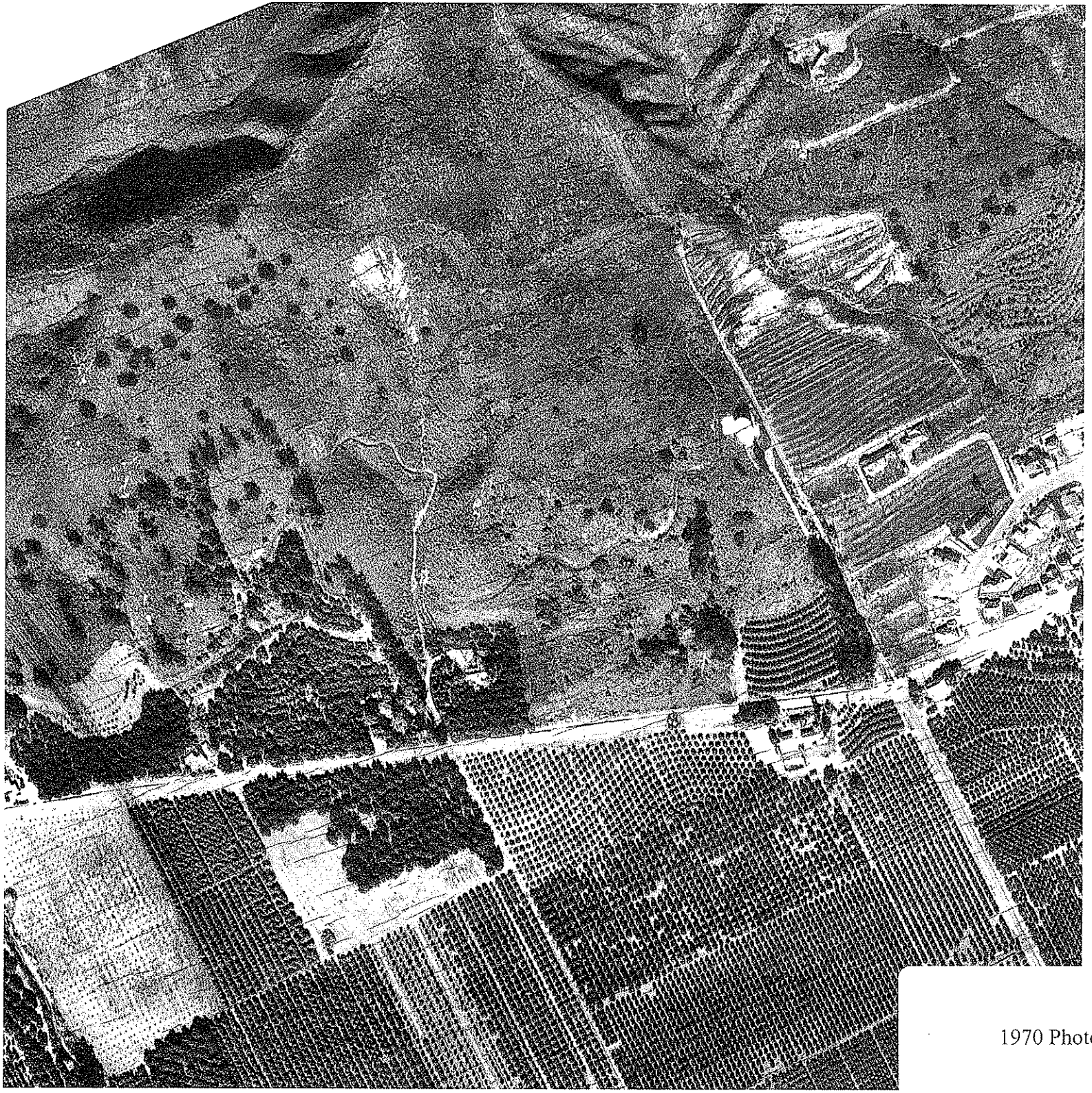
1938 Photograph



1947 Photograph

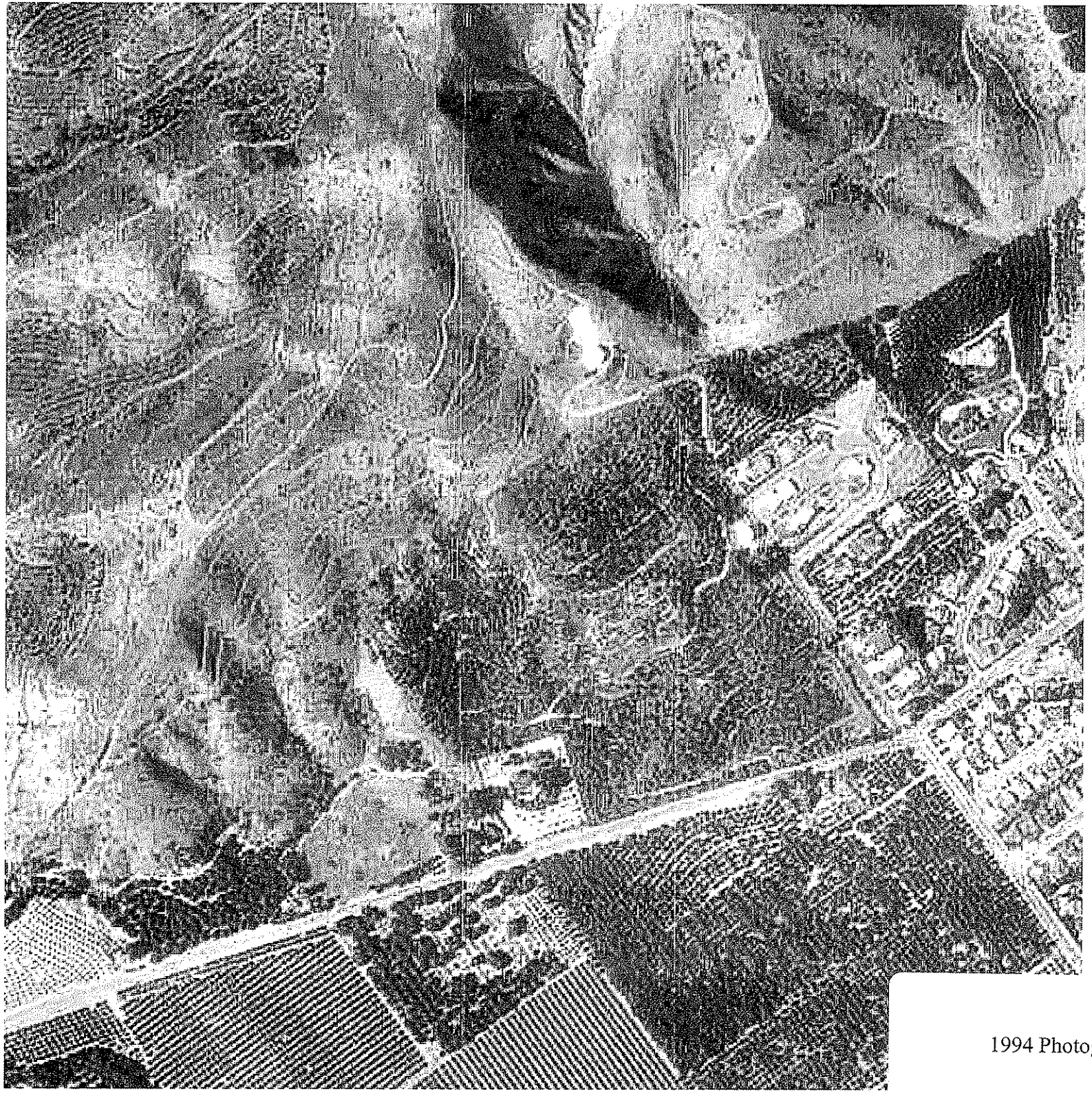
1959 Photograph

1964 Photograph



1970 Photograph

1989 Photograph



1994 Photograph

2002 Photograph

2002 Photograph

Appendix 2

Regulatory Records Documentation

TRACK ➤ INFO SERVICES, LLC

Environmental FirstSearch™ Report

Target Property:

FOOTHILL/NORTH PECK ROAD

SANTA PAULA CA 93060

Job Number: 07-24110

PREPARED FOR:

Rincon Consultants, Inc.

790 East Santa Clara Street

Ventura, CA 93001

08-30-07

Tel: (866) 664-9981 *Fax: (818) 249-4227*

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Environmental FirstSearch
Search Summary Report

Target Site: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	07-10-07	0.25	0	0	0	-	-	0	0
NPL Delisted	Y	07-10-07	0.25	0	0	0	-	-	0	0
CERCLIS	Y	07-18-07	0.25	0	0	0	-	-	0	0
NFRAP	Y	07-18-07	0.25	0	0	0	-	-	0	0
RCRA COR ACT	Y	06-06-06	0.25	0	0	0	-	-	0	0
RCRA TSD	Y	06-06-06	0.25	0	0	0	-	-	0	0
RCRA GEN	Y	06-06-06	0.25	0	0	0	-	-	0	0
RCRA NLR	Y	06-06-06	0.12	0	0	-	-	-	0	0
Federal IC / EC	Y	07-17-07	0.25	0	0	0	-	-	0	0
ERNS	Y	12-31-06	0.12	0	0	-	-	-	0	0
Tribal Lands	Y	12-01-05	0.25	0	0	0	-	-	0	0
State/Tribal Sites	Y	08-15-06	0.25	0	0	0	-	-	0	0
State Spills 90	Y	01-03-07	0.12	0	0	-	-	-	0	0
State/Tribal SWL	Y	06-07-07	0.25	0	0	0	-	-	0	0
State/Tribal LUST	Y	04-24-07	0.25	0	0	0	-	-	0	0
State/Tribal UST/AST	Y	01-03-07	0.25	0	0	0	-	-	0	0
State/Tribal EC	Y	NA	0.25	0	0	0	-	-	0	0
State/Tribal IC	Y	04-27-07	0.25	0	0	0	-	-	0	0
State/Tribal VCP	Y	08-15-06	0.25	0	0	0	-	-	0	0
State/Tribal Brownfields	Y	03-27-06	0.25	0	0	0	-	-	0	0
FINDS	Y	11-01-06	0.25	0	0	0	-	-	1	1
TRIS	Y	06-04-07	0.25	0	0	0	-	-	0	0
HMIRS	Y	07-03-07	0.25	0	0	0	-	-	0	0
NCDB	Y	09-22-06	0.25	0	0	0	-	-	0	0
PADS	Y	04-12-07	0.25	0	0	0	-	-	0	0
Nuclear Permits	Y	04-30-99	0.50	0	0	0	0	-	0	0
Releases	Y	12-31-06	0.25	0	0	0	-	-	4	4
State Permits	Y	03-29-07	0.25	0	0	0	-	-	0	0
State Other	Y	08-08-07	0.25	0	0	0	-	-	1	1

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to TRACK Info Services, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in TRACK Info Services's databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although TRACK Info Services uses its best efforts to research the actual location of each site, TRACK Info Services does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of TRACK Info Services's services proceeding are signifying an understanding of TRACK Info Services's searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

- Continued on next page -

Environmental FirstSearch
Search Summary Report

Target Site: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
Oil & Gas Wells	Y	01-08-01	0.25	0	0	1	-	-	0	1
- TOTALS -				0	0	1	0	0	6	7

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to TRACK Info Services, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in TRACK Info Services's databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

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Environmental FirstSearch
Site Information Report

Request Date:	08-30-07	**Search Type:**	AREA
Requestor Name:	Bart Templeman		0.08 sq mile(s)
Standard:	AREA	**Job Number:**	07-24110
		Filtered Report	

Target Site: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

Demographics

Sites: 7 **Non-Geocoded:** 6 **Population:** NA

Radon: 0.3 - 1.7 PCI/L

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)		UTMs
Longitude:	-119.09634	-119:5:47	**Easting:**	307185.136
Latitude:	34.350056	34:21:0	**Northing:**	3802765.87
			Zone:	11

Comment

Comment: CITY OF SANTA PAULA

Additional Requests/Services

Adjacent ZIP Codes: 0 Mile(s)

ZIP Code	City Name	ST	Dist/Dir	Sel

Services:

	Requested?	Date
Sanborns	No	
Aerial Photographs	Yes	08-30-07
Historical Topos	No	
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	No	

Environmental FirstSearch
Sites Summary Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

TOTAL: 7 **GEOCODED:** 1 **NON GEOCODED:** 6 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
1	OILGASWELLS	041112003500-1136/NOT REPORTED	CA	0.13 NW	1

Environmental FirstSearch
Sites Summary Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

TOTAL: 7 **GEOCODED:** 1 **NON GEOCODED:** 6 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
2	FINDS	TOSCO DISTRIBUTION CO. 110010318833/FRS	SANTA PAULA PUMP STATION SANTA PAULA CA 93060	NON GC	
3	OTHER	OLIVELANDS ELEMENTARY SCHOOL CAL56010013/NO FURTHER ACTION	12465 FOOTHILL ROAD SANTA PAULA CA 93060	NON GC	
5	RELEASES	223444/UNKNOWN (NRC)	INTERSECTION OF SANTA PAULA SANTA PAULA CA	NON GC	
6	RELEASES	NRC-746071/PIPELINE	12720 SANTA PAULA / OJAI RD SANTA PAULA CA	NON GC	
9	RELEASES	UNOCAL 533365/PIPELINE RELATED	SANTA PAULA FIELD SALT MARS SANTA PAULA CA	NON GC	
10	RELEASES	UNKNOWN 271089/UNKNOWN (EPA REGIONS	SANTA PAULA CREEK NEAR HWY SANTA PAULA CA 93060	NON GC	

Environmental FirstSearch
Site Detail Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

OIL GAS WELLS

SEARCH ID: 1 **DIST/DIR:** 0.13 NW **MAP ID:** 1

NAME:
ADDRESS:
CA
VENTURA
CONTACT: (N/A)

REV: 07/01/2007
ID1: 041112003500-1136569
ID2:
STATUS: NOT REPORTED
PHONE:

OIL and GAS WELL SITE DETAILS

OPERATOR: (N/A)
WELL NUMBER: X-14
STATUS AND TYPE: Not Reported
WELL LOCATION RELIABILITY:

Environmental FirstSearch
Site Detail Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

FINDS SITE

SEARCH ID: 2 **DIST/DIR:** NON GC **MAP ID:**

NAME:	TOSCO DISTRIBUTION CO.	**REV:**	7/10/07
ADDRESS:	SANTA PAULA PUMP STATION	**ID1:**	110010318833
	SANTA PAULA CA 93060	**ID2:**	
	VENTURA	**STATUS:**	FRS
CONTACT:		**PHONE:**	

FACILITY REGISTRATION INFORMATION:

PROGRAM:	NEI	**PROGRAM ID:**	NEICA1114387
PROVIDED BY:	FEDERAL AGENCY	**AGENCY INTERESTED:**	
AGENCY INT QUAL:		**INTEREST ENDED:**	
INT END QUAL:		**SOURCE OF DATA:**	NEI
LAST REPORTED:		**LAST EXTRACTED:**	6/14/2005 10:57:14 AM
ENFORCEMENT ACT:			
REG PROGRAM:	CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY		

PROGRAM:	FRS	**PROGRAM ID:**	110010318833
PROVIDED BY:	FEDERAL AGENCY	**AGENCY INTERESTED:**	
AGENCY INT QUAL:		**INTEREST ENDED:**	
INT END QUAL:		**SOURCE OF DATA:**	FRS
LAST REPORTED:		**LAST EXTRACTED:**	
ENFORCEMENT ACT:			
REG PROGRAM:	FACILITY -		

SITE TYPE:	STATIONARY
INTEREST STATUS:	ACTIVE
DATA QUALITY:	V
LOCATION DESC:	
ADDRESS TYPE:	IRREGULAR
LAST REPORTED:	
POSTED TO DATABASE:	3/1/2000
DATA UPDATED:	5/18/2005 6:26:13 PM
ENTERED PERSON/METHOD:	REFRESH
PARENT REG ID:	
CONFIDENCE IN ADDR:	
ENFORCEMENT SENSITIVE:	N
REQ MANUAL REVIEW:	
REASON MAN REVIEW:	
SMALL BUS POLICY:	
ENFORCEMENT ACTION:	
DATA PUB ACCESS:	YES
INTERNAL SYS ID:	
FEDERAL FACILITY:	
FEDERAL AGENCY:	
TRIBAL LAND:	NO
TRIBAL LAND NAME:	
CONGRESSIONAL DIST:	
LEGISLATIVE DIST:	
HYDROLOGICAL UNTIS:	
EPA REGION:	09
AIRSHED:	
CENSUS BLOCK:	

Environmental FirstSearch
Site Detail Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

OTHER SITE

SEARCH ID: 3 **DIST/DIR:** NON GC **MAP ID:**

NAME:	OLIVELANDS ELEMENTARY SCHOOL	**REV:**	08/08/07
ADDRESS:	12465 FOOTHILL ROAD	**ID1:**	CAL56010013
	SANTA PAULA CA 93060	**ID2:**	
	VENTURA	**STATUS:**	NO FURTHER ACTION
CONTACT:		**PHONE:**	

GENERAL SITE INFORMATION

Site Type:	*School Investigation*
Status:	*No Further Action*
Status Date:	*2001-12-17 00:00:00*
NPL Site:	*NO*
Funding:	*School District*
Regulatory Agencies Involved:	*SMBRP*
Lead Agency:	*SMBRP*
Project Manager:	*SHAHIR HADDAD*
Supervisor:	*Rebecca Chou*
Branch:	*School Evaluation - Glendale / Sacramento*
Acres:	*6*
Assessor s Parcel Number:	*NONE SPECIFIED*
Past Uses:	*AGRICULTURAL - ROW CROPS*
Potential Media Affected:	*SOIL*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	

OTHER SITE NAMES (blank below = not reported by agency)

304189-11

304182-11 CDE

304208-11 VCA

56010013

OLIVELANDS ELEMENTARY SCHOOL

BRIGGS ELEM SD/OLIVELANDS ELEM/CDE

BRIGGS ESD/OLIVELANDS ES/VCA

BRIGGS SD/OLIVELANDS ELEM. SCH/VCA

BRIGGS SCHOOL DISTRICT

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Environmental Oversight Agreement***
Completion Date:	***2000-11-22 00:00:00***
Comments:	

Area Name:	***PROJECT WIDE***
Sub- Area Name:	
Document Type:	***Preliminary Endangerment Assessment Report***
Completion Date:	***2001-12-20 00:00:00***
Comments:	*DTSC approved the PEA Report with a no further action determination.*

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

OTHER SITE

SEARCH ID: 3 **DIST/DIR:** NON GC **MAP ID:**

NAME:	OLIVELANDS ELEMENTARY SCHOOL	**REV:**	08/08/07
ADDRESS:	12465 FOOTHILL ROAD	**ID1:**	CAL56010013
	SANTA PAULA CA 93060	**ID2:**	
	VENTURA	**STATUS:**	NO FURTHER ACTION
CONTACT:		**PHONE:**	

Environmental FirstSearch
Site Detail Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

RELEASES (AIR/WATER)

SEARCH ID: 6 **DIST/DIR:** NON GC **MAP ID:**

NAME:
ADDRESS: INTERSECTION OF SANTA PAULA CREEK AND STATE HWY 15
SANTA PAULA CA
VENTURA
CONTACT:

REV: 7/3/91
ID1: 223444
ID2:
STATUS: UNKNOWN (NRC)
PHONE:

SPILL INFORMATION

DATE OF SPILL: 7/3/91 **TIME OF SPILL:** 1300

PRODUCT RELEASED (1): UNKNOWN OIL
QUANTITY (1): 55
UNITS (1): GAL

PRODUCT RELEASED (2):
QUANTITY (2):
UNITS (2):

PRODUCT RELEASED (3):
QUANTITY (3):
UNITS (3):

MEDIUM/MEDIA AFFECTED

AIR: NO **GROUNDWATER:** NO
LAND: NO **FIXED FACILITY:** NO
WATER: YES **OTHER:** NO
WATERBODY AFFECTED BY RELEASE: SANTA PAULA CREEK

CAUSE OF RELEASE

DUMPING: NO **EQUIPMENT FAILURE:** NO
NATURAL PHENOMENON: NO **OPERATOR ERROR:** NO
OTHER CAUSE: NO **TRANSP. ACCIDENT:** NO
UNKNOWN: NO

ACTIONS TAKEN: NONE
RELEASE DETECTION: UNKNOWN / UNKNOWN SHEEN COMING FROM OIL DUMPED ON THE BANK
MISC. NOTES: SHEEN SIZE 10 X 200 , RAINBOW

DISCHARGER INFORMATION

DISCHARGER ID: 223444 **DUN and BRADSTREET :**
TYPE OF DISCHARGER:
NAME OF DISCHARGER:
ADDRESS:

Environmental FirstSearch
Site Detail Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

RELEASES (AIR/WATER)

SEARCH ID: 7 **DIST/DIR:** NON GC **MAP ID:**

NAME:
ADDRESS: 12720 SANTA PAULA / OJAI RD
SANTA PAULA CA
VENTURA
CONTACT: JAMES LOVINS

REV: 12/31/05
ID1: NRC-746071
ID2:
STATUS: PIPELINE
PHONE: 8057018402

SITE INFORMATION

THIS INFORMATION WAS OBTAINED FROM THE NATIONAL RESPONSE CENTER

DATE RECEIVED: 1/3/2005 5:01:06 PM **DATE COMPLETE:** 1/3/2005 5:05:34 PM
CALL TAKER: NCT7613 **CALL TYPE:** INC

RESPONSIBLE PARTY: JAMES LOVINS
PHONE 1: 8057018402 PRIMARY
PHONE 2: 8056415580 ALTERNATE
PHONE 3:

RESPONSIBLE COMPANY: VINTAGE PETROLEUM
ORGANIZATION TYPE: PRIVATE ENTERPRISE

ADDRESS: 3055 WEST PACIFIC COAST HWY
VENTURA CA 93001

SOURCE: TELEPHONE

INCIDENT INFORMATION

INCIDENT DESCRIPTION: THE MATERIAL RELEASED FROM A 2 INCH PIPELINE (COMMON LINE) DUE TO EXTERNAL CORROSION.

INCIDENT TYPE: PIPELINE **INCIDENT CAUSE:** EQUIPMENT FAILURE
INCIDENT DATE: 1/3/2005 10:30:00 AM **INCIDENT DATE DESC:** DISCOVERED
DISTANCE FROM CITY: **DISTANCE UNITS:**
DIRECTION FROM CITY: **LOCATION SECTION:**
LOCATION TOWNSHIP: **LOCATION RANGE:**

AIRCRAFT TYPE: **AIRCRAFT MODEL:**
AIRCRAFT ID: **AIRCRAFT FUEL CAPACITY:**
AIRCRAFT FUEL CAPACITY UNITS: **AIRCRAFT FUEL ON BOARD:**
AIRCRAFT FUEL ON BOARD UNITS: **AIRCRAFT SPOT NUMBER:**
AIRCRAFT HANGER: **AIRCRAFT RUNWAY NUM:**
ROAD MILE MARKER: **BUILDING ID:**
TYPE OF FIXED OBJECT: **POWER GEN FACILITY:** U
GENERATING CAPACITY: **TYPE OF FUEL:**
NPDES: **NPDES COMPLIANCE:** U
PIPELINE TYPE: OTHER **DOT REGULATED:** N
PIPELINE ABOVE GROUND: BELOW **EXPOSED UNDERWATER:** N
PIPELINE COVERED: U **GRADE CROSSING:** N
LOCATION SUBDIVISION: **RAILROAD MILEPOST:**
TYPE VEHICLE INVOLVED: **CROSSING DEVICE TYPE:**
DEVICE OPERATIONAL: Y

DOT CROSSING NUMBER: **BRAKE FAILURE:** N
TANK ABOVE GROUND: ABOVE **TRANSPORTABLE CONTAINER:** U

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

RELEASES (AIR/WATER)

SEARCH ID: 7 **DIST/DIR:** NON GC **MAP ID:**

NAME:
ADDRESS: 12720 SANTA PAULA / OJAI RD
SANTA PAULA CA
VENTURA
CONTACT: JAMES LOVINS

REV: 12/31/05
ID1: NRC-746071
ID2:
STATUS: PIPELINE
PHONE: 8057018402

TANK REGULATED: U
TANK REGULATED BY:
TANK ID:
CAPACITY OF TANK:
CAPACITY OF TANK UNITS:
ACTUAL AMOUNT:
ACTUAL AMOUNT UNITS:
PLATFORM RIG NAME:
PLATFORM LETTER:
LOCATION AREA ID:
LOCATION BLOCK ID:

DESCRIPTION OF TANK:

OCSG NUMBER:
OCSP NUMBER:
STATE LEASE NUMBER:
PIER DOCK NUMBER:
BERTH SLIP NUMBER:
CONTIN RELEASE TYPE:
INITIAL CONT RELEASE NUM:
CONT RELEASE PERMIT:
ALLISION: N
TYPE OF STRUCTURE:
STRUCTURE NAME:
STRUCT OPERATIONAL: U
AIRBAG DEPLOYED:
DATE NORMAL SERVICE:
SERVICE DISRUPT TIME:
SERVICE DISRUPT UNITS:
TRANSIT BUS FLAG:
CR BEGIN DATE:
CR END DATE:
CR CHANGE DATE:

FIRE INVOLVED: N
FIRE EXTINGUISHED: U
ANY EVACUATIONS: N
NUMBER EVACUATED:
WHO EVACUATED:
RADIUS OF EVACUATION:
ANY INJURIES: N
NUMBER INJURED:
NUMBER HOSPITALIZED:
ANY FATALITIES: N
NUMBER FATALITIES:
ANY DAMAGES: N
DAMAGE AMOUNT:
AIR CORRIDOR CLOSED: N
AIR CORRIDOR DESC:
AIR CLOSURE TIME:
WATERWAY CLOSED: N
WATERWAY DESC:
WATERWAY CLOSURE TIME:
ROAD CLOSED: N
ROAD DESC:
ROAD CLOSURE TIME:
CLOSURE DIRECTION:
MAJOR ARTERY: N

TRACK CLOSED: N
TRACK DESC:
TRACK CLOSURE TIME:
MEDIA INTEREST: NONE
MEDIUM DESC: WATER
ADDTL MEDIUM INFO: UN-NAMED DRAINAGE, ASPHALT (LEASE ROAD)
BODY OF WATER: UN-NAMED DRAINAGE
TRIBUTARY OF:
NEAREST RIVER MILE MARK:
RELEASE SECURED: Y
EST DUR OF RELEASE:
RELEASE RATE:
TRACK CLOSE DIR:
ST AGENCY ON SCENE:
ST AGENCY RPT NUM: 05-0047
OTHER AGENCY NOTIFIED:
WEATHER CONDITIONS: PARTLY CLOUDY
AIR TEMPERATURE: 62
WIND SPEED:
WIND DIRECTION:
WATER SUPPLY CONTAM: N
SHEEN SIZE:
SHEEN COLOR:
DIR OF SHEEN TRAVEL:
SHEEN ODOR DESCRIPTION:
WAVE CONDITION: 0 CALM
CURRENT SPEED:
CURRENT DIRECTION:
WATER TEMPERATURE:

DESC OF REMEDIAL ACTION: ISOLATED AREA, CLEAN UP UNDERWAY

EMPL FATALITY:
PASS FATALITY:

- Continued on next page -

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

RELEASES (AIR/WATER)

SEARCH ID: 7 **DIST/DIR:** NON GC **MAP ID:**

NAME:
ADDRESS: 12720 SANTA PAULA / OJAI RD
SANTA PAULA CA
VENTURA
CONTACT: JAMES LOVINS

REV: 12/31/05
ID1: NRC-746071
ID2:
STATUS: PIPELINE
PHONE: 8057018402

COMMUNITY IMPACT:	N	**WIND SPEED UNITS:**	
EMPLOYEE INJURIES:		**PASSENGER INJURIES:**	
OCCUPANT FATALITY:		**CURRENT SPEED UNITS:**	
ROAD CLOSURE UNITS:		**TRACK CLOSURE UNITS:**	
SHEEN SIZE UNITS:		**STATE AGENCY NOTIFIED:**	OES
FED AGENCY NOTIFIED:		**NEAREST RIVER MILE MARK:**	
SHEEN SIZE LENGTH:		**SHEEN SIZE LENGTH UNITS:**	
SHEEN SIZE WIDTH:		**SHEEN SIZE WIDTH UNITS:**	
OFFSHORE:	N	**DURATION UNIT:**	
RELEASE RATE UNIT:		**RELEASE RATE RATE:**	

ADDITIONAL INFO: CALLER WILL NOTIFY OTHER STATE AGENCIES. NO SHEEN INFORMATION.

