

# CITY OF SAN JACINTO ESPLANADE AVENUE WIDENING-PHASE I

Initial Study and Mitigated Negative Declaration

Prepared for  
City of San Jacinto

December 2019







# CITY OF SAN JACINTO ESPLANADE AVENUE WIDENING-PHASE I

Initial Study and Mitigated Negative Declaration

Prepared for  
City of San Jacinto

December 2019

550 West C Street  
Suite 750  
San Diego, CA 92101  
619.719.4200  
esassoc.com



Bend	Oakland	San Diego
Camarillo	Orlando	San Francisco
Delray Beach	Pasadena	Santa Monica
Destin	Petaluma	Sarasota
Irvine	Portland	Seattle
Los Angeles	Sacramento	Tampa

**OUR COMMITMENT TO SUSTAINABILITY** | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations. This document was produced using recycled paper.

# TABLE OF CONTENTS

---

## City of San Jacinto Esplanade Avenue Widening-Phase I Initial Study and Mitigated Negative Declaration

	<u>Page</u>
<b>Project Description .....</b>	<b>1</b>
Overview and Background .....	1
Project Location and Setting .....	5
Project Objectives.....	5
Project Description .....	5
Construction of the Proposed Project .....	5
Operation and Maintenance .....	6
Proposed Project Approvals.....	6
<b>Environmental Factors Potentially Affected.....</b>	<b>9</b>
<b>Environmental Checklist.....</b>	<b>10</b>
Aesthetics .....	10
Agriculture and Forestry Resources.....	12
Air Quality .....	17
Biological Resources .....	20
Cultural Resources .....	27
Energy .....	31
Geology and Soils .....	32
Greenhouse Gas Emissions.....	36
Hazards and Hazardous Materials .....	37
Hydrology and Water Quality .....	40
Land Use and Planning .....	43
Mineral Resources.....	44
Noise.....	46
Population and Housing .....	48
Public Services .....	49
Recreation .....	51
Transportation.....	52
Tribal Cultural Resources .....	54
Utilities and Service Systems .....	57
Wildfire.....	59
Mandatory Findings of Significance .....	61

## Appendices

- A. Emissions Modeling Outputs
- B. Jurisdictional Determination
- C. Biological Resource Reports

## List of Figures

1	Regional Location.....	2
2	Project Overview .....	3
3	Farmlands.....	13

## List of Tables

1	Proposed Project: Regional Construction Emissions lbs per day .....	19
2	California Native American Tribes Notified Pursuant to AB 52 .....	55
3	Summary of Tribes Consulted.....	55

# CITY OF SAN JACINTO ESPLANADE AVENUE WIDENING-PHASE I

---

## Initial Study and Mitigated Negative Declaration

### Project Description

#### Overview and Background

The City of San Jacinto is located in western Riverside County, California and is surrounded by mountain ranges in all directions. The City of Hemet borders the City of San Jacinto at Esplanade Avenue; a key east to west traffic corridor. Major transportation corridors in the vicinity include State Routes (SR) 74 and 79. In Hemet, SR-79 overlaps SR-74 following it eastward for a few miles before heading north again through San Jacinto (**Figure 1**). Between 2000 and 2016, Riverside County's population increased by 52 percent whereas the total population of the City of San Jacinto increased by 23,877 to 47,656; a population growth rate of 100 percent. During the same period, the City of Hemet's population increased by 21,258 to 80,070; a population growth rate of 36 percent (Southern California Association of Governments [SCAG], 2017a and 2017b). The Riverside County Transportation Commission (RCTC) has approved the realignment of SR-79 from Domenigoni Parkway to Gilman Springs Road that would alleviate the existing meandering route through the downtown areas of Hemet and San Jacinto, resulting in a more direct north to south route through the San Jacinto Valley (2016). Although it is uncertain as to when or if the project would proceed as planned, if constructed, the proposed SR-79 realignment would traverse Esplanade Avenue near the intersection of Warren Road (RCTC, 2016) (**Figure 2**). The regional transportation system needs to be expanded to accommodate anticipated future growth to avoid unacceptable levels of traffic congestion and related adverse impacts (RCTC, 2016).

The City of San Jacinto, in cooperation with the City of Hemet, is proposing to construct Phase I of Esplanade Avenue Widening Project (Phase 1 or Proposed Project) which would widen Esplanade Avenue from Warren Road to Sanderson Avenue, approximately 1.5 miles, from two lanes to four (**Figure 2**). To widen Esplanade Avenue, the City of San Jacinto would acquire right-of-away (ROW) frontage on the north side of Esplanade Avenue from residentially used properties and agricultural operations but would not be displacing anyone or taking any residential structures.



SOURCE: ESRI

San Jacinto Esplanade Avenue

**Figure 1**  
Regional Location





SOURCE: Mapbox; Tri Lake Consultants 2018; ESA 2018

San Jacinto Esplanade Avenue

**Figure 2**  
Project Overview



This page intentionally left blank



Expansion of Esplanade Avenue from two to four lanes is consistent with the City of Hemet and San Jacinto's 5-year transportation improvement program (Western Riverside Council of Governments [WRCOG], 2017a).

## Project Location and Setting

The Proposed Project would be located within and adjacent to Esplanade Avenue in the cities of San Jacinto and Hemet. The project would extend from the intersection of Esplanade Avenue and Warren Road to the intersection of Esplanade Avenue and Sanderson Avenue (**Figure 2**).

Surrounding land uses in the Proposed Project area are comprised of residential and commercial development associated with the cities of San Jacinto and Hemet, as well as dairies and agricultural fields. The roadway currently consists of one east and one westbound lane within a 60-foot ROW and includes adjacent stormwater drainage ditches on the north and south side. The centerline of the roadway is the jurisdictional division between the cities of Hemet and San Jacinto.

## Project Objectives

The Proposed Project has the following objectives:

- Increase the traffic capacity of Esplanade Avenue;
- Provide a pedestrian path of travel along the north side of Esplanade Avenue by way of a raised sidewalk; and
- Implement intersection improvements including traffic signals to accommodate existing and future demand.

## Project Description

The Proposed Project would widen 1.5-miles of Esplanade Avenue extending from Warren Road to Sanderson Avenue, and construct a sidewalk on the north side of Esplanade and an unlined channel for drainage. Traffic signals would be installed at Warren Road and Cawston Avenue. (**Figure 2**). The Proposed Project involves the acquisition of approximately 2.35 acres of land that would provide 56 feet (half width of a Major Highway designation of 112 feet) ROW on the north side of Esplanade Avenue (**Figure 2**). Minor pavement rehabilitation and striping would occur on the south side of Esplanade Avenue. Various intersection improvements would occur at Esplanade Avenue and Warren Road, Esplanade Avenue and Cawston Avenue, and Esplanade and Sanderson Avenue.

## Construction of the Proposed Project

Construction of the Proposed Project is anticipated to take approximately 6 months to complete, starting in the spring of 2020, by a City contractor between the hours of 7 A.M. to 5 P.M., Monday through Friday. Construction would require the use of heavy duty work trucks, a grader, earthmover, backhoe, excavator, one full-time water truck, and a paver. Construction would entail site clearing, demolition, and preparation, grading and excavation of up to two feet of surface soils to the north of the existing street pavement, installation of base and asphalt for the new road surface, and construction of a curb and gutter, sidewalk, storm drain and unlined drainage

channel, Equipment staging would occur within the Proposed Project area disturbance footprint or within areas identified and permitted by the contractor.

Work within the roadway would not require a complete roadway closure, and workers would be on duty during construction hours to control traffic during roadway improvements. Equipment necessary for traffic control include changeable message signs, delineators, arrow boards, and temporary concrete traffic barriers. The traffic control plan for the Proposed Project would be the responsibility of the prime contractor and prepared by a licensed traffic engineer.

## Operation and Maintenance

Once operational, the Proposed Project would require routine but minimal maintenance.

## Proposed Project Approvals

Approvals from state and local agencies may include the following:

- City of San Jacinto – encroachment permits, traffic control notifications, utility relocations
- City of Hemet – encroachment permits, traffic control, utility connections
- South Coast Air Quality Management District (SCAQMD) – Permit to Construct, Dust Control Permit
- Santa Ana Regional Water Quality Control Board (RWQCB) – Storm Water Pollution Prevention and Water Quality Management Plans
- California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement
- Santa Ana Regional Water Quality Control Board (RWQCB) Waste Discharge Requirement Permit
- Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis

## References

Riverside County Transportation Commission (RCTC). 2016. SR-79 Final Environmental Impact Report. <http://sr79project.info/library-links/final-environmental-impact-report-environmental-impact-statement-november-2016>.

Southern California Association of Governments (SCAG). 2017a. Profile of the City of San Jacinto. <https://www.scag.ca.gov/Documents/SanJacinto.pdf>.

Southern California Association of Governments (SCAG). 2017b. Profile of the City of Hemet. <https://www.scag.ca.gov/Documents/Hemet.pdf>.

Western Riverside Council of Governments (WRCOG). 2017a. Hemet/San Jacinto Zone 5-Year Transportation Improvement Program <http://www.wrcog.cog.ca.us/203/Zone-TIPs>.

Western Riverside Council of Governments (WRCOG). 2017b. Transportation Uniform Mitigation Fee Program. <http://www.wrcog.cog.ca.us/201/Studies-Documents>.

# ENVIRONMENTAL CHECKLIST

---

## Initial Study

1. **Project Title:** Esplanade Avenue Widening Project-Phase I
2. **Lead Agency Name and Address:** City of San Jacinto
3. **Contact Person and Phone Number:** Stuart McKibbin, Engineer 951-943-6504
4. **Project Location:** Esplanade Avenue, between Warren Road and Sanderson Avenue
5. **Project Sponsor's Name and Address:** Travis Randel  
City of San Jacinto  
595 S. San Jacinto Avenue  
San Jacinto, CA 92583
6. **General Plan Designation(s):** Community Commercial (CC)  
and Medium Density Residential (MDR)  
Low Density Residential (LDR)
7. **Zoning:** Commercial General (CG), Residential Low Density (RL), Specific Plan (SP), and Public Institution (PI)

**8. Description of Project:**

The Proposed Project would widen Esplanade Avenue from two to four lanes, incorporate new drainage facilities, sidewalk, and two traffic signals at Warren Road and Cawston Avenue. See project details described above.

**9. Surrounding Land Uses and Setting.**

The Proposed Project facilities would occur within public rights-of-way adjacent to residential and agricultural land uses in the City of Hemet and City of San Jacinto.

**10. Other public agencies whose approval is required**

See Proposed Project Approvals above.

**11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1. If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

*Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.*

On July 11, 2019, the City notified the designated contact of, or a tribal representative of, a total of seven California Native American Tribes pursuant to PRC Section 21080.3.1 inviting them engage in government-to-government consultation with the City regarding the Proposed Project. Please refer to Section XVIII for details.

## Environmental Factors Potentially Affected


The environmental factors checked below include impacts that are “Less Than Significant with Mitigation Incorporated.” There are no environmental factors that have an impact that is identified as a “Potentially Significant Impact” as all potential significant impacts can be reduced to less than significant with the incorporation of mitigation measures.

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality                                   |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources      | <input type="checkbox"/> Energy  |
| <input checked="" type="checkbox"/> Geology/Soils        | <input type="checkbox"/> Greenhouse Gas Emissions           | <input checked="" type="checkbox"/> Hazards & Hazardous Materials      |
| <input type="checkbox"/> Hydrology/Water Quality         | <input type="checkbox"/> Land Use/Planning                  | <input type="checkbox"/> Mineral Resources                             |
| <input type="checkbox"/> Noise                           | <input type="checkbox"/> Population/Housing                 | <input type="checkbox"/> Public Services                               |
| <input type="checkbox"/> Recreation                      | <input checked="" type="checkbox"/> Transportation          | <input type="checkbox"/> Tribal Cultural Resources                     |
| <input type="checkbox"/> Utilities/Service Systems       | <input type="checkbox"/> Wildfire                           | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

### DETERMINATION:

On the basis of this initial study:

- ☐ 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 potentially 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

December 26, 2019

Date

# Environmental Checklist

## Aesthetics

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>I. AESTHETICS</b> — Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) **Less Than Significant.** The Proposed Project is located in the San Jacinto Basin, surrounded by mountain ranges in all directions. The foothills of the San Jacinto Mountains extend approximately 4.0 miles east of the Proposed Project area, and constitute a scenic vista for much of the San Jacinto Valley. The San Jacinto Mountain Range has a significant rise over the valley at 10,834 feet above sea level and is the second highest mountain range in Southern California (California Department of Parks and Recreation [CDPR], 2019).

The Proposed Project involves the acquisition of 18 feet of additional ROW north of the existing Esplanade Avenue to construct additional travel lanes, sidewalk, and stormwater detention basin. Other than two traffic signals installed at the intersections of Warren Road and Esplanade Avenue and Cawston and Esplanade Avenues, no above-ground facilities would be constructed. Therefore, impacts to scenic vistas in the Project area would be less than significant.

- b) **No Impact.** The Proposed Project is located approximately 1.2 miles north of SR-74, a designated scenic highway (Caltrans 2018). The surrounding landscape consists of housing developments, commercial properties and agricultural fields. The Proposed Project would result in an expansion of an existing road outside the viewsheds of SR-74. There would be no impact to scenic resources within a state scenic highway.

- c) **Less Than Significant.** The Proposed Project site is located within a non-urbanized area in rural San Jacinto and Hemet. Other than two traffic signals installed at the intersections of Warren Road and Esplanade Avenue and Cawston and Esplanade Avenues, no above-ground facilities would be constructed. Once construction is complete, the visual quality of public views would return to existing conditions. Impacts to the visual character of the surrounding landscape would be less than significant.
- d) **Less Than Significant.** The construction activities for the Proposed Project would occur between the hours of 7:00 A. M. to 5:00 P.M. Monday through Friday. No construction would occur at night. Two new traffic signals would be constructed as part of the road improvement project, however, this is consistent with the surrounding land uses in the vicinity of the intersections. The Proposed Project would not create new sources of light or glare, therefore, impacts would be less than significant.

## References

- California Department of Parks and Recreation (CDPR). 2019. Mount San Jacinto State Park  
[https://www.parks.ca.gov/?page\\_id=636](https://www.parks.ca.gov/?page_id=636).
- Caltrans, 2018. California Scenic Highway Mapping System: Riverside County.  
[http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/).
-

## Agriculture and Forestry Resources

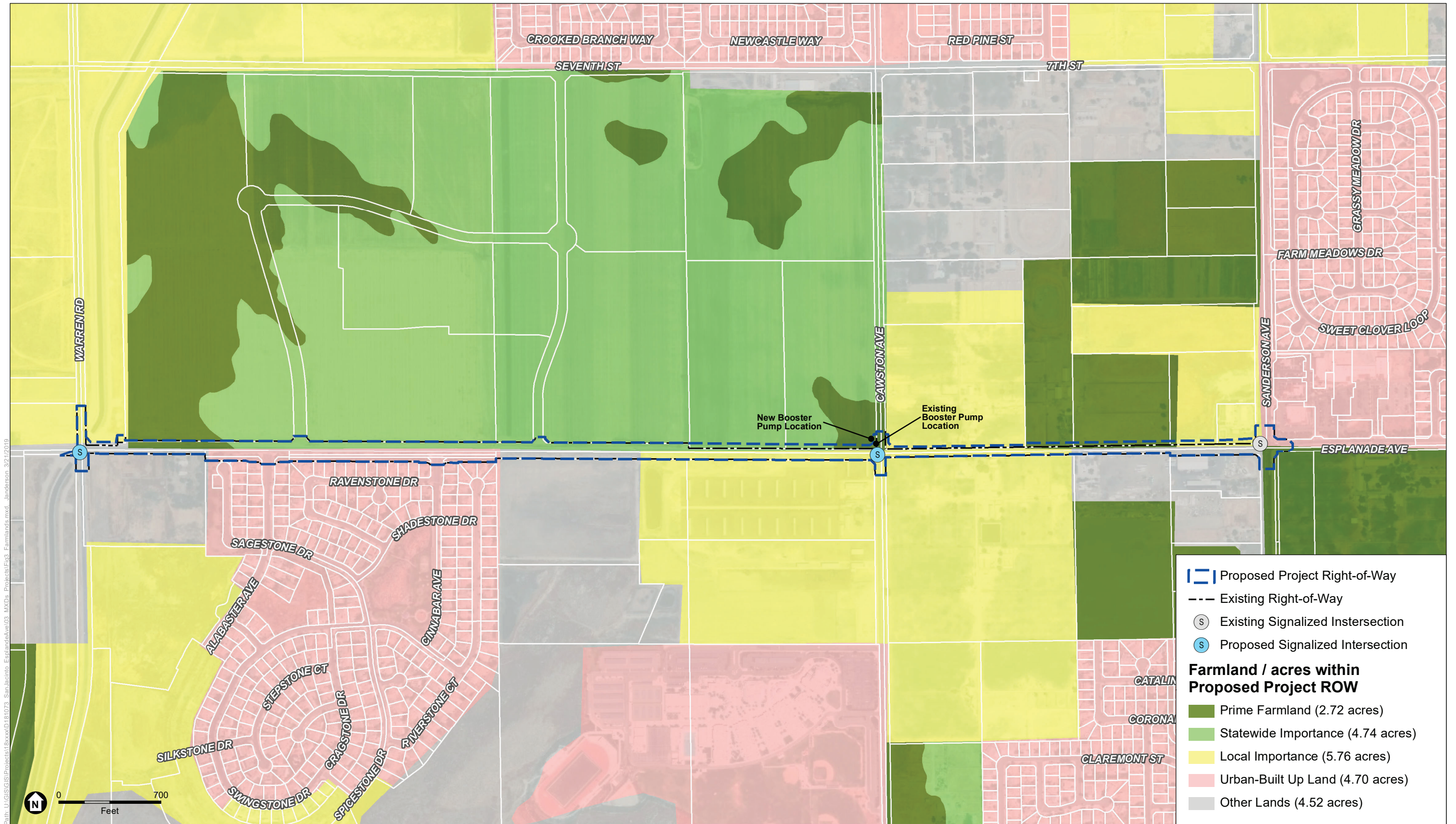
<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>II. AGRICULTURE AND FORESTRY RESOURCES —</b>				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) **Less than Significant.** The Farmland Mapping and Monitoring Program Land use designations along Esplanade Avenue include Farmland of Local Importance and Prime Farmland (California Department of Conservation [DOC], 2017) (**Figure 3**).

Approximately 5.8 acres of Farmland of Local Importance and 4.7 acres of Farmland of Statewide Importance would be permanently converted to non-agricultural use by the Proposed Project. However, these lands are currently zoned as Commercial General, Residential Low Density and Specific Plan, indicating the lands are planned for future development, primarily residential. No lands within the City of San Jacinto are zoned for agriculture (City of San Jacinto, 2018). As a result, the Proposed Project would be consistent with the City's General Plan with respect to anticipated conversion of farmland.





SOURCE: ESRI; Tri Lake Consultants 2018; ESA 2018; FMMP

San Jacinto Esplanade Avenue Roadway Expansion Project

**Figure 3**  
Farmlands

This page intentionally left blank

Strong and continuous population growth in the region is expected to lead to a sustained conversion of agricultural land to other uses. Information obtained from the planning departments of Riverside County, the City of Hemet, and the City of San Jacinto, as well as coordination with federal, state, and regional agencies during various stages of SR-79 Realignment Project support this projection (RCTC, 2016). It is not known when these lands will be converted from farmlands to their zoned use as these are private properties, and the timing for development of these lands is at the discretion of each landowner. Once the farmland is purchased from private owners for the Proposed Project, the land acquired would become public ROW for the City of San Jacinto.

Considering the small amount of farmland that would be affected, the consistency of the Proposed Project with local General Plan, and the development pressure to convert these lands to other uses identified by current zoning and future development plans, the impact to farmlands as a result of the of the Proposed Project is not considered substantial. Therefore, impacts would be less than significant.

- b) **No impact.** No Williamson Act contracts exist within the Proposed Project area or in adjacent lands (DOC, 2016). As such, there would be no impact resulting from conflicts with existing Williamson Act contracts
- c) **No impact.** No land designated as forest land or timberland is located within the Proposed Project area. As a result, no impacts would occur.
- d) **No impact.** There is no potential for the implementation of the Proposed Project to result in the loss of forest land or conversion of forest land to non-forest use as none exist in the Proposed Project area. No impacts would occur.
- e) **Less Than Significant.** The Proposed Project is not connected with other planned development in the area and therefore would not involve other changes to the existing environment, however, considering the area is zoned primarily for residential development, and there is potential for SR-79 to intersect Esplanade Avenue, changes to the existing environment would likely occur in the future in the form of residential communities and commercial operations. Impacts would be less than significant.

## References

- City of San Jacinto. 2018. San Jacinto Zoning Map.  
[http://sanjacintoca.hosted.civiclive.com/UserFiles/Servers/Server\\_10384345/Image/City%20Government/CommunityDevelopment/Planning/Zoning\\_upd\\_030818%20-%20Copy.pdf](http://sanjacintoca.hosted.civiclive.com/UserFiles/Servers/Server_10384345/Image/City%20Government/CommunityDevelopment/Planning/Zoning_upd_030818%20-%20Copy.pdf).
- California Department of Conservation (DOC). 2016. Riverside County Williamson Act 2015-2016. [ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Riverside\\_w\\_15\\_16\\_WA.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Riverside_w_15_16_WA.pdf).
- California Department of Conservation (DOC). 2017. Important Farmland Categories, Riverside County. [ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/riv16\\_w.pdf](ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/riv16_w.pdf).

Riverside County Transportation Commission (RCTC). 2016. SR-79 Final Environmental Impact Report. <http://sr79project.info/library-links/final-environmental-impact-report-environmental-impact-statement-november-2016>.