MATERIAL INFORMATION

CHRIS CODE:	OIL	**CASE NUMBER:**	000000-00-0
UN NUMBER:		**REACHED WATER:**	YES

NAME OF MATERIAL: OIL: CRUDE
AMOUNT OF MATERIAL: 5 BARREL(S)
AMOUNT IN WATER: 0 UNKNOWN AMOUNT

OTHER MATERIAL INFORMATION

MOBILE DETAILS INFORMATION

TRAIN INFORMATION

VESSEL INFORMATION

Environmental FirstSearch
Site Detail Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

RELEASES (AIR/WATER)

SEARCH ID: 5 **DIST/DIR:** NON GC **MAP ID:**

NAME:	UNOCAL	**REV:**	5/2/97
ADDRESS:	SANTA PAULA FIELD SALT MARSH CANYON	**ID1:**	533365
	SANTA PAULA CA	**ID2:**	
	VENTURA	**STATUS:**	PIPELINE RELATED
CONTACT:		**PHONE:**	

DETAILS NOT AVAILABLE

Environmental FirstSearch
Site Detail Report

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

RELEASES (AIR/WATER)

SEARCH ID: 4 **DIST/DIR:** NON GC **MAP ID:**

NAME: UNKNOWN
ADDRESS: SANTA PAULA CREEK NEAR HWY 150
SANTA PAULA CA 93060
VENTURA
CONTACT:

REV: 5/21/92
ID1: 271089
ID2:
STATUS: UNKNOWN (EPA REGIONS)
PHONE:

SPILL INFORMATION

DATE OF SPILL: 5/21/92 **TIME OF SPILL:** 1600

PRODUCT RELEASED (1): UNKNOWN OIL
QUANTITY (1): 0
UNITS (1): UNK

PRODUCT RELEASED (2):
QUANTITY (2):
UNITS (2):

PRODUCT RELEASED (3):
QUANTITY (3):
UNITS (3):

MEDIUM/MEDIA AFFECTED

AIR: NO **GROUNDWATER:** NO
LAND: NO **FIXED FACILITY:** NO
WATER: YES **OTHER:** NO
WATERBODY AFFECTED BY RELEASE: SANTA PAULA CREEK>SANTA CLARA

CAUSE OF RELEASE

DUMPING: NO **EQUIPMENT FAILURE:** NO
NATURAL PHENOMENON: NO **OPERATOR ERROR:** NO
OTHER CAUSE: NO **TRANSP. ACCIDENT:** NO
UNKNOWN: YES

ACTIONS TAKEN: NONE
RELEASE DETECTION: REPORTING OIL SEEPING INTO A CREEK FROM AN UNKNOWN CAUSE
MISC. NOTES: APPROX ONE MILE OF CREEK HAS BEEN EFFECTED BY THIS SPILL

DISCHARGER INFORMATION

DISCHARGER ID: 271089 **DUN and BRADSTREET :**
TYPE OF DISCHARGER: UNKNOWN
NAME OF DISCHARGER: UNKNOWN
ADDRESS:

Environmental FirstSearch Descriptions

NPL: ***EPA*** NATIONAL PRIORITY LIST - The National Priorities List is a list of the worst hazardous waste sites that have been identified by Superfund. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money.
A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.
FINAL - Currently on the Final NPL
PROPOSED - Proposed for NPL

NPL DELISTED: ***EPA*** NATIONAL PRIORITY LIST Subset - Database of delisted NPL sites. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.
DELISTED - Deleted from the Final NPL

CERCLIS: ***EPA*** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM (CERCLIS)- CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.
PART OF NPL- Site is part of NPL site
DELETED - Deleted from the Final NPL
FINAL - Currently on the Final NPL
NOT PROPOSED - Not on the NPL
NOT VALID - Not Valid Site or Incident
PROPOSED - Proposed for NPL
REMOVED - Removed from Proposed NPL
SCAN PLAN - Pre-proposal Site
WITHDRAWN - Withdrawn

NFRAP: ***EPA*** COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.
NFRAP – No Further Remedial Action Plan
P - Site is part of NPL site
D - Deleted from the Final NPL
F - Currently on the Final NPL
N - Not on the NPL
O - Not Valid Site or Incident
P - Proposed for NPL
R - Removed from Proposed NPL
S - Pre-proposal Site
W – Withdrawn

RCRA COR ACT: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
RCRAInfo facilities that have reported violations and subject to corrective actions.

RCRA TSD: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
Facilities that treat, store, dispose, or incinerate hazardous waste.

RCRA GEN: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM GENERATORS - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
Facilities that generate or transport hazardous waste or meet other RCRA requirements.
LGN - Large Quantity Generators
SGN - Small Quantity Generators
VGN – Conditionally Exempt Generator.
Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

RCRA NLR: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
Facilities not currently classified by the EPA but are still included in the RCRAInfo database. Reasons for non classification:
Failure to report in a timely matter.
No longer in business.
No longer in business at the listed address.
No longer generating hazardous waste materials in quantities which require reporting.

Federal IC / EC: ***EPA*** BROWNFIELD MANAGEMENT SYSTEM (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant Programs.
FEDERAL ENGINEERING AND INSTITUTIONAL CONTROLS- Superfund sites that have either an engineering or an institutional control. The data includes the control and the media contaminated.

ERNS: ***EPA/NRC*** EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) - Database of incidents reported to the National Response Center. These incidents include chemical spills, accidents involving chemicals (such as fires or explosions), oil spills, transportation accidents that involve oil or chemicals, releases of radioactive materials, sightings of oil sheens on bodies of water, terrorist incidents involving chemicals, incidents where illegally dumped chemicals have been found, and drills intended to prepare responders to handle these kinds of incidents. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

Tribal Lands: ***DOI/BIA*** INDIAN LANDS OF THE UNITED STATES - Database of areas with boundaries established by treaty, statute, and (or) executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority. The Indian Lands of the United States map layer shows areas of 640 acres or more, administered by the Bureau of Indian Affairs. Included are Federally-administered lands within a reservation which may or may not be considered part of the reservation.

State/Tribal Sites: ***CA EPA*** SMBRPD / CAL SITES- The California Department of Toxic Substances Control (DTSC) has developed an electronic database system with information about sites that are known to be contaminated with hazardous substances as well as information on uncharacterized properties where further

studies may reveal problems. The Site Mitigation and Brownfields Reuse Program Database (SMBRPD), also known as CalSites, is used primarily by DTSC's staff as an informational tool to evaluate and track activities at properties that may have been affected by the release of hazardous substances.
The SMBRPD displays information in six categories. The categories are:
1. CalSites Properties (CS)
2. School Property Evaluation Program Properties (SCH)
3. Voluntary Cleanup Program Properties (VCP)
4. Unconfirmed Properties Needing Further Evaluation (RFE)
Please Note: FirstSearch Reports list the above sites as DB Type (STATE).
5. Unconfirmed Properties Referred to Another Local or State Agency (REF)
6. Properties where a No Further Action Determination has been made (NFA)
Please Note: FirstSearch Reports list the above sites as DB Type (OTHER).
Each Category contains information on properties based upon the type of work taking place at the site. For example, the CalSites database is now one of the six categories within SMPBRD and contains only confirmed sites considered as posing the greatest threat to the public and/or the potential public school sites will be found within the School Property Evaluation Program, and those properties undergoing voluntary investigation and/or cleanup are in the Voluntary Cleanup Program.
CORTESE LIST-Pursuant to Government Code Section 65962.5, the Hazardous Waste and Substances Sites List has been compiled by Cal/EPA, Hazardous Materials Data Management Program. The CAL EPA Dept. of Toxic Substances Control compiles information from subsets of the following databases to make up the CORTESE list:
1. The Dept. of Toxic Substances Control; contaminated or potentially contaminated hazardous waste sites listed in the CAL Sites database. Formerly known as ASPIS are included (CALSITES formerly known as ASPIS).
2. The California State Water Resources Control Board; listing of Leaking Underground Storage Tanks are included (LTANK)
3. The California Integrated Waste Management Board; Sanitary Landfills which have evidence of groundwater contamination or known migration of hazardous materials (formerly WB-LF, now AB 3750).
Note: Track Info Services collects each of the above data sets individually and lists them separately in the following First Search categories in order to provide more current and comprehensive information: CALSITES: SPL, LTANK: LUST, WB-LF: SWL

State Spills 90: ***CA EPA*** SLIC REGIONS 1 - 9- The California Regional Water Quality Control Boards maintain report of sites that have records of spills, leaks, investigation, and cleanups.

State/Tribal SWL: ***CA IWMB/SWRCB/COUNTY*** SWIS SOLID WASTE INFORMATION SYSTEM-The California Integrated Waste Management Board maintains a database on solid waste facilities, operations, and disposal sites throughout the state of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. For more information on individual sites call the number listed in the source field..
Please Note: This database contains poor site location information for many sites in the First Search reports; therefore, it may not be possible to locate or plot some sites in First Search reports.
WMUDS-The State Water Resources Control Board maintained the Waste Management Unit Database System (WMUDS). It is no longer updated. It tracked management units for several regulatory programs related to waste management and its potential impact on groundwater. Two of these programs (SWAT & TPCA) are no longer on-going regulatory programs as described below. Chapter 15 (SC15) is still an on-going regulatory program and information is updated periodically but not to the WMUDS database. The WMUDS System contains information from the following agency databases: Facility, Waste Management Unit (WMU), Waste Discharger System (WDS), SWAT, Chapter 15, TPCA, RCRA, Inspections, Violations, and Enforcement's.
Note: This database contains poor site location information for many sites in the First Search reports; therefore, it may not be possible to locate or plot some sites in First Search reports.
ORANGE COUNTY LANDFILLS LIST- A list maintained by the Orange County Health Department.

State/Tribal LUST: ***CA SWRCB/COUNTY*** LUSTIS- The State Water Resources Control Board maintains a database of sites with confirmed or unconfirmed leaking underground storage tanks. Information for this database is collected from the states regional boards quarterly and integrated with this database.
SAN DIEGO COUNTY LEAKING TANKS- The San Diego County Department of Environmental Health maintains a database of sites with confirmed or unconfirmed leaking underground storage tanks within its HE17/58 database. For more information on a specific file call the HazMat Duty Specialist at phone number listed in the source information field.

State/Tribal UST/AST: ***CA EPA/COUNTY/CITY*** ABOVEGROUND STORAGE TANKS LISTING-The

Above Ground Petroleum Storage Act became State Law effective January 1, 1990. In general, the law requires owners or operators of AST's with petroleum products to file a storage statement and pay a fee by July 1, 1990 and every two years thereafter, take specific action to prevent spills, and in certain instances implement a groundwater monitoring program. This law does not apply to that portion of a tank facility associated with the production oil and regulated by the State Division of Oil and Gas of the Dept. of Conservation.
SWEEPS / FIDS STATE REGISTERED UNDEGROUND STORAGE TANKS- Until 1994 the State Water Resources Control Board maintained a database of registered underground storage tanks statewide referred to as the SWEEPS System. The SWEEPS UST information was integrated with the CAL EPA's Facility Index System database (FIDS) which is a master index of information from numerous California agency environmental databases. That was last updated in 1994. Track Info Services included the UST information from the FIDS database in its First Search reports for historical purposes to help its clients identify where tanks may possibly have existed. For more information on specific sites from individual paper files archived at the State Water Resources Control Board call the number listed with the source information.
INDIAN LANDS UNDERGROUND STORAGE TANKS LIST- A listing of underground storage tanks currently on Indian Lands under federal jurisdiction. California Indian Land USTS are administered by US EPA Region 9.
CUPA DATABASES & SOURCES- Definition of a CUPA: A Certified Unified Program Agency (CUPA) is a local agency that has been certified by the CAL EPA to implement six state environmental programs within the local agency's jurisdiction. These can be a county, city, or JPA (Joint Powers Authority). This program was established under the amendments to the California Health and Safety Code made by SB 1082 in 1994.
A Participating Agency (PA) is a local agency that has been designated by the local CUPA to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. A Designated Agency (DA) is an agency that has not been certified by the CUPA but is the responsible local agency that would implement the six unified programs until they are certified.
Please Note: Track Info Services, LLC collects and maintains information regarding Underground Storage Tanks from majority of the CUPAS and Participating Agencies in the State of California. These agencies typically do not maintain nor release such information on a uniform or consistent schedule; therefor, currency of the data may vary. Please look at the details on a specific site with a UST record in the First Search Report to determine the actual currency date of the record as provided by the relevant agency. Numerous efforts are made on a regular basis to obtain updated records.

State/Tribal IC: ***CA EPA*** DEED-RESTRICTED SITES LISTING- The California EPA's Department of Toxic Substances Control Board maintains a list of deed-restricted sites, properties where the DTSC has placed limits or requirements on the future use of the property due to varying levels of cleanup possible, practical or necessary at the site.

State/Tribal VCP: ***CA EPA*** SMBRPD / CAL SITES- The California Department of Toxic Substances Control (DTSC) has developed an electronic database system with information about sites that are known to be contaminated with hazardous substances as well as information on uncharacterized properties where further studies may reveal problems. The Site Mitigation and Brownfields Reuse Program Database (SMBRPD), also known as CalSites, is used primarily by DTSC's staff as an informational tool to evaluate and track activities at properties that may have been affected by the release of hazardous substances.
The SMBRPD displays information in six categories. The categories are:
1. CalSites Properties (CS)
2. School Property Evaluation Program Properties (SCH)
3. Voluntary Cleanup Program Properties (VCP)
4. Unconfirmed Properties Needing Further Evaluation (RFE)
5. Unconfirmed Properties Referred to Another Local or State Agency (REF)
6. Properties where a No Further Action Determination has been made (NFA)
Please Note: FirstSearch Reports list the above sites as DB Type VC. Each Category contains information on properties based upon the type of work taking place at the site. The VC category contains only those properties undergoing voluntary investigation and/or cleanup and which are listed in the Voluntary Cleanup Program.

FINDS: ***EPA*** FACILITY INDEX SYSTEM(FINDS)/FACILITY REGISTRY SYSTEM(FRS) - The index of identification numbers associated with a property or facility which the EPA has investigated or has been made aware of in conjunction with various regulatory programs. Each record indicates the EPA office that may have files on the site or facility. A Facility Registry System site has an FRS in the status field.

TRIS: ***EPA*** TOXIC RELEASE INVENTORY SYSTEM (TRIS)– Database that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. This inventory was established under the Emergency Planning and

Community Right-to-Know Act of 1986 (EPCRA) and expanded by the Pollution Prevention Act of 1990.

HMIRS: ***US DOT*** HAZARDOUS MATERIALS INCIDENT RESPONSE SYSTEM - Database of information regarding materials, packaging, and a description of events for tracked incidents.

NCDB: ***EPA*** NATIONAL COMPLIANCE DATA BASE SYSTEM - Database of regional compliance and enforcement activity and manages the Pesticides and Toxic Substances Compliance and Enforcement program at a national level. The system tracks all compliance monitoring and enforcement activities from the time an inspector conducts and inspection until the time the inspector closes or the case settles the enforcement action. NCDB is the national repository of the 10 regional and Headquarters FIFRA/TSCA Tracking System (FTTS). Data collected in the regional FTTS is transferred to NCDB to support the need for monitoring national performance of regional programs.

PADS: ***EPA*** DATABASE OF PCB HANDLERS - Database of PolyChlorinatedBiPhenol generators, transporters, storers and/or disposers that are required to register with the EPA. This database indicates the type of handler and registration number. Also included is the PCB Transformer Registration Database.

RADON: ***NTIS*** NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

Nuclear Permits: ***EPA/NRC*** PERMITTED NUCLEAR FACILITIES - This database is a comprehensive listing of all facilities which have been issued permits for the handling of radioactive materials, in addition it also contains a complete listing of all licensed and active nuclear power plants located within the United States.
THE RADINFO DATABASE - Database of basic information about facilities that are permitted and regulated for their use and handling of radioactive materials.

State Permits: ***CA COUNTY*** SAN DIEGO COUNTY HE17 PERMITS- The HE17/58 database tracks establishments issued permits and the status of their permits in relation to compliance with federal, state, and local regulations that the County oversees. It tracks if a site is a hazardous waste generator, TSD, gas station, has underground tanks, violations, or unauthorized releases. For more information on a specific file call the HazMat Duty Specialist at the phone number listed in the source information field.
SAN BERNARDINO COUNTY HAZARDOUS MATERIALS PERMITS- Handlers and Generators Permit Information Maintained by the Hazardous Materials Division.

State Other: ***CA EPA/COUNTY*** SMBRPD / CAL SITES- The California Department of Toxic Substances Control (DTSC) has developed an electronic database system with information about sites that are known to be contaminated with hazardous substances as well as information on uncharacterized properties where further studies may reveal problems. The Site Mitigation and Brownfields Reuse Program Database (SMBRPD), also known as CalSites, is used primarily by DTSC's staff as an informational tool to evaluate and track activities at properties that may have been affected by the release of hazardous substances.
The SMBRPD displays information in six categories. The categories are:
1. CalSites Properties (CS)
2. School Property Evaluation Program Properties (SCH)
3. Voluntary Cleanup Program Properties (VCP)
4. Unconfirmed Properties Needing Further Evaluation (RFE)
Please Note: FirstSearch Reports list the above sites as DB Type (STATE).
5. Unconfirmed Properties Referred to Another Local or State Agency (REF)
6. Properties where a No Further Action Determination has been made (NFA)
Please Note: FirstSearch Reports list the above sites as DB Type (OTHER).
Each Category contains information on properties based upon the type of work taking place at the site. For example, the CalSites database is now one of the six categories within SMPBRD and contains only confirmed sites considered as posing the greatest threat to the public and/or the potential public school sites will be found within the School Property Evaluation Program, and those properties undergoing voluntary investigation and/or cleanup are in the Voluntary Cleanup Program.
LA COUNTY SITE MITIGATION COMPLAINT CONTROL LOG- The County of Los Angeles Public Health Investigation Compliant Control Log.
ORANGE COUNTY INDUSTRIAL SITE CLEANUPS- List maintained by the Orange County Environmental Health Agency.
RIVERSIDE COUNTY WASTE GENERATORS-A list of facilities in Riverside County which generate hazardous waste.
SACRAMENTO COUNTY MASTER HAZMAT LIST-Master list of facilities within Sacramento County with

potentially hazardous materials.
SACRAMENTO COUNTY TOXIC SITE CLEANUPS-A list of sites where unauthorized releases of potentially hazardous materials have occurred.

OIL & GAS WELLS: ***CADC*** Listing of completions, pluggings and permits. Data is obtained only from digital data provided by the California Department of Conservation.

Environmental FirstSearch Database Sources

NPL: ***EPA*** Environmental Protection Agency

Updated quarterly

NPL DELISTED: ***EPA*** Environmental Protection Agency

Updated quarterly

CERCLIS: ***EPA*** Environmental Protection Agency

Updated quarterly

NFRAP: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA COR ACT: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA TSD: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA GEN: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA NLR: ***EPA*** Environmental Protection Agency

Updated quarterly

Federal IC / EC: ***EPA*** Environmental Protection Agency

Updated quarterly

ERNS: ***EPA/NRC*** Environmental Protection Agency

Updated semi-annually

Tribal Lands: ***DOI/BIA*** United States Department of the Interior

Updated annually

State/Tribal Sites: ***CA EPA*** The CAL EPA, Depart. Of Toxic Substances Control
Phone: (916) 323-3400

Updated quarterly/when available

State Spills 90: ***CA EPA*** The California State Water Resources Control Board

Updated when available

State/Tribal SWL: ***CA IWMB/SWRCB/COUNTY*** The California Integrated Waste Management Board
Phone:(916) 255-2331
The State Water Resources Control Board
Phone:(916) 227-4365
Orange County Health Department

Updated quarterly/when available

State/Tribal LUST: ***CA SWRCB/COUNTY*** The California State Water Resources Control Board
Phone:(916) 227-4416
San Diego County Department of Environmental Health

Updated quarterly/when available

State/Tribal UST/AST: ***CA EPA/COUNTY/CITY*** The State Water Resources Control Board
Phone:(916) 227-4364
CAL EPA Department of Toxic Substances Control
Phone:(916)227-4404
US EPA Region 9 Underground Storage Tank Program
Phone: (415) 972-3372
ALAMEDA COUNTY CUPAS:
* County of Alameda Department of Environmental Health
* Cities of Berkeley, Fremont, Hayward, Livermore / Pleasanton, Newark, Oakland, San Leandro, Union
ALPINE COUNTY CUPA:
* Health Department (Only updated by agency sporadically)
AMADOR COUNTY CUPA:
* County of Amador Environmental Health Department
BUTTE COUNTY CUPA
* County of Butte Environmental Health Division (Only updated by agency biannually)
CALAVERAS COUNTY CUPA:
* County of Calaveras Environmental Health Department
COLUSA COUNTY CUPA:
* Environmental Health Dept.
CONTRA COSTA COUNTY CUPA:
* Hazardous Materials Program
DEL NORTE COUNTY CUPA:
* Department of Health and Social Services
EL DORADO COUNTY CUPAS:
* County of El Dorado Environmental Health - Solid Waste Div (Only updated by agency annually)
* County of El Dorado EMD Tahoe Division (Only updated by agency annually)
FRESNO COUNTY CUPA:
* Haz. Mat and Solid Waste Programs
GLENN COUNTY CUPA:
* Air Pollution Control District
HUMBOLDT COUNTY CUPA:
* Environmental Health Division
IMPERIAL COUNTY CUPA:
* Department of Planning and Building

INYO COUNTY CUPA:
* Environmental Health Department
KERN COUNTY CUPA:
* County of Kern Environmental Health Department
* City of Bakersfield Fire Department
KINGS COUNTY CUPA:
* Environmental Health Services
LAKE COUNTY CUPA:
* Division of Environmental Health
LASSEN COUNTY CUPA:
* Department of Agriculture
LOS ANGELES COUNTY CUPAS:
* County of Los Angeles Fire Department CUPA Data as maintained by the Los Angeles County Department of Public Works
* County of Los Angeles Environmental Programs Division
* Cities of Burbank, El Segundo, Glendale, Long Beach/Signal Hill, Los Angeles,Pasadena, Santa Fe Springs, Santa Monica, Torrance, Vernon
MADERA COUNTY CUPA:
* Environmental Health Department
MARIN COUNTY CUPA:
* County of Marin Office of Waste Management
* City of San Rafael Fire Department
MARIPOSA COUNTY CUPA:
* Health Department
MENDOCINO COUNTY CUPA:
* Environmental Health Department
MERCED COUNTY CUPA:
* Division of Environmental Health
MODOC COUNTY CUPA:
* Department of Agriculture
MONO COUNTY CUPA:
* Health Department
MONTEREY COUNTY CUPA:
* Environmental Health Division
NAPA COUNTY CUPA:
* Hazardous Materials Section
NEVADA COUNTY CUPA:
* Environmental Health Department
ORANGE COUNTY CUPAS:
* County of Orange Environmental Health Department
* Cities of Anaheim, Fullerton, Orange, Santa Ana
* County of Orange Environmental Health Department
PLACER COUNTY CUPAS:
* County of Placer Division of Environmental Health Field Office
* Tahoe City
* City of Roseville Roseville Fire Department
PLUMAS COUNTY CUPA:
* Environmental Health Department
RIVERSIDE COUNTY CUPA:
* Environmental Health Department
SACRAMENTO COUNTY CUPA:
* County Environmental Mgmt Dept, Haz. Mat. Div.
SAN BENITO COUNTY CUPA:
* City of Hollister Environmental Service Department
SAN BERNARDINO COUNTY CUPAS:
* County of San Bernardino Fire Department, Haz. Mat. Div.
* City of Hesperia Hesperia Fire Prevention Department
*City of Victorville Victorville Fire Department
SAN DIEGO COUNTY CUPA:
* The San Diego County Dept. of Environmental Health HE 17/58
SAN FRANCISCO COUNTY CUPA:

* Department of Public Health
SAN JOAQUIN COUNTY CUPA:
* Environmental Health Division
SAN LUIS OBISPO COUNTY CUPAS:
* County of San Luis Obispo Environmental Health Division
* City of San Luis Obispo City Fire Department
SAN MATEO COUNTY CUPA:
* Environmental Health Department
SANTA BARBARA COUNTY CUPA:
* County Fire Dept Protective Services Division
SANTA CLARA COUNTY CUPAS:
* County of Santa Clara Hazardous Materials Compliance Division
* Santa Clara County Central Fire Protection District (Covers Campbell, Cupertino, Los Gatos, & Morgan Hill)
* Cities of Gilroy, Milpitas, Mountain View, Palo Alto, San Jose Fire, Santa Clara, Sunnyvale
SANTA CRUZ COUNTY CUPA:
* Environmental Health Department
SHASTA COUNTY CUPA:
* Environmental Health Department
SIERRA COUNTY CUPA:
* Health Department
SISKIYOU COUNTY CUPA:
* Environmental Health Department
SONOMA COUNTY CUPAS:
* County of Sonoma Department Of Environmental Health
* Cities of Healdsburg / Sebastopol, Petaluma, Santa Rosa
STANISLAUS COUNTY CUPA:
* Department of Environmental Resources Haz. Mat. Division
SUTTER COUNTY CUPA:
* Department of Agriculture
TEHAMA COUNTY CUPA:
* Department of Environmental Health
TRINITY COUNTY CUPA:
* Department of Health
TULARE COUNTY CUPA:
* Environmental Health Department
TUOLUMNE COUNTY CUPA:
* Environmental Health
VENTURA COUNTY CUPAS:
* County of Ventura Environmental Health Division
* Cities of Oxnard, Ventura
YOLO COUNTY CUPA:
* Environmental Health Department
YUBA COUNTY CUPA:

Updated quarterly/annually/when available

State/Tribal IC: ***CA EPA*** The California EPA Department of Toxic Substances Control.

Updated Updated quarterly/annually/when available

State/Tribal VCP: ***CA EPA*** The California EPA Department of Toxic Substances Control.

Updated Updated quarterly/annually/when available

FINDS: ***EPA*** Environmental Protection Agency

Updated annually

TRIS: ***EPA*** Environmental Protection Agency.

Updated quarterly

HMIRS: ***US DOT*** US Department of Transportation

Updated quarterly

NCDB: ***EPA*** Environmental Protection Agency

Updated quarterly

PADS: ***EPA*** Environmental Protection Agency

Updated quarterly

RADON: ***NTIS*** Environmental Protection Agency, National Technical Information Services

Updated periodically

Nuclear Permits: ***EPA/NRC*** Nuclear Regulatory Commission

Updated periodically

State Permits: ***CA COUNTY*** The San Diego County Depart. Of Environmental Health
Phone:(619) 338-2211
San Bernardino County Fire Department

Updated quarterly/when available

State Other: ***CA EPA/COUNTY*** The CAL EPA, Depart. Of Toxic Substances Control
Phone: (916) 323-3400
The Los Angeles County Hazardous Materials Division
Phone: (323) 890-7806
Orange County Environmental Health Agency
Phone: (714) 834-3536
Riverside County Department of Environmental Health, Hazardous Materials Management Division
Phone:(951) 358-5055
Sacramento County Environmental Management Department

Updated quarterly/when available

OIL & GAS WELLS: ***CADC*** California Department of Conservation.

Updated quarterly

Environmental FirstSearch
Street Name Report for Streets within .25 Mile(s) of Target Property

Target Property: FOOTHILL/NORTH PECK ROAD
SANTA PAULA CA 93060

JOB: 07-24110
CITY OF SANTA PAULA

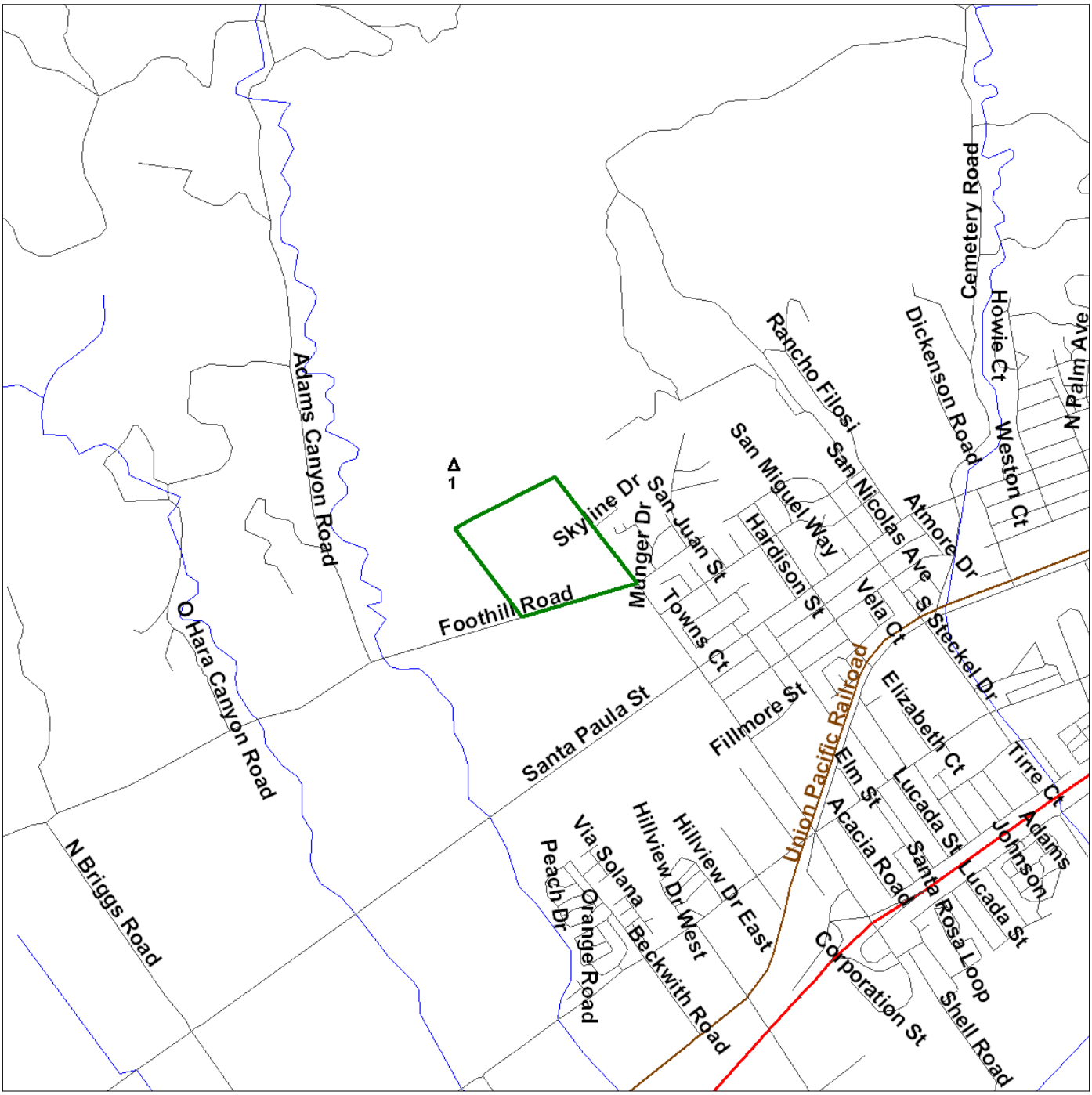
Street Name	Dist/Dir	Street Name	Dist/Dir
Foothill Rd	0.00 --		
King Ct	0.25 NE		
Lassen Dr	0.23 NE		
Leavens Ct	0.06 SE		
Morrison Ln	0.19 NE		
Munger Dr	0.05 NE		
N Peck Rd	0.00 --		
NORTH Peck Rd	0.00 --		
Pamela Ln	0.24 SE		
Richard Rd	0.09 SE		
Ridgecrest Dr	0.16 NE		
San Juan St	0.14 NE		
Santa Paula St	0.25 SE		
Shasta Dr	0.20 NE		
Sheffield St	0.21 SE		
Skyline Dr	0.00 --		
Southwick St	0.15 SE		
Towns Ct	0.15 SE		
Trent Ln	0.13 NE		
W Santa Paula St	0.25 SE		
Walden St	0.24 SE		
WEST Santa Paula St	0.25 SE		

Environmental FirstSearch

1 Mile Radius from Area

Single Map:

FOOTHILL/NORTH PECK ROAD, SANTA PAULA CA 93060



Source: U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Oil Gas Wells .....

Environmental FirstSearch

.25 Mile Radius from Area

AREA: Multiple Databases

FOOTHILL/NORTH PECK ROAD, SANTA PAULA CA 93060

Source: U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Oil Gas Wells .....

Environmental FirstSearch

.12 Mile Radius from Area

AREA: SPILLS90, ERNS, RCRANLR

FOOTHILL/NORTH PECK ROAD, SANTA PAULA CA 93060

Source: U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Oil Gas Wells .....

Appendix 3

Interview Documentation (User Questionnaire, Transaction Screen Questionnaire)

To qualify for one of the *Landowner Liability Protections* (*LLPs*) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *"Brownfields Amendments"*), the *user* must provide the following information to the *environmental professional*. Failure to provide this information could result in a determination that "*all appropriate inquiry*" is not complete.

We respectfully request that you fill out this form and fax it to ***Bart Templeman*** *at* ***Rincon Consultants, Inc. (fax 805-641-1072)*** *within one week from the date of this transmittal.*

1. **Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state, or local law? (40 CFR 312.25)**

   No

2. **Are you aware of any activity and land use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state, or local law? (40 CFR 312.26)**

   No

3. **Does the Title Report provide any information pertaining to environmental cleanup liens or activity and use limitations for the subject property?**

   NO

4. **As the user of this ESA and the person seeking to qualify for the LLP, do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? (40 CFR 312.28)**

   NO

5. **As the user of this ESA, based on your knowledge and experience related to the property, are you aware of any information pertaining to a valuation reduction for the subject property relative to any known environmental issues?**

   NO

6. **Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? (40 CFR 312.29)**

   Dont Know

7. **Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? (40 CFR 312.30)**

   a. Do you know the past uses of the property? Lemon orchard

   b. Do you know of specific chemicals that are present or once were present at the property? NO

   c. Do you know of spills or other chemical releases that have taken place at the property? NO

   d. Do you know of any environmental cleanups that have taken place at the property?

   NO

8. **The purpose of this Phase I ESA is... (choose more than one if appropriate)**

   ☐ to assess the environmental conditions of a property, taking into account commonly and reasonably ascertainable information and to qualify for Landowner Liability Protections under the Brownfields Amendments to CERCLA Liability.

   ☐ to identify the possible presence of recognized environmental conditions associated with possible soil and groundwater contamination at the site.

   ☐ to understand potential environmental conditions that could materially impact the operation of business associated with the parcel.

   ☐ to identify the possible presence of recognized environmental conditions that could materially impact the operation of the business associated with the parcel of commercial real estate.

9. **As the user of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property? (40 CFR 312.31)**

NO

This questionnaire was completed by (please print):

Name	Anna Arroyo
Title	Assistant Planner
Firm	City of Santa Paula
Street Address	200 S. 10th Street
City, State, Zip Code	Santa Paula, CA 93060
Phone Number	805. 933-4214 X281
Fax Number	805. 525.6660
What is the preparer's relationship to the property (i.e., seller, buyer, occupant, property manager, employee, agent, consultant, etc.)?	Project planner representing City.

The preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct, and to the best of the preparer's knowledge, no material facts have been suppressed or misstated.

Signature _____ **Date** 9/20/07

Please fax this form to ***Bart Templeman*** *at* ***Rincon Consultants, Inc. (fax 805-641-1072)*** *or mail a copy to the following address.*

Rincon Consultants, Inc.
790 East Santa Clara Street
Ventura, California 93001

Attention: Bart Templeman
Phone: (805) 641-1000

Transaction Screen Questionnaire

Tract 5475, Northwest corner Peck Rd. and Foothill Rd., Santa Paula, California

This questionnaire should be completed by an individual considered to be knowledgeable of the subject property. We respectfully request that you fill out and return this form (via fax 805-641-1072 or email **btempleman@rinconconsultants.com**) to us within one week from the date of this transmittal.

1)	**Was the subject property or any adjoining property ever used as:** ☐ a gasoline or other fueling station ☐ a motor vehicle repair facility ☐ a commercial printing facility ☐ a dry cleaners ☐ a photo developing laboratory ☐ a metal plating facility ☒ a farm ☐ a junkyard or landfill ☐ a waste treatment, storage, disposal, processing or recycling facility ☐ a machine shop ☐ a manufacturing facility ☐ any other industrial use (please check all that apply and describe) AVOCADO ORCHARD

2)	**Please describe the current land uses of the subject property and those surrounding your property. Please indicate all businesses/companies located on property.**	
2a	**Current use of Subject Property** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) VACANT LAND/ NATIVE BRUSH
2b	**Current use of Northern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) NATIVE BRUSH
2c	**Current use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) Foothill Road. Beyond that, An AVOCADO orchard & one S.F.R.
2d	**Current use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) TWO SFR'S & AVOCADO orchard
2e	**Current use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) Peck Rd. Beyond that, SEVERAL SFR'S.

3)	**Please describe the previous land uses of your property and those surrounding your property. Include property ownership and dates of operation if known.**	
3a	**Previous use of Subject Property** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of previous operations, former property owners, and dates of operation) AVOCADO ORCHARD. Operations ceased around 2000 +/-
3b	**Previous use of Northern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of previous operations) Native Land for 6 billion years +/-
3c	**Previous use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations) Same as existing use, To my knowledge
3d	**Previous use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations) Same as existing use, To my knowledge
3e	**Previous use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations) Same as existing use, to my knowledge

4)	**Who is the current owner of the ~~facility~~ Property?**	Del Fund No. 9 LP
5)	**When did current ownership begin?**	1992
6)	**What is the age of the on-site facility?**	No "facility" exists
7)	**Who is the previous owner of the property?**	Victor Schaff

8)	**Please indicate the property's current**	
	electrical service provider -	None
	water service provider -	Thermal Belt Mutual Water Company
	natural gas service provider -	None
	sewer service provider -	None
	solid waste hauler -	None

9)	**To the best of your knowledge, has your facility previously or does your facility currently store or use any of the following in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate?** (if yes or unknown, include how many, type, and size)	
	☐ ***Damaged or discarded automotive or industrial batteries***	No
	☐ ***Pesticides***	No
	☐ ***Paints***	No
	☐ ***Oils or solvents***	No
	☐ ***Motor vehicle fuel***	No
	☐ ***Pesticides or Herbicides***	No
	☐ ***Other Chemicals or hazardous substances***	No

10)	**Please indicate any wastes generated at the facility.**		
	Hazardous waste:	**Quantity:**	**Disposal Method:**

11)	**Are there currently or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the property or at the facility?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

12)	**Are there currently or to the best of your knowledge have there been previously, any evidence of fill dirt having been brought onto the property that originated from a contaminated site or that is of an unknown origin?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

13)	**Are there currently or to the best of your knowledge have there been previously, any pits, ponds or lagoons located on the property in connection with waste treatment or waste disposal?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

14)	**Are there currently or to the best of your knowledge have there been previously, any sumps, clarifiers, or solvent degreasers on the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

15)	**Are there currently or to the best of your knowledge have there been previously, any stained soil on the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

16)	**Are there currently or to the best of your knowledge have there been previously, any storage tanks (above or below ground) located on the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

17)	**Are there currently or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways (etc.) indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

18)	**If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government agency?**

	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

19)	**Are there currently or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water, or are emitting foul odors?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

20)	**To the best of your knowledge has your facility previously or does your facility currently, discharge wastewater on or adjacent to the property other than storm water into a sanitary sewer system?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

21)	**Have any of the following ever been dumped above grade, buried and/or burned on the property?** (please check all that apply and describe if possible)	
	☐ hazardous substances	NO
	☐ petroleum products	NO
	☐ unidentified waste materials	NO
	☐ tires	NO
	☐ automotive or industrial batteries	NO
	☐ other waste materials (please describe)	NO

22)	**Are there currently or to the best of your knowledge have there been previously, a transformer, capacitor or any hydraulic equipment on the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

23)	**Are there currently or to the best of your knowledge have there been previously any records indicating the presence of PCBs?**	
	☐ Yes ☑ No ☐ Unknown	if Yes or Unknown, please describe

24)	**Are there currently or to the best of your knowledge have there been previously any records indicating the presence of pesticides or herbicides?**	
	☐ Yes ☑ No ☐ Unknown	if Yes or Unknown, please describe

25)	**Do your have any environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?**	
	☐ Yes ☑ No ☐ Unknown	if Yes or Unknown, please describe

26)	**Have you been informed of the past or current existence of hazardous substances, petroleum products, or environmental violations with respect to the property or any facility located on the property?**	
	☐ Yes ☑ No ☐ Unknown	if Yes or Unknown, please describe

27)	**Do you have any knowledge of any environmental site assessments of the property or facility that indicated the presence of hazardous substances or petroleum products on, or contamination of, the property or recommended further assessment of the property?**	
	☐ Yes ☑ No ☐ Unknown	if Yes or Unknown, please describe

28)	**Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release of any hazardous substances or petroleum products involving the property by any owner or occupant of the property?**	
	☐ Yes ☑ No ☐ Unknown	if Yes or Unknown, please describe

This questionnaire was completed by (please print)	
Name	Keith Hagaman
Title	General Partner
Firm	DCL Fund No. 9 LP
Street Address	12121 Wilshire Bl #959
City, State, Zip Code	L.A. CA 90025
Phone Number	310 442-9502
Fax Number	310 826-3410
What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.) ?	G.P. of the partnership which owns the property.

Copies of the completed questionnaire should be faxed or emailed to:

btempleman@rinconconsultants.com
Rincon Consultants, Inc.
790 East Santa Clara Street
Ventura, California 93001
Attention: Environmental Site Assessment Division
Fax: (805) 641 - 1072

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature _____ **Date** 9-17-07

Appendix 4

Laboratory Analytical Results

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

Ordered By

Rincon Consultants, Inc.
790 East Santa Clara Street
Ventura, CA 93001

Telephone (805)641-1000
Attn Bart Templeman

Number of Pages 21
Date Received 09/19/2007
Date Reported 09/26/2007

Job Number	Ordered	Client
35298	09/19/2007	RINCON

Project ID: 07-24110
Project Name: Santa Paula

Enclosed are the results of analyses on 36 samples analyzed as specified on attached chain of custody.

Amolk MOLKY Brar
Laboratory Manager

Rojert G. Araghi
Laboratory Director

American Scientific Laboratories, LLC (ASL) accepts sample materials from clients for analysis with the assumption that all of the information provided to ASL verbally or in writing by our clients (and/or their agents), regarding samples being submitted to ASL, is complete and accurate. ASL accepts all samples subject to the following conditions:

1) ASL is not responsible for verifying any client-provided information regarding any samples submitted to the laboratory.
2) ASL is not responsible for any consequences resulting from any inaccuracies, omissions, or misrepresentations contained in client-provided information regarding samples submitted to the laboratory.

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ANALYTICAL RESULTS

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Attn: Bart Templeman

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B, Arsenic (ICP)

QC Batch No: 092107-3

Our Lab I.D.		**204864**	**204866**	**204868**	**204870**	**204872**
Client Sample I.D.		HA1-0.5	HA3-0.5	HA5-0.5	HA7-0.5	HA9-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
ICP Metals						
Arsenic	0.25	5.39	6.03	5.03	4.57	5.49

QUALITY CONTROL REPORT

QC Batch No: 092107-3

Analytes	LCS % REC	LCS/LCSD % Limit								
ICP Metals										
Arsenic	93	80-120								

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B, Arsenic (ICP)

QC Batch No: 092107-3

Our Lab I.D.		**204874**	**204876**	**204878**	**204880**	**204882**
Client Sample I.D.		HA11-0.5	HA13-0.5	HA15-0.5	HA17-0.5	HA19-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
ICP Metals						
Arsenic	0.25	9.89	4.60	7.88	5.72	7.23

QUALITY CONTROL REPORT

QC Batch No: 092107-3

Analytes	LCS % REC	LCS/LCSD % Limit								
ICP Metals										
Arsenic	93	80-120								

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ANALYTICAL RESULTS

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B, Arsenic (ICP)

QC Batch No: 092107-3

Our Lab I.D.		204884	204886	204888	204890	204892
Client Sample I.D.		HA21-0.5	HA23-0.5	HA25-0.5	HA27-0.5	HA29-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
ICP Metals						
Arsenic	0.25	3.68	4.30	5.42	2.97	4.41

QUALITY CONTROL REPORT

QC Batch No: 092107-3

Analytes	LCS % REC	LCS/LCSD % Limit								
ICP Metals										
Arsenic	93	80-120								

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B, Arsenic (ICP)

QC Batch No: 092107-3

Our Lab I.D.		**204894**				
Client Sample I.D.		HA31-0.5				
Date Sampled		**09/18/2007**				
Date Prepared		**09/21/2007**				
Preparation Method						
Date Analyzed		**09/21/2007**				
Matrix		Soil				
Units		mg/Kg				
Dilution Factor		1				
Analytes	**PQL**	**Results**				
ICP Metals						
Arsenic	**0.25**	**4.18**				

QUALITY CONTROL REPORT

QC Batch No: 092107-3

Analytes	LCS % REC	LCS/LCSD % Limit								
ICP Metals										
Arsenic	**93**	**80-120**								

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B/7471A, CCR Title 22 Metals (TTLC)

QC Batch No: 092107-4

Our Lab I.D.		**204865**	**204867**	**204869**	**204871**	**204873**
Client Sample I.D.		Comp. HA(1&2)-0.5	Comp. HA(3&4)-0.5	Comp. HA(5&6)-0.5	Comp. HA(7&8)-0.5	Comp. HA(9&10)-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/22/2007	09/22/2007	09/22/2007	09/22/2007	09/22/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
AA Metals						
Mercury	0.20	ND	ND	ND	ND	ND
ICP Metals						
Antimony	0.50	1.09	0.97	0.81	0.73	1.12
Arsenic	0.25	5.74	6.22	3.83	3.13	7.36
Barium	0.50	115	112	110	59.2	155
Beryllium	0.50	ND	0.51	ND	ND	0.51
Cadmium	0.50	ND	ND	0.67	ND	ND
Chromium	0.50	12.6	14.7	9.60	5.71	17.3
Cobalt	0.50	6.89	5.63	5.30	3.18	7.82
Copper	0.50	11.4	11.5	10.1	5.66	15.5
Lead	0.25	6.21	7.01	9.72	4.64	11.7
Molybdenum	0.50	1.44	1.63	1.43	0.96	1.67
Nickel	0.50	22.4	22.6	15.2	9.17	22.6
Selenium	0.50	ND	0.75	0.81	ND	0.85
Silver	0.50	ND	ND	ND	ND	ND
Thallium	0.50	ND	ND	ND	ND	ND
Vanadium	0.50	35.5	35.8	24.9	16.9	50.7
Zinc	0.50	43.6	44.7	54.2	24.5	66.5

QUALITY CONTROL REPORT

QC Batch No: 092107-4

Analytes	LCS % REC	LCS/LCSD % Limit								
AA Metals										
Mercury	98	80-120								
ICP Metals										

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ANALYTICAL RESULTS

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B/7471A, CCR Title 22 Metals (TTLC)

QUALITY CONTROL REPORT

QC Batch No: 092107-4

Analytes	LCS % REC	LCS/LCSD % Limit								
ICP Metals										
Antimony	94	80-120								
Arsenic	102	80-120								
Barium	97	80-120								
Beryllium	100	80-120								
Cadmium	99	80-120								
Chromium	93	80-120								
Cobalt	106	80-120								
Copper	99	80-120								
Lead	104	80-120								
Molybdenum	102	80-120								
Nickel	108	80-120								
Selenium	104	80-120								
Silver	90	80-120								
Thallium	103	80-120								
Vanadium	99	80-120								
Zinc	108	80-120								

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B/7471A, CCR Title 22 Metals (TTLC)

QC Batch No: 092107-4

Our Lab I.D.		204875	204877	204879	204881	204883
Client Sample I.D.		Comp. HA(11&12)-0.5	Comp. HA(13&14)-0.5	Comp. HA(15&16)-0.5	Comp. HA(17&18)-0.5	Comp. HA(19&20)-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/22/2007	09/22/2007	09/22/2007	09/22/2007	09/22/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
AA Metals						
Mercury	0.20	ND	ND	ND	ND	ND
ICP Metals						
Antimony	0.50	1.19	1.01	1.10	1.06	0.96
Arsenic	0.25	5.07	7.37	5.59	4.82	6.09
Barium	0.50	117	97.3	116	109	106
Beryllium	0.50	ND	ND	ND	ND	ND
Cadmium	0.50	ND	ND	ND	ND	ND
Chromium	0.50	12.7	12.8	12.7	12.6	13.4
Cobalt	0.50	5.33	5.51	6.87	8.39	7.04
Copper	0.50	11.8	12.1	12.7	10.9	11.0
Lead	0.25	7.72	6.13	8.79	11.1	7.35
Molybdenum	0.50	1.47	1.58	1.13	1.17	1.27
Nickel	0.50	21.5	20.0	18.3	16.3	18.8
Selenium	0.50	0.53	0.55	0.77	0.69	0.89
Silver	0.50	ND	ND	ND	ND	ND
Thallium	0.50	ND	ND	ND	ND	ND
Vanadium	0.50	31.5	33.0	33.7	31.0	33.8
Zinc	0.50	53.9	42.5	55.3	62.5	46.5

QUALITY CONTROL REPORT

QC Batch No: 092107-4

Analytes	LCS % REC	LCS/LCSD % Limit								
AA Metals										
Mercury	98	80-120								
ICP Metals										

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ANALYTICAL RESULTS

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B/7471A, CCR Title 22 Metals (TTLC)

QUALITY CONTROL REPORT

QC Batch No: 092107-4

Analytes	LCS % REC	LCS/LCSD % Limit								
ICP Metals										
Antimony	94	80-120								
Arsenic	102	80-120								
Barium	97	80-120								
Beryllium	100	80-120								
Cadmium	99	80-120								
Chromium	93	80-120								
Cobalt	106	80-120								
Copper	99	80-120								
Lead	104	80-120								
Molybdenum	102	80-120								
Nickel	108	80-120								
Selenium	104	80-120								
Silver	90	80-120								
Thallium	103	80-120								
Vanadium	99	80-120								
Zinc	108	80-120								

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B/7471A, CCR Title 22 Metals (TTLC)

QC Batch No: 092107-4

Our Lab I.D.		204885	204887	204889	204891	204893
Client Sample I.D.		Comp. HA(21&22)-0.5	Comp. HA(23&24)-0.5	Comp. HA(25&26)-0.5	Comp. HA(27&28)-0.5	Comp. HA(29&30)-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/22/2007	09/22/2007	09/22/2007	09/22/2007	09/22/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
AA Metals						
Mercury	0.20	ND	ND	ND	ND	ND
ICP Metals						
Antimony	0.50	1.31	0.98	1.02	1.25	0.80
Arsenic	0.25	6.29	4.96	4.97	6.23	4.15
Barium	0.50	131	128	124	140	107
Beryllium	0.50	ND	ND	ND	ND	ND
Cadmium	0.50	ND	ND	ND	0.52	ND
Chromium	0.50	13.1	12.0	11.9	13.8	10.3
Cobalt	0.50	6.35	6.17	6.05	6.54	5.09
Copper	0.50	11.4	12.6	12.7	18.1	19.3
Lead	0.25	7.36	9.63	8.51	11.2	9.52
Molybdenum	0.50	1.39	1.42	1.29	1.60	1.25
Nickel	0.50	17.7	17.5	15.4	19.2	14.6
Selenium	0.50	0.73	1.01	0.70	0.88	0.65
Silver	0.50	ND	ND	ND	ND	ND
Thallium	0.50	ND	ND	ND	ND	ND
Vanadium	0.50	33.0	28.3	28.9	32.0	22.9
Zinc	0.50	51.8	71.5	52.1	80.0	65.7

QUALITY CONTROL REPORT

QC Batch No: 092107-4

Analytes	LCS % REC	LCS/LCSD % Limit								
AA Metals										
Mercury	98	80-120								
ICP Metals										

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ANALYTICAL RESULTS

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B/7471A, CCR Title 22 Metals (TTLC)

QUALITY CONTROL REPORT

QC Batch No: 092107-4

Analytes	LCS % REC	LCS/LCSD % Limit								
ICP Metals										
Antimony	94	80-120								
Arsenic	102	80-120								
Barium	97	80-120								
Beryllium	100	80-120								
Cadmium	99	80-120								
Chromium	93	80-120								
Cobalt	106	80-120								
Copper	99	80-120								
Lead	104	80-120								
Molybdenum	102	80-120								
Nickel	108	80-120								
Selenium	104	80-120								
Silver	90	80-120								
Thallium	103	80-120								
Vanadium	99	80-120								
Zinc	108	80-120								

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ANALYTICAL RESULTS

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B/7471A, CCR Title 22 Metals (TTLC)

QC Batch No: 092107-5

Our Lab I.D.		204895	204896	204897	204898	204899
Client Sample I.D.		Comp. HA(31&32)-0.5	HA33-0.5	HA34-0.5	HA35-0.5	HA36-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/22/2007	09/22/2007	09/22/2007	09/22/2007	09/22/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
AA Metals						
Mercury	0.20	ND	ND	ND	ND	ND
ICP Metals						
Antimony	0.50	1.19	0.98	1.05	0.77	1.09
Arsenic	0.25	8.59	5.04	5.45	5.73	5.51
Barium	0.50	98.4	101	125	89.0	115
Beryllium	0.50	ND	ND	ND	ND	ND
Cadmium	0.50	ND	ND	0.87	ND	ND
Chromium	0.50	13.1	11.2	13.6	10.9	13.3
Cobalt	0.50	5.23	5.69	5.44	5.39	5.51
Copper	0.50	20.0	9.26	12.47	9.94	11.5
Lead	0.25	12.9	7.95	5.96	5.0	5.39
Molybdenum	0.50	1.54	1.22	2.05	1.26	1.51
Nickel	0.50	17.1	15.3	24.2	19.4	22.9
Selenium	0.50	0.63	0.74	0.56	ND	0.81
Silver	0.50	ND	ND	ND	ND	ND
Thallium	0.50	ND	ND	ND	ND	ND
Vanadium	0.50	28.7	28.3	36.9	28.3	35.8
Zinc	0.50	80.9	41.0	46.6	35.3	39.6

QUALITY CONTROL REPORT

QC Batch No: 092107-5

Analytes	LCS % REC	LCS/LCSD % Limit								
AA Metals										
Mercury	92	80-120								
ICP Metals										

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 6010B/7471A, CCR Title 22 Metals (TTLC)

QUALITY CONTROL REPORT

QC Batch No: 092107-5

Analytes	LCS % REC	LCS/LCSD % Limit								
ICP Metals										
Antimony	96	80-120								
Arsenic	97	80-120								
Barium	94	80-120								
Beryllium	96	80-120								
Cadmium	93	80-120								
Chromium	92	80-120								
Cobalt	101	80-120								
Copper	98	80-120								
Lead	100	80-120								
Molybdenum	98	80-120								
Nickel	104	80-120								
Selenium	98	80-120								
Silver	101	80-120								
Thallium	97	80-120								
Vanadium	94	80-120								
Zinc	104	80-120								

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Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 8081A, Organochlorine Pesticides

QC Batch No: 092107-1

Our Lab I.D.		204865	204867	204869	204871	204873
Client Sample I.D.		Comp. HA(1&2)-0.5	Comp. HA(3&4)-0.5	Comp. HA(5&6)-0.5	Comp. HA(7&8)-0.5	Comp. HA(9&10)-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
Aldrin	2.00	ND	ND	ND	ND	ND
alpha-Hexachlorocyclohexane (Alpha-BHC)	2.00	ND	ND	ND	ND	ND
Beta-Hexachlorocyclohexane (Beta-BHC)	2.00	ND	ND	ND	ND	ND
Gamma-Chlordane	2.00	ND	ND	ND	ND	ND
alpha-Chlordane	2.00	ND	ND	ND	ND	ND
4,4'-DDD (DDD)	4.00	ND	ND	ND	ND	ND
4,4'-DDE (DDE)	4.00	ND	ND	6.94	ND	ND
4,4'-DDT (DDT)	4.00	ND	ND	7.74	ND	ND
delta-Hexachlorocyclohexane (Delta-BHC)	2.00	ND	ND	ND	ND	ND
Dieldrin	4.00	ND	ND	ND	ND	ND
Endosulfan 1	2.00	ND	ND	ND	ND	ND
Endosulfan 11	4.00	ND	ND	ND	ND	ND
Endosulfan sulfate	4.00	ND	ND	ND	ND	ND
Endrin	4.00	ND	ND	ND	ND	ND
Endrin aldehyde	4.00	ND	ND	ND	ND	ND
Endrin ketone	4.00	ND	ND	ND	ND	ND
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	2.00	ND	ND	ND	ND	ND
Heptachlor	2.00	ND	ND	ND	ND	ND
Heptachlor epoxide	2.00	ND	ND	ND	ND	ND
Methoxychlor	17.00	ND	ND	ND	ND	ND
Toxaphene	170	ND	ND	ND	ND	ND

Our Lab I.D.		204865	204867	204869	204871	204873
Surrogates	**% Rec.Limit**	**% Rec.**	**% Rec.**	**% Rec.**	**% Rec.**	**% Rec.**
Surrogate Percent Recovery						
Decachlorobiphenyl	43-169	99	97	88	115	109

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

ANALYTICAL RESULTS

Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 8081A, Organochlorine Pesticides

QUALITY CONTROL REPORT

QC Batch No: 092107-1

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	117	112	4.4	42-122	<30					
4,4'-DDT (DDT)	108	135	22.2	25-160	<30					
Dieldrin	109	117	7.1	36-146	<30					
Endrin	126	115	9.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	114	113	<1	32-127	<30					
Heptachlor	107	108	<1	34-111	<30					

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ANALYTICAL RESULTS

Ordered By

Rincon Consultants, Inc.
790 East Santa Clara Street
Ventura, CA 93001

Telephone: (805)641-1000
Attn: Bart Templeman

Page: **16**

Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 8081A, Organochlorine Pesticides

QC Batch No: 092107-1

Our Lab I.D.		204875	204877	204879	204881	204883
Client Sample I.D.		Comp. HA(11&12)-0.5	Comp. HA(13&14)-0.5	Comp. HA(15&16)-0.5	Comp. HA(17&18)-0.5	Comp. HA(19&20)-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
Aldrin	2.00	ND	ND	ND	ND	ND
alpha-Hexachlorocyclohexane (Alpha-BHC)	2.00	ND	ND	ND	ND	ND
Beta-Hexachlorocyclohexane (Beta-BHC)	2.00	ND	ND	ND	ND	ND
Gamma-Chlordane	2.00	ND	ND	ND	ND	ND
alpha-Chlordane	2.00	ND	ND	ND	ND	ND
4,4'-DDD (DDD)	4.00	ND	ND	ND	ND	ND
4,4'-DDE (DDE)	4.00	ND	ND	ND	ND	ND
4,4'-DDT (DDT)	4.00	ND	ND	ND	ND	ND
delta-Hexachlorocyclohexane (Delta-BHC)	2.00	ND	ND	ND	ND	ND
Dieldrin	4.00	ND	ND	ND	ND	ND
Endosulfan 1	2.00	ND	ND	ND	ND	ND
Endosulfan 11	4.00	ND	ND	ND	ND	ND
Endosulfan sulfate	4.00	ND	ND	ND	ND	ND
Endrin	4.00	ND	ND	ND	ND	ND
Endrin aldehyde	4.00	ND	ND	ND	ND	ND
Endrin ketone	4.00	ND	ND	ND	ND	ND
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	2.00	ND	ND	ND	ND	ND
Heptachlor	2.00	ND	ND	ND	ND	ND
Heptachlor epoxide	2.00	ND	ND	ND	ND	ND
Methoxychlor	17.00	ND	ND	ND	ND	ND
Toxaphene	170	ND	ND	ND	ND	ND

Our Lab I.D.		204875	204877	204879	204881	204883
Surrogates	% Rec.Limit	% Rec.	% Rec.	% Rec.	% Rec.	% Rec.
Surrogate Percent Recovery						
Decachlorobiphenyl	43-169	111	100	104	112	103