---



## Air Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>III. AIR QUALITY —</b>				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) **No Impact.** The Project area is located in the cities of San Jacinto and Hemet within Riverside County and is within the South Coast air basin. The air basin is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD, in coordination with SCAG, is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the basin. The AQMP (2016) for the basin establishes a program of rules and regulations administered by SCAQMD to obtain attainment of the state and federal air quality standards. Some of the rules and regulations that apply to the Proposed Project include, but are not limited to, the following:

**SCAQMD Rule 402** prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

**SCAQMD Rule 403** governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices (BMPs), such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

**SCAQMD Rule 1113** governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction.

SCAG's Air Quality Planning Program coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal, state, and regional air quality requirements. Federal Clean Air Act Section 176(c) (42 U.S.C. 7506(c)) requires transportation conformity to ensure that federal funding and approval are given to highway and transit projects that are consistent with the air quality goals established by the state. The 2016 AQMP includes transportation control measures developed by SCAG from the 2016 Regional Transportation Plan and Sustainable Communities Strategy Program. since the forecast assumptions forms the basis of the land use and transportation control measures of the AQMP.

The Proposed Project would expand Esplanade Avenue from two lanes to four in order to mitigate future traffic flow failure as a result of regional growth and the proposed realignment of SR 79. The City would implement Best Management Practices (BMPs) as required under SCAQMP air quality attainment rules to obtain a permit to construct the Proposed Project. Additionally, the Proposed Project has been identified as requiring improvements and expansion in the regional and local transportation planning programs, and therefore, would conform to the local AQMP. The Proposed Project would not conflict or obstruct implementation of the 2016 SCAQMP AQMP.

- b) **Less Than Significant.** The SCAB region is in nonattainment for ozone and particulate matter (PM) 2.5 and 10 (SCAQMD, 2015). The most significant air quality challenge in the region is to reduce mobile emissions of nitrogen oxide (NOx) sufficiently to meet the state's ozone attainment deadlines (SCAQMD, 2016). Since the SCAQMD has limited authority to regulate mobile sources, staff worked closely with California Air Resources Board (CARB) and U.S. Environmental Protection Agency, which have primary authority over mobile sources, to ensure mobile sources perform their fair share of pollution reduction responsibilities. The CARB has released multiple planning efforts to meet air quality standards, greenhouse gas (GHG) emission reduction targets, petroleum consumption reduction, and reduced health risks from transportation emissions.

The Proposed Project would be constructed in less than a year and involve the use of work trucks, graders, earthmovers, backhoes, excavators, one full-time water truck, pavers, and striping equipment along with supporting equipment. Construction would entail site clearing and preparation, grading and excavation of two feet of surface soils, and road and sidewalk installation. Construction contractors would be responsible for ensuring vehicles are in compliance with CARBs air emissions goals and compliance with the rules and regulations of the SCAQMD for permitting construction of the Proposed Project.

The maximum daily construction emissions for the Proposed Project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2. Proposed Project-generated emissions of criteria air pollutants and ozone precursors were modeled based on general information provided in the Proposed Project description, and default SCAQMD-recommended settings and parameters attributable to the proposed land use types and site location (Table 1). The SCAQMD recommends that if an individual project results in air emissions of criteria pollutants that exceed the

SCAQMD's recommended daily thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants.

**TABLE 1**  
**PROPOSED PROJECT: REGIONAL CONSTRUCTION EMISSIONS LBS PER DAY**

	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	Total PM10	Total PM2.5
Maximum Daily Emissions	3.47	35.99	28.83	0.05	2.88	1.89
SCAQMD (2015) Significance Thresholds	75	100	550	150	150	55
SCAQMD (2009) LST Significance Thresholds (5 acres)	N/A	371	1965	N/A	13	8

Construction of the Proposed Project would not exceed daily emission significance thresholds, therefore, impacts from Project emissions to the region is less than significant (see Appendix A for Emissions Calculations).

- c) **Less Than Significant.** Sensitive receptors along Esplanade Avenue include a medium density residential community and a small number of individual residences associated with agricultural operations. The SCAQMD's localized significance thresholds (LST) for a 5-acre site at 25 meters or less from a sensitive receptor and the daily onsite construction emissions generated by the Proposed Project are listed in Table 1. As indicated, the Project emissions would be minor, and not exceed the LST established thresholds, therefore, impacts to sensitive receptors would be less than significant.
- d) **Less Than Significant.** While construction equipment exhaust and application of asphalt would temporarily generate odors, the Proposed Project activities would be typically confined to the immediate vicinity of the equipment and would only be discernable offsite for brief instances depending on wind strength and direction. Therefore, impacts would be less than significant.

## References

- South Coast Air Quality Management District (SCAQMD). 2009. Localized Significance Thresholds. Appendix C - Mass Rate LST Look-up Tables 2006-2008. <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>.
- South Coast Air Quality Management District (SCAQMD). 2015. Air Quality Significance Thresholds. <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>
- South Coast Air Quality Management District (SCAQMD). 2016. Final 2016 Air Quality Management Plan. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>

## Biological Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>IV. BIOLOGICAL RESOURCES — Would the project:</b>				
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) **Less Than Significant with Mitigation Incorporated.** The Proposed Project's facilities would be installed within the ROW in the cities of Hemet and San Jacinto. New road infrastructure would be installed within agricultural and disturbed lands to the north of Esplanade Avenue, and minor paving and other improvements occurring at two intersections. Existing land cover types or vegetation communities observed in the study area are dominated by agricultural lands, developed, disturbed and areas of bare ground with small portions of sprangletop grass patches and open water. Environmental Science Associates (ESA) conducted a literature and database review, and field reconnaissance survey in February 2019, to determine the potential for special-status species or sensitive natural vegetation communities to occur within the Proposed Project area. This included a review of aerial photographs and the following biological resource databases: California Department of Fish and Wildlife (CDFW) California Natural Diversity Database, California Native Plant Society (CNPS), and the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI). The Project site occurs within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), within survey areas for burrowing owl (*Athene*



*cunicularia*) and narrow endemic plant species and outside survey areas for amphibians and small mammals of the MSHCP (RCA 2003). Focused surveys for both burrowing owl and narrow endemic plants species were completed by ESA in early Summer, 2019. The Project site occurs adjacent to a criteria cell (3291) of the MSHCP that is located south of Esplanade Avenue and east of Warren Road. Results of the database searches are provided in the Biological Resource Reconnaissance Report (Appendix C).

According to the database literature review conducted for the Proposed Project area, approximately 54 special-status plant species and 49 special-status wildlife species have been previously recorded in the nine-USGS quadrangle map search area. Six of the special-status wildlife species and seven of the special-status plant species identified in the literature review have moderate to high potential to occur or were observed within the Proposed Project area because the habitat is suitable and the Proposed Project area is within the known range for the species. These include Cooper's hawk (*Accipiter cooperi*), burrowing owl, northern harrier (*Circus hudsonius*), California horned lark (*Eremophila alpestris actia*), white-faced ibis (*Plegadis chihi*), coastal whiptail (*Aspidoscelis tigris* ssp. *stejnegeri*), San Jacinto Valley crowscale (*Atriplex coronata* var. *notatior*), Parish's brittle scale (*Atriplex parishii*), Davidson's salt scale (*Atriplex serenana* var. *davidsonii*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*) and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). Table 1 in the Biological Resource Reconnaissance Report (Appendix C) identifies the sensitivity status, and the probability of occurrence, of the species indicated above, and includes preferred habitat and quality of habitat located within the Proposed Project area.

Focused burrowing owl surveys were conducted in accordance with the County of Riverside's 2006 *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*. Step I of the survey was conducted on February 8, 2019 and Step II surveys were conducted June through August 2019. Focused narrow endemic plant surveys were conducted in accordance with the MSHCP following the 2001 CNPS Botanical Survey Guidelines, 2002 USFWS General Rare Plant Survey Guidelines and 2009 CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The focused survey was conducted on June 28, 2019.

The Project site is partially within a narrow endemic plant species survey area of the MSHCP and is adjacent to a Criteria Cell (3291). Narrow endemic plant species include Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), and Wright's trichocoronis; however, these species were not observed in the Project area. However, a population of smooth tarplant was observed in and adjacent to the Project area near the intersection of Esplanade Avenue and Warren Road and a single plant was observed south of Esplanade Avenue between Sanderson Avenue and Cawston Avenue. Approximately 98 smooth tarplant individuals were observed within the study area during the survey.

Three special-status avian species - California horned lark, northern harrier, and white-faced ibis, were observed flying overhead during the site reconnaissance. The white-faced ibis was likely an incidental sighting associated with Reflection Lake to the north or other waterbodies in the region that also provide foraging habitat, such as San Jacinto Reservoir located approximately 1.8 miles to the northeast, or recharge ponds along the San Jacinto River. The California horned larks and the northern harrier were observed foraging within the nearby agricultural fields; however, these species are not expected to nest within or immediately adjacent to the Project site due to active and ongoing use of agricultural lands and the lack of shrubby vegetation near marshes.

Open areas containing untilled agricultural lands and disturbed areas abutting active roadways do not provide suitable foraging habitat for burrowing owls, coastal whiptail or Cooper's hawk. Cooper's hawks were not observed during the site visit. No current or old nests were observed. Burrowing owls or signs of owls were not observed during 2019 focused surveys. However, suitable burrows and other substrate such as debris piles were observed. Due to the presence of suitable burrows with the study area and moderate potential to occur for burrowing owl and coastal whiptail within the Proposed Project area, pre-construction surveys for burrowing owl and coastal whiptail area required under Mitigation Measures **BIO-1** and **BIO-2**, respectively, prior to construction of the Project.

The habitat in the Proposed Project area is of low quality because of the amount of development, prominence of non-native plants, and ongoing agricultural and maintenance practices that occur. Nonetheless, agricultural fields and large trees that occur in the study area have the potential to provide foraging or nesting habitat for Cooper's hawk. Pre-construction surveys for nesting birds are required under Mitigation Measure **BIO-3** prior to construction of the Proposed Project.

Within the study area, sprangletop grass patches and disturbed habitat within the ditches and catch basin may provide suitable habitat for special-status plant species as these species do well in disturbed riparian habitats and disturbed wet areas. This includes ditches along Esplanade Avenue and Warren Road and the catch basin south of Esplanade Avenue adjacent to Turnstone Court, both of which are maintained. As stated above, smooth tarplant was observed within the Proposed Project area during focused special-status plant species surveys. No individuals of other special-status plant species were observed during the survey.

As required by the MSHCP, focused surveys for burrowing owl and Narrow Endemic Species were conducted during the appropriate time periods. The results of the surveys will be included in the MSHCP consistency analysis and Determination of Biologically Equivalent or Superior Preservation (DBESP), as required. Appropriate avoidance and mitigation measures will be required for special-status plant species, as outlined in Mitigation Measure **BIO-4**.

With implementation of Mitigation Measures **BIO-1** through **BIO-4** impacts to special-status species would be less than significant.

**BIO-1: Pre-Construction Burrowing Owl Surveys.** Pre-construction surveys for burrowing owl shall be conducted within 30 days of the start of ground disturbance to avoid direct take of the species. If burrowing owl is observed during the pre-construction survey and found to be potentially impacted by the Proposed Project, additional avoidance and mitigation measures will be required. Avoidance measures include constructing Proposed Project facilities outside the breeding season, establishing a suitable buffer of no less than 300 feet around an active burrow, restricting activities around certain times of year, and excluding and relocating owls. A Burrow Exclusion Plan approved by CDFW and Western Riverside County Regional Conservation Authority (RCA) will be required to implement exclusion and relocation, if burrowing owl is found to be present.

**BIO-2: Pre-construction Surveys for Coastal Whiptail.** Pre-construction surveys for coastal whiptail shall be conducted to determine if this species is present within unpaved and undeveloped portions of the Project construction area. If this species is present, construction best management practices (BMPs) and Worker Environmental Awareness Program (WEAP) training shall be implemented prior to construction activities to avoid and minimize potential impacts to this species. Example BMPs to be implemented during construction include allowing individuals to move from construction areas on their own accord, moving individuals out of harm's way if they are unable to do so themselves, limiting vehicle speed onsite to 15 miles per hour, covering trenches and open pits at the end of each workday, if trenches are to be left open, adding wooden ramps in the trench to allow the species, as well as other small wildlife to escape, temporarily fencing work areas using silt fencing to exclude reptile movement into work areas, and cleaning up all trash and debris daily. Additionally, the WEAP training will be conducted by a knowledgeable biologist and will summarize the construction BMPs to be implemented. Construction personnel will be instructed to not directly harm coastal whiptail or any other special-status species onsite by halting activities until the species can move to offsite areas or until a qualified biologist can move the species out of harm's way.

**BIO-3: Nesting Birds.** If construction of Proposed Project facilities that contain or are immediately adjacent to avian nesting habitat must occur during the general avian nesting season (February 1 through August 31), a pre-construction clearance survey should be conducted within 10 days prior to the start of construction activities to determine if any active nests or nesting activity is occurring on or within 300 feet of the Proposed Project. If no sign of nesting activity is observed, construction may proceed without potential impacts to nesting birds.

If an active nest is observed during the pre-construction clearance survey, an adequate buffer should be established around the active nest depending on sensitivity of the species and proximity to Proposed Project impact areas. Typical buffer distances from an active nest include up to 300-feet for passerines and up to 500-feet for raptors, but may be reduced as deemed appropriate by a monitoring biologist. Onsite construction monitoring may also be required to ensure that no direct or indirect impacts occur to the active nest. Proposed Project activities may encroach into the buffer only at the discretion of the monitoring biologist. The buffer should remain in place until the nest is no longer active as, determined by the monitoring biologist.

**BIO-4: Criteria Area Plant Species.** Smooth tarplant populations within 50 feet of the construction work area shall be flagged by a qualified biologist/botanist prior to the start of vegetation or ground-disturbing activities, and shall be avoided to the extent feasible. Prior to any vegetation or ground disturbance, a qualified biologist/botanist shall locate and flag any smooth tarplant individuals established within the construction work area. Flagged individuals that cannot be avoided shall be re-established onsite outside of the construction area.

Re-establishment and subsequent monitoring efforts for impacted smooth tarplant shall be implemented as described in a Mitigation and Monitoring Plan (MMP), to be reviewed and approved by the City. The MMP shall describe methodologies including, but not limited to, collection of seeds, storage of salvaged materials, locations of re-establishment efforts, timing of salvaging efforts, monitoring of re-established area, success criteria, and remedial actions, and include the mitigation requirements described in this mitigation measure.

Success criteria re-establishment shall be at a minimum ratio of 1:1 (number of plants established: number of plants impacted). Smooth tarplant seed shall be collected prior to re-establishment during the appropriate time of year, either from impacted individuals or from individuals in the adjacent vicinity. Seeds shall be propagated in a local nursery or directly sown onsite. A small portion of seed (no more than 20%) will be held in reserve in the event that the initial re-sowing does not provide a stable self-propagating population.

- b) **Less Than Significant.** The Proposed Project area contains less than 0.1 acre of a vegetation community in the form of sprangletop grass patches, within limited portions of roadside ditches. Sprangletop grass patches are not a categorized alliance listed in A Manual of California Vegetation. Sprangletop grass patches occur in limited areas at the northeastern and southeastern corners of Esplanade Avenue and Warren Road, and is primarily associated with non-native species tolerant of periodic disturbance. This plant community is not considered sensitive because it does not possess a rarity or threat ranking qualifying as sensitive. The remaining land covers that occur include agriculture, bare ground, developed, disturbed and open water that are also not considered riparian or sensitive natural communities. The Proposed Project area does not contain any sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. Based on the Project design, impacts to riparian or sensitive natural communities would not occur.
- c) **Less Than Significant with Mitigation Incorporated.** A jurisdictional delineation was conducted in February, 2019, using the United States Army Corps of Engineers (USACE) survey methodology (Environmental Laboratory 1987) and the survey area consisted of the Proposed Project area and a 50-foot buffer (Appendix B). Wetland waters of the U.S. were not observed on the Proposed Project. Non-wetland waters of the U.S. were observed on the Proposed Project area and were limited to the San Diego Canal which will be avoided by the Proposed Project. The remaining potentially jurisdictional features that included ditches and a catch basin, were concluded to fall outside the jurisdiction of the USACE under the 2015 Clean Water Rule. As a result, impacts to federal wetland and non-wetland waters of the U.S. would be avoided.

Three types of potentially jurisdictional, non-wetland waters of the State were observed adjacent to or in the vicinity of the Proposed Project. These features include ditches, catch basin, and the San Diego Canal and may be regulated by the Regional Water Quality Control Board (RWQCB) or CDFW. The ditches are mostly earthen bottomed and 2 to 5 feet wide except in the residential area south of Esplanade Avenue near Alabaster Ave and Cinnabar Ave. In this area, the ditches contain riprap or are concrete-lined, are maintained with the surrounding landscaped area and are 14-feet wide. Flows within the ditches likely seep back into the ground within the ditches, flow into the catch basin south of Esplanade Avenue and seep into the ground or drain into Reflection Lake to the north. As currently proposed, impacts to two potentially CDFW-jurisdictional ditches are anticipated. One of the two ditches is located at the northeastern intersection of Esplanade Avenue and Warren Road. The second ditch is located north of Esplanade Avenue between Sanderson Avenue and Lorene Lane.

Impacts to potential jurisdictional waters are anticipated as part of Project activities. This includes the relocation of an approximately 3,150-foot (0.42 acres), unvegetated roadside ditch located north of Esplanade Avenue. Impacts to state jurisdictional resources would be less than significant with the incorporation of Mitigation Measures **BIO-5**, and compliance with permit conditions to provide compensatory mitigation at a ratio of no less than 1:1 or purchase of off-site in lieu fee mitigation credits.

**BIO-5: Jurisdictional Waters Permitting:** Permits for impacts to jurisdictional areas will be required prior the start of Project activities and include a Streambed Alteration Agreement issued from CDFW and Waste Discharge Requirement issued from the Santa Ana Regional Water Quality Control Board. In addition, the approval of a DBESP from the RCA and wildlife agencies will be required for impacts to riverine/riparian habitats. A Section 404 permit as issued from the USACE will not be required as the ditches to be impacted fall outside USACE jurisdiction. Mitigation is anticipated to include no less than a 1:1 ratio for impacts to jurisdictional areas in the form of in-situ restoration for relocated ditch, in-lieu fee or purchase of mitigation credits from an approved mitigation bank.

- d) **Less Than Significant with Mitigation Incorporated.** The Proposed Project is located within the City of San Jacinto and City of Hemet in an area that is surrounded by development and agricultural land. There are two disturbed areas along Esplanade Avenue that previously contained agricultural lands or developed areas and have not been recently maintained. Additionally, maintained, narrow roadside ditches occur along Esplanade Avenue. However, disturbed areas and roadside ditches are not contiguous and do not function as a corridor between two larger stands of habitat, which would constitute a wildlife corridor. The Project area does not include a suitable corridor for wildlife species to move from one area of undeveloped habitat to another.

The federal Migratory Bird Treaty Act (MBTA) (16 USC, Sec. 703, Supp. 1, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. Native birds, their eggs, and nests, are also protected by California Fish and Game (CFG) Code Sections 3500 and 3800, and

- thus impacts to native birds or their nests during the breeding season are potentially significant. However, the Project would be required to comply with the MBTA and CFG Code to ensure that significant impacts to native and migratory birds would not occur in order to avoid the potential for impacts to migratory birds. Implementation of measures to protect nesting birds as described under Mitigation Measure **BIO-3** would ensure that any potential impacts to nesting native or migratory birds would be less than significant.
- e) **No Impact.** The Proposed Project is located within the Cities of San Jacinto and Hemet which have very similar public tree planting and removal ordinances that prohibit the removal and planting of trees or shrubs from public parks, public grounds, public streets, alleys, ways and parking place unless obtaining permission from the City's director. Although trees occur within the study area including liquidambar and eucalyptus, they will either not be impacted by project activities or occur within the boundaries of private residences and therefore not subject to the Cities of San Jacinto and Hemet tree ordinances. The Proposed Project does not fall within an area under the influence of any additional local policy or ordinance protecting biological resources. No impact would occur.
- f) **Less Than Significant with Mitigation Incorporated.** The Proposed Project is located within the Western Riverside County MSHCP and the Project area is adjacent to Criteria Cell 3291, a portion of which is within the biological study area. The City of San Jacinto is a Participating Entity in the MSHCP and is required to demonstrate Project consistency with the goals and provisions of the MSHCP as they pertain to biological resources. The preparation of an MSHCP consistency analysis and a DBESP for the MSHCP are anticipated for the Proposed Project and will be based on the presence of suitable habitat and burrows for burrowing owl as observed during focused surveys conducted for the species and the presence of and anticipated impacts to MSHCP riverine areas. Narrow endemic plant species were absent during focused surveys and will be noted as such in the MCHCP consistency analysis and DBESP. The consistency analysis and DBESP will undergo review by the RCA and wildlife agencies to ensure it meets the requirements as set forth in the MSHCP. With implementation of Mitigation Measures **BIO-1** and **BIO-4**, the Proposed Project will be consistent with the provisions and goals of the MSHCP.

## References

- Environmental Laboratory. 1987. U.S. Army Corps of Engineers Wetland Delineation Manual. Prepared for the U.S. Army Corps of Engineers.
- Riverside County Environmental Programs Department. 2006. Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. <http://www.wrc-rca.org/mshcp-species-survey-protocols/>
- Western Riverside County Regional Conservation Authority (RCA). 2003. Western Riverside County Multiple Species Habitat Conservation Plan.

## Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>V. CULTURAL RESOURCES —</b> Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Discussion

The following evaluation is based on the findings provided in a Cultural Resources Assessment Report prepared by ESA (Clark, 2019). The assessment consisted of conducting a records search through the Eastern Information Center (EIC), a Sacred Lands File (SLF) search through the California Native American Commission, a pedestrian survey, and a geoarchaeological review. The Cultural Resources Assessment is not contained herein, but can be viewed at the City of San Jacinto Engineering office.