AMERICAN SCIENTIFIC LABORATORIES, LLC
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ANALYTICAL RESULTS

Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 8081A, Organochlorine Pesticides

QUALITY CONTROL REPORT

QC Batch No: 092107-1

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	117	112	4.4	42-122	<30					
4,4'-DDT (DDT)	108	135	22.2	25-160	<30					
Dieldrin	109	117	7.1	36-146	<30					
Endrin	126	115	9.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	114	113	<1	32-127	<30					
Heptachlor	107	108	<1	34-111	<30					

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ANALYTICAL RESULTS

Ordered By

Rincon Consultants, Inc.
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Telephone: (805)641-1000
Attn: Bart Templeman

Page: **18**

Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 8081A, Organochlorine Pesticides

QC Batch No: 092107-1

Our Lab I.D.		204885	204887	204889	204891	204893
Client Sample I.D.		Comp. HA(21&22)-0.5	Comp. HA(23&24)-0.5	Comp. HA(25&26)-0.5	Comp. HA(27&28)-0.5	Comp. HA(29&30)-0.5
Date Sampled		09/18/2007	09/18/2007	09/18/2007	09/18/2007	09/18/2007
Date Prepared		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Preparation Method						
Date Analyzed		09/21/2007	09/21/2007	09/21/2007	09/21/2007	09/21/2007
Matrix		Soil	Soil	Soil	Soil	Soil
Units		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Dilution Factor		1	1	1	1	1
Analytes	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
Aldrin	2.00	ND	ND	ND	ND	ND
alpha-Hexachlorocyclohexane (Alpha-BHC)	2.00	ND	ND	ND	ND	ND
Beta-Hexachlorocyclohexane (Beta-BHC)	2.00	ND	ND	ND	ND	ND
Gamma-Chlordane	2.00	ND	ND	ND	ND	ND
alpha-Chlordane	2.00	ND	ND	ND	ND	ND
4,4'-DDD (DDD)	4.00	ND	ND	ND	ND	ND
4,4'-DDE (DDE)	4.00	ND	ND	ND	4.10	ND
4,4'-DDT (DDT)	4.00	ND	ND	ND	ND	ND
delta-Hexachlorocyclohexane (Delta-BHC)	2.00	ND	ND	ND	ND	ND
Dieldrin	4.00	ND	ND	ND	ND	ND
Endosulfan 1	2.00	ND	ND	ND	ND	ND
Endosulfan 11	4.00	ND	ND	ND	ND	ND
Endosulfan sulfate	4.00	ND	ND	ND	ND	ND
Endrin	4.00	ND	ND	ND	ND	ND
Endrin aldehyde	4.00	ND	ND	ND	ND	ND
Endrin ketone	4.00	ND	ND	ND	ND	ND
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	2.00	ND	ND	ND	ND	ND
Heptachlor	2.00	ND	ND	ND	ND	ND
Heptachlor epoxide	2.00	ND	ND	ND	ND	ND
Methoxychlor	17.00	ND	ND	ND	ND	ND
Toxaphene	170	ND	ND	ND	ND	ND

Our Lab I.D.		204885	204887	204889	204891	204893
Surrogates	**% Rec.Limit**	**% Rec.**	**% Rec.**	**% Rec.**	**% Rec.**	**% Rec.**
Surrogate Percent Recovery						
Decachlorobiphenyl	43-169	107	100	99	79	78

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ANALYTICAL RESULTS

Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 8081A, Organochlorine Pesticides

QUALITY CONTROL REPORT

QC Batch No: 092107-1

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	117	112	4.4	42-122	<30					
4,4'-DDT (DDT)	108	135	22.2	25-160	<30					
Dieldrin	109	117	7.1	36-146	<30					
Endrin	126	115	9.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	114	113	<1	32-127	<30					
Heptachlor	107	108	<1	34-111	<30					

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ANALYTICAL RESULTS

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Page: **20**

Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 8081A, Organochlorine Pesticides

QC Batch No: 092107-1

Our Lab I.D.		**204895**				
Client Sample I.D.		Comp. HA(31&32)-0.5				
Date Sampled		**09/18/2007**				
Date Prepared		**09/21/2007**				
Preparation Method						
Date Analyzed		**09/21/2007**				
Matrix		Soil				
Units		ug/kg				
Dilution Factor		1				
Analytes	**PQL**	**Results**				
Aldrin	**2.00**	**ND**				
alpha-Hexachlorocyclohexane (Alpha-BHC)	**2.00**	**ND**				
Beta-Hexachlorocyclohexane (Beta-BHC)	**2.00**	**ND**				
Gamma-Chlordane	**2.00**	**ND**				
alpha-Chlordane	**2.00**	**ND**				
4,4'-DDD (DDD)	**4.00**	**ND**				
4,4'-DDE (DDE)	**4.00**	**4.39**				
4,4'-DDT (DDT)	**4.00**	**ND**				
delta-Hexachlorocyclohexane (Delta-BHC)	**2.00**	**ND**				
Dieldrin	**4.00**	**ND**				
Endosulfan 1	**2.00**	**ND**				
Endosulfan 11	**4.00**	**ND**				
Endosulfan sulfate	**4.00**	**ND**				
Endrin	**4.00**	**ND**				
Endrin aldehyde	**4.00**	**ND**				
Endrin ketone	**4.00**	**ND**				
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	**2.00**	**ND**				
Heptachlor	**2.00**	**ND**				
Heptachlor epoxide	**2.00**	**ND**				
Methoxychlor	**17.00**	**ND**				
Toxaphene	**170**	**ND**				

Our Lab I.D.		**204895**				
Surrogates	**% Rec.Limit**	**% Rec.**				
Surrogate Percent Recovery						
Decachlorobiphenyl	**43-169**	**99**				

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ANALYTICAL RESULTS

Page: **21**

Project ID: 07-24110
Project Name: Santa Paula

ASL Job Number	Submitted	Client
35298	09/19/2007	RINCON

Method: 8081A, Organochlorine Pesticides

QUALITY CONTROL REPORT

QC Batch No: 092107-1

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Aldrin	117	112	4.4	42-122	<30					
4,4'-DDT (DDT)	108	135	22.2	25-160	<30					
Dieldrin	109	117	7.1	36-146	<30					
Endrin	126	115	9.1	30-147	<30					
gamma-Hexachlorocyclohexane (Gamma-BHC, Lindane)	114	113	<1	32-127	<30					
Heptachlor	107	108	<1	34-111	<30					

Appendix H

Drainage Report

Preliminary Drainage Study

Tentative Tract 5475
City of Santa Paula, CA

August 30, 2012

Prepared by:

JENSEN DESIGN & SURVEY, INC

Engineers Planners Surveyors

Preliminary Drainage Study

Tentative Tract 5475

Prepared for:

Del Investment Fund #9
622 Ridgecrest Drive
Santa Paula, CA 93060

Prepared by:

Jensen Design & Survey
1672 Donlon Street
Ventura, CA 93003

August 30, 2012

PROJECT OVERVIEW

Tentative Tract No. 5475 is located on the northwest corner of Peck Road and Foothill Road in Santa Paula. The 32.5 acre hillside site is the proposed location of a 74 lot residential subdivision. This site rises approximately 300 vertical feet from Foothill Road to the northerly property line. The property to the north is currently undeveloped hillside; to the east is a residential subdivision; and to the west and south across Foothill Road is used for agriculture.

Currently approximately 16.8 acres of the property to the north drains onto the project site. This runoff and the existing runoff from the project site are directed southerly via overland flow to a ditch along the north side of Foothill Road. This ditch carries flow easterly to Peck Road and then crosses under Foothill Road and connects to the ditch running southerly along the west side of Peck Road.

ONSITE GRADING IMPROVEMENTS:

In an effort to stabilize the hillside and minimize the amount of offsite flows entering the site, a series of v-ditches and down drains are proposed to divert the stormwater around the project. These improvements will route a portion of the offsite water from the north into a proposed detention basin at the northwest corner of the site. From there it will drain to a separate storm drain system which will include new storm drains in Foothill Road and North Peck Road and connect directly to the channel along the west side of Peck Road. The detention basin at the northwest corner, although not needed, is intended to serve as an added opportunity to reduce peak flows leaving the project site.

In addition to the offsite flows, approximately 5.6 acres of the project site will enter the bypass storm drain system. The onsite area that is proposed to enter the bypass system will not be improved beyond grading activities and the addition of a series of down drains. The remaining 26.9 acres onsite (32.5 acres - 5.6 acres) will be collected by the proposed onsite system and directed to the detention basin at the southeast corner of the property (please refer to the attached Drainage Exhibit on Page 5 for details).

Existing and proposed runoff for the project site has been analyzed using the Ventura County Tc Calculator and VcRAT (Ventura County's Modified Rational Method Hydrology Program). Existing undeveloped flowpaths, used for Tc calculations, are displayed in the exhibit on Page 6. Tc calculation output for existing storm events can be found on Page 7. To be conservative, proposed runoff values for the 26.5 acre project site were estimated using an assumed Tc of 5 minutes. The resulting unit runoff values can be found below.

Runoff Summary

	q10 (cfs/ac)	q100 (cfs/ac)
Existing	1.9	3.2
Proposed	3.5	4.8

During final design, the proposed storm drain systems will be sized to accommodate a Q_{10} storm event and be checked against a Q_{100} storm event to ensure all pads are protected.

OFFSITE GRADING IMPROVEMENTS:

Construction of the proposed development is estimated to produce 700,000 to 750,000 CY of export material. This project has an offsite-grading easement within a portion of Adams Canyon which allows for the disposal of this excess material. It is anticipated that all export material will be placed in two or three fill areas located in the lower portion of Adams Canyon as shown in the attached Offsite Grading Exhibit. Drainage swales and terraces will be installed on all graded slopes exceeding 20%, as required by the County of Ventura grading requirements. Drainage subareas will not be rerouted to other subareas, and peak flows within Adams Canyon are expected to remain unchanged. Design of terrace drains and drainage swales for all fill areas will be during final design.

DETENTION

While the City of Santa Paula has no specific requirements for detention, the County of Ventura requires that runoff from new developments be limited to existing flows for all storm events up to a 100-yr event. The following table summarizes the detention requirements for the 26.9 acre developed site. The remaining 22.4 acres of area tributary to the site will undergo minor grading activities and will not contribute increased runoff.

Runoff Summary

	Q10 (cfs)	**Q100 (cfs)**
Existing*	51.1	86.4
Proposed	94.2	129.1
*Runoff leaving the developed site will be limited to existing peak runoff rates		

The detention basin shown on the southeast corner of the Tentative Map provides approximately 38,500 cubic feet of storage. Hydrographs for the developed Q10 and Q100 storm events were created using VcRAT. Using the 2010 Ventura County Hydrology Manual, it was determined that the project is located within Zone K and is underlain by Soil Type 2. The Q10 hydrograph was fattened within VcRAT before routing through the detention basin. Fattening of the Q100 hydrograph reduced the volume of the Q100 storm event. To ensure conservative results, fattening was removed from the Q100 hydrograph.

Both Q10 and Q100 hydrographs were exported into Hydraflow Hydrographs for detention basin routing analysis. In both storm events, the basins have the capacity to limit the peak flow from the project site to at or below the existing runoff rates (see storage requirements in the table below). The routed hydrographs can be found on Pages 14 and 15 of the Appendix.

Required Storage

Q10 Approx. Storage Volume Required (CF)	Q100 Approx. Storage Volume Required (CF)	Approx. Storage Volume Provided in Southern Detention Basin (CF)	Approx. Storage Volume Provided in Northern Detention Basin (CF)
16,600	24,500	38,500	15,000

A portion of the runoff from the property above the site will be directed to the upper 15,000 CF detention basin prior to entering the bypass system. No development is proposed above the project site, and thus detention will not be required for runoff from here. However, this upper detention basin provides an additional opportunity to reduce peak flows leaving the project site and entering the ditch along the west side of Peck Road. If needed, this detention basin can be used to mitigate peak runoffs from the 26.9 acre development as well.

The site is underlain by a large slide that will be mitigated during grading activities. At this time infiltration and its impacts have not been studied. If further analysis during final design identifies infiltration as an issue, one option would be to line the detention basins to prevent infiltration.

STORMWATER TREATMENT

The project was deemed complete prior to October 2011 and is required to provide stormwater treatment for the 26.9 acre development in accordance with the 2000 NPDES Permit. This permit requires that:

1. Stormwater treatment best management practices (BMPs) are to be sized to treat 10% of the proposed Q50 for the site (SQDF);
2. Or, BMPs must be sized to treat a volume equivalent to 0.75” of rainfall across the site (SQDV).

Since infiltration is not favored onsite, stormwater treatment will be provided by proprietary controls (i.e. treatment vaults, catch basin filters, etc.) prior to the stormwater entering the existing offsite storm drain system. These designated treatment devices clean trash, oils, and sediments from stormwater runoff. These devices have been widely accepted in the county for treating stormwater runoff under the NPDES permit approved in 2000.

EROSION CONTROL DURING CONSTRUCTION

The California Construction General Permit requires any development larger than one acre to keep a Storm Water Pollution Prevention Plan (SWPPP) on site and file a Notice of Intent (NOI) with the State Water Resources Control Board prior to start of construction. An Erosion Control Plan will be developed in conjunction with the SWPPP to ensure proper BMPs are installed onsite to prevent pollutants (sediment, chemicals, etc.) from discharging into the storm drain system during construction.

CONCLUSION

Preliminary analysis of the proposed development shows that increased runoff will be mitigated through one and possibly two onsite detention basins. Runoff from the site will be limited to at or below existing flow rates per County of Ventura guidelines, and detention basins and outlet structures will be sized during final design. Stormwater runoff will be captured and treated prior to leaving the project site. Thus, development of Tract 5475 will comply with the local agency and state requirements.

ON-SITE AREA
ENTERING BYPASS
SYSTEM= 1.4 AC

N. PECK RD.

EXISTING DITCH

FOOTHILL RD.

BY-PASS SYSTEM

ON-SITE AREA
ENTERING BYPASS
SYSTEM = 4.2 AC

OFFSITE AREA
ENTERING BYPASS
SYSTEM= 16.8 AC

LEGEND

- AREA TRIBUTARY TO BYPASS SYSTEM
- BYPASS STORM DRAIN SYSTEM
- ONSITE STORM DRAIN SYSTEM
- DETENTION BASIN
- TREATMENT DEVICE
- V-DITCH/DOWN DRAIN

NOT TO SCALE

J:\DEL23634\Tentative\Exhibits\3634DRAINAGE EXH.dwg Jul 20, 2007, 4:27pm scooper

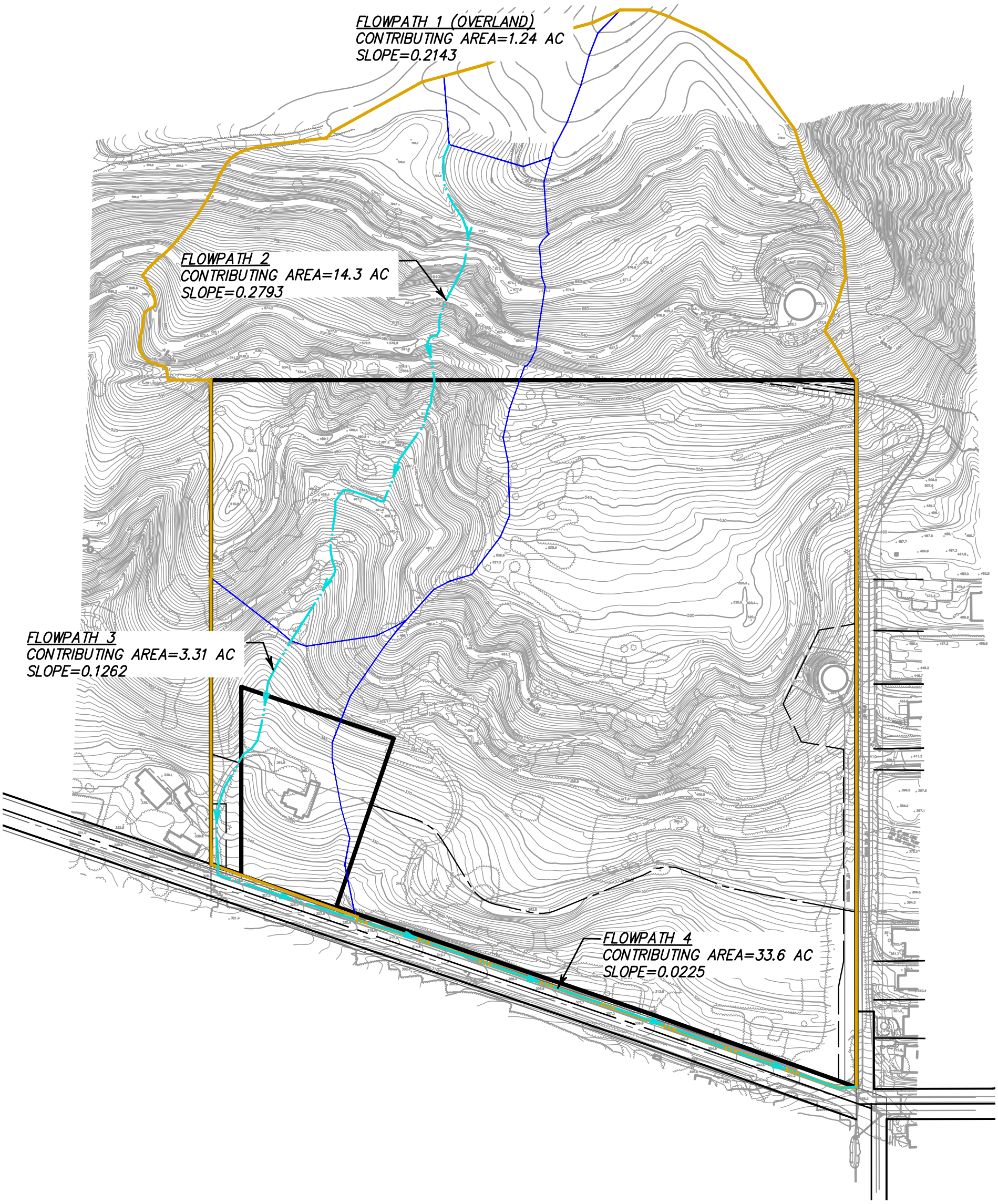
JENSEN DESIGN & SURVEY, INC
1672 DONLON STREET
VENTURA, CALIF. 93003
PHONE 805/654-6977
FAX 805/654-6979

TRACT 5475

DRAINAGE EXHIBIT

SHEET 1 OF 1

Jul 20, 2007



LEGEND:

- FLOWLINE
- DRAINAGE SUBAREA BOUNDARY
- FLOWPATH CONTRIBUTING AREA BOUNDARY
- PROJECT BOUNDARY

Tc Calculation Summary

Storm Event	Tc (min)
Q10	11
Q100	9

100' 0' 200'

SCALE: 1"=200'

JENSEN DESIGN & SURVEY, INC
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VENTURA, CALIF. 93003
PHONE 805/654-6977
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EXISTING TC EXHIBIT

TRACT 5475

SHEET 1 OF 1

Aug 30, 2012

VENTURA COUNTY WATERSHED PROTECTION DISTRICT
TIME OF CONCENTRATION
TC Program Version: 2.6.2008.11
Project: DEL23634
Date: 12:00:00 AM
Engineer: Erin LaBuda
Consultant:

S U M M A R Y O F C O M P U T A T I O N S

Watershed Name: Existing Condition

Name	Zone	Storm	Soil	Area (acres)	TC (min)
Foothill and Peck Roa	K	10	2.00	52.5 / 52	10.713 / 11
Foothill and Peck Roa	K	25	2.00	52.5 / 52	9.990 / 10
Foothill and Peck Roa	K	50	2.00	52.5 / 52	9.384 / 9
Foothill and Peck Roa	K	100	2.00	52.5 / 52	8.692 / 9

Watershed Name: Existing Condition

Sub-Area Name: Foothill and Peck Road
Computing Tc for all rainfall frequencies for sub-area Foothill and Peck Road...

Tc for frequency = 10.00: 10.713 Minutes
DATA FOR SUB AREA 1

SUB AREA TIME OF CONCENTRATION: 10.713 min. = 11 min.

SUB AREA INPUT DATA

Sub Area Name: Foothill and Peck Road
Total Area (ac): 52.45
Flood Zone: 2
Rainfall Zone: K
Storm Frequency (years): 10
Development Type: Undeveloped
Soil Type: 2.00
Percent Impervious: 0
SUB AREA OUTPUT

Intensity (in/hr): 2.396
C Total: 0.792
Sum Q Segments (cfs): 99.52
Q Total (cfs): 99.52
Sum Percent Area (%): 100.0
Sum of Flow Path Travel Times (sec): 642.76
Time of Concentration (min): 10.713

DATA FOR FLOW PATH 1

Flow Path Name: Overland
FLOW PATH TRAVEL TIME (min): 4.9978
Flow Type: Overland
Length (ft): 420
Top Elevation (ft): 820
Bottom Elevation (ft): 730
Contributing Area (acres): 1.24
Percent of Sub-Area (%): 2.4
Overland Type: Mountain
Development Type: Undeveloped
Map Slope: 0.2143

Effective Slope: 0.1660
Q for Flow Path (cfs): 2.35
Avg Velocity (ft/s): 1.40
Passed Scour Check: YES
Scour Velocity (ft/sec): 2.98
DATA FOR FLOW PATH 2

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 2.4417
Flow Type: Natural Channel
Length (ft): 1185
Top Elevation (ft): 730
Bottom Elevation (ft): 399
Contributing Area (acres): 14.3
Percent of Sub-Area (%): 27.3
Overland Type: Mountain
Map Slope: 0.2793
Effective Slope: 0.1902
Q for Flow Path (cfs): 27.13
Q Top (cfs): 2.35
Q Bottom (cfs): 29.49
Velocity Top (ft/s): 3.25
Velocity Bottom (ft/s): 7.54
Avg Velocity (ft/s): 5.39
Wave Velocity (ft/s): 8.09
DATA FOR FLOW PATH 3

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 0.8793
Flow Type: Natural Channel
Length (ft): 502
Top Elevation (ft): 399
Bottom Elevation (ft): 328
Contributing Area (acres): 3.31
Percent of Sub-Area (%): 6.3
Overland Type: Mountain
Map Slope: 0.1414
Effective Slope: 0.1262
Q for Flow Path (cfs): 6.28
Q Top (cfs): 29.49
Q Bottom (cfs): 35.77
Velocity Top (ft/s): 6.14
Velocity Bottom (ft/s): 6.55
Avg Velocity (ft/s): 6.34
Wave Velocity (ft/s): 9.52
DATA FOR FLOW PATH 4

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 2.3939
Flow Type: Natural Channel
Length (ft): 1334
Top Elevation (ft): 328
Bottom Elevation (ft): 298
Contributing Area (acres): 33.6
Percent of Sub-Area (%): 64.1
Overland Type: Valley
Map Slope: 0.0225
Effective Slope: 0.0225
Q for Flow Path (cfs): 63.76
Q Top (cfs): 35.77
Q Bottom (cfs): 99.52
Velocity Top (ft/s): 5.28
Velocity Bottom (ft/s): 7.11
Avg Velocity (ft/s): 6.19

Wave Velocity (ft/s): 9.29
Tc for frequency = 25.00: 9.990 Minutes
DATA FOR SUB AREA 1

SUB AREA TIME OF CONCENTRATION: 9.990 min. = 10 min.

SUB AREA INPUT DATA

Sub Area Name: Foothill and Peck Road
Total Area (ac): 52.45
Flood Zone: 2
Rainfall Zone: K
Storm Frequency (years): 25
Development Type: Undeveloped
Soil Type: 2.00
Percent Impervious: 0
SUB AREA OUTPUT

Intensity (in/hr): 2.806
C Total: 0.818
Sum Q Segments (cfs): 120.33
Q Total (cfs): 120.33
Sum Percent Area (%): 100.0
Sum of Flow Path Travel Times (sec): 599.40
Time of Concentration (min): 9.990

DATA FOR FLOW PATH 1

Flow Path Name: Overland
FLOW PATH TRAVEL TIME (min): 4.6086
Flow Type: Overland
Length (ft): 420
Top Elevation (ft): 820
Bottom Elevation (ft): 730
Contributing Area (acres): 1.24
Percent of Sub-Area (%): 2.4
Overland Type: Mountain
Development Type: Undeveloped
Map Slope: 0.2143
Effective Slope: 0.1660
Q for Flow Path (cfs): 2.84
Avg Velocity (ft/s): 1.52
Passed Scour Check: YES
Scour Velocity (ft/sec): 3.16
DATA FOR FLOW PATH 2

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 2.2921
Flow Type: Natural Channel
Length (ft): 1185
Top Elevation (ft): 730
Bottom Elevation (ft): 399
Contributing Area (acres): 14.3
Percent of Sub-Area (%): 27.3
Overland Type: Mountain
Map Slope: 0.2793
Effective Slope: 0.1902
Q for Flow Path (cfs): 32.81
Q Top (cfs): 2.84
Q Bottom (cfs): 35.65
Velocity Top (ft/s): 3.46
Velocity Bottom (ft/s): 8.03
Avg Velocity (ft/s): 5.74

Wave Velocity (ft/s): 8.62
DATA FOR FLOW PATH 3

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 0.8254
Flow Type: Natural Channel
Length (ft): 502
Top Elevation (ft): 399
Bottom Elevation (ft): 328
Contributing Area (acres): 3.31
Percent of Sub-Area (%): 6.3
Overland Type: Mountain
Map Slope: 0.1414
Effective Slope: 0.1262
Q for Flow Path (cfs): 7.59
Q Top (cfs): 35.65
Q Bottom (cfs): 43.25
Velocity Top (ft/s): 6.54
Velocity Bottom (ft/s): 6.97
Avg Velocity (ft/s): 6.76
Wave Velocity (ft/s): 10.14
DATA FOR FLOW PATH 4

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 2.2639
Flow Type: Natural Channel
Length (ft): 1334
Top Elevation (ft): 328
Bottom Elevation (ft): 298
Contributing Area (acres): 33.6
Percent of Sub-Area (%): 64.1
Overland Type: Valley
Map Slope: 0.0225
Effective Slope: 0.0225
Q for Flow Path (cfs): 77.09
Q Top (cfs): 43.25
Q Bottom (cfs): 120.33
Velocity Top (ft/s): 5.57
Velocity Bottom (ft/s): 7.53
Avg Velocity (ft/s): 6.55
Wave Velocity (ft/s): 9.82
Tc for frequency = 50.00: 9.384 Minutes
DATA FOR SUB AREA 1

SUB AREA TIME OF CONCENTRATION: 9.384 min. = 9 min.

SUB AREA INPUT DATA

Sub Area Name: Foothill and Peck Road
Total Area (ac): 52.45
Flood Zone: 2
Rainfall Zone: K
Storm Frequency (years): 50
Development Type: Undeveloped
Soil Type: 2.00
Percent Impervious: 0
SUB AREA OUTPUT

Intensity (in/hr): 3.333
C Total: 0.843
Sum Q Segments (cfs): 147.38
Q Total (cfs): 147.38
Sum Percent Area (%): 100.0

Sum of Flow Path Travel Times (sec): 563.03
Time of Concentration (min): 9.384

DATA FOR FLOW PATH 1

Flow Path Name: Overland
FLOW PATH TRAVEL TIME (min): 4.3383
Flow Type: Overland
Length (ft): 420
Top Elevation (ft): 820
Bottom Elevation (ft): 730
Contributing Area (acres): 1.24
Percent of Sub-Area (%): 2.4
Overland Type: Mountain
Development Type: Undeveloped
Map Slope: 0.2143
Effective Slope: 0.1660
Q for Flow Path (cfs): 3.48
Avg Velocity (ft/s): 1.61
Passed Scour Check: YES
Scour Velocity (ft/sec): 3.39
DATA FOR FLOW PATH 2

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 2.1424
Flow Type: Natural Channel
Length (ft): 1185
Top Elevation (ft): 730
Bottom Elevation (ft): 399
Contributing Area (acres): 14.3
Percent of Sub-Area (%): 27.3
Overland Type: Mountain
Map Slope: 0.2793
Effective Slope: 0.1902
Q for Flow Path (cfs): 40.18
Q Top (cfs): 3.48
Q Bottom (cfs): 43.67
Velocity Top (ft/s): 3.70
Velocity Bottom (ft/s): 8.59
Avg Velocity (ft/s): 6.15
Wave Velocity (ft/s): 9.22
DATA FOR FLOW PATH 3

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 0.7715
Flow Type: Natural Channel
Length (ft): 502
Top Elevation (ft): 399
Bottom Elevation (ft): 328
Contributing Area (acres): 3.31
Percent of Sub-Area (%): 6.3
Overland Type: Mountain
Map Slope: 0.1414
Effective Slope: 0.1262
Q for Flow Path (cfs): 9.30
Q Top (cfs): 43.67
Q Bottom (cfs): 52.97
Velocity Top (ft/s): 7.00
Velocity Bottom (ft/s): 7.46
Avg Velocity (ft/s): 7.23
Wave Velocity (ft/s): 10.84
DATA FOR FLOW PATH 4

Flow Path Name: Channel

FLOW PATH TRAVEL TIME (min): 2.1315
Flow Type: Natural Channel
Length (ft): 1334
Top Elevation (ft): 328
Bottom Elevation (ft): 298
Contributing Area (acres): 33.6
Percent of Sub-Area (%): 64.1
Overland Type: Valley
Map Slope: 0.0225
Effective Slope: 0.0225
Q for Flow Path (cfs): 94.42
Q Top (cfs): 52.97
Q Bottom (cfs): 147.38
Velocity Top (ft/s): 5.90
Velocity Bottom (ft/s): 8.01
Avg Velocity (ft/s): 6.95
Wave Velocity (ft/s): 10.43

Tc for frequency = 100.00: 8.692 Minutes
DATA FOR SUB AREA 1

SUB AREA TIME OF CONCENTRATION: 8.692 min. = 9 min.

SUB AREA INPUT DATA

Sub Area Name: Foothill and Peck Road
Total Area (ac): 52.45
Flood Zone: 2
Rainfall Zone: K
Storm Frequency (years): 100
Development Type: Undeveloped
Soil Type: 2.00
Percent Impervious: 0
SUB AREA OUTPUT

Intensity (in/hr): 3.740
C Total: 0.859
Sum Q Segments (cfs): 168.43
Q Total (cfs): 168.43
Sum Percent Area (%): 100.0
Sum of Flow Path Travel Times (sec): 521.53
Time of Concentration (min): 8.692

DATA FOR FLOW PATH 1

Flow Path Name: Overland
FLOW PATH TRAVEL TIME (min): 3.8570
Flow Type: Overland
Length (ft): 420
Top Elevation (ft): 820
Bottom Elevation (ft): 730
Contributing Area (acres): 1.24
Percent of Sub-Area (%): 2.4
Overland Type: Mountain
Development Type: Undeveloped
Map Slope: 0.2143
Effective Slope: 0.1660
Q for Flow Path (cfs): 3.98
Avg Velocity (ft/s): 1.81
Passed Scour Check: YES
Scour Velocity (ft/sec): 3.55
DATA FOR FLOW PATH 2

Flow Path Name: Channel

FLOW PATH TRAVEL TIME (min): 2.0493
Flow Type: Natural Channel
Length (ft): 1185
Top Elevation (ft): 730
Bottom Elevation (ft): 399
Contributing Area (acres): 14.3
Percent of Sub-Area (%): 27.3
Overland Type: Mountain
Map Slope: 0.2793
Effective Slope: 0.1902
Q for Flow Path (cfs): 45.92
Q Top (cfs): 3.98
Q Bottom (cfs): 49.90
Velocity Top (ft/s): 3.87
Velocity Bottom (ft/s): 8.98
Avg Velocity (ft/s): 6.43
Wave Velocity (ft/s): 9.64
DATA FOR FLOW PATH 3

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 0.7379
Flow Type: Natural Channel
Length (ft): 502
Top Elevation (ft): 399
Bottom Elevation (ft): 328
Contributing Area (acres): 3.31
Percent of Sub-Area (%): 6.3
Overland Type: Mountain
Map Slope: 0.1414
Effective Slope: 0.1262
Q for Flow Path (cfs): 10.63
Q Top (cfs): 49.90
Q Bottom (cfs): 60.53
Velocity Top (ft/s): 7.32
Velocity Bottom (ft/s): 7.80
Avg Velocity (ft/s): 7.56
Wave Velocity (ft/s): 11.34
DATA FOR FLOW PATH 4

Flow Path Name: Channel
FLOW PATH TRAVEL TIME (min): 2.0479
Flow Type: Natural Channel
Length (ft): 1334
Top Elevation (ft): 328
Bottom Elevation (ft): 298
Contributing Area (acres): 33.6
Percent of Sub-Area (%): 64.1
Overland Type: Valley
Map Slope: 0.0225
Effective Slope: 0.0225
Q for Flow Path (cfs): 107.90
Q Top (cfs): 60.53
Q Bottom (cfs): 168.43
Velocity Top (ft/s): 6.14
Velocity Bottom (ft/s): 8.34
Avg Velocity (ft/s): 7.24
Wave Velocity (ft/s): 10.86

Hydrograph Report

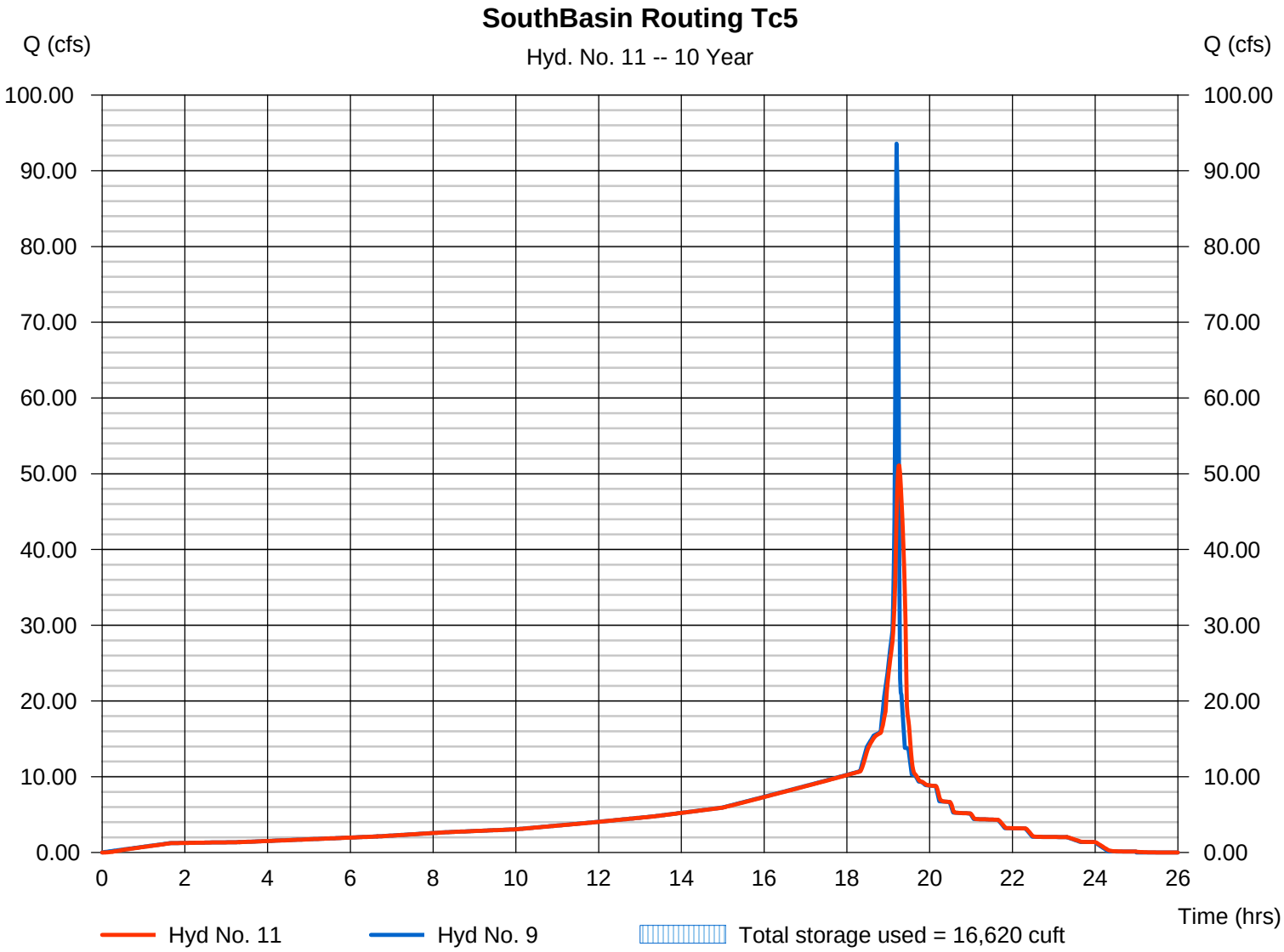
Hydraflow Hydrographs by Intelisolve v9.23 Thursday, Aug 30, 2012

Hyd. No. 11

SouthBasin Routing Tc5

Hydrograph type	=	Reservoir	Peak discharge	=	51.10 cfs
Storm frequency	=	10 yrs	Time to peak	=	1156 min
Time interval	=	1 min	Hyd. volume	=	414,439 cuft
Inflow hyd. No.	=	9 - Q10 Fattened Developed to Foothill&P	Max. Elevation	=	303.49 ft
Reservoir name	=	Foothill and Peck Detention Basin	Max. Storage	=	16,620 cuft

Storage Indication method used.



Hydrograph Report

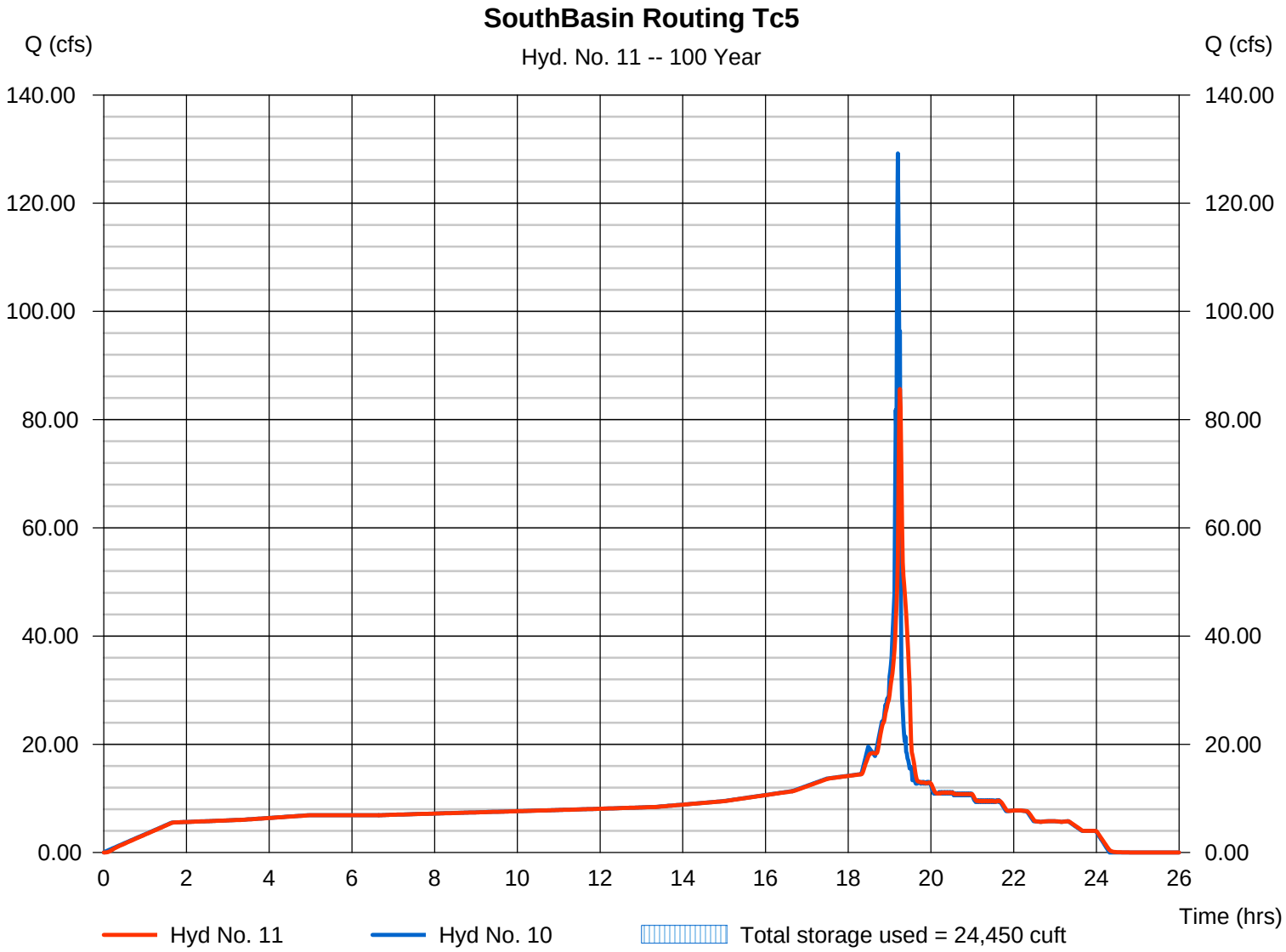
Hydraflow Hydrographs by Intelisolve v9.23 Thursday, Aug 30, 2012

Hyd. No. 11

SouthBasin Routing Tc5

Hydrograph type	=	Reservoir	Peak discharge	=	85.66 cfs
Storm frequency	=	100 yrs	Time to peak	=	1155 min
Time interval	=	1 min	Hyd. volume	=	786,129 cuft
Inflow hyd. No.	=	10 - Q100 Developed to Foothill&Peck, Tc	Max. Elevation	=	304.71 ft
Reservoir name	=	Foothill and Peck Detention Basin	Max. Storage	=	24,450 cuft

Storage Indication method used.



Appendix I

Noise Data

ROADWAY TRAFFIC NOISE

Project:	Agoura Hills Business Park	Project No.	07-62040
Date:	19-Nov-12		

Roadway: Canwood Street (between Kanaan and Chesebro)

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO):		TNM
Distance to Receptor:	50	feet
Site Condition (Hard or Soft):	Soft	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	7,350	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2008	
Total Project Volume (ADT):	340	vehicles
Total Cumulative Growth Volume (ADT):	450	vehicles
Source of Traffic Data:	ATE	

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	90.0%	90.0%	90.0%
Medium Truck	5.0%	5.0%	5.0%
Heavy Truck	5.0%	5.0%	5.0%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

Existing and Future

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Project

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	100.0%	0.0%	0.0%
Medium Truck	100.0%	0.0%	0.0%
Heavy Truck	100.0%	0.0%	0.0%

Source: Default Assumption

Average Speed

Existing

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

Future

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: Santa Paula TT 5475 Project No. 07-60870
Date: 19-Nov-12

Roadway: FootHill Road (approximately .8 mi west of N. Peck Road)

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	60.8 dBA	#N/A	#N/A	19	56	122
Existing + Project	62.1 dBA	#N/A	#N/A	26	69	149
Future with Ambient Growth	60.8 dBA	#N/A	#N/A	19	56	122
Future with Ambient Growth and Project	62.1 dBA	#N/A	#N/A	26	69	149
Future with Ambient Growth and Cumulative Projects	65.2 dBA	#N/A	#N/A	51	111	238
Future with Ambient, Cumulative, and Project Growth	65.7 dBA	#N/A	19	56	120	259

Change in Noise Levels	
Due to Project	1.3 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.4 dBA
Due to All Future Growth	4.9 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	61.1 dBA	#N/A	#N/A	20	59	128
Existing + Project	62.4 dBA	#N/A	#N/A	27	72	155
Future with Ambient Growth	61.1 dBA	#N/A	#N/A	20	59	128
Future with Ambient Growth and Project	62.4 dBA	#N/A	#N/A	27	72	155
Future with Ambient Growth and Cumulative Projects	65.5 dBA	#N/A	18	54	117	251
Future with Ambient, Cumulative, and Project Growth	66.0 dBA	#N/A	20	58	126	271

Change in Noise Levels	
Due to Project	1.3 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.4 dBA
Due to All Future Growth	4.9 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Santa Paula TT 5475 Project No. 07-60870
Date: 19-Nov-12

Roadway: FootHill Road (approximately .8 mi west of N. Peck Road)

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	57.8 dBA	#N/A	#N/A	#N/A	30	77
Existing + Project	60.2 dBA	#N/A	#N/A	#N/A	51	111
Future with Ambient Growth	57.8 dBA	#N/A	#N/A	#N/A	30	77
Future with Ambient Growth and Project	60.2 dBA	#N/A	#N/A	#N/A	51	111
Future with Ambient Growth and Cumulative Projects	62.0 dBA	#N/A	#N/A	25	68	147
Future with Ambient, Cumulative, and Project Growth	63.1 dBA	#N/A	#N/A	32	80	173

Change in Noise Levels	
Due to Project	2.4 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.2 dBA
Due to All Future Growth	5.2 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	58.2 dBA	#N/A	#N/A	#N/A	33	81
Existing + Project	60.4 dBA	#N/A	#N/A	#N/A	53	114
Future with Ambient Growth	58.2 dBA	#N/A	#N/A	#N/A	33	81
Future with Ambient Growth and Project	60.4 dBA	#N/A	#N/A	#N/A	53	114
Future with Ambient Growth and Cumulative Projects	62.4 dBA	#N/A	#N/A	27	72	155
Future with Ambient, Cumulative, and Project Growth	63.4 dBA	#N/A	#N/A	34	84	180

Change in Noise Levels	
Due to Project	2.2 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.2 dBA
Due to All Future Growth	5.2 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project: Santa Paula TT 5475 Project No. 07-60870
Date: 19-Nov-12

Roadway: FootHill Road (approximately .8 mi west of N. Peck Road)

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	58.3 dBA	#N/A	#N/A	#N/A	34	83
Existing + Project	59.1 dBA	#N/A	#N/A	#N/A	41	94
Future with Ambient Growth	58.3 dBA	#N/A	#N/A	#N/A	34	83
Future with Ambient Growth and Project	59.1 dBA	#N/A	#N/A	#N/A	41	94
Future with Ambient Growth and Cumulative Projects	60.8 dBA	#N/A	#N/A	19	57	122
Future with Ambient, Cumulative, and Project Growth	61.3 dBA	#N/A	#N/A	21	61	131

Change in Noise Levels	
Due to Project	0.8 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	2.5 dBA
Due to All Future Growth	3.0 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	58.6 dBA	#N/A	#N/A	#N/A	36	87
Existing + Project	59.4 dBA	#N/A	#N/A	#N/A	43	98
Future with Ambient Growth	58.6 dBA	#N/A	#N/A	#N/A	36	87
Future with Ambient Growth and Project	59.4 dBA	#N/A	#N/A	#N/A	43	98
Future with Ambient Growth and Cumulative Projects	61.2 dBA	#N/A	#N/A	21	60	129
Future with Ambient, Cumulative, and Project Growth	61.6 dBA	#N/A	#N/A	23	64	138

Change in Noise Levels	
Due to Project	0.8 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	2.5 dBA
Due to All Future Growth	3.0 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

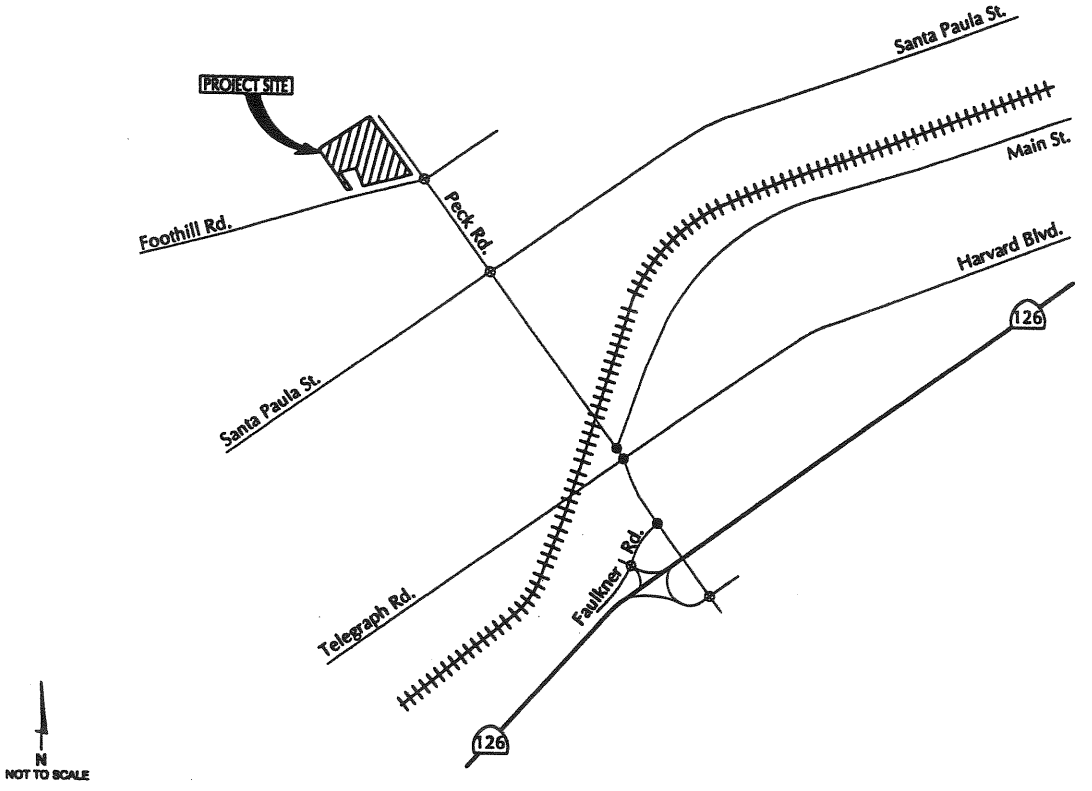
Appendix J

Traffic Study

TENTATIVE TRACT 5475
SANTA PAULA, CALIFORNIA

TRAFFIC STUDY

ATE Project 12047 **July 19, 2012**



Prepared for:

Rincon Consultants Inc.
180 North Ashwood Avenue
Ventura, CA 93003

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Since 1978

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

July 19, 2012

Paul Calderwood
Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, CA 93003

TRAFFIC STUDY FOR TENTATIVE TRACT 5475 SANTA PAULA, CALIFORNIA

Associated Transportation Engineers (ATE) is pleased to submit the following traffic study for Tentative Tract 5475. The study examines existing and future traffic conditions adjacent to the project site, and identifies improvements where necessary. It is our understanding that the contents of this study will be incorporated into the environmental documents prepared for the project.

We appreciate the opportunity to assist you with this project. Please contact our office if you have any questions or comments regarding the contents of the study.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Vice President

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INTRODUCTION

The following study contains an analysis of the potential traffic impacts associated with the proposed annexation and development of a residential subdivision on 32.5 acres in the City of Santa Paula (Tentative Tract 5475). The study provides information relative to existing, existing + project, cumulative, cumulative + project, General Plan Buildout and General Plan Buildout + project traffic conditions within the project study-area.

PROJECT DESCRIPTION

As shown on Figure 1, Tentative Tract 5475 is located in the northwestern quadrant of the Peck Road/Foothill Road intersection, currently within the County of Ventura adjacent to the City of Santa Paula. The residential subdivision will consist of 74 single-family residential units and approximately 7.68 acres of private park/open space. Regional access is provided by the State Route 126/Peck Road interchange. Direct access will be provided via a gated driveway connection to Foothill Road. The applicant, through an agreement with the owner of North Peck Road, will provide a gated emergency access driveway connection to North Peck Road. An additional gated emergency only access is provided in the northwest corner of the site to serve western portion of the project. Figure 2 illustrates the project site plan.

EXISTING CONDITIONS

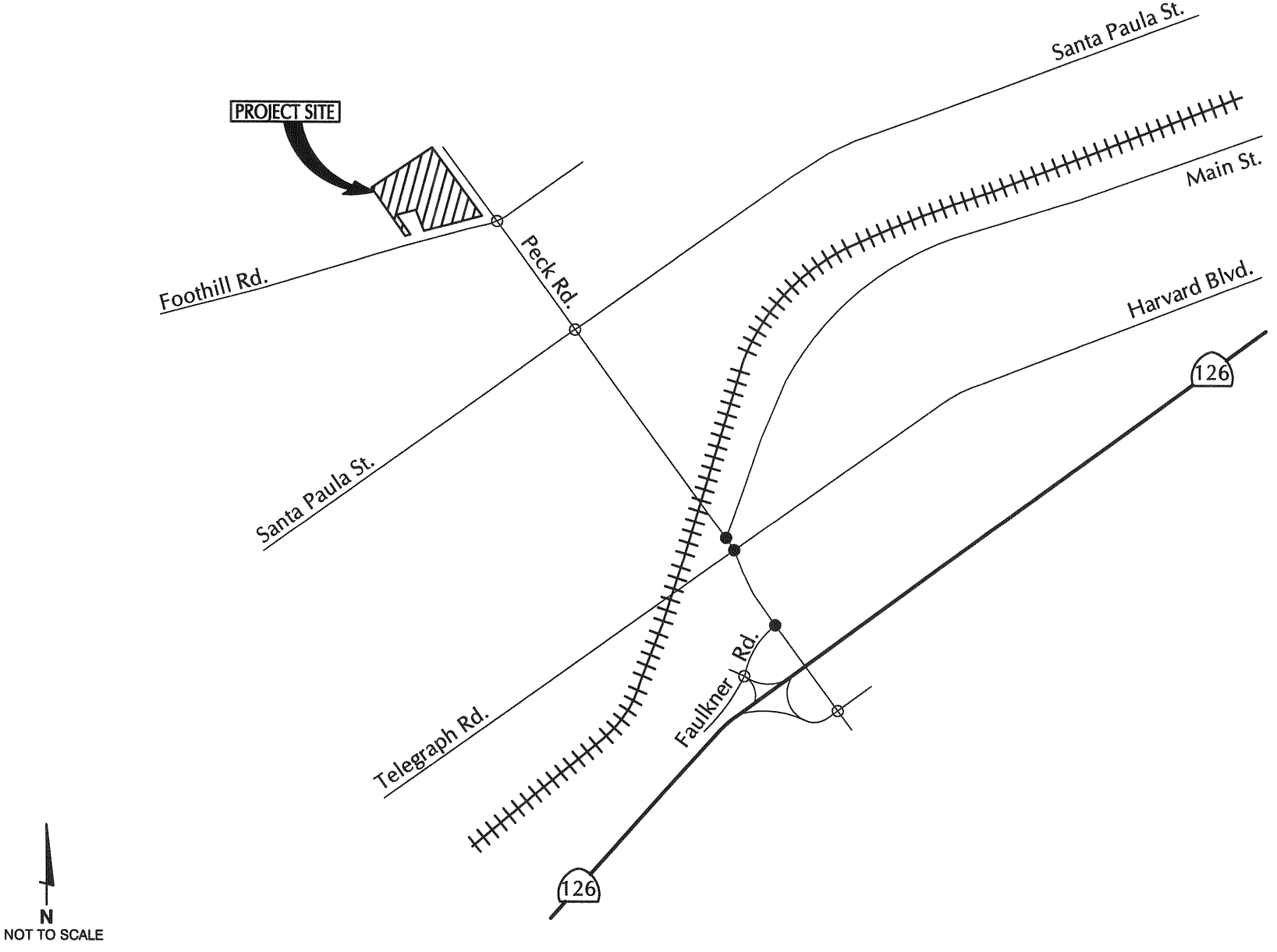
Street Network

The circulation system adjacent to the project site is comprised of State Route 126, Foothill Road, Peck Road, Santa Paula Street, Telegraph Road-Harvard Boulevard and Main Street, as illustrated in Figure 1. The following text provides a brief discussion of the primary components of the study-area street network.

State Route 126, (Santa Paula Freeway) is a 4-lane east-west arterial that extends through the City south of Harvard Boulevard. This facility provides regional access to Santa Paula, connecting to the City of Ventura and U.S. Highway 101 on the west and the City of Fillmore and Interstate 5 to the east. The State Route 126/Peck Road interchange provides regional access to the project site.

Peck Road, located east of the site, is a 2-lane arterial roadway that extends south from Foothill Road to just south of State Route 126. Peck Road serves agricultural, industrial and commercial land uses in the western portion of Santa Paula. The State Route 126/Peck Road interchange ramps are STOP-sign controlled.

Foothill Road, located adjacent to the project site, is a 2-lane collector roadway that extends west from Peck Road. Foothill Road serves primarily agricultural land uses west of Santa Paula. The Peck Road/Foothill Road intersection is STOP-sign controlled.



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PROJECT SITE LOCATION/EXISTING STREET NETWORK

FIGURE 1

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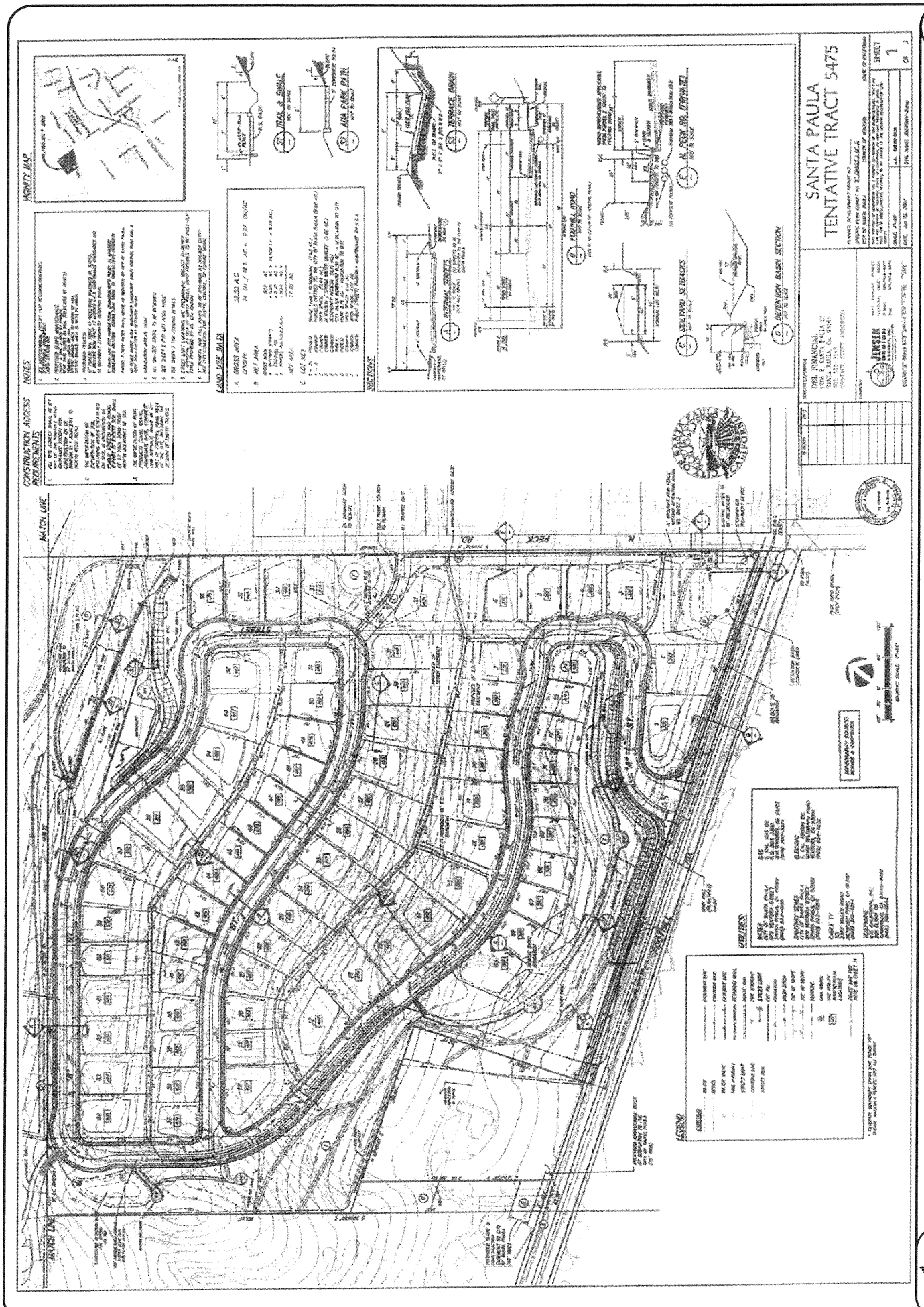

FIGURE 2

PROJECT SITE PLAN

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Santa Paula Street, is a 2-lane collector roadway that extends west from Grant Line Street to Cummings Road west of Santa Paula. The Peck Road/Santa Paula Street intersection is STOP-sign controlled.