- a) **No impact.** The Cultural Resources Assessment Report indicates that one historic architectural resource (P-33-015734 [San Diego Aqueduct System]) is located within the Proposed Project area, while another historic architectural resource (P-33-015749 [Braswell Property]) is located immediately adjacent (approximately 45 feet west). The San Diego Aqueduct System has been previously recommended eligible for the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR), and qualifies as a historical resource pursuant to CEQA. A residential structure associated with the Braswell Property, located 45 feet to the west, has been previously recommended ineligible for listing in the NRHP and CRHR; however, it was recommended eligible for local listing and is considered a historical resource pursuant to CEQA. The Cultural Resources Assessment Report concluded that neither of these resources will be subject to direct or indirect impacts. As a result, no impact would occur.
- b) **Less than Significant Impact with Mitigation Incorporated.** No known archaeological resources were identified within or immediately adjacent to the Proposed Project area as a result of the cultural resources assessment. However, the EIC records search results indicated that six prehistoric archaeological resources consisting of bedrock millings sites and one multicomponent resource have been previously recorded within a 0.5-mile radius of the Proposed Project area. The geoarchaeological review indicates that the Proposed Project area is considered highly sensitive for the presence of subsurface archaeological deposits based on the following factors: proximity to and number of known prehistoric sites within a 0.5-mile radius, close proximity to natural resources, such as springs, Holocene-age alluvium underlying the area which is contemporaneous with prehistoric human occupation, and the limited amount of previous disturbances in

most of the Proposed Project area. Implementation of Mitigation Measures **CUL-1** through **CUL-4**, which require retention of a Qualified Archaeologist, cultural resources sensitivity training for construction personnel, archaeological and Native American monitoring, and procedures to follow in the event of unanticipated discoveries, would reduce potential impacts to archaeological resources to a less than significant level.

**CUL-1: Retention of Qualified Archaeologist.** Prior to the start of any ground disturbing activities, a Qualified Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (U.S. Department of the Interior, 2008) shall be retained by the City to carry out all mitigation measures related to cultural resources.

**CUL-2: Cultural Resources Sensitivity Training.** Prior to start of any ground-disturbing activities, the Qualified Archaeologist shall conduct cultural resources sensitivity training for all construction personnel associated with the Project. Construction personnel shall be informed of the types of cultural resources that may be encountered during construction, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. The City shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

**CUL-3: Archaeological Resources Construction Monitoring.** Archaeological and Native American monitoring shall be required for the Project. An archaeological monitor, working under the direct supervision of the Qualified Archaeologist, and a Native American monitor shall observe all ground-disturbing activities, including but not limited to brush clearance, vegetation removal, grubbing, grading, and excavation. The Qualified Archaeologist, in coordination with the City and Native American monitor, may reduce or discontinue monitoring if it is determined that the possibility of encountering buried archaeological deposits is low based on observations of soil stratigraphy or other factors. Archaeological monitoring shall be conducted by an archaeologist familiar with the types of archaeological resources that could be encountered within the Project Site. Native American monitoring shall be conducted by a tribal monitor from a California Native American Tribe that is culturally and traditionally affiliated with the Project Site and that consulted with the City on this Project (i.e., Rincon Band of Luiseño Indians or Soboba Band of Luiseño Indians). The archaeological and Native American monitors shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of a discovery until the Qualified Archaeologist has evaluated the discovery and determined appropriate treatment. The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the Qualified Archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to the City and any Native American groups who request a copy. The Qualified Archaeologist shall submit a copy of the final report to the EIC.

**CUL-4: Unanticipated Archaeological Discoveries.** In the event of the unanticipated discovery of archaeological materials, all work shall immediately cease in the area within approximately 100 feet of the discovery until it can be evaluated by the Qualified Archaeologist. Construction shall not resume until the Qualified



Archaeologist has conferred with the City, and the appropriate Native American representatives for prehistoric resources, on the significance of the resource.

If it is determined that the discovered archaeological resource constitutes a historical resource or a unique archaeological resource under CEQA, avoidance and preservation in place is the preferred manner of mitigation. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Treatment Plan shall be prepared and implemented by the Qualified Archaeologist in consultation with the City that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The Qualified Archaeologist and the City shall consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond those that are scientifically important, are considered.

- c) **Less than Significant Impact with Mitigation Incorporated.** The results of the EIC records search and the SLF search did not identify known Native American burial sites within or in the vicinity of the Proposed Project area, and there are no known cemeteries within the immediate vicinity. However, the known prehistoric activity in the area and the general sensitivity of the area for buried prehistoric resources means that there is a possibility of uncovering human remains during Project implementation. In the event that human remains are discovered during Project construction, including those interred outside of formal cemeteries, human remains could be inadvertently disturbed, which could be a significant impact. Implementation of Mitigation Measure **CUL-5**, which requires compliance with California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, would reduce potential impacts to human remains to a less than significant level.

**CUL-5: Unanticipated Discovery of Human Remains and Associated Funerary Objects.** In the event human remains or associated funerary objects are encountered during construction of the proposed Project, all activity in the vicinity of the find shall cease within 100 feet. Human remains discoveries shall be treated in accordance with and California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, requiring assessment of the discovery by the County Coroner, assignment of a Most Likely Descendant by the Native American Heritage Commission, and consultation between the Most Likely Descendant and the landowner regarding treatment of the discovery. Until the landowner has conferred with the Most Likely Descendant, the City shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity and that further activities take into account the possibility of multiple burials.

## References

Clark, Fatima. 2019. *Esplanade Avenue Widening Project - Cultural Resources Assessment Report*. Prepared for the City of San Jacinto by Environmental Science Associates.

U.S. Department of the Interior, 2008. Archaeology and Historic Preservation. Secretary of the Interior's Standards for Archaeological Documentation. [https://www.nps.gov/history/local-law/arch\\_stnds\\_7.htm](https://www.nps.gov/history/local-law/arch_stnds_7.htm), accessed 02/13/2019.

---

## Energy

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>VI. ENERGY —</b> Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **Less than Significant Impact.** Construction of the Proposed Project is anticipated to occur from March 2020 through November 2020. Construction would occur between the hours of 7 A.M. to 5 P.M., Monday through Friday. Construction would require fuel for work trucks, graders, earthmovers, backhoes, excavators, one full-time water truck, pavers, and striping equipment along with supporting equipment. The majority of equipment would be left on site in designated staging areas, and workers would commute to the site daily. Considering the relatively small scale of the Proposed Project, and daily commutes to construction sites are within the course of normal business operations of the contractor, construction of the Proposed Project would not result in a wasteful, inefficient, or unnecessary consumption of fuel. Impacts would be less than significant.
- b) **No Impact.** Implementation of the Proposed Project is to alleviate congestion and reduce commuter time for existing and future development in the area and thereby reducing energy in the form of fuel used by commuters. Therefore, there would be no impact to state or local renewable energy related policies or plans.

## Geology and Soils

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>VII. GEOLOGY AND SOILS —</b> Would the project:				
a) Directly or indirectly cause 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 Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) **Less Than Significant.** The nearest potentially active fault is located approximately 1.2 miles east of the Proposed Project area (DOC, 2017). San Jacinto, in general, lies within an active fault zone and has a probability of 43% in 30 years of experiencing a maximum magnitude (Mw) 6.9 rupture of the San Jacinto Valley segment of the San Jacinto fault. Additionally, the majority of the Proposed Project site along Esplanade Avenue in an area of high liquefaction potential due to shallow groundwater (Riverside County, 2014). During an earthquake, the Project may experience substantial shaking and the asphalt road could rupture and traffic lights could collapse.

Southern California is seismically active with most locations in proximity to faults that can produce detectable seismic ground shaking. The Proposed Project would likely be subject to strong seismic ground shaking in a substantive seismologic event however, the widening of Esplanade Avenue would not directly or indirectly expose people or

structures to adverse impacts. The Proposed Project would be designed per the City's Engineering Standards and Specifications that would ensure structural resiliency. Additionally, the topography is predominantly flat, and risk of landslides would be negligible.

Other than traffic signals, there are no above-ground structures proposed, therefore, the potential for people or structures to be exposed to substantial adverse effects including the risk of loss, injury or death involving seismic activity would be less than significant.

- b) **Less Than Significant.** Construction of the Proposed Project components would require ground-disturbing activities such as grading and excavation, which would expose and disturb surface soils. Soil exposed by construction activities could be subject to erosion if exposed to heavy rain, winds, or other storm events. The Proposed Project would require a National Pollution Discharge Elimination System (NPDES) Construction General Permit as it would disturb at least one acre of soil. A project-specific SWPPP would be prepared in compliance with the Construction General Permit. The SWPPP would identify erosion control and sediment control best management practices (BMPs) that would be implemented to minimize the occurrence of soil erosion or loss of topsoil. Once construction is completed, intersection, ROW, and roadway facilities would be returned to pre-project conditions and would be fully paved, with no soil stockpiles remaining. Therefore, impacts associated with erosion of soils would be less than significant.
- c) **Less Than Significant.** All of the Proposed Project components would be situated within an area of documented subsidence (Riverside County 2016). Subsidence could occur naturally based on geological movement of the San Jacinto fault, or become exacerbated by the extraction of groundwater in and around the Proposed Project area. However, the Proposed Project would expand an existing paved roadway and would not include activities that would contribute to or destabilize the area on- or off-site that would result in a landslide, lateral spreading, subsidence, liquefaction, or collapse. Impacts on would be less than significant.
- d) **Less Than Significant Impact.** The Proposed Project components would be located in areas where soils consist of alluvial deposits of silty sands and clays that are loose to medium dense condition (HDR 2018), which are characterized as expansive soils. Expansive soils could shrink and swell causing damage to facilities including expanding and cracking of pavement. Although the area is comprised of soils that are characterized as expansive soils, the expanded road and traffic signals would be consistent with existing infrastructure and would not add to or create substantial risks to life or property. Additionally, the Proposed Project would be designed per the City's Engineering Standards and Specifications that would ensure structural resiliency. Therefore, potential impacts from expansive soils would be less than significant.
- e) **No impact.** The Proposed Project facilities would not include the construction or operation of any septic tanks or alternative water disposal system, therefore, no impact would occur.

- f) **Less than Significant Impact with Mitigation Incorporated.** A paleontological database search conducted by the Natural History Museum of Los Angeles County (LACM) indicates that the Project area is underlain by younger Quaternary alluvium (Qa) at surface, which typically do not produce significant vertebrate fossils; however, these deposits may be underlain by older Quaternary sediments that may well contain significant vertebrate fossils. The LACM results indicate that no vertebrate paleontological localities are within or adjacent to the Project (McLeod, 2018). However, vertebrate fossils including specimens of horse (*Equus*), mammoth (*Mammuthus*), and bison (*Bison*) have been recovered from nearby sediments that are somewhat similar to those presumably underlying the project (McLeod, 2018).

Although the Proposed Project area is entirely underlain by recently deposited Quaternary alluvium (Qa), there are outcrops of Pleistocene Quaternary older alluvium (Qoa) less than 1,000 feet from the Project's western end. These Pleistocene sediments have yielded numerous scientifically significant paleontological resources throughout southern California, including almost 100,000 specimens recovered during the construction of Diamond Lake Reservoir, located approximately 5 miles south of the project, which were salvaged from deposits of Pleistocene alluvium as shallow as 2.5 feet below the surface (Springer et al., 2009; PaleoSolutions, 2013). The younger Quaternary alluvium underlying the project may be underlain at unknown depths by Pleistocene Quaternary older alluvium. Fossil specimens have been recovered from these Pleistocene deposits at depths as shallow as 2.5 feet within 5 miles of the Proposed Project area. Project construction would entail site clearing and preparation, grading, a maximum excavation of 0.2 to 2 feet, and facility installation. These actions have the potential to encounter Pleistocene deposits that may contain paleontological resources. As such, project implementation could directly or indirectly destroy a unique paleontological resource or unique geologic feature. With the incorporation of **Mitigation Measures GEO-1** through **GEO-4**, which require retention of a Qualified Paleontologist, paleontological resources sensitivity training for construction personnel, paleontological site inspections and monitoring, and procedures to follow in the event of unanticipated discoveries, impacts to paleontological resources would be reduced to a less than significant level.

**GEO-1: Paleontological Resources Sensitivity Training.** Prior to start of earth moving activities, the Qualified Paleontologist shall conduct pre-construction worker paleontological resources sensitivity training. This training shall include information on what types of paleontological resources could be encountered during excavations, what to do in case an unanticipated discovery is made by a worker, and laws protecting paleontological resources. All construction personnel shall be informed of the possibility of encountering fossils and instructed to immediately inform the construction foreman or supervisor if any bones or other potential fossils are unexpectedly unearthed. The City shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

**GEO-3: Paleontological Resources Site Inspections and Construction**

**Monitoring.** The Qualified Paleontologist, or a paleontological monitor working under the direct supervision of the Qualified Paleontologist, shall conduct periodic site inspections of excavations to determine the paleontological potential of underlying sediments. Initial site inspections shall be conducted twice per week, but may be reduced to a more infrequent basis or ceased entirely as determined by the Qualified Paleontologist based on soil observations and in consultation with the City. If potential fossil-bearing sediments are observed, the Qualified Paleontologist shall determine the location, duration, and timing of monitoring that shall be required during future ground disturbance. The Qualified Paleontologist shall have the discretion, in consultation with the City, to adjust the locations and level of monitoring, as warranted.

**GEO-4: Unanticipated Paleontological Discoveries.** In the event of the unanticipated discovery of paleontological resources, the contractor shall cease ground-disturbing activities within 50 feet of the find until it can be assessed by the Qualified Paleontologist. The Qualified Paleontologist shall assess the find, implement recovery and reporting measures, if necessary, and determine if paleontological monitoring is warranted once work resumes.

**References**

- California Department of Conservation (CDOC), 2017. Earthquake Hazards, Available at: <https://www.conservation.ca.gov/cgs/geohazards/eq-zapp>. Accessed February 6, 2019.
- HDR, 2018. San Jacinto Valley Raw Water Conveyance Facilities Final Preliminary Design Report. Prepared for Eastern Municipal Water District. July 6, 2018.
- McLeod, Samuel, 2018. Paleontological resources for the proposed Esplanade Avenue Widening Project, ESA Project # D181073.00, in the Cities of San Jacinto and Hemet, Riverside County, prepared for Environmental Science Associates by the Natural History Museum of Los Angeles County, 2018.
- Paleosolutions, 2013. Paleontological resource survey tentative tract map 36550 Riverside County, California. Unpublished paleontological assessment prepared by PaleoSolutions for Environmental Science Associates (ESA).
- Riverside County, 2016. Riverside County General Plan, Safety Element, Revised December 2016, [http://planning.rctlma.org/Portals/0/genplan/general\\_Plan\\_2017/elements/OCT17/Ch06\\_Safety\\_DEC2016.pdf?ver=2017-10-06-093651-757](http://planning.rctlma.org/Portals/0/genplan/general_Plan_2017/elements/OCT17/Ch06_Safety_DEC2016.pdf?ver=2017-10-06-093651-757), Accessed February 6, 2019.
- Riverside County. 2014. San Jacinto Valley Area Plan. [https://planning.rctlma.org/Portals/0/genplan/general\\_plan\\_2014/GPA960/GPAVolume3/5San%20Jacinto%20Valley%20Area%20Plan-%20GPA%20No%20960%20Volume%203%202014-02-20.pdf](https://planning.rctlma.org/Portals/0/genplan/general_plan_2014/GPA960/GPAVolume3/5San%20Jacinto%20Valley%20Area%20Plan-%20GPA%20No%20960%20Volume%203%202014-02-20.pdf).
- Springer, K., E. Scott, J.C. Sagebiel, and L.K. Murray, 2009. The Diamond Valley Lake local.

## Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>VIII. GREENHOUSE GAS EMISSIONS —</b>				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **Less Than Significant.** SCAQMD has not adopted a threshold of significance for residential or commercial projects at the time of this writing. The CARB has released multiple planning efforts to meet air quality standards, GHG emission reduction targets, petroleum consumption reduction, and reduced health risks from transportation emissions. The construction contractor would be responsible for maintaining company vehicles in accordance with CARB's GHG reduction goals. Considering the Proposed Project construction-source emissions would not exceed applicable regional or localized thresholds of significance established by the SCAQMD, the Proposed Project's overall contribution to atmospheric levels of GHGs would be less than significant.
- b) **No Impact.** As required by federal and state law, SCAG is responsible for ensuring that the regional transportation plan, program, and projects are supportive of the goals and objectives of AQMPs. The Proposed Project would expand Esplanade Avenue from two lanes to four in order to mitigate future traffic flow failure as a result of regional growth and the potential realignment of SR 79 identified in various local and regional transportation planning documents. Therefore, the Proposed Project would not conflict with local and regional planning to reduce GHG emissions.



## Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>IX. HAZARDS AND HAZARDOUS MATERIALS —</b> Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **Less Than Significant.** Construction for the Proposed Project would involve site clearing and preparation, grading and excavation, facility installation, and other ground disturbing activities. These construction activities would require small amounts of hazardous materials including petroleum products such as oil, gasoline, and diesel fuels, automotive fluids such as antifreeze and hydraulic fluids, and other chemicals, including adhesives, solvents, paints, thinners. Accidental release of these materials could occur during routine transport, use, or disposal, and impacts associated with the accidental release, could potentially create a significant hazard to the environment. The City of San Jacinto and its construction contractor would be required to comply with all applicable federal, State and local regulations pertaining to hazardous material use, handling, storage, and disposal. Construction specifications prepared for the Proposed Project would identify BMPs to ensure the lawful transport, use, and disposal of hazardous materials. Therefore, compliance with all applicable regulations would reduce potential construction impacts related to hazardous materials to less than significant.

- b) **Less Than Significant.** As described above, construction activities for the Proposed Project would require the transport, use, and disposal of small amounts of hazardous materials, none of which are acutely hazardous. However, the City of San Jacinto is required to comply with applicable federal, State, and local laws and regulations that pertain to avoiding and mitigating the accidental release of hazardous materials during construction of the Proposed Project. This would include the City of San Jacinto or its contractors preparing and implementing a Construction Safety Plan. Additionally, the City of San Jacinto or its contractors would be required to implement BMPs identified in construction specifications to prevent accidental release of hazardous materials into the environment that could affect soils or contaminate groundwater. Compliance with federal, State, and local laws and regulations, in addition to implementation of these BMPs, would reduce impacts associated with the potential for hazardous substance spills during construction to less than significant.
- c) **No Impact.** The Proposed Project is located approximately 0.25 miles north of Tahquitz High School in the City of Hemet. The Proposed Project includes the construction of two additional 12-foot westbound lanes and an 8-foot detention swale, in addition to the removal an existing booster pump station located on the northwest corner of Esplanade Avenue and Cawston Avenue. All other construction activities associated with the Proposed Project would occur adjacent to the existing roadway. Therefore, there would be no impact to the public or environment as a result of the Proposed Project.
- d) **No Impact.** The California Department of Toxic Substances Control (DTSC) has identified several “school investigation sites” near the Proposed Project. The closest investigation site, designated “Esplanade Elementary School No. 11,” is approximately 0.25 miles north, however, this investigation site and all nearby investigation sites are classified as “inactive,” or require “no further action,” as determined by DTSC (DTSC 2019). Therefore, there would be no impact to the public or environment as a result of the Proposed Project.
- e) **No Impact.** The Proposed Project would be located approximately 3 miles north of the Hemet-Ryan Airport, the nearest public or private airport. The Hemet-Ryan Airport Land Use Compatibility Plan (ALUCP) designates the area as zone ‘E’ of the Airport Influence Boundary Area. There are no requirements for development in zone ‘E’ per the ALUCP. Therefore, there would be no impact to the public or environment as a result of the Proposed Project.
- f) **Less Than Significant With Mitigation Incorporated.** The Proposed Project would occur on a 1.5-mile segment of Esplanade Avenue between Warren Road and Sanderson Avenue. The majority of the construction, including roadway widening and sidewalk construction, would occur on the north side of the street. Minor pavement rehabilitation and striping would occur on the south side. Various intersection improvements would occur at Esplanade Avenue and Warren Road, Esplanade Avenue and Cawston Avenue, and Esplanade and Sanderson Avenue. Construction of these Proposed Project components in the ROW could temporarily impair implementation of or physically

interfere with an adopted emergency response plan. Thus, implementation of Mitigation Measure **TRAF-1**, which would require preparation and implementation of a traffic control plan, would be necessary to reduce potential impacts to emergency response to a less than significant

**TRAF-1:** Traffic Control Plan. Prior to the start of construction, the City shall require the construction contractor to prepare a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the City of San Jacinto and the City of Hemet. The Traffic Control Plan shall be prepared in accordance with the City of San Jacinto and the City of Hemet's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks.

- g) **No impact.** The Proposed Project is not located within an area that is designated by CAL FIRE as a 'very high fire hazard zone' (CAL FIRE 2007). The Proposed Project involves widening an existing road surrounded by agricultural fields and housing developments. The Proposed Project would not expose people or structure, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

## References

- CAL FIRE, 2007. Western Riverside County Draft Fire Hazard Severity Zones in LRA. September 20, 2007.
- DTSC, 2018. Envirostor Database, available at <http://www.envirostor.dtsc.ca.gov/?surl=6n4vb>. Accessed January 23, 2019.
- Riverside County Airport Land Use Commission, 2017. Riverside County Airport Land Use Compatibility Plan, *Background Data*. Vol. 2. Available at <http://www.rcaluc.org/Plans/New-Compatibility-Plan>. Accessed January 23, 2019.

## Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>X. HYDROLOGY AND WATER QUALITY —</b> Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) **Less Than Significant Impact.** Construction of the Proposed Project would involve excavation, trenching, and grading to exposed ground surface areas as well as adequate stormwater drainage facilities to work in conjunction with the additional road surface. Sediment associated with earthmoving activities and exposed soil would have the potential to erode and be transported down gradient areas, potentially resulting in water quality standard violations. Additionally, stormwater passing through the construction and staging sites has the potential to pick up construction-related chemicals such as fuels or oils from construction equipment which may pass into the local stormwater collection system, impacting water quality. However, because the Proposed Project would disturb more than one acre, construction would be subject to the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity. In compliance with the statewide NPDES General Construction Permit, the City would require the contractor to prepare and submit a SWPPP that would identify pollutant sources that may affect the quality of stormwater discharge and identify BMPs, such as erosion control and pollution prevention measures, to be used throughout the course of construction. As a

result, construction of the Proposed Project would not result in violation of water quality standards, waste discharge requirements, or otherwise degrade water quality. The construction contractor would be required to implement BMPs and required to for NPDES stormwater permits to protect the water quality objectives and beneficial uses of local surface waters. With implementation of required BMPs and securing of all applicable permits, operation of these facilities would not conflict with any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and impacts would be less than significant.

- b) **No Impact.** The implementation of the Proposed Project would not involve the extraction of any groundwater and would not substantively interfere with groundwater recharge as surface water would be collected in the drainage facilities and directed offsite. No impact would occur.
- c) **Less Than Significant Impact.** Construction activities would require earthwork activities that would temporarily alter drainage patterns and expose soils to potential erosion or siltation. New stormwater drainage facilities would be incorporated in the expansion however, as indicated in the Jurisdiction Determination (Appendix B), the Proposed Project would impact CDFW jurisdictional streambeds. Proposed Project would be subject to permitting requirements for impacts to hydrological drainage features as described in the Streambed Alteration Agreement (SAA) Permit.

The construction contractor would also be required to adhere to the NPDES Construction General Permit, and implement BMPs in accordance with a SWPPP which would include erosion control measures. The addition of the concrete to the area would increase the rate of surface water runoff however, once constructed, the new stormwater drainage facilities would meet the demands of the Proposed Project. Construction and operation of the Proposed Project would not alter the course of a stream or river as there are none in the vicinity of the Proposed Project.

The City's contractor would implement BMPs in accordance with the SWPPP and the SAA therefore, the Proposed Project would not result in substantial erosion, runoff or siltation onsite or offsite. The Proposed Project is located outside of any FEMA flood zone and outside of the dam inundation area for any of the regional dams, including Lake Hemet (FEMA 2018). Therefore, impacts would be less than significant.

- d) The Proposed Project is not located in a flood zone and would therefore not risk release of pollutants from the site due to inundation. The Proposed Project is more than 40 miles away from the Pacific Ocean. Therefore, the Proposed Project would not be subject to tsunamis and would not risk release of pollutants due to Proposed Project inundation from a tsunami. No impacts would occur.

- e) **Less Than Significant Impact.** In compliance with the statewide NPDES General Construction Permit, the City would require the contractor to prepare and submit a SWPPP that would identify pollutant sources that may affect the quality of stormwater discharge and identify BMPs, such as erosion control and pollution prevention measures, to be used throughout the course of construction. Construction of the Proposed Project would not result in violation of water quality standards, waste discharge requirements, or otherwise degrade water quality. With the implementation of as adequate stormwater drainage facilities to work in conjunction with the additional road surface, operation of Esplanade Avenue would not result in degradation of water quality or violate discharge requirements. The Proposed Project does not involve groundwater extraction. As a result, there would be no conflict with implementation of a water quality control plan or groundwater management plan. Impacts would be less than significant.

## References

FEMA, 2018. FEMA Flood Map Service, FIRM Panels 06065C1470G (Effective 8/27/08) and 06065C1488H (Effective 4/18/17), accessed December 31, 2018.

---

## Land Use and Planning

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XI. LAND USE AND PLANNING —</b> Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) **No Impact.** The Proposed Project would be constructed within public ROW or within property or easements owned by the City of San Jacinto and City of Hemet. The Proposed Project would expand the approximately 1.5-mile segment of Esplanade Avenue extending from Warren Road to Sanderson Avenue from two to four lanes and would not create a barrier or physically divide an established community. As such, no impact would occur.
- b) **Less Than Significant Impact.** The roadway expansion would be constructed in two phases (Phase 1 and Phase 2) mainly within the City of San Jacinto and City of Hemet ROWs designated for transportation. As part of Phase 1 of the Proposed Project, the City of San Jacinto is acquiring land from private owners adjacent to the existing road. The Proposed Project area is currently zoned as Commercial General and as Residential Low Density with the western end towards Warren Road being zoned as Specific Plan (City of San Jacinto, 2018). Expansion of Esplanade Avenue is in alignment with the regional and local transportation planning and therefore, does not conflict with existing land use designations or be incompatible with surrounding land uses. Therefore, impacts would be less than significant.

## References

City of San Jacinto. 2018. San Jacinto Zoning Map.  
[http://sanjacintoca.hosted.civiclive.com/UserFiles/Servers/Server\\_10384345/Image/City%20Government/CommunityDevelopment/Planning/Zoning\\_upd\\_030818%20-%20Copy.pdf](http://sanjacintoca.hosted.civiclive.com/UserFiles/Servers/Server_10384345/Image/City%20Government/CommunityDevelopment/Planning/Zoning_upd_030818%20-%20Copy.pdf).

## Mineral Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XII. MINERAL RESOURCES —</b> Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **No Impact.** The California DOC classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA). The DOC designates Mineral Resources Zones (MRZs) that have regionally significant mineral deposits. The Proposed Project area is classified by the DOC as a MRZ-3, which is defined as an urban area of known or inferred mineral occurrences of undetermined mineral resource significance (DOC, 2008). The Proposed Project will be implemented within areas that have been previously disturbed or developed, and not currently being used for mining or the production of mineral resources. Expansion of Esplanade Avenue is in alignment with the regional and local transportation planning and therefore, does not conflict extraction of a known or valuable mineral resource. No impacts would occur.
- b) **No Impact.** The County of Riverside and cities of San Jacinto and Hemet General Plans do not identify the Proposed Project area as mineral resource recovery zones (City of Hemet 2012; City of San Jacinto 2012; County of Riverside 2015). Therefore, the implementation of the Proposed Project would not result in the loss of a locally important mineral resource recovery site. No impacts would occur.

## References

- California Department of Conservation (DOC), California Geological Survey (CGS), 2008. California Geological Survey, Special Report 206. Update of Mineral Land Classification Map for Portland Cement Concrete-Grade Aggregate in the San Bernardino Production-Consumption (P-C) Region, San Bernardino and Riverside Counties, California. Available online at: [ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR\\_206/SR\\_206\\_Text.pdf](ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_206/SR_206_Text.pdf), a. Accessed January 23, 2019.
- City of Hemet, 2012. City of Hemet General Plan, Open Space and Conservation Element. Available online at: <http://www.cityofhemet.org/DocumentCenter/View/2162>, accessed February 8, 2019.



City of San Jacinto, 2012. City of San Jacinto General Plan, Resource Management Element. Available online at: [http://sanjacintoca.hosted.civiclive.com/UserFiles/Servers/Server\\_10384345/File/City%20Government/Community%20Development/Planning/General%20Plan/009\\_ResourceManagementElement.pdf](http://sanjacintoca.hosted.civiclive.com/UserFiles/Servers/Server_10384345/File/City%20Government/Community%20Development/Planning/General%20Plan/009_ResourceManagementElement.pdf), accessed February 8, 2019.

County of Riverside, 2015. County of Riverside General Plan, Multipurpose Open Space Element. Available online at: [https://planning.rctlma.org/Portals/0/genplan/general\\_Plan\\_2017/elements/OCT17/Ch05\\_MOSE\\_120815.pdf?ver=2017-10-11-102103-833](https://planning.rctlma.org/Portals/0/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833), accessed February 9, 2019.

---

## Noise

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XIII. NOISE —</b> Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **Less Than Significant.** The Proposed Project would widen Esplanade Avenue from two to four lanes. Esplanade Avenue is the boundary between the City of San Jacinto and City of Hemet. The north side of Esplanade, within the City of San Jacinto consists primarily of agricultural lands with very few residences. The south side of Esplanade consists of a medium density residential community and commercial agricultural operations. Existing noise sources in the Proposed Project area include on-going agricultural operations and vehicle traffic.

Construction would occur over approximately 8 months and require use of work trucks, graders, earthmovers, backhoes, excavators, one full time water truck, concrete mixer, vibratory compactors, along with supporting equipment. Construction would entail noise-generating activities such as grading, excavation, filling, to install asphalt and concrete between Esplanade and Sanderson Avenues.

The cities Noise Ordinances limits acceptable noise levels for lands zoned as residential to 65 A-weighted decibels (dBA) for exterior and 45 dB(A) for interior (City of San Jacinto and City of Hemet General Plan, 2012). The Federal Highways Administration provides estimates of construction noise emissions from commonly used equipment during road construction. The greatest noise-generating equipment that would be used during construction would generate noise of 85 dB(A) up to 50 feet away (2006). Installation of Proposed Project would be located within existing public ROW and within 56 feet of newly acquired land adjacent to the existing roadway. Construction noise occurring in the vicinity to a residence would be temporary and would dissipate as the installation progresses along the roadway, however, noise would, at times, exceed the cities noise level ordinance level of 65 dB(A). Noise generated during construction would occur primarily adjacent to agricultural fields that routinely operate heavy-duty agricultural equipment and along a main vehicle corridor. The residential community

- located on the south side of Esplanade is set-back from the road approximately 50 feet, and construction would primarily occur on the north side. Considering that open space would allow for quick attenuation, and noise generated would be temporary and during normal business hours, impacts from noise generated by the Proposed Project would be less than significant.
- b) **Less Than Significant.** Construction activities at the Proposed Project site have the potential to generate low levels of groundborne vibration from the operation of construction equipment. Groundborne vibrations propagate through the ground and rapidly diminish in intensity with increasing distance from the source. No high-impact activities, such as pile driving or blasting, would be used during construction. The nearest offsite receptors to the Proposed Project site are residences on the south side of Esplanade between Cinnabar Ave. and Alabaster Ave. and two residences associated with agricultural operations on the north side of Esplanade between Cawston Ave. and Sanderson Ave. As with noise generated during construction, vibrations felt during construction by residences would be temporary and attenuate quickly, therefore, impacts would be less than significant.
- c) **No Impact.** There are no public airports or private air strips located within two miles of the Proposed Project facilities. Therefore, the Proposed Project facilities would have no impact on exposing people to excessive noise levels due to public airport use. No impact would occur.

## References

- City of Hemet, 2012. City of Hemet 2030 General Plan, Noise Element.  
<http://www.cityofhemet.org/DocumentCenter/View/4512>.
- City of San Jacinto, 2012. City of San Jacinto General Plan, Noise Element.  
[https://www.sanjacintoca.gov/city\\_departments/community\\_development/general\\_plan](https://www.sanjacintoca.gov/city_departments/community_development/general_plan).
- Federal Highway Administration, 2006. Roadway Construction Noise Model, User's Guide.  
[https://www.fhwa.dot.gov/environment/noise/construction\\_noise/rcnm/rcnm.pdf](https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf).

## Population and Housing

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XIV. POPULATION AND HOUSING —</b> Would the project:				
a) Induce substantial unplanned 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **Less than significant.** The Proposed Project involves the expansion of the approximate 1.5-mile segment of Esplanade Avenue extending from Warren Road to Sanderson Avenue from two to four lanes. The Proposed Project would not directly induce population growth, as it does not propose development of new housing that would attract additional population to that area. However, these lands are currently zoned as Commercial General and as Residential Low Density with the western end towards Warren Road being zoned as Specific Plan (San Jacinto General Plan, 2012). Strong and continuous population growth in the region is expected to lead to a sustained conversion of adjacent agricultural land to other uses. It is not known when these lands will be converted from farmlands to their zoned use because these are private properties, and the timing for development of these lands is at the discretion of each landowner. Further, implementation of the Proposed Project would not result in any permanent employment that could indirectly induce population growth. The Proposed Project would facilitate planned growth within the area rather than indirectly attracting unplanned growth. Impacts are less than significant.
- b) **No Impact.** The Proposed Project site is located within existing ROW and would require some ROW acquisition within undeveloped lands. The Proposed Project would not displace existing housing or require the construction of replacement housing. No impact would occur.

## References

City of San Jacinto, 2012. General Plan: Land Use Element. Available at:  
<http://www.cityofhemet.org/DocumentCenter/View/4512>

## Public Services

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XV. PUBLIC SERVICES —</b>				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 following public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a.i) **No Impact.** The Proposed Project does not include new fire departments or expansion of fire protection facilities. Existing fire protection services within the Proposed Project area would be able to sufficiently respond to emergency events with existing facilities and staffing capacities in the event of a fire or other emergency at the Proposed Project site. Construction and operation of the Proposed Project would be carried out by a local contractor. Contracting the local workforce would prevent a permanent increase in residences or population in the Proposed Project area. Therefore, construction and operation of the Proposed Project would not induce population growth to an extent that would necessitate the construction of new fire departments or expansion of fire protection facilities to maintain acceptable service ratios response times, or other measures of performance. No impacts would occur.
- a.ii) **No Impact.** The Proposed Project does not include new police departments or expansion of police facilities. Existing police protection services within the Proposed Project area would be able to sufficiently respond to emergency events with existing facilities and staffing capabilities in the event of a fire or other emergency at the Proposed Project site. Construction and operation of the Proposed Project would be carried out by a local contractor. Contracting a local workforce would prevent a permanent increase in residences or population in the Proposed Project area. Therefore, construction and operation of the Proposed Project would not induce population growth to an extent that would necessitate the construction or expansion of new police protection facilities to maintain acceptable service ratios, response times, or other measures of performance. No impacts would occur.

- a.iii) **No Impact.** The Proposed Project does not include any new housing units within the City of San Jacinto, nor would it result in a substantial increase in new employment opportunities within the region. Thus, no new schools would need to be built to maintain acceptable performance objectives as a result of the Proposed Project. No impacts would occur.
- a.iv) **No Impact.** The Proposed Project does not propose any housing units or a substantial increase in new employment opportunities within the region. Thus, the Proposed Project would not directly induce population growth and would not require the construction of additional parks within the Proposed Project area to meet performance objectives. No impact would occur.
- a.v) **No Impact.** The Proposed Project does not propose any new housing units or a substantial increase in new employment opportunities within the region. Thus, the Proposed Project would not induce population growth and would not necessitate the construction of any additional public facilities, such as libraries or hospitals, within the Proposed Project area. Therefore, the Proposed Project would not adversely affect public facilities. No impact would occur.
-

## Recreation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XVI. RECREATION —</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **No Impact.** There are several parks located in the vicinity of Proposed Project components, such as Oltman Park located approximately 0.5-mile south of the proposed roadway expansion on Esplanade Avenue. The Proposed Project does not propose any new housing units or workers that would temporarily or permanently increase the use of existing parks. Additionally, construction activities would not impact access to Oltman Park or any other park in the vicinity, and it is reasonable to assume that park users would still be able to access local parks within the Proposed Project area. Lastly, the Proposed Project would not induce population that would increase the use of existing neighborhood and regional parks. Therefore, implementation of the Proposed Project would not cause the substantial degradation of existing parks or recreational facilities. No impact would occur
- b) **No Impact.** The roadway expansion construction would be within ROW and would not affect existing recreational facilities. No new recreational facilities are included in the Proposed Project, nor would they be required in either the City of San Jacinto or the City of Hemet. No impact would occur.

## Transportation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XVII. TRANSPORTATION —</b> Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) **Less Than Significant with Mitigation Incorporated.** The RCTC (2016) has approved the realignment of State Road (SR) 79, and if constructed, would run diagonally from Warren Road at Esplanade Avenue and include grade-separated interchanges, or ramps, at Esplanade Avenue. Future development in the vicinity of the Proposed Project will increase traffic congestion to unacceptable levels (RCTC, 2016). Expansion of Esplanade Avenue from two to four lanes is consistent with the City of Hemet and San Jacinto's 5-year transportation improvement program (WRCOG, 2017a). A sidewalk for pedestrians would be installed on the north side of the road expansion however, pedestrians would not have access to sidewalks in the Proposed Project area during construction. In order to reduce impacts to alternative transportation facilities during construction, the City's contractor would be required to implement Mitigation Measure **TRAF-1**, which would require the preparation and implementation of a Traffic Control Plan, which includes measures specifically for alternative transportation facilities. The Traffic Control Plan would include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. In addition, the Traffic Control Plan would include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks. The Traffic Control Plan would be coordinated with the City of San Jacinto and the City of Hemet. Therefore, with implementation of Mitigation Measure **TRAF-1**, impacts to alternative transportation facilities during construction of the underground facilities would be less than significant.
- b) **No Impact.** As discussed above, the Proposed Project is consistent with regional transportation planning to reduce existing congestion and future traffic delays due to proposed development. Upon completion of the road expansion, commute times would be reduced. Therefore, the Proposed Project is consistent with CEQA Guidelines section 15064.3, subdivision (b).



- c) **No Impact.** The Proposed Project would involve two additional 12-foot westbound lanes along with a stormwater drainage pipe and swale and a raised sidewalk. Improvements to Esplanade Avenue would require an extension of the City of San Jacinto ROW from 30 feet to 56 feet. Two traffic signals would be installed at the intersections of Warren Road and Cawston Avenue. The Proposed Project would improve road conditions, commute time and thus public safety. No impact would occur.
- d) **Less Than Significant with Mitigation Incorporated.** The Proposed Project would occur on a 1.5-mile segment of Esplanade Avenue between Warren Road and Sanderson Avenue. The majority of the construction, including roadway widening and sidewalk construction, would occur on the north side of the street. Minor pavement rehabilitation and striping would occur on the south side. Various intersection improvements would occur at Esplanade Avenue and Warren Road, Esplanade Avenue and Cawston Avenue, and Esplanade and Sanderson Avenue. Construction of these Proposed Project components could interfere with an adopted emergency response plan. Thus, implementation of Mitigation Measure **TRAF-1**, which would require preparation and implementation of a traffic control plan, would reduce potential impacts to emergency response to a less than significant. Upon completion of the Proposed Project, timing required to access emergency situations in the Proposed Project area would likely be reduced due to the addition of vehicle lanes.

## References

- Riverside County Transportation Commission (RCTC). 2016. SR-79 Final Environmental Impact Report. <http://sr79project.info/library-links/final-environmental-impact-report-environmental-impact-statement-november-2016>.
- Western Riverside Council of Governments (WRCOG). 2017a. Hemet/San Jacinto Zone 5-Year Transportation Improvement Program <http://www.wrcog.cog.ca.us/203/Zone-TIPs>

## Tribal Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XVIII. TRIBAL CULTURAL RESOURCES —</b>				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

California Assembly Bill (AB) 52, through its implementing regulations, requires that lead agencies consult with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the Proposed Project and who have requested in writing to be informed by the lead agency of Proposed Projects in the tribe's geographic area (PRC Section 21080.3.1(b) and (d)). The following evaluation is based on the results of AB 52 consultation conducted by the City.

- a.i) On July 11, 2019, the City notified the designated contact of, or a tribal representative of, a total of seven California Native American Tribes pursuant to PRC Section 21080.3.1 inviting them engage in government-to-government consultation with the City regarding the Project.

Letters were sent via certified mail and included a description of the Proposed Project, a map depicting the Project area, and contact information for the City. Recipients were requested to respond within 30 days of receipt of the letter if they wished to engage in consultation. **Table 2** lists the Tribes, contacts, and responses.

**TABLE 2**  
**CALIFORNIA NATIVE AMERICAN TRIBES NOTIFIED PURSUANT TO AB 52**

<b>Tribe</b>	<b>Contact</b>	<b>Title/Department</b>	<b>Response</b>	<b>Notes</b>
Agua Caliente Band of Cahuilla Indians	Garcia, Patricia	Director, Tribal Historic Preservation Office	Requested additional information on 8/16/2019	Requested information sent via email on 8/19/2019. To date, no additional responses or request for consultation received.
Morongo Band of Mission Indians	Huante, Raymond	Cultural Resources Specialist	No response received	-
Pechanga Band of Luiseño Indians	Hoover, Anna	Cultural Analyst, Cultural Resources Department	Requested consultation and additional information on 8/8/2019  Requested additional information on 9/16/19	Requested information sent via email on 8/19/2019, 9/16/2019, and 9/17/2019
Rincon Band of Luiseño Indians	McPherson, Jim	Cultural Resources Department	Requested consultation and additional information on 8/12/2019	Requested information sent via email on 8/19/2019
San Manuel Band of Mission Indians	McCarthy, Daniel F.	Director, Cultural Resources Management Department	No response received	-
Soboba Band of Luiseño Indians	Ontiveros, Joseph	Director, Cultural Resources	Requested consultation on 8/5/2019	Additional information sent via email on 8/19/2019
Torres Martinez Desert Cahuilla Indians	Mirelez, Michael	Coordinator, Cultural Resources	No response received	-

Three of the California Native American Tribes who were notified requested consultation (Pechanga Band of Luiseño Indians, Rincon Band of Luiseño Indians, and Soboba Band of Luiseño Indians). **Table 3** identifies the tribes who requested consultation and the dates consultation meetings were held and provides a brief summary of the meetings. Confidential information has been withheld in accordance with PRC Code Section 21082.3(c) and consistent with subdivision (r) of Section 6254 of, and Section 6254.10 of, the Government Code, and subdivision (d) of Section 15120 of Title 14 of the California Code of Regulations. No tribal cultural resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), were identified within the Project area as a result of consultation. As a result, no impact would occur.

**TABLE 3**  
**SUMMARY OF TRIBES CONSULTED**

<b>Tribe and Representative Attending Meeting</b>	<b>Meeting Date</b>	<b>Meeting Summary</b>	<b>Notes</b>
Pechanga Band of Luiseño Indians	N/A	Several attempts were made to schedule a meeting, but no responses to requests for meeting dates were received.	Date emails sent: 8/19/2019 9/8/2019 9/16/2019 9/17/2019 9/25/2019

Tribe and Representative Attending Meeting	Meeting Date	Meeting Summary	Notes
Rincon Band of Luiseño Indians	9/10/2019	No tribal cultural resources identified within the Project Site. In an email dated 9/12/2019, the tribe confirmed that they are in agreement with the five recommended mitigation measures that include archaeological/Native American monitoring, cultural sensitivity training, and protocols for unanticipated discoveries of cultural resources and human remains. The tribe stated that they have no further concerns pertaining to cultural resources and concluded consultation. The tribe requested to be notified of any changes to project plans and mitigation measures, and that a copy of the final monitoring report be provided to the tribe when completed.	Consultation concluded on 9/12/2019
Soboba Band of Luiseño Indians	9/11/2019	No tribal cultural resources identified within the Project Site. The tribe requested that the City enter into a Cultural Resource Treatment and Disposition Agreement for the Proposed Project.	Consultation concluded on 11/21/2019

- a.ii) As noted above, the City conducted consultation with California Native American Tribes pursuant to AB 52. No tribal cultural resources that have been determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1 were identified within the Project site as a result of consultation. As a result, no impact would occur.

## Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XIX. UTILITIES AND SERVICE SYSTEMS —</b> Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **Less than significant.** Wastewater generated during construction of the Proposed Project would be minimal and collected by a permitted portable toilet waste hauler to be disposed of at a nearby liquid-disposal station. Construction of the Proposed Project would temporarily alter surface water flow due to trenching, excavation, and other ground-disturbing activities involving construction of a stormwater detention basin and sidewalk along the north side of the Proposed Project limits. Construction of the Proposed Project would incorporate minor drainage facilities to minimize the potential for flooding. No facilities for water and wastewater treatment would be relocated or constructed as a result of the Proposed Project and no electric power, natural gas, or telecommunications facilities would be constructed, relocated or expanded as part of the Proposed Project. Impacts would be less than significant.
- b) **No Impact.** The Proposed Project would require minimal amounts of water during construction for dust control, concrete mixing, and sanitary purposes. Sufficient amounts of water would be trucked to the Proposed Project site by the contractor. The Proposed Project would reduce agricultural operations on approximately 2.35 acres thereby reducing water use in the area for irrigation. Once in operation, the Proposed Project would not involve the use of water or directly create development in the Proposed Project area. No impact would occur.

- c) **No Impact.** As discussed in 18(a), no water or wastewater treatment facilities would be constructed or expanded as part of the Proposed Project. No impact would occur.
  - d) **Less than significant.** Solid waste generated during construction of the Proposed Project would mainly consist of general construction debris and worker personal waste. Remaining solid waste from construction would be taken to landfills surrounding the Proposed Project area as determined by the City and the construction contractor for proper disposal of materials. This facility would have sufficient capacity to accommodate daily construction disposal needs of the Proposed Project, which would be negligible. Operation of the Proposed Project would not generate solid waste. Therefore, impacts would be less than significant.
  - e) **No Impact.** During construction of the Proposed Project, the contractor would be required to comply with regulations set forth by the City's waste management program. Operation of the Proposed Project would not generate solid waste. Therefore, there would be no impact to solid waste statutes and regulations.
-

## Wildfire

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XX. WILDFIRE</b> — If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion

- a) **Less Than Significant With Mitigation Incorporated.** The Proposed Project would occur on a 1.5-mile segment of Esplanade Avenue between Warren Road and Sanderson Avenue. The majority of the construction, including roadway widening and sidewalk construction, would occur on the north side of the street. Minor pavement rehabilitation and striping would occur on the south side. Various intersection improvements would occur at Esplanade Avenue and Warren Road, Esplanade Avenue and Cawston Avenue, and Esplanade and Sanderson Avenue. Construction of these Proposed Project components in the ROW could temporarily impair implementation of or physically interfere with an adopted emergency response plan. Thus, implementation of Mitigation Measure **TRAF-1**, which would require preparation and implementation of a traffic control plan, would be necessary to reduce potential impacts to emergency response to a less than significant.
- b) **No Impact.** The Proposed Project is not located on a slope. The Proposed Project would be installed within public ROWs with no above ground infrastructure. Expanding Esplanade Avenue would not contribute to the spread of a wildfire via winds or other factors. No impact would occur.
- c) **No Impact.** The Proposed Project does not require the installation or maintenance of associated infrastructure that could exacerbate fire risk. Once constructed, the Proposed Project would enable faster response times by emergency personnel in both easterly and westerly routes along Esplanade Avenue. No impact would occur.

- d) **No Impact.** The Proposed Project is not located on a downward slope or in a fire hazard zone (Riverside County, 2014). Although the expansion of Esplanade Avenue would change existing surface water drainage and add approximately 56 feet of impervious service along 1.5 miles of the existing road, the Proposed Project also includes construction and implementation of a stormwater detention basin designed to accommodate the infrastructure. The Proposed Project would not result in increased drainage or runoff that could contribute to landslide or flooding impacts as the topography is flat and there is no risk of post-fire slope instability. No impact would occur.

## References

Riverside County San Jacinto Valley Area Plan. 2014. [https://planning.rctlma.org/Portals/0/genplan/general\\_plan\\_2014/GPA960/GPAVolume3/5San%20Jacinto%20Valley%20Area%20Plan-%20GPA%20No%20960%20Volume%203%202014-02-20.pdf](https://planning.rctlma.org/Portals/0/genplan/general_plan_2014/GPA960/GPAVolume3/5San%20Jacinto%20Valley%20Area%20Plan-%20GPA%20No%20960%20Volume%203%202014-02-20.pdf).

---



## Mandatory Findings of Significance

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>XXI. MANDATORY FINDINGS OF SIGNIFICANCE —</b>				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Discussion

- a) Construction of the Proposed Project has the potential to effect coastal whiptail and burrowing owl, which are both special-status species, as well as nesting and foraging activities for common avian species protected under the MBTA. Native endemic plant species identified in the RCA MSHCP also have potential to occur in the Proposed Project area. The Proposed Project would impact state jurisdictional waters which includes the relocation of an approximately 3,150-foot (0.42 acres), unvegetated roadside ditch located north of Esplanade Avenue. However, implementation of **Mitigation Measures BIO-1** through **BIO-5** would ensure that impacts to biological resources are mitigated to a less than significant level.

The Proposed Project area is considered highly sensitive for the presence of subsurface archaeological deposits and underlying paleontological resources based on proximity to and number of known prehistoric sites within a 0.5-mile radius, close proximity to natural resources, and Holocene-age alluvium underlying the Proposed Project area. Implementation of **Mitigation Measures CUL-1** through **CUL-5** and **GEO-1** through **GEO-4** would ensure impacts to archaeological resources and paleontological resources are mitigated to a less than significant impact.

### **Mitigation Measures**

Implement **Mitigation Measures BIO-1** through **BIO-5**, **CUL-1** through **CUL-5**, and **GEO-1** through **GEO-4**.

- b) A cumulative impact could occur if the Proposed Project would result in an incrementally considerable contribution to a significant cumulative impact in consideration of past, present, and reasonably foreseeable future projects for each resource area. No direct significant impacts were identified for the Proposed Project that could not be mitigated to a less than significant level. However, when combined with other projects within the vicinity, the Proposed Project may result in a contribution to a potentially significant cumulative impact.

Construction of the Proposed Project would involve adding two additional traffic lanes where the Eastern Municipal Water District (EMWD) is constructing facilities associated with the San Jacinto Valley Raw Water Conveyance Project. Impacts from the Proposed Project and the EMWD project could occur simultaneously, potentially contributing to environmental effects in the area. Implementation of mitigation measures during construction of both projects are expected to reduce impacts to non-significant levels, however, even with implementation of mitigation measures, impacts could be cumulatively considerable. **Mitigation Measure CUM-1** would require the City of San Jacinto to coordinate construction of the Proposed Project with the EMWD to minimize temporary impacts along Esplanade Avenue. Phasing of construction activities and coordination with EMWD would reduce cumulative impacts to a less than significant level.

**CUM-1:** The City of San Jacinto shall communicate and coordinate Project construction activities with the EMWD and other local jurisdictions, as appropriate. This shall ensure that facilities implemented by both EMWD and the City of San Jacinto are compatible and result in efficiencies in construction activities and implementation of facilities, where possible. Phasing of construction activities shall also be coordinated to minimize cumulative impacts.

- c) With implementation of the Proposed Project's mitigation measures, substantial adverse effects to humans, either directly or indirectly, would not occur.
-

# Appendix A

## **Emissions Modeling Outputs**





Summer	Onsite Emissions					
	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
Source	lb/day					
Demolition - 2020	2.13	20.95	14.66	0.02	1.15	1.08
Demolition - 2021	1.99	19.70	14.49	0.02	1.04	0.97
Site Preparation - 2020	1.63	18.35	7.71	0.02	2.88	1.89
Site Preparation - 2021	1.56	17.42	7.56	0.02	2.83	1.83
Grading - 2020	1.35	15.09	6.45	0.01	2.46	1.60
Grading - 2021	1.29	14.33	6.33	0.01	2.42	1.56
Drainage, Utility, Subgrade, Retaining Wall - 2020	3.47	35.99	28.83	0.05	1.71	1.62
Drainage, Utility, Subgrade, Retaining Wall - 2021	3.19	32.95	28.21	0.05	1.50	1.42
Foundations/Concrete Pour - 2020	2.03	14.79	13.19	0.02	0.80	0.77
Foundations/Concrete Pour - 2021	1.81	13.64	12.90	0.02	0.68	0.66
Paving - 2020	0.88	8.45	8.88	0.01	0.47	0.43
Paving - 2021	0.82	7.74	8.86	0.01	0.42	0.38
Striping - 2021	0.32	1.53	1.82	0.00	0.09	0.09
Regional Emissions	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
Maximum Daily Emissions	3.47	35.99	28.83	0.05	2.88	1.89

**Localized Significance Thresholds (LST)**

Source Receptor Area #28: Hemet/San Jacinto Valley  
2-acre site with 25-meter sensitive receptor distance  
Based on SCAQMD Mass Rate LST Look Up Tables

Pollutant	lb/day
Nox	234
CO	1100
PM10	7
PM2.5	4

## San Jacinto Esplanade Widening - South Coast Air Basin, Summer

### San Jacinto Esplanade Widening South Coast Air Basin, Summer

## 1.0 Project Characteristics

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	4.13	Acre	4.13	179,902.80	0

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	10			<b>Operational Year</b>	2021
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	702.44	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - City of Hemet in CEC Zone 10

Land Use -

Construction Phase - Schedule provided by client.

Off-road Equipment -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation -

Fleet Mix -

Grading - Total acres graded set equivalent to total site footprint.

Demolition -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	10,794.00	3,398.00
tblAreaCoating	Area_Parking	10794	3398
tblConstructionPhase	NumDays	18.00	154.00
tblConstructionPhase	NumDays	230.00	129.00
tblConstructionPhase	NumDays	20.00	306.00
tblConstructionPhase	NumDays	8.00	196.00
tblConstructionPhase	NumDays	18.00	261.00
tblConstructionPhase	NumDays	5.00	306.00
tblGrading	AcresOfGrading	73.50	4.13
tblGrading	AcresOfGrading	153.00	4.13
tblGrading	MaterialExported	0.00	20,000.00
tblGrading	MaterialExported	0.00	20.00
tblGrading	MaterialImported	0.00	13,334.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblTripsAndVMT	HaulingTripLength	20.00	5.00
tblTripsAndVMT	HaulingTripLength	20.00	5.00
tblTripsAndVMT	HaulingTripNumber	2.00	20.00
tblTripsAndVMT	HaulingTripNumber	2.00	0.00
tblTripsAndVMT	HaulingTripNumber	4,167.00	2,000.00
tblTripsAndVMT	VendorTripNumber	29.00	9.00
tblTripsAndVMT	WorkerTripNumber	13.00	2.00
tblTripsAndVMT	WorkerTripNumber	8.00	2.00
tblTripsAndVMT	WorkerTripNumber	8.00	2.00
tblTripsAndVMT	WorkerTripNumber	28.00	4.00
tblTripsAndVMT	WorkerTripNumber	76.00	8.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblTripsAndVMT	WorkerTripNumber	15.00	6.00

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					
2020	11.6978	116.0995	81.4856	0.1526	10.3201	5.6407	15.9608	5.5141	5.2890	10.8031	0.0000	14,618.9092	14,618.9092	3.6079	0.0000	14,709.1073
2021	10.8502	108.1028	79.9884	0.1524	10.3732	5.0470	15.4202	5.5271	4.7289	10.2560	0.0000	14,601.3074	14,601.3074	3.5779	0.0000	14,690.7535
Maximum	11.6978	116.0995	81.4856	0.1526	10.3732	5.6407	15.9608	5.5271	5.2890	10.8031	0.0000	14,618.9092	14,618.9092	3.6079	0.0000	14,709.1073



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					
2020	11.6978	116.0995	81.4856	0.1526	4.3158	5.6407	9.9565	2.2285	5.2890	7.5175	0.0000	14,618.9092	14,618.9092	3.6079	0.0000	14,709.1073
2021	10.8502	108.1028	79.9884	0.1524	4.3689	5.0470	9.4159	2.2415	4.7289	6.9704	0.0000	14,601.3074	14,601.3074	3.5779	0.0000	14,690.7535
Maximum	11.6978	116.0995	81.4856	0.1526	4.3689	5.6407	9.9565	2.2415	5.2890	7.5175	0.0000	14,618.9092	14,618.9092	3.6079	0.0000	14,709.1073

	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
Percent Reduction	0.00	0.00	0.00	0.00	58.03	0.00	38.27	59.52	0.00	31.20	0.00	0.00	0.00	0.00	0.00	0.00

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	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0681	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000	0.0000	9.6000e-004

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	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0681	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000	0.0000	9.6000e-004

	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
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2020	9/1/2021	5	306	
2	Site Preparation	Site Preparation	7/1/2020	9/1/2021	5	306	
3	Grading	Grading	7/1/2020	3/31/2021	5	196	
4	Drainage, Utility, Subgrade, Retaining Wall	Trenching	9/1/2020	9/30/2021	5	283	
5	Foundations/Concrete Pour	Building Construction	9/1/2020	2/28/2021	5	129	
6	Paving	Paving	10/1/2020	9/30/2021	5	261	
7	Striping	Architectural Coating	3/1/2021	9/30/2021	5	154	

**Acres of Grading (Site Preparation Phase): 4.13**

**Acres of Grading (Grading Phase): 4.13**

**Acres of Paving: 4.13**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,398**

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Drainage, Utility, Subgrade, Retaining Wall	Air Compressors	1	8.00	78	0.48
Drainage, Utility, Subgrade, Retaining Wall	Generator Sets	1	8.00	84	0.74
Drainage, Utility, Subgrade, Retaining Wall	Graders	1	8.00	187	0.41
Drainage, Utility, Subgrade, Retaining Wall	Plate Compactors	1	8.00	8	0.43
Drainage, Utility, Subgrade, Retaining Wall	Pumps	1	8.00	84	0.74
Drainage, Utility, Subgrade, Retaining Wall	Rough Terrain Forklifts	1	8.00	100	0.40
Drainage, Utility, Subgrade, Retaining Wall	Scrapers	1	8.00	367	0.48
Drainage, Utility, Subgrade, Retaining Wall	Signal Boards	1	8.00	6	0.82
Drainage, Utility, Subgrade, Retaining Wall	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Foundations/Concrete Pour	Cranes	1	6.00	231	0.29
Foundations/Concrete Pour	Forklifts	1	6.00	89	0.20
Foundations/Concrete Pour	Generator Sets	1	8.00	84	0.74
Foundations/Concrete Pour	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Foundations/Concrete Pour	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Striping	Air Compressors	1	6.00	78	0.48

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	2.00	0.00	20.00	14.70	6.90	5.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	2.00	0.00	2,000.00	14.70	6.90	5.00	LD_Mix	HDT_Mix	HHDT
Drainage, Utility, Subgrade Retaining	11	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Foundations/Concrete Pour	7	8.00	9.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Striping	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Water Exposed Area

### 3.2 Demolition - 2020

#### 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					1.4000e-003	0.0000	1.4000e-003	2.1000e-004	0.0000	2.1000e-004			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.3127	2,322.3127	0.5970		2,337.2363
Total	2.1262	20.9463	14.6573	0.0241	1.4000e-003	1.1525	1.1539	2.1000e-004	1.0761	1.0764		2,322.3127	2,322.3127	0.5970		2,337.2363

#### 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	2.1000e-004	9.2300e-003	1.5000e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.9000e-004	1.5000e-004	2.0000e-005	1.6000e-004		1.9283	1.9283	1.8000e-004		1.9329
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.9700e-003	6.0600e-003	0.0815	2.3000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		22.8767	22.8767	6.6000e-004		22.8932
Total	9.1800e-003	0.0153	0.0830	2.5000e-004	0.0229	1.9000e-004	0.0231	6.0800e-003	1.8000e-004	6.2500e-003		24.8050	24.8050	8.4000e-004		24.8261

#### 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					5.5000e-004	0.0000	5.5000e-004	8.0000e-005	0.0000	8.0000e-005			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363

Total	2.1262	20.9463	14.6573	0.0241	5.5000e-004	1.1525	1.1530	8.0000e-005	1.0761	1.0762	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
-------	--------	---------	---------	--------	-------------	--------	--------	-------------	--------	--------	--------	------------	------------	--------	--	------------

**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	2.1000e-004	9.2300e-003	1.5000e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.9000e-004	1.5000e-004	2.0000e-005	1.6000e-004		1.9283	1.9283	1.8000e-004		1.9329
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.9700e-003	6.0600e-003	0.0815	2.3000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		22.8767	22.8767	6.6000e-004		22.8932
Total	9.1800e-003	0.0153	0.0830	2.5000e-004	0.0229	1.9000e-004	0.0231	6.0800e-003	1.8000e-004	6.2500e-003		24.8050	24.8050	8.4000e-004		24.8261

**3.2 Demolition - 2021**

**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					1.4000e-003	0.0000	1.4000e-003	2.1000e-004	0.0000	2.1000e-004			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
Total	1.9930	19.6966	14.4925	0.0241	1.4000e-003	1.0409	1.0423	2.1000e-004	0.9715	0.9717		2,322.7171	2,322.7171	0.5940		2,337.5658

**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	2.0000e-004	8.7700e-003	1.4800e-003	2.0000e-005	4.5000e-004	1.0000e-005	4.7000e-004	1.2000e-004	1.0000e-005	1.3000e-004		1.9084	1.9084	1.8000e-004		1.9129
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.3700e-003	5.4600e-003	0.0751	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		22.1380	22.1380	6.0000e-004		22.1529
Total	8.5700e-003	0.0142	0.0766	2.4000e-004	0.0228	1.8000e-004	0.0230	6.0500e-003	1.6000e-004	6.2100e-003		24.0464	24.0464	7.8000e-004		24.0657

**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					5.5000e-004	0.0000	5.5000e-004	8.0000e-005	0.0000	8.0000e-005			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
<b>Total</b>	<b>1.9930</b>	<b>19.6966</b>	<b>14.4925</b>	<b>0.0241</b>	<b>5.5000e-004</b>	<b>1.0409</b>	<b>1.0415</b>	<b>8.0000e-005</b>	<b>0.9715</b>	<b>0.9716</b>	<b>0.0000</b>	<b>2,322.7171</b>	<b>2,322.7171</b>	<b>0.5940</b>		<b>2,337.5658</b>

**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	2.0000e-004	8.7700e-003	1.4600e-003	2.0000e-005	4.5000e-004	1.0000e-005	4.7000e-004	1.2000e-004	1.0000e-005	1.3000e-004		1.9084	1.9084	1.8000e-004		1.9129
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.3700e-003	5.4600e-003	0.0751	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		22.1380	22.1380	6.0000e-004		22.1529
<b>Total</b>	<b>8.5700e-003</b>	<b>0.0142</b>	<b>0.0766</b>	<b>2.4000e-004</b>	<b>0.0228</b>	<b>1.8000e-004</b>	<b>0.0230</b>	<b>6.0500e-003</b>	<b>1.6000e-004</b>	<b>6.2100e-003</b>		<b>24.0464</b>	<b>24.0464</b>	<b>7.8000e-004</b>		<b>24.0657</b>

**3.3 Site Preparation - 2020**

**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					5.2836	0.0000	5.2836	2.8980	0.0000	2.8980			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
<b>Total</b>	<b>1.6299</b>	<b>18.3464</b>	<b>7.7093</b>	<b>0.0172</b>	<b>5.2836</b>	<b>0.8210</b>	<b>6.1046</b>	<b>2.8980</b>	<b>0.7553</b>	<b>3.6533</b>		<b>1,667.4119</b>	<b>1,667.4119</b>	<b>0.5393</b>		<b>1,680.8937</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.9700e-003	6.0600e-003	0.0815	2.3000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		22.8767	22.8767	6.6000e-004		22.8932
<b>Total</b>	<b>8.9700e-003</b>	<b>6.0600e-003</b>	<b>0.0815</b>	<b>2.3000e-004</b>	<b>0.0224</b>	<b>1.7000e-004</b>	<b>0.0225</b>	<b>5.9300e-003</b>	<b>1.6000e-004</b>	<b>6.0900e-003</b>		<b>22.8767</b>	<b>22.8767</b>	<b>6.6000e-004</b>		<b>22.8932</b>

**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					2.0606	0.0000	2.0606	1.1302	0.0000	1.1302			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
<b>Total</b>	<b>1.6299</b>	<b>18.3464</b>	<b>7.7093</b>	<b>0.0172</b>	<b>2.0606</b>	<b>0.8210</b>	<b>2.8816</b>	<b>1.1302</b>	<b>0.7553</b>	<b>1.8855</b>	<b>0.0000</b>	<b>1,667.4119</b>	<b>1,667.4119</b>	<b>0.5393</b>		<b>1,680.8937</b>

### 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.9700e-003	6.0600e-003	0.0815	2.3000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		22.8767	22.8767	6.6000e-004		22.8932
<b>Total</b>	<b>8.9700e-003</b>	<b>6.0600e-003</b>	<b>0.0815</b>	<b>2.3000e-004</b>	<b>0.0224</b>	<b>1.7000e-004</b>	<b>0.0225</b>	<b>5.9300e-003</b>	<b>1.6000e-004</b>	<b>6.0900e-003</b>		<b>22.8767</b>	<b>22.8767</b>	<b>6.6000e-004</b>		<b>22.8932</b>

### 3.3 Site Preparation - 2021

#### 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					5.2836	0.0000	5.2836	2.8980	0.0000	2.8980			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
<b>Total</b>	<b>1.5558</b>	<b>17.4203</b>	<b>7.5605</b>	<b>0.0172</b>	<b>5.2836</b>	<b>0.7654</b>	<b>6.0490</b>	<b>2.8980</b>	<b>0.7041</b>	<b>3.6021</b>		<b>1,666.5174</b>	<b>1,666.5174</b>	<b>0.5390</b>		<b>1,679.9920</b>

#### 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.3700e-003	5.4600e-003	0.0751	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		22.1380	22.1380	6.0000e-004		22.1529
<b>Total</b>	<b>8.3700e-003</b>	<b>5.4600e-003</b>	<b>0.0751</b>	<b>2.2000e-004</b>	<b>0.0224</b>	<b>1.7000e-004</b>	<b>0.0225</b>	<b>5.9300e-003</b>	<b>1.5000e-004</b>	<b>6.0800e-003</b>		<b>22.1380</b>	<b>22.1380</b>	<b>6.0000e-004</b>		<b>22.1529</b>

#### 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					2.0606	0.0000	2.0606	1.1302	0.0000	1.1302			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
<b>Total</b>	<b>1.5558</b>	<b>17.4203</b>	<b>7.5605</b>	<b>0.0172</b>	<b>2.0606</b>	<b>0.7654</b>	<b>2.8260</b>	<b>1.1302</b>	<b>0.7041</b>	<b>1.8344</b>	<b>0.0000</b>	<b>1,666.5174</b>	<b>1,666.5174</b>	<b>0.5390</b>		<b>1,679.9920</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.3700e-003	5.4600e-003	0.0751	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		22.1380	22.1380	6.0000e-004		22.1529
<b>Total</b>	<b>8.3700e-003</b>	<b>5.4600e-003</b>	<b>0.0751</b>	<b>2.2000e-004</b>	<b>0.0224</b>	<b>1.7000e-004</b>	<b>0.0225</b>	<b>5.9300e-003</b>	<b>1.5000e-004</b>	<b>6.0800e-003</b>		<b>22.1380</b>	<b>22.1380</b>	<b>6.0000e-004</b>		<b>22.1529</b>

**3.4 Grading - 2020**

**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					4.5581	0.0000	4.5581	2.4880	0.0000	2.4880			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
<b>Total</b>	<b>1.3498</b>	<b>15.0854</b>	<b>6.4543</b>	<b>0.0141</b>	<b>4.5581</b>	<b>0.6844</b>	<b>5.2425</b>	<b>2.4880</b>	<b>0.6296</b>	<b>3.1176</b>		<b>1,365.7183</b>	<b>1,365.7183</b>	<b>0.4417</b>		<b>1,376.7609</b>

**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	0.0329	1.4412	0.2340	2.7800e-003	0.0611	2.6100e-003	0.0637	0.0163	2.5000e-003	0.0188		301.0467	301.0467	0.0287		301.7652
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.9700e-003	6.0600e-003	0.0815	2.3000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		22.8767	22.8767	6.6000e-004		22.8932
<b>Total</b>	<b>0.0418</b>	<b>1.4473</b>	<b>0.3156</b>	<b>3.0100e-003</b>	<b>0.0834</b>	<b>2.7800e-003</b>	<b>0.0862</b>	<b>0.0222</b>	<b>2.6600e-003</b>	<b>0.0249</b>		<b>323.9234</b>	<b>323.9234</b>	<b>0.0294</b>		<b>324.6585</b>

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					1.7777	0.0000	1.7777	0.9703	0.0000	0.9703			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	1.3498	15.0854	6.4543	0.0141	1.7777	0.6844	2.4621	0.9703	0.6296	1.6000	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609

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	0.0329	1.4412	0.2340	2.7800e-003	0.0611	2.6100e-003	0.0637	0.0163	2.5000e-003	0.0188		301.0467	301.0467	0.0287		301.7652
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.9700e-003	6.0600e-003	0.0815	2.3000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		22.8767	22.8767	6.6000e-004		22.8932
Total	0.0418	1.4473	0.3156	3.0100e-003	0.0834	2.7800e-003	0.0862	0.0222	2.6600e-003	0.0249		323.9234	323.9234	0.0294		324.6585

3.4 Grading - 2021

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					4.5581	0.0000	4.5581	2.4880	0.0000	2.4880			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869		1,365.0648	1,365.0648	0.4415		1,376.1020
Total	1.2884	14.3307	6.3314	0.0141	4.5581	0.6379	5.1961	2.4880	0.5869	3.0749		1,365.0648	1,365.0648	0.4415		1,376.1020

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	0.0312	1.3692	0.2285	2.7500e-003	0.1143	2.3300e-003	0.1166	0.0293	2.2300e-003	0.0316		297.9442	297.9442	0.0278		298.6399
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.3700e-003	5.4600e-003	0.0751	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		22.1380	22.1380	6.0000e-004		22.1529



Total	0.0395	1.3747	0.3036	2.9700e-003	0.1366	2.5000e-003	0.1391	0.0353	2.3800e-003	0.0377		320.0822	320.0822	0.0284		320.7928
-------	--------	--------	--------	-------------	--------	-------------	--------	--------	-------------	--------	--	----------	----------	--------	--	----------

**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					1.7777	0.0000	1.7777	0.9703	0.0000	0.9703			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
Total	1.2884	14.3307	6.3314	0.0141	1.7777	0.6379	2.4156	0.9703	0.5869	1.5572	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020

**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	0.0312	1.3692	0.2285	2.7500e-003	0.1143	2.3300e-003	0.1166	0.0293	2.2300e-003	0.0316		297.9442	297.9442	0.0278		298.6399
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	8.3700e-003	5.4600e-003	0.0751	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		22.1380	22.1380	6.0000e-004		22.1529
Total	0.0395	1.3747	0.3036	2.9700e-003	0.1366	2.5000e-003	0.1391	0.0353	2.3800e-003	0.0377		320.0822	320.0822	0.0284		320.7928

**3.5 Drainage, Utility, Subgrade, Retaining Wall - 2020**

**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	3.4733	35.9865	28.8305	0.0528		1.7074	1.7074		1.6168	1.6168		5,050.8460	5,050.8460	1.1922		5,080.6506
Total	3.4733	35.9865	28.8305	0.0528		1.7074	1.7074		1.6168	1.6168		5,050.8460	5,050.8460	1.1922		5,080.6506

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0179	0.0121	0.1630	4.6000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		45.7535	45.7535	1.3200e-003		45.7864
<b>Total</b>	<b>0.0179</b>	<b>0.0121</b>	<b>0.1630</b>	<b>4.6000e-004</b>	<b>0.0447</b>	<b>3.4000e-004</b>	<b>0.0451</b>	<b>0.0119</b>	<b>3.1000e-004</b>	<b>0.0122</b>		<b>45.7535</b>	<b>45.7535</b>	<b>1.3200e-003</b>		<b>45.7864</b>

**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	3.4733	35.9865	28.8305	0.0528		1.7074	1.7074		1.6168	1.6168	0.0000	5,050.8460	5,050.8460	1.1922		5,080.6506
<b>Total</b>	<b>3.4733</b>	<b>35.9865</b>	<b>28.8305</b>	<b>0.0528</b>		<b>1.7074</b>	<b>1.7074</b>		<b>1.6168</b>	<b>1.6168</b>	<b>0.0000</b>	<b>5,050.8460</b>	<b>5,050.8460</b>	<b>1.1922</b>		<b>5,080.6506</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0179	0.0121	0.1630	4.6000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		45.7535	45.7535	1.3200e-003		45.7864
<b>Total</b>	<b>0.0179</b>	<b>0.0121</b>	<b>0.1630</b>	<b>4.6000e-004</b>	<b>0.0447</b>	<b>3.4000e-004</b>	<b>0.0451</b>	<b>0.0119</b>	<b>3.1000e-004</b>	<b>0.0122</b>		<b>45.7535</b>	<b>45.7535</b>	<b>1.3200e-003</b>		<b>45.7864</b>

**3.5 Drainage, Utility, Subgrade, Retaining Wall - 2021**

**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	3.1946	32.9497	28.2070	0.0529		1.4964	1.4964		1.4163	1.4163		5,051.1924	5,051.1924	1.1824		5,080.7528
<b>Total</b>	<b>3.1946</b>	<b>32.9497</b>	<b>28.2070</b>	<b>0.0529</b>		<b>1.4964</b>	<b>1.4964</b>		<b>1.4163</b>	<b>1.4163</b>		<b>5,051.1924</b>	<b>5,051.1924</b>	<b>1.1824</b>		<b>5,080.7528</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0167	0.0109	0.1502	4.4000e-004	0.0447	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122		44.2759	44.2759	1.1900e-003		44.3058
<b>Total</b>	<b>0.0167</b>	<b>0.0109</b>	<b>0.1502</b>	<b>4.4000e-004</b>	<b>0.0447</b>	<b>3.3000e-004</b>	<b>0.0450</b>	<b>0.0119</b>	<b>3.0000e-004</b>	<b>0.0122</b>		<b>44.2759</b>	<b>44.2759</b>	<b>1.1900e-003</b>		<b>44.3058</b>

**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	3.1946	32.9497	28.2070	0.0529		1.4964	1.4964		1.4163	1.4163	0.0000	5,051.1924	5,051.1924	1.1824		5,080.7528
<b>Total</b>	<b>3.1946</b>	<b>32.9497</b>	<b>28.2070</b>	<b>0.0529</b>		<b>1.4964</b>	<b>1.4964</b>		<b>1.4163</b>	<b>1.4163</b>	<b>0.0000</b>	<b>5,051.1924</b>	<b>5,051.1924</b>	<b>1.1824</b>		<b>5,080.7528</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0167	0.0109	0.1502	4.4000e-004	0.0447	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122		44.2759	44.2759	1.1900e-003		44.3058
<b>Total</b>	<b>0.0167</b>	<b>0.0109</b>	<b>0.1502</b>	<b>4.4000e-004</b>	<b>0.0447</b>	<b>3.3000e-004</b>	<b>0.0450</b>	<b>0.0119</b>	<b>3.0000e-004</b>	<b>0.0122</b>		<b>44.2759</b>	<b>44.2759</b>	<b>1.1900e-003</b>		<b>44.3058</b>

**3.6 Foundations/Concrete Pour - 2020**

**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	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>		<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0299	0.9479	0.2306	2.3000e-003	0.0576	4.6900e-003	0.0623	0.0166	4.4900e-003	0.0211		245.5122	245.5122	0.0157		245.9050
Worker	0.0359	0.0243	0.3261	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.3000e-004	0.0243		91.5069	91.5069	2.6400e-003		91.5728
<b>Total</b>	<b>0.0658</b>	<b>0.9722</b>	<b>0.5566</b>	<b>3.2200e-003</b>	<b>0.1470</b>	<b>5.3700e-003</b>	<b>0.1524</b>	<b>0.0403</b>	<b>5.1200e-003</b>	<b>0.0454</b>		<b>337.0191</b>	<b>337.0191</b>	<b>0.0184</b>		<b>337.4779</b>

**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	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>	<b>0.0000</b>	<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0299	0.9479	0.2306	2.3000e-003	0.0576	4.6900e-003	0.0623	0.0166	4.4900e-003	0.0211		245.5122	245.5122	0.0157		245.9050
Worker	0.0359	0.0243	0.3261	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.3000e-004	0.0243		91.5069	91.5069	2.6400e-003		91.5728
<b>Total</b>	<b>0.0658</b>	<b>0.9722</b>	<b>0.5566</b>	<b>3.2200e-003</b>	<b>0.1470</b>	<b>5.3700e-003</b>	<b>0.1524</b>	<b>0.0403</b>	<b>5.1200e-003</b>	<b>0.0454</b>		<b>337.0191</b>	<b>337.0191</b>	<b>0.0184</b>		<b>337.4779</b>

**3.6 Foundations/Concrete Pour - 2021**

**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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
<b>Total</b>	<b>1.8125</b>	<b>13.6361</b>	<b>12.8994</b>	<b>0.0221</b>		<b>0.6843</b>	<b>0.6843</b>		<b>0.6608</b>	<b>0.6608</b>		<b>2,001.2200</b>	<b>2,001.2200</b>	<b>0.3573</b>		<b>2,010.1517</b>

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0253	0.8619	0.2093	2.2800e-003	0.0576	1.7600e-003	0.0594	0.0166	1.6800e-003	0.0183		243.6694	243.6694	0.0151		244.0461
Worker	0.0335	0.0218	0.3004	8.9000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		88.5519	88.5519	2.3900e-003		88.6115
Total	0.0588	0.8838	0.5097	3.1700e-003	0.1470	2.4200e-003	0.1494	0.0403	2.2900e-003	0.0426		332.2212	332.2212	0.0175		332.6576

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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0253	0.8619	0.2093	2.2800e-003	0.0576	1.7600e-003	0.0594	0.0166	1.6800e-003	0.0183		243.6694	243.6694	0.0151		244.0461
Worker	0.0335	0.0218	0.3004	8.9000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		88.5519	88.5519	2.3900e-003		88.6115
Total	0.0588	0.8838	0.5097	3.1700e-003	0.1470	2.4200e-003	0.1494	0.0403	2.2900e-003	0.0426		332.2212	332.2212	0.0175		332.6576

3.7 Paving - 2020

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	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328		1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Total	0.8816	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328		1,296.946 1	1,296.9461	0.4111		1,307.224 6
-------	--------	--------	--------	--------	--	--------	--------	--	--------	--------	--	----------------	------------	--------	--	----------------

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0628	0.0425	0.5706	1.6100e-003	0.1565	1.1900e-003	0.1577	0.0415	1.1000e-003	0.0426		160.1371	160.1371	4.6100e-003		160.2525
Total	0.0628	0.0425	0.5706	1.6100e-003	0.1565	1.1900e-003	0.1577	0.0415	1.1000e-003	0.0426		160.1371	160.1371	4.6100e-003		160.2525

**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	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328	0.0000	1,296.946 1	1,296.9461	0.4111		1,307.224 6
Paving	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8816	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328	0.0000	1,296.946 1	1,296.9461	0.4111		1,307.224 6

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0628	0.0425	0.5706	1.6100e-003	0.1565	1.1900e-003	0.1577	0.0415	1.1000e-003	0.0426		160.1371	160.1371	4.6100e-003		160.2525
Total	0.0628	0.0425	0.5706	1.6100e-003	0.1565	1.1900e-003	0.1577	0.0415	1.1000e-003	0.0426		160.1371	160.1371	4.6100e-003		160.2525

**3.7 Paving - 2021**

**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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8153</b>	<b>7.7422</b>	<b>8.8569</b>	<b>0.0135</b>		<b>0.4153</b>	<b>0.4153</b>		<b>0.3830</b>	<b>0.3830</b>		<b>1,296.8664</b>	<b>1,296.8664</b>	<b>0.4111</b>		<b>1,307.1442</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0586	0.0382	0.5257	1.5600e-003	0.1565	1.1600e-003	0.1577	0.0415	1.0700e-003	0.0426		154.9658	154.9658	4.1800e-003		155.0702
<b>Total</b>	<b>0.0586</b>	<b>0.0382</b>	<b>0.5257</b>	<b>1.5600e-003</b>	<b>0.1565</b>	<b>1.1600e-003</b>	<b>0.1577</b>	<b>0.0415</b>	<b>1.0700e-003</b>	<b>0.0426</b>		<b>154.9658</b>	<b>154.9658</b>	<b>4.1800e-003</b>		<b>155.0702</b>

**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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8153</b>	<b>7.7422</b>	<b>8.8569</b>	<b>0.0135</b>		<b>0.4153</b>	<b>0.4153</b>		<b>0.3830</b>	<b>0.3830</b>	<b>0.0000</b>	<b>1,296.8664</b>	<b>1,296.8664</b>	<b>0.4111</b>		<b>1,307.1442</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0586	0.0382	0.5257	1.5600e-003	0.1565	1.1600e-003	0.1577	0.0415	1.0700e-003	0.0426		154.9658	154.9658	4.1800e-003		155.0702
<b>Total</b>	<b>0.0586</b>	<b>0.0382</b>	<b>0.5257</b>	<b>1.5600e-003</b>	<b>0.1565</b>	<b>1.1600e-003</b>	<b>0.1577</b>	<b>0.0415</b>	<b>1.0700e-003</b>	<b>0.0426</b>		<b>154.9658</b>	<b>154.9658</b>	<b>4.1800e-003</b>		<b>155.0702</b>

**3.8 Striping - 2021**

**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	0.1023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>0.3212</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0251	0.0164	0.2253	6.7000e-004	0.0671	5.0000e-004	0.0676	0.0178	4.6000e-004	0.0182		66.4139	66.4139	1.7900e-003		66.4587
<b>Total</b>	<b>0.0251</b>	<b>0.0164</b>	<b>0.2253</b>	<b>6.7000e-004</b>	<b>0.0671</b>	<b>5.0000e-004</b>	<b>0.0676</b>	<b>0.0178</b>	<b>4.6000e-004</b>	<b>0.0182</b>		<b>66.4139</b>	<b>66.4139</b>	<b>1.7900e-003</b>		<b>66.4587</b>

**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	0.1023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>0.3212</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0251	0.0164	0.2253	6.7000e-004	0.0671	5.0000e-004	0.0676	0.0178	4.6000e-004	0.0182		66.4139	66.4139	1.7900e-003		66.4587
<b>Total</b>	<b>0.0251</b>	<b>0.0164</b>	<b>0.2253</b>	<b>6.7000e-004</b>	<b>0.0671</b>	<b>5.0000e-004</b>	<b>0.0676</b>	<b>0.0178</b>	<b>4.6000e-004</b>	<b>0.0182</b>		<b>66.4139</b>	<b>66.4139</b>	<b>1.7900e-003</b>		<b>66.4587</b>

**4.0 Operational Detail - Mobile**



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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT		Annual VMT	
Other Asphalt Surfaces	0.00	0.00	0.00				
Total	0.00	0.00	0.00				

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.551391	0.043400	0.201050	0.120272	0.016162	0.005864	0.021029	0.030512	0.002059	0.001866	0.004766	0.000706	0.000924

5.0 Energy Detail

Historical Energy Use: N

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
Unmitigated	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004

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	4.3100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0637					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004

Total	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
-------	--------	--------	-------------	--------	--	--------	--------	--	--------	--------	--	-------------	-------------	--------	--	-------------

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	4.3100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0637					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
Total	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

## San Jacinto Esplanade Widening - South Coast Air Basin, Winter

## San Jacinto Esplanade Widening

### South Coast Air Basin, Winter

## 1.0 Project Characteristics

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	4.13	Acre	4.13	179,902.80	0

### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - City of Hemet in CEC Zone 10

Land Use -

Construction Phase - Schedule provided by client.

Off-road Equipment -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use -

Construction Off-road Equipment Mitigation -

Fleet Mix -

Grading - Total acres graded set equivalent to total site footprint.