Main Street, is a 2- to 4-lane arterial roadway that extends east from Peck Road serving adjacent industrial and commercial land uses in the City of Santa Paula. The Peck Road/Main Street intersection is signalized.

Telegraph Road/Harvard Boulevard, is a 2- to 4-lane arterial roadway that extends east from the City of Ventura through to Santa Paula serving the adjacent agricultural, industrial and commercial land uses in the area. The Peck Road/Telegraph Road-Harvard Boulevard intersection is signalized.

Faulkner Road, is a 2- to 4-lane arterial roadway that extends west from Peck Road through the adjacent industrial/commercial and agricultural area past Briggs Road. There are gaps in the roadway between Peck Road and Briggs Road. The unsignalized State Route 126 westbound ramps/Faulkner Road intersection provides regional access to the project site.

Freeway Operations

The following section reviews average daily traffic (ADT) volumes and freeway operations for State Route 126. The operational characteristics of the study-area freeway segments are analyzed based on a set of Ventura County standard freeway design capacities which are summarized in the Technical Appendix. In rating a freeway's operating condition, "Levels of Service" (LOS) A through F are used. LOS A and LOS B represent primarily free-flow operations, LOS C represents stable conditions, LOS D nears unstable operations with restrictions on maneuverability within traffic streams, LOS E represents unstable operations with maneuverability very limited, and LOS F represents breakdown or forced flow conditions. The City of Santa Paula considers LOS C as the minimum service level for freeway and intersection operations. LOS D is considered acceptable for County freeways.

Existing ADT volumes for the State Route 126 freeway segments in the vicinity of the project site were obtained from data collected by Caltrans[1]. Table 1 lists the existing ADT volumes and level of service for study-area freeway segments. Figure 3 illustrates the existing ADT volumes.

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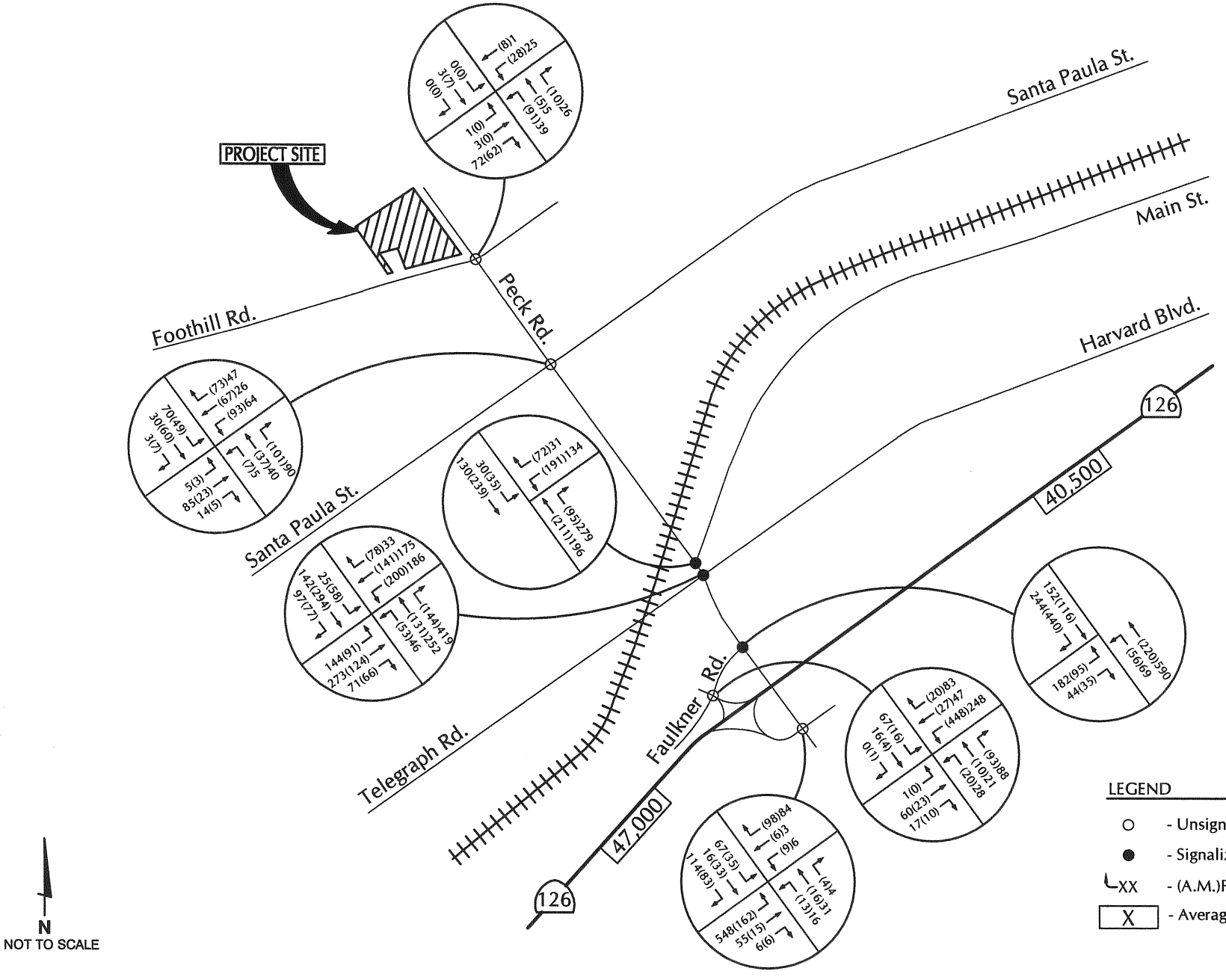
[1] 2010 Traffic Volumes on California State Highways, California Department of Transportation, June 2011.



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EXISTING TRAFFIC VOLUMES

FIGURE 3

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Table 1
Existing Freeway Operations

Roadway	Roadway Type	AADT	LOS
State Route 126			
- east of Peck Road	4-Lane Freeway	40,500	LOS B
- west of Peck Road	4-Lane Freeway	47,000	LOS B

The data presented in Table 1 indicate that the study-area freeway segments currently operate in the LOS B range.

Intersections Operations

Existing levels of service for the study-area intersection were calculated using the Intersection Capacity Utilization (ICU) for signalized intersections and the Highway Capacity Manual methodology for STOP-sign controlled intersections, as required by the City of Santa Paula. Worksheets illustrating the level of service calculations are contained in the Technical Appendix for reference. Table 2 lists the existing intersection traffic controls and level of service for the study-area intersections. Figure 3 illustrates the existing A.M. and P.M. peak hour traffic volumes.

Table 2
Existing Intersection Operations

Intersection	Control	Existing Conditions	
		A.M. Peak Hour	P.M. Peak Hour
		Delay-ICU/LOS	Delay-ICU/LOS
State Route 126 EB Ramps/Peck Road	STOP-Sign	9.0 sec./LOS A	**40.8 sec./ LOS E**
State Route 126 WB Ramps/Faulkner Road	STOP-Sign	16.8 sec./LOS C	10.3 sec./LOS B
Peck Road/Faulkner Road	Signal	0.36/LOS A	0.48/LOS A
Peck Road/Telegraph Road/Main Street	Signal	0.57/LOS A	0.59/LOS A
Peck Road/Santa Paula Street	STOP-Sign	8.9 sec./LOS A	8.4 sec./LOS A
Peck Road/Foothill Road	STOP-Sign	8.5 sec./LOS A	8.5 sec./LOS A

Generally all of the study-area intersections currently operate at C or better during the A.M. and P.M. peak hour period as indicated in Table 2. The State Route 126 Eastbound Ramps/Peck Road intersection exceeds the City's LOS C standard during the P.M. peak hour period. Improvements identified for the State Route 126 Eastbound Ramps/Peck Road intersection are discussed in the Mitigation Measures section of the traffic study.

CITY OF SANTA PAULA IMPACT THRESHOLDS

The City of Santa Paula considers LOS C as the minimum service level for roadway and intersection operations. Consequently, mitigation measures are required for operations at LOS D or worse. The City has adopted a Traffic Improvement Fee Program to offset the capital improvement costs required to implement traffic mitigation measures to accommodate cumulative developments within the City.

PROJECT-GENERATED TRAFFIC

Project Trip Generation

Average daily, A.M. and P.M. peak hour trip generation estimates were developed for the proposed subdivision, as presented in Table 3. The rates published in the Institute of Transportation Engineers (ITE), Trip Generation, 8th Edition for "Single Family Detached Housing" (Land Use Code #210) were used to develop the trip generation estimates for the project. A worksheet showing the rates is contained in the Technical Appendix.

Table 3
Project Trip Generation Estimates

Land Use	Size	ADT	A.M. Peak Hour			P.M. Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
Single Family Residential	74 units	708	14	42	56	47	28	75

The 74 lot residential project is expected to generate 708 average daily trips, 56 A.M. and 75 P.M. peak hour trips.

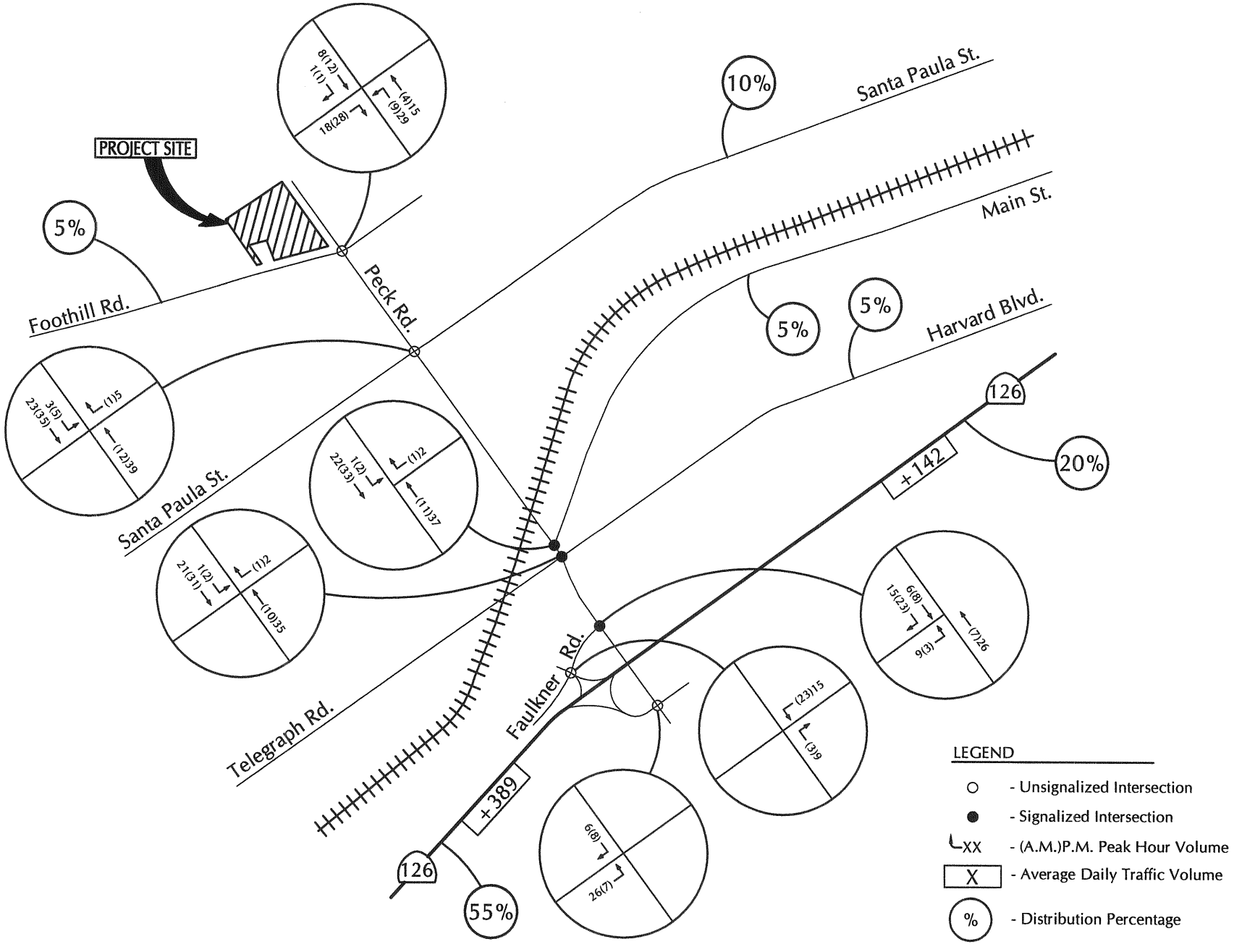
Project Trip Distribution and Assignment

Trips generated by the project were distributed and assigned to the study-area street network as illustrated on Figure 4. The distribution pattern was developed based on the existing traffic volumes collected in the study-area, knowledge of the traffic and land use pattern in the Santa Paula area and the characteristics of the project land uses.

EXISTING + PROJECT TRAFFIC ANALYSIS

Freeway Operations

Freeway volumes and levels of service for the existing and existing + project conditions are listed in Table 4. The existing + project freeway volumes are illustrated in Figure 5.



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PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

FIGURE 4

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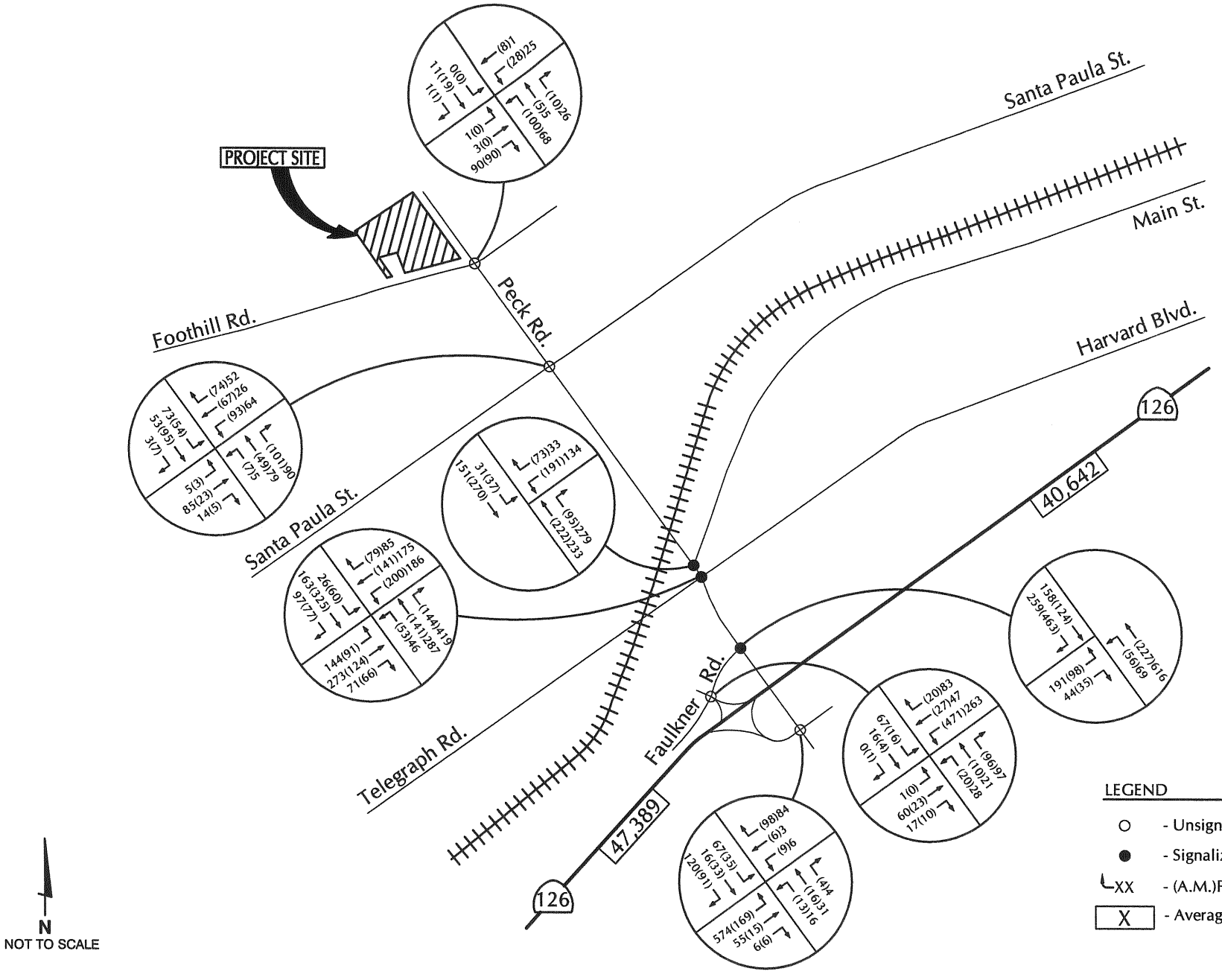

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EXISTING + PROJECT TRAFFIC VOLUMES

FIGURE 5

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Table 4
Existing + Project Daily Freeway Operations

Roadway Segment	Roadway Type	ADT			
		Existing	Existing + Project	LOS	Impact?
State Route 126					
- east of Peck Road	4-Lane Freeway	40,500	40,642	LOS B	No
- west of Peck Road	4-Lane Freeway	47,000	47,389	LOS B	No

The data in Table 4 show that the addition of project traffic to State Route 126 would not significantly impact the study-area freeway segments based on impact criteria.

Intersection Operations

Levels of service were calculated for the study-area intersections assuming the existing + project volumes. Intersection LOS worksheets are contained in the Technical Appendix. Intersection operations of the existing and existing + project conditions during the A.M. and P.M. peak hours are listed in Tables 5 and 6. Figure 5 illustrates the A.M. and P.M. peak hour existing + project traffic volumes.

Table 5
Existing + Project A.M. Peak Hour Intersection Operations

Intersection	A.M. Peak Hour		Impact?
	Existing	Existing + Project	
	Delay-ICU/LOS	Delay-ICU/LOS	
State Route 126 EB Ramps/Peck Road	9.0 sec./LOS A	9.1 sec./LOS A	No
State Route 126 WB Ramps/Faulkner Road	16.8 sec./LOS C	18.5 sec./LOS C	No
Peck Road/Faulkner Road	0.36/LOS A	0.38/LOS A	No
Peck Road/Telegraph Road/Main Street	0.57/LOS A	0.59/LOS A	No
Peck Road/Santa Paula Street	8.9 sec./LOS A	9.2 sec./LOS A	No
Peck Road/Foothill Road	8.5 sec./LOS A	8.6 sec./LOS A	No

Table 6
Existing + Project P.M. Peak Hour Intersection Operations

Intersection	P.M. Peak Hour		Impact?
	Existing	Existing + Project	
	Delay-ICU/LOS	Delay-ICU/LOS	
State Route 126 EB Ramps/Peck Road	**40.8 sec./LOS E**	**49.7 sec./LOS E**	**Yes**
State Route 126 WB Ramps/Faulkner Road	10.3 sec./LOS B	10.5 sec./LOS B	No
Peck Road/Faulkner Road	0.48/LOS A	0.50/LOS A	No
Peck Road/Telegraph Road/Main Street	0.59/LOS A	0.59/LOS A	No
Peck Road/Santa Paula Street	8.4 sec./LOS A	8.8 sec./LOS A	No
Peck Road/Foothill Road	8.5 sec./LOS A	8.5 sec./LOS A	No

The data in Tables 5 and 6 shows that the addition of project-generated traffic would not significantly impact most of the study-area intersections during the A.M. and P.M. peak hour periods. Based on City standards, the project would impact the State Route 126 Eastbound Ramps/Peck Road intersection which currently operates below the City's LOS C standard during the P.M. peak hour period. Improvements identified for the State Route 126 Eastbound Ramps/Peck Road intersection are discussed in the Mitigation Measures section of the traffic study.

CUMULATIVE ANALYSIS

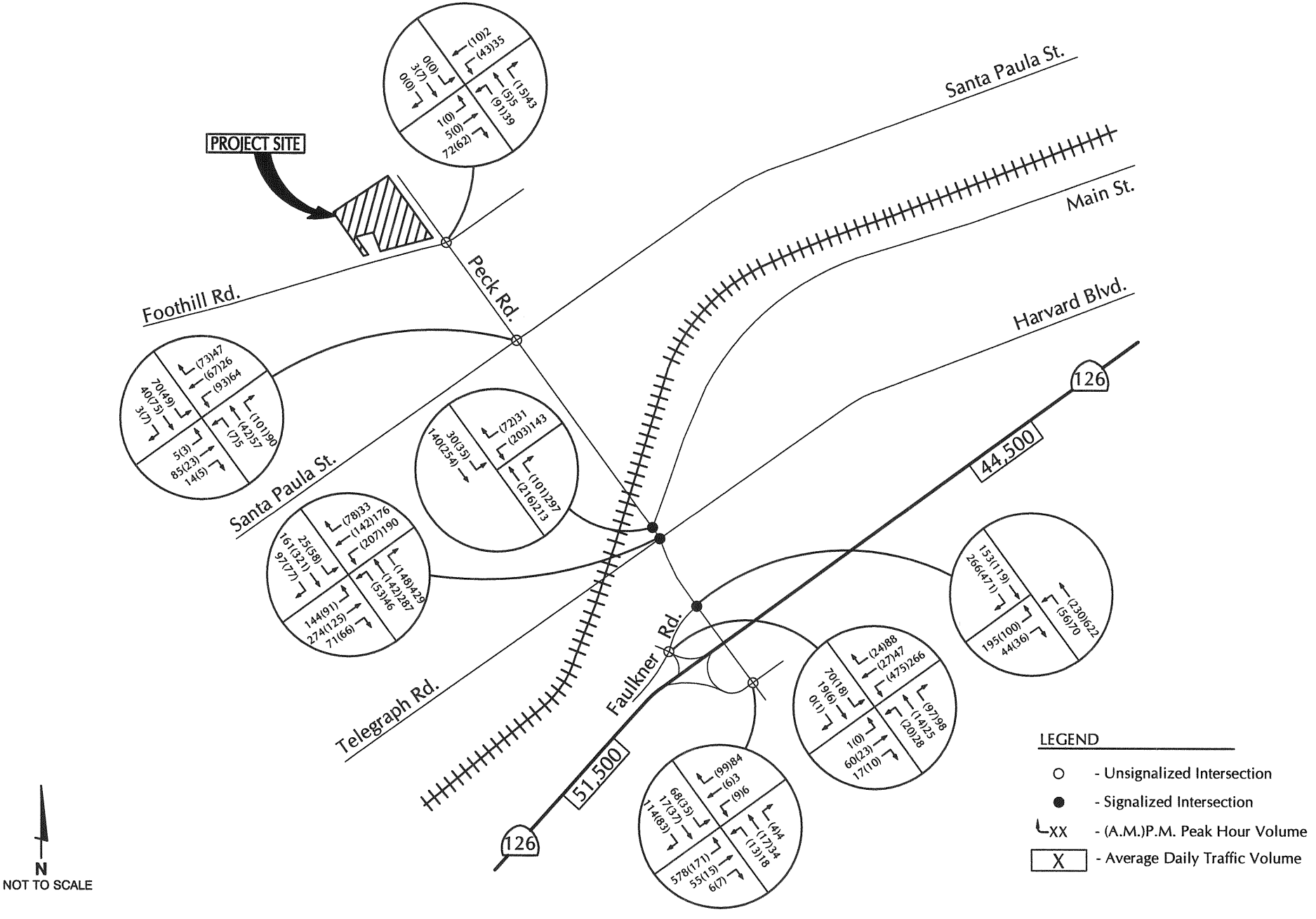
Cumulative Traffic Forecasts

Cumulative traffic volumes were forecast for the study-area freeway segments and intersections assuming development of the approved and pending projects proposed within the City of Santa Paula. List of approved and pending projects was provided by City staff. Trip generation estimates were developed for the cumulative projects using the rates presented in the ITE, Trip Generation, 8th Edition. Table 7 summarizes the average daily, A.M. and P.M. peak hour trip generation for the approved/pending development projects.

Table 7
Approved/Pending Development Projects Trip Generation Estimates

No.	Project	Land Use	Size	ADT	A.M. Peak Hour	P.M. Peak Hour
1.	Cliff Drive/Forrest Drive	S.F. Residential	19 units	182	14	19
2.	630 Acacia Road	S. F Residential	1 unit	10	1	1
3.	Foothill Road/Stickel Drive	S. F. Residential	88 units	842	66	89
4.	210 Santa Barbara Street	Apartments	90 units	593	41	52
5.	670 Ridgecrest	S. F. Residential	1 unit	10	1	1
6.	142 Olive Street	Multi-Family Res.	2 units	20	2	2
7.	1404 Ojai Road	S. F. Residential	1 unit	10	1	1
8.	N. 10th Street	S. F. Residential	75 units	718	56	76
9.	220 W. Main Street	Senior Apartments	20 units	70	3	3
10.	615 E. Harvard Boulevard	Multi-Family Res.	6 units	40	3	3
11.	E. Santa Paula Creek	S.F. Residential	607 units	5,809	455	613
		Townhome	266 units	1,545	117	138
		Apartment	557 units	3,671	256	323
		Live-Work	70 units	407	31	36
12.	109 S. Montebello Street	Condominium	37 units	215	16	19
13.	15891 W. Telegraph Road	Multi-Family Res.	2 units	20	2	2
14.	1483 Ojai Road	S. F. Residential	1 unit	10	1	1
15.	234 4th Street	S. F. Residential	1 unit	10	1	1
16.	524 13th Street	Multi-Family Res.	2 units	20	2	2
17.	838 Montclair Drive	S. F. Residential	1 unit	10	1	1
18.	Warehouse/Caretaker Unit	Warehouse	7,800 s.f.	28	2	2
		Residential	1 unit	10	1	1
19.	Cal Pipe	Light Industrial	6,000 s.f.	42	6	6
20.	Aspen Industrial	Light Industrial	14 acres	725	105	102
21.	Industrial Building	Light Industrial	4,947 s.f.	34	5	5
			Total Trips:	15,051	1,189	1,499

The data presented in Table 7 indicate that the approved/pending projects would generate a total of 15,051 average daily trips, 1,189 A.M. peak hour trips and 1,499 P.M. peak hour trips. The approved/pending projects' traffic volumes were distributed and assigned to the study-area freeway segments and intersections. The trip assignment for the cumulative projects was developed based on the location of each project, recent traffic studies, existing traffic patterns observed in the study area as well as a general knowledge of the population, employment and commercial centers in Santa Paula. Figure 6 illustrates the cumulative traffic volumes for the study-area freeway segments and intersections.



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CUMULATIVE TRAFFIC VOLUMES

FIGURE 6

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Freeway Operations

The cumulative traffic analysis assumes that State Route 126 remains a 4-lane facility (2-lanes in each direction). Freeway volumes and LOS for the cumulative and cumulative + project conditions are listed in Table 8. Figure 7 illustrates the cumulative + project traffic volumes.

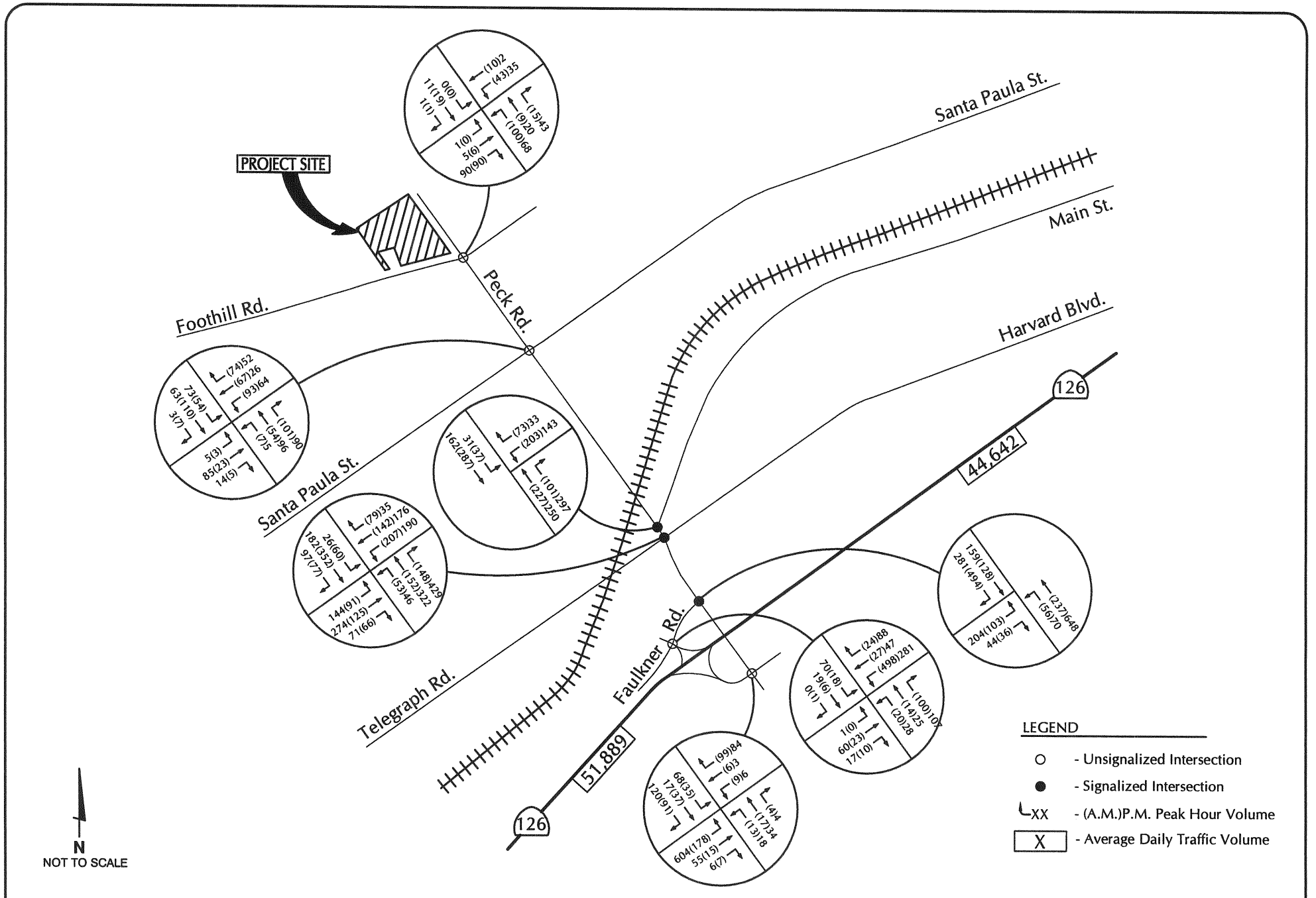
Table 8
Cumulative + Project Freeway Operations

Roadway Segment	Roadway Type	ADT			
		Cumulative	Cumulative + Project	LOS	Impact?
State Route 126					
- east of Peck Road	4-Lane Freeway	44,500	44,642	LOS B	No
- west of Peck Road	4-Lane Freeway	51,500	51,889	LOS C	No

The data in Table 8 show that the addition of project traffic to the State Route 126 would not significantly impact the study-area freeway segments under cumulative conditions based on the City's impact criteria.

Intersection Operations

Levels of service were calculated for the study-area intersections for the cumulative and cumulative + project scenarios. Intersection LOS worksheets are contained in the Technical Appendix. Intersection levels of service for the cumulative and cumulative + project conditions during the A.M. and P.M. peak hours are listed in Tables 9 and 10. Figure 7 illustrates the A.M. and P.M. peak hour cumulative + project traffic volumes.



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CUMULATIVE + PROJECT TRAFFIC VOLUMES

FIGURE 7

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Table 9
Cumulative + Project A.M. Peak Hour Intersection Operations

Intersection	A.M. Peak Hour		Impact?
	Cumulative	Cumulative + Project	
	Delay-ICU/LOS	Delay-ICU/LOS	
State Route 126 EB Ramps/Peck Road	9.1 sec./LOS A	9.1 sec./LOS A	No
State Route 126 WB Ramps/Faulkner Road	19.0 sec./LOS C	19.0 sec./LOS C	No
Peck Road/Faulkner Road	0.33/LOS A	0.33/LOS A	No
Peck Road/Telegraph Road/Main Street	0.60/LOS A	0.60/LOS A	No
Peck Road/Santa Paula Street	9.0 sec./LOS A	9.0 sec./LOS A	No
Peck Road/Foothill Road	8.7 sec./LOS A	8.7 sec./LOS A	No

Table 10
Cumulative + Project P.M. Peak Hour Intersection Operations

Intersection	P.M. Peak Hour		Impact?
	Cumulative	Cumulative + Project	
	Delay-ICU/LOS	Delay-ICU/LOS	
State Route 126 EB Ramps/Peck Road	> 50.0 sec./LOS F	**> 50.0 sec./LOS F**	**Yes**
State Route 126 WB Ramps/Faulkner Road	10.7 sec./LOS B	10.7 sec./LOS B	No
Peck Road/Faulkner Road	0.51/LOS A	0.51/LOS A	No
Peck Road/Telegraph Road/Main Street	0.52/LOS A	0.52/LOS A	No
Peck Road/Santa Paula Street	8.5 sec./LOS A	8.5 sec./LOS A	No
Peck Road/Foothill Road	8.7 sec./LOS A	8.7 sec./LOS A	No

The data in Tables 9 and 10 show that the addition of project traffic would not significantly impact most of study-area intersections during the A.M. and P.M. peak hour periods. However, based on City standards the project would contribute to the cumulative impact at the State Route 126 Eastbound Ramps/Peck Road intersection. Improvements identified for the State Route 126 Eastbound Ramps/Peck Road intersection are discussed in the Mitigation Measures section of the traffic study.

GENERAL PLAN BUILDOUT (YEAR 2020) ANALYSIS

The following section discusses the General Plan Buildout (Year 2020) scenario which includes the traffic generated by the project. The General Plan Buildout traffic volumes used in the Fagan Canyon traffic study, prepared by Crain & Associates, and the City of Santa Paula General Plan Circulation Element were used for this analysis. The General Plan Buildout traffic analysis assumes that State Route 126 is widened to 3-lanes in each direction as planned by the Ventura County Transportation Commission in addition to circulation improvements identified in the General Plan Circulation Element. Peck Road is widened to 4-lanes from Foothill Road south to Acacia Way and signalized from Santa Paula Road to the State Route 126 interchange. The existing Peck Road/Foothill Road intersection is eliminated. Peck Road will be realigned to the west in order to provide a sweeping curve from Foothill Road to Peck Road as part of the General Plan Buildout circulation improvements. The General Plan Buildout traffic volumes are illustrated on Figure 8.

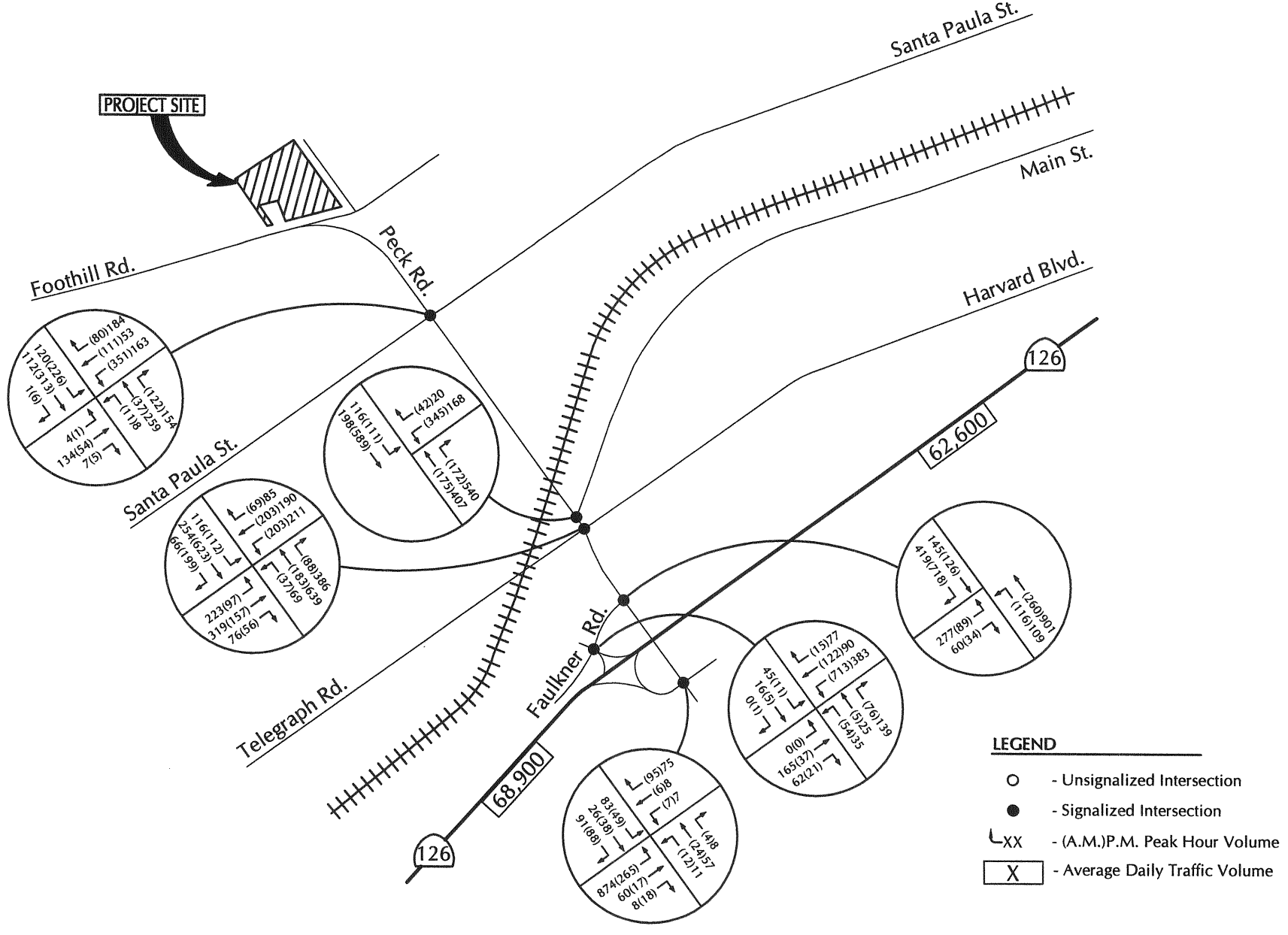
Freeway Operations

Freeway volumes and LOS for the General Plan Buildout and General Plan Buildout + project conditions are listed in Table 11 and illustrated in Figure 9.

Table 11
General Plan Buildout + Project Freeway Operations

Roadway Segment	Roadway Type	ADT			
		General Plan	General Plan + Project	LOS	Impact?
State Route 126					
- east of Peck Road	6-Lane Freeway	62,600	62,742	LOS B	No
- west of Peck Road	6-Lane Freeway	68,900	69,289	LOS B	No

The data in Table 11 show that the addition of project traffic to the State Route 126 would not significantly impact the study-area freeway segments based on the City's impact criteria.



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GENERAL PLAN BUILDOUT TRAFFIC VOLUMES

FIGURE 8

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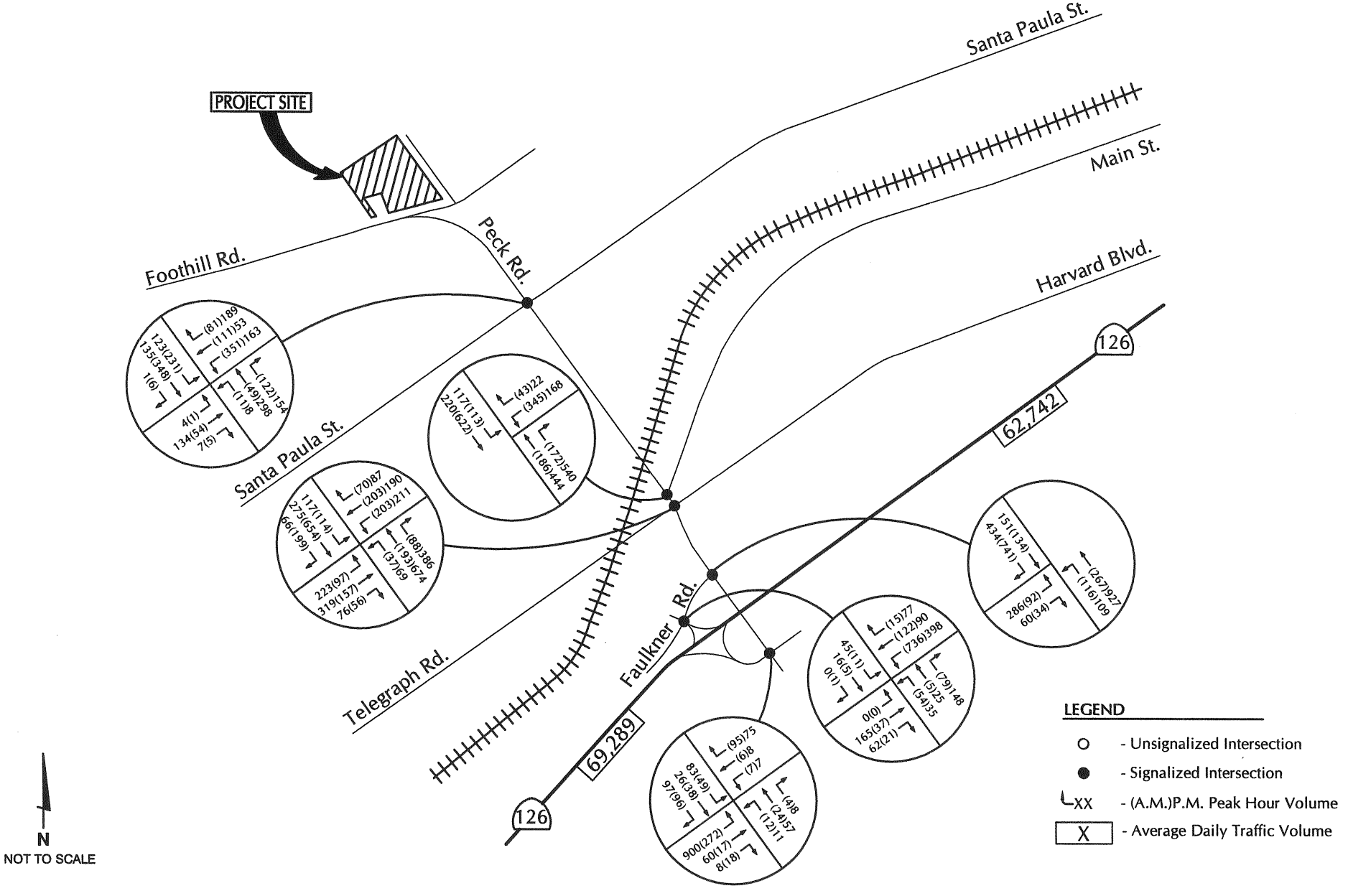

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GENERAL PLAN BUILDOUT + PROJECT TRAFFIC VOLUMES

FIGURE 9

MMF - #12047

Intersection Operations

Levels of service were calculated for the study-area intersections for the General Plan Buildout and General Plan Buildout + project scenarios. Intersection LOS worksheets are contained in the Technical Appendix. Intersection operations of the General Plan Buildout and General Plan Buildout + project scenarios during the A.M. and P.M. peak hours are listed in Tables 12 and 13. Figure 9 illustrates the A.M. and P.M. peak hour General Plan Buildout + project traffic volumes. The General Plan Buildout analysis assumes all of the study-area intersections are signalized.

Table 12
General Plan Buildout + Project A.M. Peak Hour Intersection Operations

Intersection	A.M. Peak Hour		Impact?
	General Plan	General Plan + Project	
	Delay-ICU/LOS	Delay-ICU/LOS	
State Route 126 EB Ramps/Peck Road	0.16/LOS A	0.16/LOS A	No
State Route 126 WB Ramps/Faulkner Road	0.50/LOS A	0.52/LOS A	No
Peck Road/Faulkner Road	0.58/LOS A	0.59/LOS A	No
Peck Road/Telegraph Road/Main Street	0.70/LOS B	0.71/LOS B	No
Peck Road/Santa Paula Street	0.52/LOS A	0.53/LOS A	No

Table 13
General Plan Buildout + Project P.M. Peak Hour Intersection Operations

Intersection	P.M. Peak Hour		Impact?
	General Plan	General Plan + Project	
	Delay-ICU/LOS	Delay-ICU/LOS	
State Route 126 EB Ramps/Peck Road	0.39/LOS A	0.39/LOS A	No
State Route 126 WB Ramps/Faulkner Road	0.35/LOS A	0.35/LOS A	No
Peck Road/Faulkner Road	0.74/LOS C	0.74/LOS C	No
Peck Road/Telegraph Road/Main Street	0.63/LOS B	0.63/LOS B	No
Peck Road/Santa Paula Street	0.43/LOS A	0.43/LOS A	No

The data in Tables 12 and 13 show that the addition of project traffic would not significantly impact the study-area intersections under General Plan Buildout conditions based on City standards.

SITE ACCESS

Access to the project site is proposed via a gated driveway connection to Foothill Road. The project will provide two secondary gated emergency access points. The eastern area of the project will be served by an emergency access connection to North Peck Road. A gated emergency access connection will be provided in the northwestern corner of the project. The project driveway connections shall be designed to City of Santa Paula design standards. The project would be required to improve Foothill Road along the project' s frontage, dedicating any necessary right-of-way needed to build the street to City standards. Given the project traffic volumes, the project driveway connection on Foothill Road would operate at LOS A during the A.M. and P.M. peak hour periods.

MITIGATION MEASURES

The State Route 126 Eastbound Ramps/Peck Road intersection is currently a 4-way STOP-sign controlled intersection. During the P.M. peak hour period under existing conditions the intersection operates at LOS E and under cumulative conditions the intersection will operate at LOS F. The City has programed the installation of traffic signals for the interchange in the future, however in the near-term, the project would be required to install traffic signals at the intersection to offset its impact. With traffic signals installed the State Route 126 Eastbound Ramps/Peck Road intersection will operate at LOS A.

The City of Santa Paula has enacted a Traffic Impact Mitigation Ordinance to address traffic and circulation needs. Pursuant to the requirement of this Ordinance the project would be required to pay the prescribed traffic fee. Since the project would be required to install traffic signals at the intersection it would be reimbursed through the payment of its traffic fees.

■ ■ ■

STUDY PARTICIPANTS AND REFERENCES

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Matthew Farrington, Traffic Technician I

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ADDENDUM TO THE TRAFFIC STUDY FOR THE TENTATIVE TRACT 5475 - SANTA PAULA, CALIFORNIA

Associated Transportation Engineers (ATE) has prepared the following addendum to the July 19th, 2012 traffic study prepared for Tentative Tract 5475 in the City of Santa Paula. The initial traffic study evaluated the potential traffic impacts associated with the proposed annexation and development of a 74-lot residential subdivision. The number of residential lots proposed by the project has been increased to 80 single-family residential lots.

PROJECT DESCRIPTION

Tentative Tract 5475 is located in the northwestern quadrant of the Peck Road/Foothill Road intersection, currently within the County of Ventura adjacent to the City of Santa Paula. The residential subdivision as currently proposed consists of 80 single-family residential lots and approximately 7.68 acres of private park/open space. Regional access is provided by the State Route 126/Peck Road interchange. Direct access will be provided via a gated driveway connection to Foothill Road. The applicant, through an agreement with the owner of North Peck Road, will provide a gated emergency access driveway connection to North Peck Road. An additional gated emergency only access is provided in the northwest corner of the site to serve western portion of the project.

PROJECT TRIP GENERATION

Average daily, A.M. and P.M. peak hour trip generation estimates were developed for the current 80-lot residential project and compared to the prior 74-lot residentail project. The trip generation comparison is presented in Table 1. The rates published in the Institute of Transportation Engineers (ITE), Trip Generation, 8th Edition for "Single Family Detached Housing" (Land Use Code #210) were used to develop the trip generation estimates.

Table 1
Project Trip Generation Estimate Comparison

Land Use	Size	ADT	A.M. Peak Hour			P.M. Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
Current Project: Single Family Residential	80 lots	766	15	45	60	51	30	81
Prior Project: Single Family Residential	74 lots	708	14	42	56	47	28	75
Net Difference:		+58	+1	+3	+4	+4	+2	+6

The current 80-lot residential project is expected to generate 766 average daily trips, 60 A.M. and 81 P.M. peak hour trips. The prior 74 lot residential project was expected to generate 708 average daily trips, 56 A.M. and 75 P.M. peak hour trips. The net difference is 58 average daily trips, 4 A.M. and 6 P.M. peak hour trips. The attached Figure A illustrates the revised project trip distribution and assignment through the study-area.

PROJECT IMPACTS

The initial traffic analysis of the 74-lot residential project concluded that the project would have project-specific and cumulative impacts at the State Route 126 Eastbound Ramps/Peck Road intersection. The current 80-lot residential project would continue to impact the State Route 198 Eastbound Ramps/Peck Road intersection. The addition of 4 A.M. peak hour trips and 6 P.M. peak hour trips would not result in any project-specific or cumulative impacts at any of the other study-area intersections.

Associated Transportation Engineers

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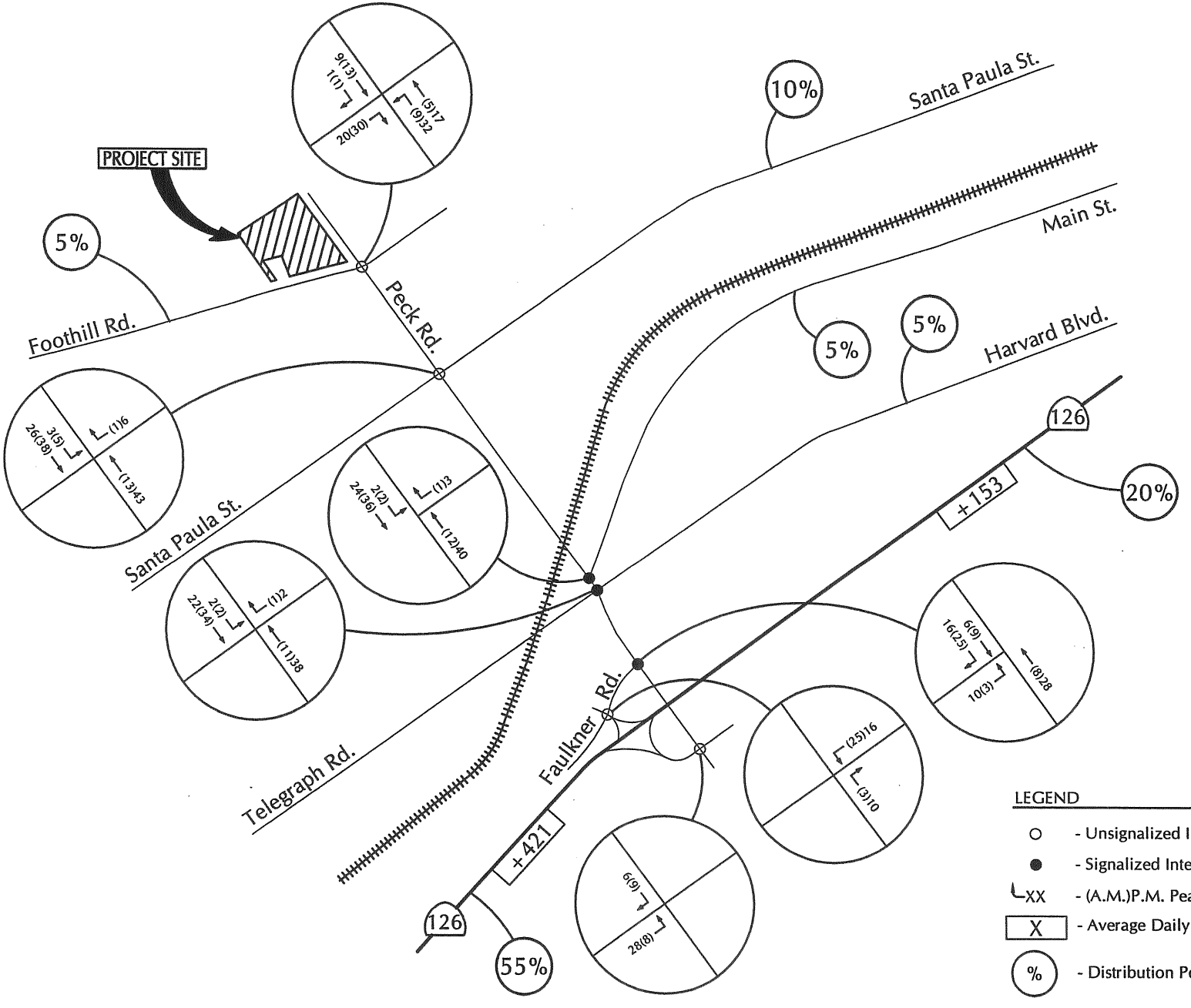
SAS/DFN/wp

Attachments: Figure A - Project Trip Distribution and Assignment



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PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

FIGURE A

MMF - #12047

Appendix K

Mitigation Monitoring and Reporting Program

MITIGATION MONITORING AND REPORTING PROGRAM

CEQA requires adoption of a mitigation monitoring and reporting program (MMRP) for the measures that are necessary to mitigate or avoid significant effects on the environment (Public Resources Code 21081.6). The mitigation monitoring and reporting program is designed to ensure compliance with adopted mitigation measures during project implementation. For each mitigation measure included in the Final EIR, specifications are made herein that identify the action required and the monitoring that must occur.

The following table will be used to verify compliance with mitigation measures required for Tentative Map 5475. Only mitigation measures are included in the MMRP. Standard regulatory requirements, as identified in the EIR, and conditions required by the City are not part of the MMRP.

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
AESTHETICS							
AES-1(a) Plant Screening. Plant materials must screen at least 50 percent of all architecture. Wall surfaces facing viewsheds must be screened to the maximum extent feasible.	Review final landscape plan.	Before issuance of City building permit	Once	Santa Paula Planning Department			
AES-1(b) Informal Tree Masses. Trees must be arranged in informal masses and shall be placed selectively to reduce the scale of long, steep slopes.	Review final landscape plan.	Before issuance of City building permit	Once	Santa Paula Planning Department			
AES-1(c) Slope Plantings. Slope plantings must create a gradual transition from developed slope areas into natural areas. Landscaping shall include fingers of plantings that extend into existing and sculptured slopes.	Review final landscape plan.	Before issuance of City building permit	Once	Santa Paula Planning Department			
AES-1(d) Random Shrub Placement. Shrubs must be randomly placed in masses within landscaped areas.	Review final landscape plan.	Before issuance of City building permit	Once	Santa Paula Planning Department			
AES-1(e) Natural Building Colors. All colors, textures, materials and forms shall be compatible with the natural setting. Medium to dark colors, which blend with the surrounding environment, must be used for building elevations and roof materials.	Review final architectural plan.	Before issuance of City building permit	Once	Santa Paula Planning Department			
AES-1(f) Low Reflectivity Glass. Project design and architectural treatments must incorporate additional techniques to reduce light and glare, such as use of low reflectivity glass.	Review final architectural plan.	Before issuance of City building permit	Once	Santa Paula Planning Department			
AES-1(g) Driveway and Retaining Wall Landscaping. Landscaping must be planted so as to shield retaining walls and driveway in order to preserve natural appearance of hillside from Foothill Road, a City-designated Scenic Route.	Review final landscape plan.	Before issuance of City building permit	Once	Santa Paula Planning Department			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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AIR QUALITY							
AQ-1 Construction Emission Reduction Measures. All contractors must implement fugitive dust control measures consistent with Ventura County Air Pollution Control District Rule 55 throughout all phases of construction. Developers must include in construction contracts the control measures required and recommended by the VCAPCD at the time of development. Examples of the types of measures currently required and recommended include the following: • Minimize the area disturbed on a daily basis by clearing, grading, earthmoving, and/or excavation operations. • Pre-grading/excavation activities include water the area to be graded or excavated before the commencement of grading or excavation operations. Application of water should penetrate sufficiently to minimize fugitive dust during these activities. • All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, must be treated to prevent fugitive dust. Treatments must include, without limitation, periodic watering, application of environmentally-safe soil stabilization materials, and/or roll-compaction as appropriate. Water must be done as often as necessary.	Review construction specifications; field monitor during grading and construction.	Review construction specifications before issuance of City grading permit; field monitor throughout grading and construction	Once for construction specification review; field monitor periodically (at least weekly) throughout grading and construction	Santa Paula Planning Department			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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• Material stockpiles must be enclosed, covered, stabilized, or otherwise treated, to prevent blowing fugitive dust offsite. • Graded and/or excavated inactive aeas of the construction site must be monitored by a City-designated monitor at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, must be periodically applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and water until grass growth is evident, or periodically treated with environmentally-safe dust suppressants, to prevent excessive fugitive dust. • Signs must be posted on-site limiting on-site traffic to 15 miles per hour or less. • During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), all clearing, grading, earth moving, and excavation operations must be stopped to the degree necessary to prevent fugitive dust created by on-site activities and operations from being a nuisance or hazard, either off-site or on-site. The site superintendent/supervisor must use his/her discretion in conjunction with the VCAPCD in determining when winds are excessive.							