Demolition -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	10,794.00	3,398.00
tblAreaCoating	Area_Parking	10794	3398
tblConstructionPhase	NumDays	18.00	154.00
tblConstructionPhase	NumDays	230.00	129.00
tblConstructionPhase	NumDays	20.00	306.00
tblConstructionPhase	NumDays	8.00	196.00
tblConstructionPhase	NumDays	18.00	261.00
tblConstructionPhase	NumDays	5.00	306.00
tblGrading	AcresOfGrading	73.50	4.13
tblGrading	AcresOfGrading	153.00	4.13
tblGrading	MaterialExported	0.00	20,000.00
tblGrading	MaterialExported	0.00	20.00
tblGrading	MaterialImported	0.00	13,334.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblTripsAndVMT	HaulingTripLength	20.00	5.00
tblTripsAndVMT	HaulingTripLength	20.00	5.00
tblTripsAndVMT	HaulingTripNumber	2.00	20.00
tblTripsAndVMT	HaulingTripNumber	2.00	0.00
tblTripsAndVMT	HaulingTripNumber	4,167.00	2,000.00
tblTripsAndVMT	VendorTripNumber	29.00	9.00
tblTripsAndVMT	WorkerTripNumber	13.00	2.00
tblTripsAndVMT	WorkerTripNumber	8.00	2.00
tblTripsAndVMT	WorkerTripNumber	8.00	2.00
tblTripsAndVMT	WorkerTripNumber	28.00	4.00
tblTripsAndVMT	WorkerTripNumber	76.00	8.00
tblTripsAndVMT	WorkerTripNumber	13.00	14.00
tblTripsAndVMT	WorkerTripNumber	15.00	6.00

## 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					
2020	11.7157	116.0896	81.4317	0.1522	10.3201	5.6409	15.9610	5.5141	5.2892	10.8033	0.0000	14,574.7466	14,574.7466	3.6107	0.0000	14,665.0142
2021	10.8671	108.0907	79.9386	0.1520	10.3732	5.0472	15.4204	5.5271	4.7290	10.2561	0.0000	14,557.9828	14,557.9828	3.5805	0.0000	14,647.4962
Maximum	11.7157	116.0896	81.4317	0.1522	10.3732	5.6409	15.9610	5.5271	5.2892	10.8033	0.0000	14,574.7466	14,574.7466	3.6107	0.0000	14,665.0142

#### 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					
2020	11.7157	116.0896	81.4317	0.1522	4.3158	5.6409	9.9567	2.2285	5.2892	7.5177	0.0000	14,574.7466	14,574.7466	3.6107	0.0000	14,665.0142
2021	10.8671	108.0907	79.9386	0.1520	4.3689	5.0472	9.4160	2.2415	4.7290	6.9705	0.0000	14,557.9828	14,557.9828	3.5805	0.0000	14,647.4962
Maximum	11.7157	116.0896	81.4317	0.1522	4.3689	5.6409	9.9567	2.2415	5.2892	7.5177	0.0000	14,574.7466	14,574.7466	3.6107	0.0000	14,665.0142

	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
Percent Reduction	0.00	0.00	0.00	0.00	58.03	0.00	38.27	59.52	0.00	31.20	0.00	0.00	0.00	0.00	0.00	0.00

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	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0681	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000	0.0000	9.6000e-004

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	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0681	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000	0.0000	9.6000e-004

	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
Percent Reduction	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2020	9/1/2021	5	306	

2	Site Preparation	Site Preparation	7/1/2020	9/1/2021	5	306
3	Grading	Grading	7/1/2020	3/31/2021	5	196
4	Drainage, Utility, Subgrade, Retaining Wall	Trenching	9/1/2020	9/30/2021	5	283
5	Foundations/Concrete Pour	Building Construction	9/1/2020	2/28/2021	5	129
6	Paving	Paving	10/1/2020	9/30/2021	5	261
7	Striping	Architectural Coating	3/1/2021	9/30/2021	5	154

**Acres of Grading (Site Preparation Phase): 4.13**

**Acres of Grading (Grading Phase): 4.13**

**Acres of Paving: 4.13**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,398**

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Drainage, Utility, Subgrade, Retaining Wall	Air Compressors	1	8.00	78	0.48
Drainage, Utility, Subgrade, Retaining Wall	Generator Sets	1	8.00	84	0.74
Drainage, Utility, Subgrade, Retaining Wall	Graders	1	8.00	187	0.41
Drainage, Utility, Subgrade, Retaining Wall	Plate Compactors	1	8.00	8	0.43
Drainage, Utility, Subgrade, Retaining Wall	Pumps	1	8.00	84	0.74
Drainage, Utility, Subgrade, Retaining Wall	Rough Terrain Forklifts	1	8.00	100	0.40
Drainage, Utility, Subgrade, Retaining Wall	Scrapers	1	8.00	367	0.48
Drainage, Utility, Subgrade, Retaining Wall	Signal Boards	1	8.00	6	0.82
Drainage, Utility, Subgrade, Retaining Wall	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Foundations/Concrete Pour	Cranes	1	6.00	231	0.29
Foundations/Concrete Pour	Forklifts	1	6.00	89	0.20
Foundations/Concrete Pour	Generator Sets	1	8.00	84	0.74
Foundations/Concrete Pour	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Foundations/Concrete Pour	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Striping	Air Compressors	1	6.00	78	0.48

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	2.00	0.00	20.00	14.70	6.90	5.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Grading	3	2.00	0.00	2,000.00	14.70	6.90	5.00	LD_Mix	HDT_Mix	HHDT
Drainage, Utility, Subgrade, Retaining Foundations/Concrete	11	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
RM Paving	7	8.00	9.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Striping	5	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
	1	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Water Exposed Area

### 3.2 Demolition - 2020

#### 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					1.4000e-003	0.0000	1.4000e-003	2.1000e-004	0.0000	2.1000e-004			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761		2,322.3127	2,322.3127	0.5970		2,337.2363
Total	2.1262	20.9463	14.6573	0.0241	1.4000e-003	1.1525	1.1539	2.1000e-004	1.0761	1.0764		2,322.3127	2,322.3127	0.5970		2,337.2363

#### 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	2.2000e-004	9.1100e-003	1.7700e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.9000e-004	1.5000e-004	2.0000e-005	1.7000e-004		1.8342	1.8342	2.0000e-004		1.8392
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.8700e-003	6.6600e-003	0.0739	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		21.4570	21.4570	6.2000e-004		21.4725
Total	0.0101	0.0158	0.0757	2.4000e-004	0.0229	1.9000e-004	0.0231	6.0800e-003	1.8000e-004	6.2600e-003		23.2913	23.2913	8.2000e-004		23.3117

#### 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					5.5000e-004	0.0000	5.5000e-004	8.0000e-005	0.0000	8.0000e-005			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525		1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
Total	2.1262	20.9463	14.6573	0.0241	5.5000e-004	1.1525	1.1530	8.0000e-005	1.0761	1.0762	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363

#### 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	2.2000e-004	9.1100e-003	1.7700e-003	2.0000e-005	5.7000e-004	2.0000e-005	5.9000e-004	1.5000e-004	2.0000e-005	1.7000e-004		1.8342	1.8342	2.0000e-004		1.8392
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.8700e-003	6.6600e-003	0.0739	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		21.4570	21.4570	6.2000e-004		21.4725
<b>Total</b>	<b>0.0101</b>	<b>0.0158</b>	<b>0.0757</b>	<b>2.4000e-004</b>	<b>0.0229</b>	<b>1.9000e-004</b>	<b>0.0231</b>	<b>6.0800e-003</b>	<b>1.8000e-004</b>	<b>6.2600e-003</b>		<b>23.2913</b>	<b>23.2913</b>	<b>8.2000e-004</b>		<b>23.3117</b>

### 3.2 Demolition - 2021

#### 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					1.4000e-003	0.0000	1.4000e-003	2.1000e-004	0.0000	2.1000e-004			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
<b>Total</b>	<b>1.9930</b>	<b>19.6966</b>	<b>14.4925</b>	<b>0.0241</b>	<b>1.4000e-003</b>	<b>1.0409</b>	<b>1.0423</b>	<b>2.1000e-004</b>	<b>0.9715</b>	<b>0.9717</b>		<b>2,322.7171</b>	<b>2,322.7171</b>	<b>0.5940</b>		<b>2,337.5658</b>

#### 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	2.1000e-004	8.6500e-003	1.7200e-003	2.0000e-005	4.5000e-004	2.0000e-005	4.7000e-004	1.2000e-004	2.0000e-005	1.3000e-004		1.8149	1.8149	1.9000e-004		1.8197
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.2200e-003	6.0000e-003	0.0680	2.1000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		20.7630	20.7630	5.6000e-004		20.7770
<b>Total</b>	<b>9.4300e-003</b>	<b>0.0147</b>	<b>0.0697</b>	<b>2.3000e-004</b>	<b>0.0228</b>	<b>1.9000e-004</b>	<b>0.0230</b>	<b>6.0500e-003</b>	<b>1.7000e-004</b>	<b>6.2100e-003</b>		<b>22.5779</b>	<b>22.5779</b>	<b>7.5000e-004</b>		<b>22.5967</b>

#### 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					5.5000e-004	0.0000	5.5000e-004	8.0000e-005	0.0000	8.0000e-005			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
<b>Total</b>	<b>1.9930</b>	<b>19.6966</b>	<b>14.4925</b>	<b>0.0241</b>	<b>5.5000e-004</b>	<b>1.0409</b>	<b>1.0415</b>	<b>8.0000e-005</b>	<b>0.9715</b>	<b>0.9716</b>	<b>0.0000</b>	<b>2,322.7171</b>	<b>2,322.7171</b>	<b>0.5940</b>		<b>2,337.5658</b>

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	2.1000e-004	8.6500e-003	1.7200e-003	2.0000e-005	4.5000e-004	2.0000e-005	4.7000e-004	1.2000e-004	2.0000e-005	1.3000e-004		1.8149	1.8149	1.9000e-004		1.8197
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.2200e-003	6.0000e-003	0.0680	2.1000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		20.7630	20.7630	5.6000e-004		20.7770
Total	9.4300e-003	0.0147	0.0697	2.3000e-004	0.0228	1.9000e-004	0.0230	6.0500e-003	1.7000e-004	6.2100e-003		22.5779	22.5779	7.5000e-004		22.5967

3.3 Site Preparation - 2020

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					5.2836	0.0000	5.2836	2.8980	0.0000	2.8980			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	1.6299	18.3464	7.7093	0.0172	5.2836	0.8210	6.1046	2.8980	0.7553	3.6533		1,667.4119	1,667.4119	0.5393		1,680.8937

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.8700e-003	6.6600e-003	0.0739	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		21.4570	21.4570	6.2000e-004		21.4725
Total	9.8700e-003	6.6600e-003	0.0739	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		21.4570	21.4570	6.2000e-004		21.4725

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					2.0606	0.0000	2.0606	1.1302	0.0000	1.1302			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172		0.8210	0.8210		0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	1.6299	18.3464	7.7093	0.0172	2.0606	0.8210	2.8816	1.1302	0.7553	1.8855	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.8700e-003	6.6600e-003	0.0739	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		21.4570	21.4570	6.2000e-004		21.4725
Total	9.8700e-003	6.6600e-003	0.0739	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		21.4570	21.4570	6.2000e-004		21.4725

3.3 Site Preparation - 2021

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					5.2836	0.0000	5.2836	2.8980	0.0000	2.8980			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
Total	1.5558	17.4203	7.5605	0.0172	5.2836	0.7654	6.0490	2.8980	0.7041	3.6021		1,666.5174	1,666.5174	0.5390		1,679.9920

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.2200e-003	6.0000e-003	0.0680	2.1000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		20.7630	20.7630	5.6000e-004		20.7770
Total	9.2200e-003	6.0000e-003	0.0680	2.1000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		20.7630	20.7630	5.6000e-004		20.7770

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					2.0606	0.0000	2.0606	1.1302	0.0000	1.1302			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920

Total	1.5558	17.4203	7.5605	0.0172	2.0606	0.7654	2.8260	1.1302	0.7041	1.8344	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
-------	--------	---------	--------	--------	--------	--------	--------	--------	--------	--------	--------	------------	------------	--------	--	------------

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.2200e-003	6.0000e-003	0.0680	2.1000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		20.7630	20.7630	5.6000e-004		20.7770
Total	9.2200e-003	6.0000e-003	0.0680	2.1000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		20.7630	20.7630	5.6000e-004		20.7770

**3.4 Grading - 2020**

**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					4.5581	0.0000	4.5581	2.4880	0.0000	2.4880			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296		1,365.7183	1,365.7183	0.4417		1,376.7609
Total	1.3498	15.0854	6.4543	0.0141	4.5581	0.6844	5.2425	2.4880	0.6296	3.1176		1,365.7183	1,365.7183	0.4417		1,376.7609

**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	0.0350	1.4223	0.2765	2.6400e-003	0.0611	2.7500e-003	0.0638	0.0163	2.6300e-003	0.0189		286.3658	286.3658	0.0311		287.1432
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.8700e-003	6.6600e-003	0.0739	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		21.4570	21.4570	6.2000e-004		21.4725
Total	0.0449	1.4289	0.3504	2.8600e-003	0.0834	2.9200e-003	0.0864	0.0222	2.7900e-003	0.0250		307.8229	307.8229	0.0317		308.6157

**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					1.7777	0.0000	1.7777	0.9703	0.0000	0.9703			0.0000			0.0000

Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844		0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	1.3498	15.0854	6.4543	0.0141	1.7777	0.6844	2.4621	0.9703	0.6296	1.6000	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609

**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	0.0350	1.4223	0.2765	2.6400e-003	0.0611	2.7500e-003	0.0638	0.0163	2.6300e-003	0.0189		286.3658	286.3658	0.0311		287.1432
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.8700e-003	6.6600e-003	0.0739	2.2000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		21.4570	21.4570	6.2000e-004		21.4725
Total	0.0449	1.4289	0.3504	2.8600e-003	0.0834	2.9200e-003	0.0864	0.0222	2.7900e-003	0.0250		307.8229	307.8229	0.0317		308.6157

**3.4 Grading - 2021**

**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					4.5581	0.0000	4.5581	2.4880	0.0000	2.4880			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869		1,365.0648	1,365.0648	0.4415		1,376.1020
Total	1.2884	14.3307	6.3314	0.0141	4.5581	0.6379	5.1961	2.4880	0.5869	3.0749		1,365.0648	1,365.0648	0.4415		1,376.1020

**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	0.0332	1.3506	0.2690	2.6100e-003	0.1143	2.4500e-003	0.1167	0.0293	2.3500e-003	0.0317		283.3451	283.3451	0.0301		284.0972
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.2200e-003	6.0000e-003	0.0680	2.1000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		20.7630	20.7630	5.6000e-004		20.7770
Total	0.0424	1.3566	0.3369	2.8200e-003	0.1366	2.6200e-003	0.1393	0.0353	2.5000e-003	0.0378		304.1082	304.1082	0.0306		304.8742

**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					1.7777	0.0000	1.7777	0.9703	0.0000	0.9703			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
<b>Total</b>	<b>1.2884</b>	<b>14.3307</b>	<b>6.3314</b>	<b>0.0141</b>	<b>1.7777</b>	<b>0.6379</b>	<b>2.4156</b>	<b>0.9703</b>	<b>0.5869</b>	<b>1.5572</b>	<b>0.0000</b>	<b>1,365.0648</b>	<b>1,365.0648</b>	<b>0.4415</b>		<b>1,376.1020</b>

**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	0.0332	1.3506	0.2690	2.6100e-003	0.1143	2.4500e-003	0.1167	0.0293	2.3500e-003	0.0317		283.3451	283.3451	0.0301		284.0972
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	9.2200e-003	6.0000e-003	0.0680	2.1000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.5000e-004	6.0800e-003		20.7630	20.7630	5.6000e-004		20.7770
<b>Total</b>	<b>0.0424</b>	<b>1.3566</b>	<b>0.3369</b>	<b>2.8200e-003</b>	<b>0.1366</b>	<b>2.6200e-003</b>	<b>0.1393</b>	<b>0.0353</b>	<b>2.5000e-003</b>	<b>0.0378</b>		<b>304.1082</b>	<b>304.1082</b>	<b>0.0306</b>		<b>304.8742</b>

**3.5 Drainage, Utility, Subgrade, Retaining Wall - 2020**

**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	3.4733	35.9865	28.8305	0.0528		1.7074	1.7074		1.6168	1.6168		5,050.8460	5,050.8460	1.1922		5,080.6506
<b>Total</b>	<b>3.4733</b>	<b>35.9865</b>	<b>28.8305</b>	<b>0.0528</b>		<b>1.7074</b>	<b>1.7074</b>		<b>1.6168</b>	<b>1.6168</b>		<b>5,050.8460</b>	<b>5,050.8460</b>	<b>1.1922</b>		<b>5,080.6506</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1478	4.3000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		42.9141	42.9141	1.2400e-003		42.9449
<b>Total</b>	<b>0.0197</b>	<b>0.0133</b>	<b>0.1478</b>	<b>4.3000e-004</b>	<b>0.0447</b>	<b>3.4000e-004</b>	<b>0.0451</b>	<b>0.0119</b>	<b>3.1000e-004</b>	<b>0.0122</b>		<b>42.9141</b>	<b>42.9141</b>	<b>1.2400e-003</b>		<b>42.9449</b>

**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	3.4733	35.9865	28.8305	0.0528		1.7074	1.7074		1.6168	1.6168	0.0000	5,050.8460	5,050.8460	1.1922	5,080.6506
<b>Total</b>	<b>3.4733</b>	<b>35.9865</b>	<b>28.8305</b>	<b>0.0528</b>		<b>1.7074</b>	<b>1.7074</b>		<b>1.6168</b>	<b>1.6168</b>	<b>0.0000</b>	<b>5,050.8460</b>	<b>5,050.8460</b>	<b>1.1922</b>	<b>5,080.6506</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1478	4.3000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		42.9141	42.9141	1.2400e-003		42.9449
Total	0.0197	0.0133	0.1478	4.3000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		42.9141	42.9141	1.2400e-003		42.9449

**3.5 Drainage, Utility, Subgrade, Retaining Wall - 2021**

**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	3.1946	32.9497	28.2070	0.0529		1.4964	1.4964		1.4163	1.4163		5,051.1924	5,051.1924	1.1824		5,080.7528
Total	3.1946	32.9497	28.2070	0.0529		1.4964	1.4964		1.4163	1.4163		5,051.1924	5,051.1924	1.1824		5,080.7528

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0185	0.0120	0.1360	4.2000e-004	0.0447	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122		41.5261	41.5261	1.1200e-003		41.5540
Total	0.0185	0.0120	0.1360	4.2000e-004	0.0447	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122		41.5261	41.5261	1.1200e-003		41.5540

**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	3.1946	32.9497	28.2070	0.0529		1.4964	1.4964		1.4163	1.4163	0.0000	5,051.1924	5,051.1924	1.1824		5,080.7528
<b>Total</b>	<b>3.1946</b>	<b>32.9497</b>	<b>28.2070</b>	<b>0.0529</b>		<b>1.4964</b>	<b>1.4964</b>		<b>1.4163</b>	<b>1.4163</b>	<b>0.0000</b>	<b>5,051.1924</b>	<b>5,051.1924</b>	<b>1.1824</b>		<b>5,080.7528</b>

### 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0185	0.0120	0.1360	4.2000e-004	0.0447	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122		41.5261	41.5261	1.1200e-003		41.5540
<b>Total</b>	<b>0.0185</b>	<b>0.0120</b>	<b>0.1360</b>	<b>4.2000e-004</b>	<b>0.0447</b>	<b>3.3000e-004</b>	<b>0.0450</b>	<b>0.0119</b>	<b>3.0000e-004</b>	<b>0.0122</b>		<b>41.5261</b>	<b>41.5261</b>	<b>1.1200e-003</b>		<b>41.5540</b>

### 3.6 Foundations/Concrete Pour - 2020

#### 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	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>		<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

#### 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0312	0.9475	0.2555	2.2300e-003	0.0576	4.7600e-003	0.0624	0.0166	4.5600e-003	0.0211		238.8397	238.8397	0.0168		239.2595
Worker	0.0395	0.0267	0.2957	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.3000e-004	0.0243		85.8281	85.8281	2.4700e-003		85.8899
<b>Total</b>	<b>0.0707</b>	<b>0.9742</b>	<b>0.5512</b>	<b>3.0900e-003</b>	<b>0.1470</b>	<b>5.4400e-003</b>	<b>0.1525</b>	<b>0.0403</b>	<b>5.1900e-003</b>	<b>0.0455</b>		<b>324.6678</b>	<b>324.6678</b>	<b>0.0193</b>		<b>325.1494</b>

#### 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	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
<b>Total</b>	<b>2.0305</b>	<b>14.7882</b>	<b>13.1881</b>	<b>0.0220</b>		<b>0.7960</b>	<b>0.7960</b>		<b>0.7688</b>	<b>0.7688</b>	<b>0.0000</b>	<b>2,001.1595</b>	<b>2,001.1595</b>	<b>0.3715</b>		<b>2,010.4467</b>

### 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0312	0.9475	0.2555	2.2300e-003	0.0576	4.7600e-003	0.0624	0.0166	4.5600e-003	0.0211		238.8397	238.8397	0.0168		239.2595
Worker	0.0395	0.0267	0.2957	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.3000e-004	0.0243		85.8281	85.8281	2.4700e-003		85.8899
<b>Total</b>	<b>0.0707</b>	<b>0.9742</b>	<b>0.5512</b>	<b>3.0900e-003</b>	<b>0.1470</b>	<b>5.4400e-003</b>	<b>0.1525</b>	<b>0.0403</b>	<b>5.1900e-003</b>	<b>0.0455</b>		<b>324.6678</b>	<b>324.6678</b>	<b>0.0193</b>		<b>325.1494</b>

### 3.6 Foundations/Concrete Pour - 2021

#### 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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
<b>Total</b>	<b>1.8125</b>	<b>13.6361</b>	<b>12.8994</b>	<b>0.0221</b>		<b>0.6843</b>	<b>0.6843</b>		<b>0.6608</b>	<b>0.6608</b>		<b>2,001.2200</b>	<b>2,001.2200</b>	<b>0.3573</b>		<b>2,010.1517</b>

#### 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0266	0.8599	0.2326	2.2200e-003	0.0576	1.8200e-003	0.0594	0.0166	1.7400e-003	0.0183		237.0364	237.0364	0.0161		237.4390
Worker	0.0369	0.0240	0.2719	8.3000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		83.0521	83.0521	2.2300e-003		83.1079
<b>Total</b>	<b>0.0635</b>	<b>0.8839</b>	<b>0.5045</b>	<b>3.0500e-003</b>	<b>0.1470</b>	<b>2.4800e-003</b>	<b>0.1495</b>	<b>0.0403</b>	<b>2.3500e-003</b>	<b>0.0426</b>		<b>320.0885</b>	<b>320.0885</b>	<b>0.0183</b>		<b>320.5469</b>

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	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0266	0.8599	0.2326	2.2200e-003	0.0576	1.8200e-003	0.0594	0.0166	1.7400e-003	0.0183		237.0364	237.0364	0.0161		237.4390
Worker	0.0369	0.0240	0.2719	8.3000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		83.0521	83.0521	2.2300e-003		83.1079
Total	0.0635	0.8839	0.5045	3.0500e-003	0.1470	2.4800e-003	0.1495	0.0403	2.3500e-003	0.0426		320.0885	320.0885	0.0183		320.5469

3.7 Paving - 2020

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	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328		1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8816	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328		1,296.9461	1,296.9461	0.4111		1,307.2246

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0691	0.0466	0.5174	1.5100e-003	0.1565	1.1900e-003	0.1577	0.0415	1.1000e-003	0.0426		150.1992	150.1992	4.3200e-003		150.3073
Total	0.0691	0.0466	0.5174	1.5100e-003	0.1565	1.1900e-003	0.1577	0.0415	1.1000e-003	0.0426		150.1992	150.1992	4.3200e-003		150.3073

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	0.8402	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328	0.0000	1,296.9461	1,296.9461	0.4111		1,307.2246
Paving	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8816	8.4514	8.8758	0.0135		0.4695	0.4695		0.4328	0.4328	0.0000	1,296.9461	1,296.9461	0.4111		1,307.2246

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0691	0.0466	0.5174	1.5100e-003	0.1565	1.1900e-003	0.1577	0.0415	1.1000e-003	0.0426		150.1992	150.1992	4.3200e-003		150.3073
Total	0.0691	0.0466	0.5174	1.5100e-003	0.1565	1.1900e-003	0.1577	0.0415	1.1000e-003	0.0426		150.1992	150.1992	4.3200e-003		150.3073