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• Adjacent streets and roads must be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads. • Personnel involved in grading operations, including contractors and subcontractors, should be advised to wear respiratory protection I accordance with California Division of Occupational Safety and Health regulations. • Signs displaying the APCD Complaint Line telephone number for public complaints must be posted in a prominent location visible off-site.							
BIOLOGICAL RESOURCES							
BIO-1(a) Pre-Construction Survey. Not more than two weeks before initiation of construction or fill activities, the applicant must retain a qualified biologist to conduct a nesting bird survey of the development site, fill site(s), and surrounding area. Construction plans must be designed to avoid impacts to mature trees and shrubs that may contain nests to the greatest extent feasible.	Review and approve biologist-prepared report documenting findings of pre-construction survey. For fill sites, verify that the report has also been approved by Ventura County.	Before issuance of City grading permit	Once	Santa Paula Planning Department			
BIO-1(b) Buffers from Active Nests. If an active nest is located within the vicinity of construction activities, all work must be conducted at least 5 to 500 feet from the nest upon recommendation from CDFW until the young have fledged and the nest site is no longer in use as determined by a qualified biologist.	Review and approve biologist recommendations. For fill sites, verify that recommendations have also been approved by Ventura County. Monitor compliance during grading and construction.	Recommen-dation approval before issuance of City grading permit; field monitoring throughout grading and construction	Once for review of recommend-dations; field monitoring periodically	Santa Paula Planning Department for recommendation review; Ventura County for field monitoring of fill sites			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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BIO-1(c) Tree and Shrub Removal Limitations. Tree and shrub removal is limited to the non-breeding season (September 16 through February 14). Trees may be removed outside of this period upon the condition that, before removal, trees and shrubs must be inspected by a qualified biologist not more than two weeks prior to any scheduled tree trimming or removal.	Review and approve biologist-prepared report documenting findings of inspection and associated recommendations. For fill sites, verify that report and recommendations have also been approved by Ventura County.	Before issuance of City grading permit	Once	Santa Paula Planning Department			
BIO-1(d) California Gnatcatcher Protocol Surveys. Before tree and shrub removal in any of the fill sites between February 15 and September 15, protocol surveys for coastal California gnatcatcher must be completed by a qualified biologist, selected by the City, in accordance with Coastal California Gnatcatcher (Polioptila californica californica) Present/Absence Survey Guidelines (USFWS 1997). If no coastal California gnatcatcher nests are located, no further mitigation is required. If an active coastal California gnatcatcher nest is located, a minimum avoidance buffer of 250 feet must be established around the nest. The avoidance buffer must be demarcated with bright orange construction fencing installed around the perimeter between the nest and active construction activities. The avoidance buffer must be in place until the qualified biologist has determined that the adults and offspring are no longer reliant on the nest site. No construction activities or personnel may enter the avoidance buffer without specific permission from the qualified	As necessary for fill sites, review and approve biologist-prepared report documenting findings of survey and any recommendations for avoidance. Verify that report and recommendations have also been approved by Ventura County. Field monitor throughout grading of fill sites.	Report review and approval before issuance of City grading permit; field monitoring throughout grading in fill sites	Once for report review; field monitoring at least weekly during grading	Santa Paula Planning Department for report review; Ventura County for field monitoring			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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biologist. The qualified biologist must monitor the avoidance buffers a minimum of once per week to ensure avoidance is observed and the nest is not affected by construction.							
BIO-2(a) Agency Permits. The applicant shall obtain appropriate permits for fill of waters of the U.S. and state for the fill sites from the regulatory agencies prior to approval of the final grading plan by the County. Specific permits needed may include: • Clean Water Act Section 404 permit from the ACOE; • Clean Water Act Section 401 certification from the Regional Water Quality Control Board, Los Angeles Region; and • Streambed Alteration Agreement with the California Department of Fish and Wildlife. The applicant shall provide signed copies of such agreements and permits to the County, or a signed letter that no permits are required, before the issuance of a grading permit.	As necessary for fill sites, verify that required permits/ agreements have been obtained.	Before issuance of City grading permit	Once	Santa Paula Planning Department			
BIO-2(b) Habitat Replacement. All acreage designated as waters of the United States that is lost as a result of project implementation must be replaced at a ratio of habitat created at a minimum of a 2:1 ratio, or as determined appropriate by CDFW. Mitigation must occur on-site or in an approved off-site location within the same watershed if feasible. The final mitigation acreage must be determined based on the as-built conditions of the fill sites following completion of all	As necessary for fill sites, verify that a habitat replacement plan has been developed and approved by CDFW and Ventura County.	Before issuance of City grading permit	Once	Santa Paula Planning Department			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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necessary deposition of fill. A mitigation plan must be approved by the Planning Director, or designee. All mitigation areas shall have a deed restriction, conservation easement, or some other method, in a form approved by the City Attorney, of ensuring that the restoration site is preserved in perpetuity.							
BIO-3(a) Daylight Construction. Construction activities are limited to daylight hours in order to reduce disturbance to nocturnally active species.	Field monitor during grading and construction.	Throughout grading and construction	Periodically	Santa Paula Planning Department for TM 5475			
BIO-3(b) Native Plants. Upon completion of construction activities, disturbed soils must be landscaped using native plant species. A qualified landscape architect must develop a landscaping plan that includes plant species native to the Adams Canyon vicinity. Disturbed areas must be landscaped with the goal of facilitating wildlife movement. All acreage mapped as coast prickly-pear series and California encelia series that is lost as a result of project implementation must be replaced in-kind through habitat creation at a minimum ratio of 1:1 (habitat created to habitat lost). The final calculation of mitigation acreage must be determined based on a comparison of pre-construction condition of the site and as-built conditions of the fill sites and haul roads following completion of deposition of fill. Mitigation must occur on-site or at an approved off-site location within an area containing similar physical, edaphic, and	Verify that an appropriate landscape plan and habitat replacement plan has been prepared and, as necessary for the fill sites, approved by Ventura County. Field verify compliance with the plan.	Plan review before issuance of City grading permit; field verification for a period of five years following planting.	Once for plan review; annually for field verification	Santa Paula Planning Department; Ventura County for fill sites			

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topographic conditions as those within the impact area. A habitat mitigation and monitoring plan must be approved by the Planning Director, or designee, and include, at a minimum: a description of the habitat impacted, the location where habitat will be created, a description of site preparation and maintenance activities (such as weed control, irrigation, and herbivory control), a schedule of planting and maintenance activities, a description and schedule of monitoring activities, a description of reporting requirements, and a definition of success criteria. Mitigation at off-site locations shall occur concurrent with ground disturbance activities. Mitigation on-site must commence immediately upon completion of ground disturbance activities. The plan must be implemented for a period of at least five years or until the success criteria have been met. All mitigation areas must have a deed restriction, conservation easement or some other means, in a form approved by the City Attorney, for protection in perpetuity, documentation of which must be filed with the lead agency before implementation of mitigation.							
BIO-3(c) Low-Light Design. The following low-light design features must be implemented adjacent to open space and wildlife corridor areas: • Light poles cannot exceed 25 feet to reduce the glare and pooling of light into open space and corridor areas; • The number of lights used must be	Review and approve final lighting plan to verify compliance.	Prior to issuance of City building permit	Once	Santa Paula Planning Department			

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the minimum necessary for safety; and • Light elements must be recessed or hoods must be used to reduce glare impacts on open space and corridor areas.							
BIO-4(a) Oak Woodland Avoidance and Replacement. Redesign the fill sites and associated access roads to avoid areas containing oak trees and oak woodlands to the greatest extent feasible. Mitigation for oak woodland habitat must occur at a ratio of 2 acres of oak woodland habitat preserved/planted for every acre of oak woodland habitat impacted. At least 50% of mitigation acreage for oak woodland habitat must consist of preservation of existing habitat at an approved off-site location. The off-site location should be proximal to the project site to reduce the overall loss of oak woodland habitat within the project vicinity. The remaining mitigation acreage may consist of planting new trees on-site or at an approved off-site location. Planting mitigation oak trees in the vicinity of existing oak woodland is encouraged. An oak woodland mitigation plan must be prepared by a certified arborist and include the same components as outlined in BIO-3(b) for the habitat mitigation and monitoring plan. The plan must be approved by the County before implementation. The oak woodland mitigation plan must be designed to replicate to the greatest extent feasible the overall habitat characteristics and species composition	Review and approve oak woodland mitigation plan to verify compliance.	Before issuance of City grading permit	Once	Santa Paula Planning Department			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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as the oak woodland impacted by the proposed project. This includes planting appropriate understory and codominant plant species, and selecting sites with similar physical, edaphic, and topographic features as observed at the impact sites. The oak woodland mitigation plan shall be implemented for a period of at least seven years, or until the success criteria are met. A deed restriction or restrictive covenant, in a form approved by the City Attorney, must be recorded against all mitigation areas to protect the mitigation in perpetuity. Mitigation for individual oak trees not part of oak woodland habitat as defined in the California Public Resources Code must occur at a ratio of 2:1 (trees planted to trees impacted). Individual mitigation oak trees must be planted on-site or at an approved off-site location in such a manner as to provide similar habitat functions and values as the impacted tree currently provides. Individual mitigation oak tree plantings may be installed in conjunction with mitigation of oak woodland habitat. Mitigation requirements for individual oak trees must be included in the oak woodland mitigation plan described above. Individual mitigation oak trees must be subject to the same success criteria, mitigation timing, and protective restrictions as oak woodland mitigation acreage.							
BIO-4(b) Protected Tree Plan. Within 60 days of approval of a County grading permit, the applicant must submit for approval by the Ventura County	As necessary, verify that the County of Ventura has approved an applicant-prepared	Before issuance of a City building permit	Once	Santa Paula Planning Department			

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Planning Director a Protected Tree Plan in compliance with Ordinance 3993 Sec. 8107-25 and the County's Tree Protection Guidelines regarding the removal, transplanting, or alteration of protected trees. Once approved, the Protected Tree Plan must be submitted to the City before approval of a grading permit. Tree replacement at the levels prescribed in the County's Tree Protection Guidelines (inch by inch based on the "cross-sectional area of the affected portions of the affected tree) is required for removal or alteration of existing trees. A Habitat Mitigation and Monitoring Plan must be developed by a qualified biologist for replacement trees and must include goals, methods, success criteria, and a minimum five-year monitoring schedule.	protected tree plan.						
BIO-5 Landscape Plan Review. The final landscape design plan, prepared by a qualified landscape architect, must be reviewed and approved by a City approved biologist such that project landscaping does not introduce invasive non-native plant species into the vicinity of the project site. The plan must be approved before installation of landscaping.	Review and approve a final landscape design plan.	Before issuance of a City grading permit	Once	Santa Paula Planning Department			
CULTURAL RESOURCES							
CR-2(a) Procedures for Discovery of Intact Cultural Resources. If unanticipated cultural resource remains are encountered during construction or land modification activities, the developer must follow the applicable procedures established by the Advisory Council on Historic Preservation concerning protection and preservation of Historic and Cultural Properties (36	As necessary, review and approve applicant-prepared assessment and mitigation plan for identified cultural resources.	As necessary, before re-commencement of grading work	As necessary	Santa Paula Planning Department			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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C.F.R. §§ 800.1, et seq.). In this event, the developer/construction contractor must cease work until the nature, extent, and possible significance of any cultural remains can be assessed and, if necessary, remediated. Such assessment and remediation must be implemented by the developer and is subject to review and approval by the Planning Director before commencement with on-site construction/grading activities. If remediation is needed, possible techniques include removal, documentation, or avoidance of the resource, depending upon the nature of the find.							
CR-2(b) Human Remains. In the event of a discovery of human bones, suspected human bones, or a burial, during ground-disturbing activities, all excavation in the vicinity must halt immediately and the area of the find protected until a qualified archaeologist determines whether the bone is human. If the qualified archaeologist determines the bones are human, the Ventura County Coroner must be notified before additional disturbance occurs. The construction contractor must ensure that the remains and vicinity of the find are protected against further disturbance until the Coroner has made a finding with regard to Public Resources Code § 5097 procedures, in compliance with Health and Safety Code § 7050.5(b). If it is determined that the find is of Native American origin, the City will comply with the provisions of Public Resources Code § 5097.98 regarding identification and	As necessary, review and approve applicant-prepared assessment and mitigation plan for identified human remains and verify that the Coroner and MLD have been contacted as appropriate.	As necessary, before re-commencement of grading work	As necessary	Santa Paula Planning Department			

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involvement of the Native American Most Likely Descendant (MLD).							
GEOLOGY AND SOILS							
GEO-1(a) Adherence to Current Building Codes. All structures and facilities must be designed and constructed to withstand the expected ground acceleration that may occur at the project site based on the California Building Code, as adopted by the SPMC. The calculated design base ground motion for the site must consider the soil type, potential for liquefaction, and the most current and applicable seismic attenuation methods available. All surface facilities and equipment must have suitable foundations and anchoring design, surface restraints, and moment-limiting supports to withstand seismically induced groundshaking.	Verify that final structure design conforms to applicable Building Code requirements.	Before issuance of City building permits	Once	Santa Paula Inspection Services Department			
GEO-1(b) Slope Stability. All proposed slope construction, roadways, and work pads must be properly engineered and filled in accordance with the California Building Code, as adopted by the SPMC, and custom and practice in the industry. This will include ensuring the following minimum criteria: • Slope Stability Factors of Safety for Static Conditions: 1.5 • Slope Stability Factors of Safety for Pseudostatic Conditions: 1.1 • Surficial Factor of Safety for all Proposed Slopes: 1.5 • Slope Stability Factors of Safety for Temporary Conditions: 1.25 to 1.5 depending on the importance and sensitivity of the building, improvements, and utilities. Longer	Verify that the final grading plan conforms to applicable Building Code requirements.	Before issuance of City grading permit	Once	Santa Paula Public Works Department			

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duration excavations may be required to have a high bound factor safety due to the increased risks (e.g. long-term strain response, increased seismic exposure, etc.).							
GEO-2 Adherence to Geotechnical Report and Requirements. Unless demonstrated by a registered civil engineer, all existing uncertified fill and disturbed or compressible soils must be removed and replaced with compacted engineered fill to the appropriate elevations in areas where building pads, proposed location of structures, pavements, and utilities. All grading and construction shall be in accordance with California Building Code, as adopted by the SPMC, requirements and specifications. This includes, without limitation, the following: • All vegetation, soils containing substantial levels of organics, trash and construction debris on the property within the areas of development must be removed before grading operations. Any existing utility or subsurface draining systems must also be removed or abandoned. • All existing fill soils must be removed during grading. Additionally, upper soils must be removed to a minimum of three to five feet below the bottom of proposed footings. Deeper removals may be necessary where heavy foundation loads are proposed. • After vegetation and soil removal, exposed soil must be observed by a	Verify that the final grading plan conforms to applicable Building Code and other specified requirements.	Before issuance of City grading permit	Once	Santa Paula Public Works Department			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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City-approved project geotechnical consultant to evaluate if additional removals are needed. • All areas to receive fill must be processed before placing fill. Processing consists of surface scarification to a minimum depth of 8 inches, moisture conditioning to slightly above the optimum moisture content, and re-compaction to a minimum of 90% of the maximum dry density (90% relative compaction). Optimum moisture content and maximum dry density must be determined per ASTM D 1557. • On-site fill soils from must be free of all deleterious materials including trash, debris, organic matter, and rocks larger than 12 inches. Fill soils must be placed in thin uniform lifts, brought to slightly above the optimum moisture content, and compacted to a minimum of 90% relative compaction. If import fill is needed, sources of import fill must be approved by a City-approved project geotechnical consultant before transport of materials to the site. • Temporary shallow excavations made in properly compacted fill or firm natural soils must stand with vertical sides. Vertical excavations deeper than four feet must be shored, or in place of shoring, temporary excavations less than ten feet in depth can be sloped at 1:¾(h):1(v) or flatter (Type C soils or per a Registered Civil Engineer).							

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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• Backfill of all utility trenches within building, parking, and drive areas must be compacted to a minimum of 90% relative compaction. To the extent possible, sandier on-site soils must be used for backfilling trenches. • Positive drainage must be provided away from structures and retaining walls during and after construction. Planters near a structure must be constructed so irrigation water will not saturate footing and slab subgrade soils.							
GEO-4(a) Adherence to Geotechnical Report and Requirements for Landslide Mitigation. The existing landslide must be removed in accordance with the requirements and specifications of the geotechnical report. A subsequent detailed geotechnical report and remedial grading plan is required during the rough grading design stage to address the specific requirements for removal and grading. This report and plans must be reviewed and approved by the Public Works Director, or designee. The report and plans must include, without limitation: • Temporary excavations and stability; • Protection of offsite property; • Stormwater management; • Stockpiling; • Haul roads; • Benching; • Subdrains; and, • Compaction.	Verify that the final geotechnical report and remedial grading plan addresses applicable requirements pertaining to remediation of the existing onsite landslide.	Before issuance of City grading permit	Once	Santa Paula Public Works Department			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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GEO-4(b) Slope Stability Analysis Report. A Registered Civil Engineer and Certified Engineering Geologist, experienced in geotechnical slope stability, must perform a detailed geotechnical evaluation of all areas of proposed buildings, structures, and utilities adjacent to slopes to assess and verify that the areas onsite and on adjacent offsite properties have a suitable factor of safety. The report must present the necessary geologic mapping, aerial photography review, subsurface exploration, lab testing, geotechnical analysis, and recommendations for all mitigation measures. This report must be submitted to the Public Works Director, or designee, for review and approval and conform with City geotechnical requirements and custom and practice in the industry.	Verify that the final geotechnical report addresses applicable requirements pertaining to slope stability.	Before issuance of City grading permit	Once	Santa Paula Public Works Department			
GEO-5 Soils/Foundation Report Measures. A final geotechnical report must be prepared by a registered civil engineer and approved by the Public Works Director, or designee. The report must identify techniques to reduce the adverse effects of expansive soils effects on foundations, pavement, retaining walls, and utilities. To reduce the potential for foundation cracking, one or more of the following must be implemented as recommended by a City-approved geotechnical engineer: 1. Use continuous deep footings (i.e., embedment depth of 18-27 inches) and concrete slabs on grade with increased steel reinforcement together with a pre-wetting and	Verify that the final geotechnical report and remedial grading plan addresses applicable requirements pertaining to expansive soils.	Before issuance of City grading permit	Once	Santa Paula Public Works Department			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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long-term moisture control program within the active zone. 2. Removal of the highly expansive material and replacement with non-expansive compacted import fill material. 3. The use of specifically designed drilled pier and grade beam system incorporating a structural concrete slab on grade supported approximately 6 inches above the expansive soils. 4. Chemical treatment with hydrated lime to reduce the expansion characteristics of the soils. 5. Where necessary, construction on transitional lots shall include over excavation to expose firm sub-grade, use of post tension slabs in future structures, or other geologically acceptable methods. 6. Soils must be properly compacted as specified by a registered civil engineer. The registered civil engineer should also specify the appropriate soil-water content relative to optimum, for expansive soil mitigation. 7. Vapor barriers and capillary break must be used under slabs to reduce the potential for moisture transport and pumping that leads to moisture infiltration as a result of heat and moisture gradients where buildings are sensitive to moisture infiltration. 8. Pipelines trench construction should be designed to prevent heave and lateral deflection with appropriate sand bedding, backfill, and compaction efforts.							

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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9. Construct retaining walls to resist expansive pressures, in addition to the lateral loads associated with the backfill, as well as, proper drainage.							
HYDROLOGY AND WATER QUALITY							
HYD-1 Stormwater Pollution Prevention Plan. Before the City issues a grading permit, the site developer must prepare a Stormwater Pollution Prevention Plan for the site for review and approval by the Public Works Director, or designee. The SWPPP must fully comply with RWQCB requirements and contain specific BMPs to be implemented during project construction to reduce erosion and sedimentation to the maximum extent practicable. At a minimum, the following BMPs must be included within the Plan: <u>Pollutant Escape: Deterrence</u> • Cover all storage areas, including soil piles, fuel and chemical depots. Protect from rain and wind with plastic sheets and temporary roofs. <u>Pollutant Containment Areas</u> • Locate all construction related equipment and related processes that contain or generate pollutants (i.e., fuel, lubricant and solvents, cement dust and slurry) in isolated areas with proper protection from escape. • Locate construction-related equipment and processes that contain or generate pollutants in secure areas, away from storm drains and gutters. • Place construction-related	Verify that an SWPPP with the required components has been prepared and field verify compliance with BMPs during construction.	Verify SWPPP preparation before issuance of City grading permit; field verify compliance throughout grading and construction	Once for SWPPP verification; periodically for field verification	Santa Paula Public Works Department			

Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
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equipment and processes that contain or generate pollutants in bermed, plastic lined depressions to contain all materials within that site in the event of accidental release or spill. • Park, fuel and clean all vehicles and equipment in one designated, contained area. <u>Pollutant Detainment Methods</u> • Protect downstream drainages from escaping pollutants by capturing materials carried in runoff and preventing transport from the site. Examples of detainment methods that retard movement of water and separate sediment and other contaminants are silt fences, hay bales, sand bags, berms, silt and debris basins. <u>Erosion Control</u> • Schedule project grading into phases that allow for erosion control of smaller areas rather than a single, large exposed site. Vegetation should only be removed when necessary and immediately before grading. • Conduct major excavation during dry months. These activities may be significantly limited during wet weather. • Utilize slope stabilizer, including natural fiber erosion control blankets of varying densities according to specific slope/site conditions. • Expedite the restoration of natural vegetative erosion control and							

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reduce risk of slope failure by immediately re-vegetating and irrigating until first one inch of rain. • Reduce fugitive dust by wetting graded areas with adequate, yet conservative amount of water. Cease grading operations in high winds. <u>Recycling/Disposal</u> • Develop a protocol for maintaining a clean site. This includes proper recycling of construction related materials and equipment fluids (i.e., concrete dust, cutting slurry, motor oil and lubricants). • Provide disposal facilities. Develop a protocol for cleanup and disposal of small construction wastes (i.e., dry concrete). <u>Hazardous Materials Identification and Response</u> • Develop a protocol for identifying risk operations and materials. Include protocol for identifying spilled materials source, distribution; fate and transport of spilled materials. • Provide a protocol for proper clean up of equipment and construction materials, and disposal of spilled substances and associated cleanup materials. • Provide an emergency response plan that includes contingencies for assembling response team and immediately notifying appropriate agencies.							

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Scheduling • Grading activities associated with landslide removal, and rear slope grading may occur only during dry months (between April and October), or during winter months with provisions specified by the City Engineer.							
HYD 2(a) Final Drainage Plans. Before the City issues a grading permit, the developer must prepare a final drainage plan that includes detailed design and hydraulic analysis of the drainage facilities that capture and convey off-site runoff. These drainage facilities must meet applicable design requirements and capacities as determined by the Public Works Director, or designee. The final plans must be subject to review and approval by the Public Works Director, or designee.	Review and approve the final drainage plan to verify compliance with applicable requirements.	Before issuance of City grading permit	Once	Santa Paula Public Works Department			
HYD-2(b) Onsite Storm Water Detention Facility. Before the City issues a grading permit, the site developer must prepare a final hydrology and hydraulic study for the site as well as a design for an onsite detention system to atenuate the peak flow to the pre-existing condition. At a minimum, the detention basin must include the following within the design. • Attenuation of the Peak Flow to Pre-Existing Conditions: Detention • Adequately size the detention basin to attenuate the peak flow equal to or less than the pre-existing condition. • Provide a low flow outlet to prevent standing water. Water must be	Review and approve a final hydrology and hydraulic study to verify compliance with applicable requirements.	Before issuance of City grading permit	Once	Santa Paula Public Works Department			

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required to drain within 48 hours of the last wet weather event. • An emergency overflow outlet must be provided should an unexpected storm event occur or the restricted outlet becomes clogged. • Vehicle access to the basins must be provided to allow for routine maintenance. • The basins must be designed in accordance with the County of Ventura requirements.							
HYD-2(c) Discharge. Discharge of peak surface water runoff from the project area must be directed in a manner that is non-erosive and in conformance with applicable regulatory agencies such as the Ventura County Watershed Protection District and the City of Santa Paula. The proposed outlet should consist of an engineered rip rap outlet or other equivalent dissipation method to ensure that outlet flows do not erode and damage the downstream properties.	Review and approve the final drainage plan to verify compliance with applicable requirements.	Before issuance of City grading permit	Once	Santa Paula Public Works Department			
HYD-3 Stormwater Management Plan. Before the City issues a grading permit, the developer must demonstrate that a Stormwater Management Plan satisfying the requirements of the SQUIMP has been developed and approved by the Public Works Director, or designee. At a minimum, the plan must include provisions for addressing the following areas of concern, as outlined in the SQUIMP. <u>Minimization of Storm Water Pollutants of Concern</u> Source-control and treatment BMPs are needed to ensure that pollutants are removed to the maximum extent	Verify that a Stormwater Management Plan meeting applicable requirements has been prepared.	Verify Plan preparation before issuance of City grading permit	Once	Santa Paula Public Works Department			

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practicable. At a minimum the Stormwater Management Plan must include:
 	
• A program for the routine cleaning and maintenance of streets, parking lots, catch basins and storm drains, especially before the rainy season, to help reduce the level of gross pollutants being discharged from the plan area
• Other BMPs incorporated in project design so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern to receiving waters. In general, the use of infiltration-based BMPs are discouraged due to the presense of the remaining portions of the landslide that extend offsite. Therefore, BMPs may include, but are not limited to:
  o Directing rooftop runoff to bioswlaes and other landscpae based BMP;
  o Use of biofilters, including vegetated swales and strips; and
  o Storm water treatment wetlands
 	
<u>Informational Materials, including Storm Drain System Stenciling and Signage</u>
The following informational materials must be provided:
 	
• Educational flyers for each new building unit regarding toxic chemicals and alternatives for fertilizers, pesticides, cleaning solutions and automotive and paint							

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products (the flyers should also explain the proper disposal of household hazardous waste); • Stenciling of all storm drains inlets and post signs along channels to discourage dumping by informing the public that water flows to the Santa Clara River; and, • Maintenance of the legibility of stencils and signs. <u>Ongoing BMP Maintenance</u> All permanent BMPs must be on City property or easements and maintained by a maintenance assessment district. <u>Proper Design and Treatment of Runoff from Streets and Parking Areas</u> Streets and parking areas may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks. To minimize the potential impacts of parking lots, the following are required: • Oil and petroleum hydrocarbons produced at plan area parking lot must be removed from runoff before entering the Santa Clara River. If a regional treatment facility is developed, then the runoff needs to enter the drain • The developer must ensure adequate operation and maintenance of treatment systems, particularly sludge and oil removal, and system fouling/plugging prevention control Per the SQUIMP, structural or treatment control BMPs must meet the							

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following design standards: • Volume based post-construction structural or treatment control BMPs must be designed to mitigate (infiltrate or treat) storm water runoff from one of the following design standards: a. The volume of annual runoff to achieve 80 percent volume capture (Ventura County Land Development Guidelines); b. The 85th percentile 24-hour runoff event; c. The volume of runoff produced from a 0.75-inch storm event; or d. The volume of runoff produced by a rainfall criterion that achieves the same reduction in pollutant loads as b. e. Based on the current EPA NURP (1983) studies, studies must be performed to achieve an 80 percent capture of potential pollutants (e.g., lead, copper, TSS, TKN, etc). • Flow-based post-construction structural or treatment control BMPs must be sized to handle the flow generated from either: a. 10% of the 50-year design flow rate; b. A flow that would result in treatment of the same portion of runoff as treated using volumetric standards above; c. A rain event equal to at least 0.2 inches per hour intensity; or							

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d. A rain event equal to at least two times the 85th percentile hourly rainfall intensity for Ventura County.							
NOISE							
N-1(a) Closed Engine Doors and Mufflers. Construction contractors must operate all diesel equipment with closed engine doors and be equipped with factory-recommended mufflers.	Review and approve construction specifications to verify inclusion of applicable requirements; field verify compliance.	Construction specification review before issuance of City grading permit; field verify compliance throughout grading and construction	Once for specification review; field monitor periodically during construction	Santa Paula Planning Department			
N-1(b) Electrical Power. Whenever feasible, construction contractors must use electrical power to run air compressors and similar power tools.	Review and approve construction specifications to verify inclusion of applicable requirements; field verify compliance.	Construction specification review before issuance of City grading permit; field verify compliance throughout grading and construction	Once for specification review; field monitor periodically during construction	Santa Paula Planning Department			
N-1(c) Sound Blankets. When feasible, construction contractors must use sound blankets on noise-generating equipment.	Review and approve construction specifications to verify inclusion of applicable requirements; field verify compliance.	Construction specification review before issuance of City grading permit; field verify compliance throughout grading and construction	Once for specification review; field monitor periodically during construction	Santa Paula Planning Department			

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TRAFFIC AND CIRCULATION							
T-2 Traffic Signals. Install traffic signals at the State Route 126/Eastbound Ramps/Peck Road intersection. The City of Santa Paula has enacted a Traffic Impact Mitigation Ordinance to address the cumulative traffic and circulation needs. Pursuant to the requirements of this Ordinance, the project would be required to pay the prescribed fees to mitigate its' incremental cumulative impact.	Verify that the applicant has paid pro rata fees toward the cost of the needed improvements.	Before issuance of building permit	Once	Santa Paula Planning Department			
GROWTH INDUCEMENT							
GI-1 Infrastructure Extensions. Water and sewer infrastructure extensions that would serve the proposed project must be sized to meet only the demands of the project itself, not further development in the Adams Canyon Expansion Area. The proposed water and sewer line extensions must be reviewed by the Public Works Director, or designee and the Planning Director, or designee, as part of the proposed project review.	Review final infrastructure plans to verify compliance.	Before issuance of building permit	Once	Santa Paula Public Works Department			

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