3.7 Paving - 2021

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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8153	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0646	0.0420	0.4758	1.4600e-003	0.1565	1.1600e-003	0.1577	0.0415	1.0700e-003	0.0426		145.3412	145.3412	3.9100e-003		145.4389

Total	0.0646	0.0420	0.4758	1.4600e-003	0.1565	1.1600e-003	0.1577	0.0415	1.0700e-003	0.0426		145.3412	145.3412	3.9100e-003		145.4389
-------	--------	--------	--------	-------------	--------	-------------	--------	--------	-------------	--------	--	----------	----------	-------------	--	----------

**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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8153	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0646	0.0420	0.4758	1.4600e-003	0.1565	1.1600e-003	0.1577	0.0415	1.0700e-003	0.0426		145.3412	145.3412	3.9100e-003		145.4389
Total	0.0646	0.0420	0.4758	1.4600e-003	0.1565	1.1600e-003	0.1577	0.0415	1.0700e-003	0.0426		145.3412	145.3412	3.9100e-003		145.4389

**3.8 Striping - 2021**

**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	0.1023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	0.3212	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.0277	0.0180	0.2039	6.3000e-004	0.0671	5.0000e-004	0.0676	0.0178	4.6000e-004	0.0182		62.2891	62.2891	1.6800e-003		62.3310
<b>Total</b>	<b>0.0277</b>	<b>0.0180</b>	<b>0.2039</b>	<b>6.3000e-004</b>	<b>0.0671</b>	<b>5.0000e-004</b>	<b>0.0676</b>	<b>0.0178</b>	<b>4.6000e-004</b>	<b>0.0182</b>		<b>62.2891</b>	<b>62.2891</b>	<b>1.6800e-003</b>		<b>62.3310</b>

**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	0.1023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>0.3212</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0277	0.0180	0.2039	6.3000e-004	0.0671	5.0000e-004	0.0676	0.0178	4.6000e-004	0.0182		62.2891	62.2891	1.6800e-003		62.3310
<b>Total</b>	<b>0.0277</b>	<b>0.0180</b>	<b>0.2039</b>	<b>6.3000e-004</b>	<b>0.0671</b>	<b>5.0000e-004</b>	<b>0.0676</b>	<b>0.0178</b>	<b>4.6000e-004</b>	<b>0.0182</b>		<b>62.2891</b>	<b>62.2891</b>	<b>1.6800e-003</b>		<b>62.3310</b>

**4.0 Operational Detail - Mobile**

**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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Other Asphalt Surfaces	0.00	0.00	0.00		
<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.551391	0.043400	0.201050	0.120272	0.016162	0.005864	0.021029	0.030512	0.002059	0.001866	0.004766	0.000706	0.000924

5.0 Energy Detail

Historical Energy Use: N

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
Unmitigated	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004

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	4.3100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0637					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
Total	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004

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	4.3100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0637					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004
Total	0.0681	0.0000	4.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-004	9.0000e-004	0.0000		9.6000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

---

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

---

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

---



# Appendix B

## **Jurisdictional Determination**





Draft

# **Esplanade Avenue Widening Project**

## Preliminary Jurisdictional Delineation Report

Prepared for

City of San Jacinto  
595 S. San Jacinto Avenue  
San Jacinto, CA 92583

April 2019



Draft

# Esplanade Avenue Widening Project

## Preliminary Jurisdictional Delineation Report

Prepared for  
City of San Jacinto  
595 S. San Jacinto Avenue  
San Jacinto, CA 92583

April 2019

626 Wilshire Boulevard  
Suite 1100  
Los Angeles, CA 90017  
213.599.4300  
[www.esassoc.com](http://www.esassoc.com)



Bend	Oakland	San Francisco
Camarillo	Orlando	Santa Monica
Delray Beach	Pasadena	Sarasota
Destin	Petaluma	Seattle
Irvine	Portland	Sunrise
Los Angeles	Sacramento	Tampa
Miami	San Diego	

# Table of Contents

---

## Esplanade Avenue Widening Project Preliminary Jurisdictional Delineation Report

	<u>Page</u>
<b>Chapter 1, Introduction.....</b>	<b>1</b>
1.1 Introduction and Purpose.....	1
<b>Chapter 2, Regulatory Framework.....</b>	<b>5</b>
2.1 Waters of the United States .....	5
2.2 Waters of the State .....	7
<b>Chapter 3, Methodology .....</b>	<b>9</b>
3.1 Database and Literature Review.....	9
3.2 Field Surveys .....	9
<b>Chapter 4, Results and Conclusions.....</b>	<b>14</b>
4.1 Hydrology .....	14
4.2 Vegetation .....	17
4.3 Soils.....	37
4.4 Conclusions .....	39
<b>Chapter 5, Supplemental Information .....</b>	<b>44</b>
5.1 Directions to the Jurisdictional Delineation Study Area.....	44
5.2 Project Applicant Contact Information.....	44
5.3 Field Delineator Contact Information .....	44
<b>Chapter 6, References .....</b>	<b>45</b>

### Appendices

- Appendix A: Wetland Determination Data Forms and OHWM Data Sheets
- Appendix B: Photographic Log
- Appendix C: Plant Species Compendium

**List of Figures**

1-1	Regional Location .....	3
1-2	USGS Topographic Map .....	4
3-1	National Wetland Inventory .....	10
4-1A	Jurisdictional Delineation Map - Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S. ....	17
4-1B	Jurisdictional Delineation Map - Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S. ....	18
4-1C	Jurisdictional Delineation Map - Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S. ....	19
4-1D	Jurisdictional Delineation Map - Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S. ....	20
4-1E	Jurisdictional Delineation Map - Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S. ....	21
4-1F	Jurisdictional Delineation Map - Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S. ....	22
4-1G	Jurisdictional Delineation Map - Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S. ....	23
4-1H	Jurisdictional Delineation Map - Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S. ....	24
4-1I	Jurisdictional Delineation Map - Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S. ....	25
4-2A	Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas .....	26
4-2B	Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas .....	27
4-2C	Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas .....	28
4-2D	Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas .....	29
4-2E	Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas .....	30
4-2F	Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas .....	31
4-2G	Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas .....	32
4-2H	Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas .....	33
4-2I	Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas .....	34
4-3	Plant Community/Land Cover Types .....	36
4-4	Soil Types .....	38

**List of Tables**

4-1	Land Cover types .....	35
4-2	USACE Delineated Waters Summary .....	41
4-3	RWQCB Delineated Areas Summary .....	42
4-4	CDFW/MSHCP Delineated Areas Summary .....	43

# Chapter 1

---

## Introduction

### 1.1 Introduction

#### Purpose

Environmental Science Associates (ESA) conducted a jurisdictional delineation for the City of San Jacinto (City) Esplanade Avenue Widening Project (Project). The purpose of conducting a jurisdictional delineation was to determine the location and extent waters of the United States, waters of the State, streambeds and associated habitats subject to the Section 1602 of the Fish and Game Code within 50 feet from the Project (herein referred to as the “study area”). The collected data will be used to determine which federal and/or state regulations will apply and assist regulatory agencies in determining the extent of federal and state waters and jurisdictional areas that may be present. The results from this analysis will be used during the permitting phase to calculate impacts to jurisdictional waters and to support any necessary permits from the regulatory agencies.

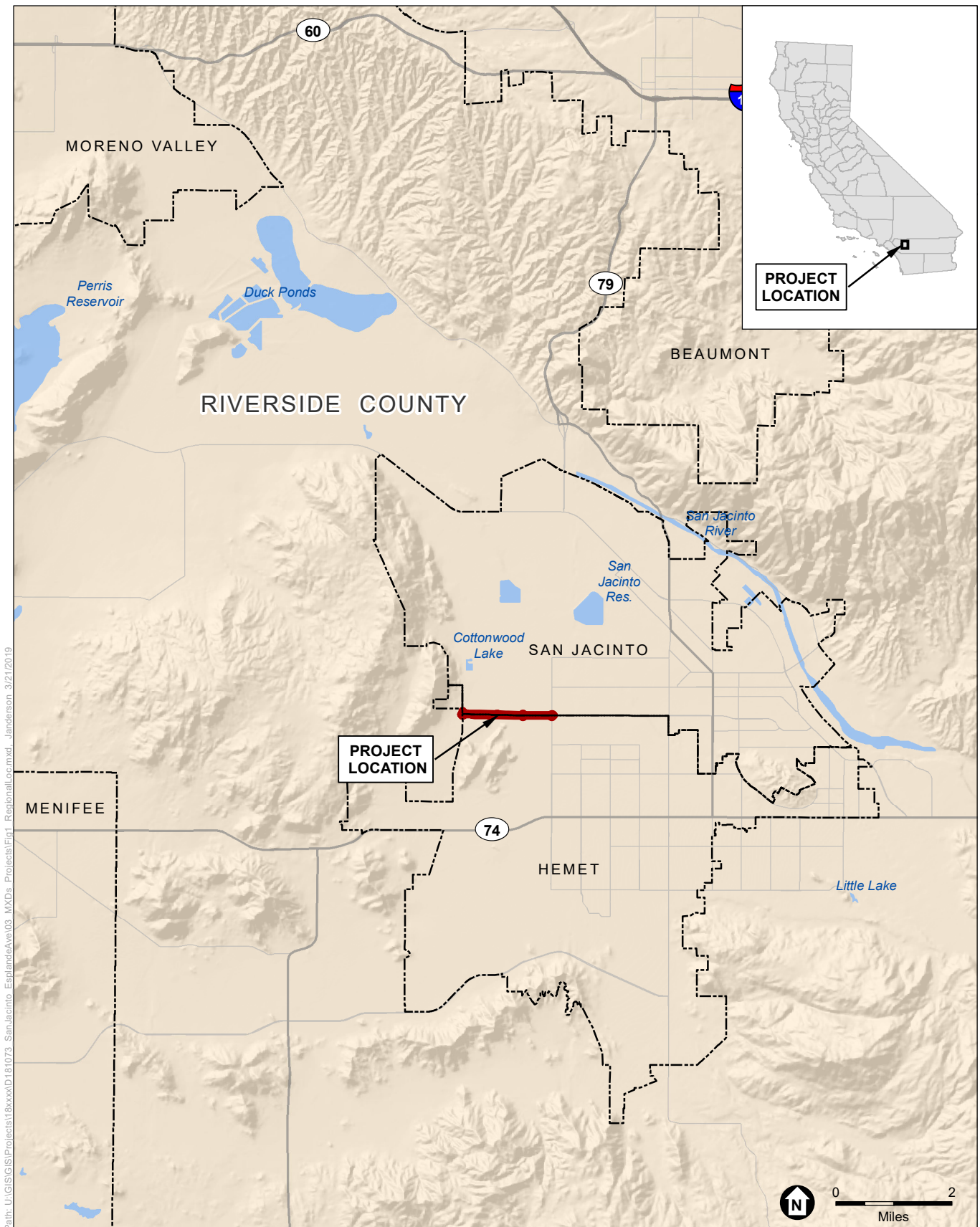
#### Project Description

The City is proposing to improve the existing Esplanade Avenue located in the Cities of San Jacinto and Hemet, California. The Project encompasses 22-acres and would expand an approximately 1.5-mile segment of Esplanade Avenue from two lanes to four lanes between Warren Road and Sanderson Avenue. The majority of the construction would occur on the north side of the street where the two additional lanes will be constructed. Esplanade Avenue’s existing two lanes would be left intact and improvements to the two existing lanes will include minor pavement rehabilitation and striping. The Project will involve construction of a curb, gutter and sidewalk along the north side of the Project limits, and minor upgrade and relocation of an existing drainage facilities located to the north of Esplanade Avenue. The Project will also include installation of traffic signals at the intersections of Warren Road and Esplanade Avenue and Cawston and Esplanade Avenues. The City’s General Plan calls for a major arterial [112-foot right-of-way (ROW)] along Esplanade Avenue from Ramona Expressway to Warren Road, providing four lanes of travel (two in each direction), curb or painted median, curb, gutter and sidewalk. The Project would be implemented in two phases (Phase 1 and Phase 2). The scope of this report only covers Phase 1 of the Project.

## Project Location and Setting

As shown in **Figure 1-1**, the Project is located in Cities of San Jacinto and Hemet, Riverside County, California, along Esplanade Avenue, between Warren Road and Sanderson Avenue. Surrounding land uses include a mix of residential and agricultural fields. The site is located within the United States Geological Survey (USGS) *Lakeview* 7.5-minute quadrangle (**Figure 1-2**).

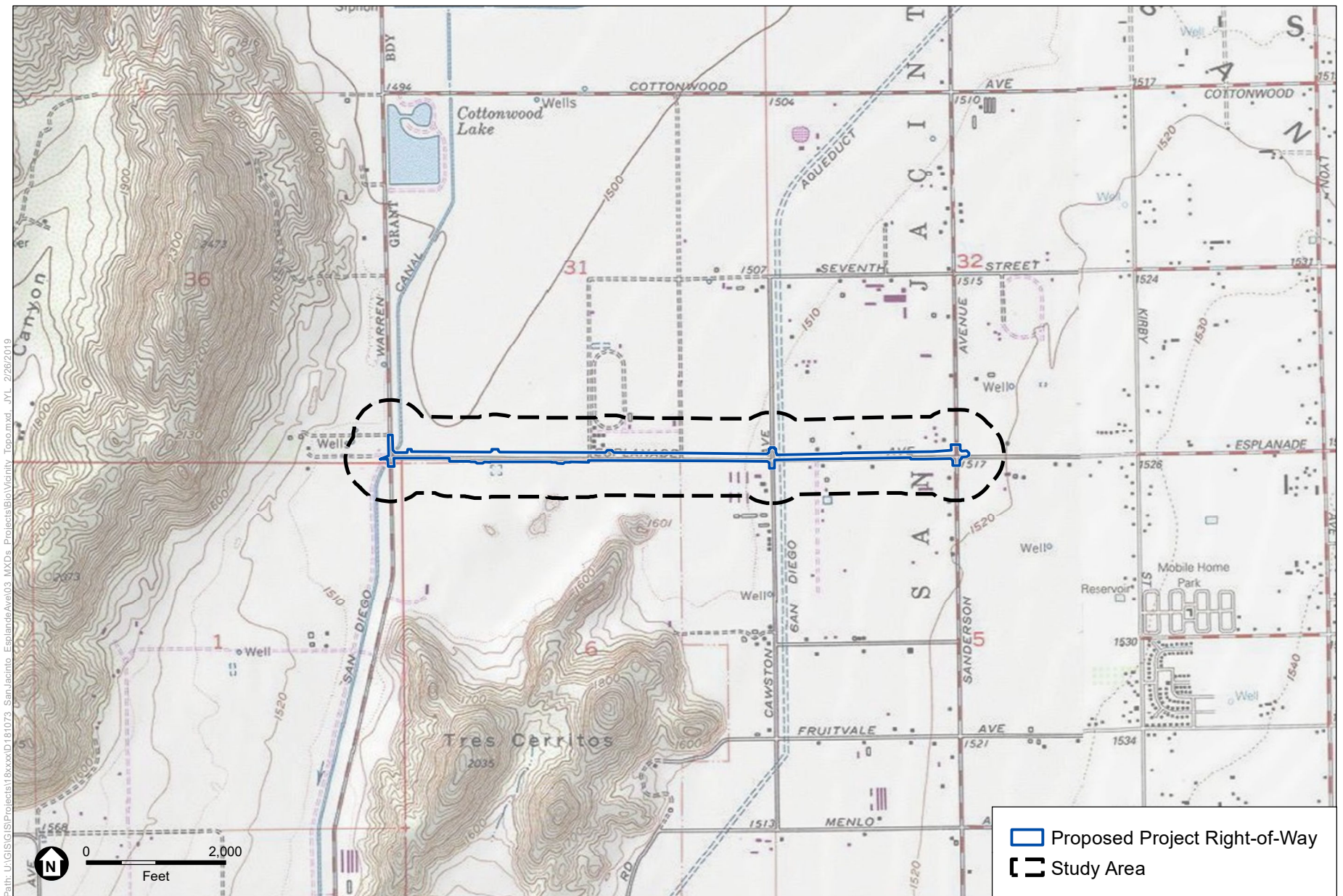




SOURCE: ESRI

San Jacinto Esplanade Avenue

**Figure 1-1**  
Regional Location



SOURCE: USGS 7.5' Topo Quad Lakeview 1976, 1980; San Jacinto 1978, 1980

San Jacinto Esplanade Avenue  
**Figure 1-2**  
 USGS Topographic Map

# Chapter 2

---

## Regulatory Framework

### 2.1 Waters of the United States

In 2015, the U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA) issued the Clean Water Rule detailing the process for determining Clean Water Act (CWA) jurisdiction over waters of the United States (waters of the U.S.) (USACE 2015). The rule is currently in effect in California and 21 other states. The 2015 Clean Water Rule includes a detailed process for determining which areas may be subject to jurisdiction under the Clean Water Act, and broadly classifies features into three categories: those that are jurisdictional by rule (Category A below), those that excluded by rule (Category C below) and those features that require a “significant nexus test” (Category B below).

The significant nexus test includes consideration of hydrologic and ecologic factors. For circumstances such as those described in Category B below, the significant nexus test would take into account physical indicators of flow (evidence of an ordinary high water mark [OHWM]), if a hydrologic connection to a Traditionally Navigable Water (TNW) exists, and if the aquatic functions of the water body have a significant effect (more than speculative or insubstantial) on the chemical, physical, and biological integrity of a TNW. The USACE and EPA will apply the significant nexus standard to assess the flow characteristics and functions of a potential waters of the U.S. to determine if it significantly affects the chemical, physical, and biological integrity of the downstream TNW.

Wetlands (including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas) are also considered waters of the U.S., and are defined by USACE as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (Environmental Laboratory 1987).

### 2015 Clean Water Rule Key Points Summary

(A) The USACE and EPA will assert jurisdiction over the following waters (jurisdictional by rule):

- TNWs.



- Interstate waters and wetlands.
- Territorial seas.
- Impoundments of waters (reservoirs, etc.).
- Tributaries with the following attributes:
  - Contributes flow to a TNW.
  - Contain bed, banks, and ordinary high water mark.
  - Can be natural, man-altered, or man-made.
  - Can have constructed breaks (culverts, pipes, etc.) or natural breaks.
- Waters “adjacent” to TNW and their tributaries, including:
  - Waters that are bordering, contiguous, or neighboring a TNW, interstate water, territorial sea, impoundment or tributary. Includes waters separated from other “waters of the United States” by constructed dikes or barriers, natural river berms, beach dunes or similar.
  - Waters within 100 feet of the OHWM of a TNW, interstate water, territorial sea, impoundment or tributary.
  - Waters within the 100-year floodplain and within 1,500 feet of a TNW, interstate water, territorial sea, impoundment or tributary.
  - Waters within 1,500 feet of the high tide line or OHWM of a TNW or territorial sea.

(B) The USACE and EPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW unless excluded by rule (significant nexus test):

- Vernal pools that have a significant nexus to a TNW or territorial sea.
- Waters within the 100-year floodplain of a TNW, interstate water or territorial sea.
- Waters within 4,000 feet of the high tide line or OHWM of a TNW, interstate water, territorial sea, impoundment or tributary.

(C) The USACE and EPA will not assert jurisdiction over the following features (excluded by rule):

- Waste treatment facilities including basins and percolation ponds.
- Prior converted cropland.
- The following types of ditches:
  - Ephemeral ditches that are not a relocated tributary or excavated in a tributary.
  - Intermittent ditches that are not a relocated tributary, excavated in a tributary, or drain wetlands.
  - Ditches that do not flow, either directly or through another water, into a TNW, interstate waters, territorial sea.
- Artificially irrigated areas that would revert to upland.

- Artificial, constructed lakes and ponds created in dry land such as stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, cooling ponds
  - Swimming pools or reflecting pools in dry land.
  - Small ornamental waters created in dry land.
  - Water-filled depressions created in dry land from mining or construction activities including pits for fill, sand, or gravel.
  - Erosional features including gullies and rills that are not tributaries, non-wetland swales and constructed grass waterways.
  - Puddles.
  - Groundwater.
  - Stormwater control features created in dry land.
- (d) Wastewater recycling structures created in dry land including detention and retention basins, groundwater recharge basins, percolation ponds and water distributary structures.

## 2.2 Waters of the State

Most projects involving water bodies or drainages are regulated by the Regional Water Quality Control Board (RWQCB), the principal State agency overseeing water quality of the State at the local/regional level. The study area is located within the jurisdiction of the Santa Ana RWQCB. The State Water Resources Control Board (State Water Board) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The RWQCB regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State or appropriate interstate water pollution control agency in/where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA.

The RWQCB regulates all surface waters that are not considered to be dual-jurisdiction waters of the U.S. under the Porter-Cologne Water Quality Control Act. Under this act, the State Water Board and RWQCBs use National Pollutant Discharge Elimination System (NPDES) permits for point source discharges and waste discharge requirements (WDRs) in order to prevent water quality degradation. The report focuses on waters of the State regulated under Porter-Cologne Water Quality Control Act.

## 2.3 Lakes, Streams, and Associated Vegetation

Pursuant to Division 2, Chapter 6, Section 1602 of the Fish and Game Code, California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream, or lake which supports fish or wildlife. A notification of a Lake or Streambed Alteration Agreement must be submitted to CDFW for

“any activity” that may substantially change the bed, channel, or bank of any river, stream, or lake.” In addition, CDFW has jurisdiction over wetland and riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of a stream or lake, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources. The CDFW reviews proposed actions, and if necessary, submits to the applicant a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alteration Agreement (LSAA).

The Project is located within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) and the City of San Jacinto is a signatory to the MSHCP (RCA 2003). As such, the Project must comply with the MSHCP, which includes identifying and quantifying the limits of riparian/riverine areas. In accordance with the MSHCP, a Determination of Biologically Equivalent or Superior Preservation and Equivalency Findings (DBESP) will be required if riverine/riparian habitat may be impacted by the Project. The Western Riverside County Regional Conservation Authority (RCA) is responsible for reviewing the DBESP for consistency with the MSHCP.

# Chapter 3

---

## Methodology

### 3.1 Database and Literature Review

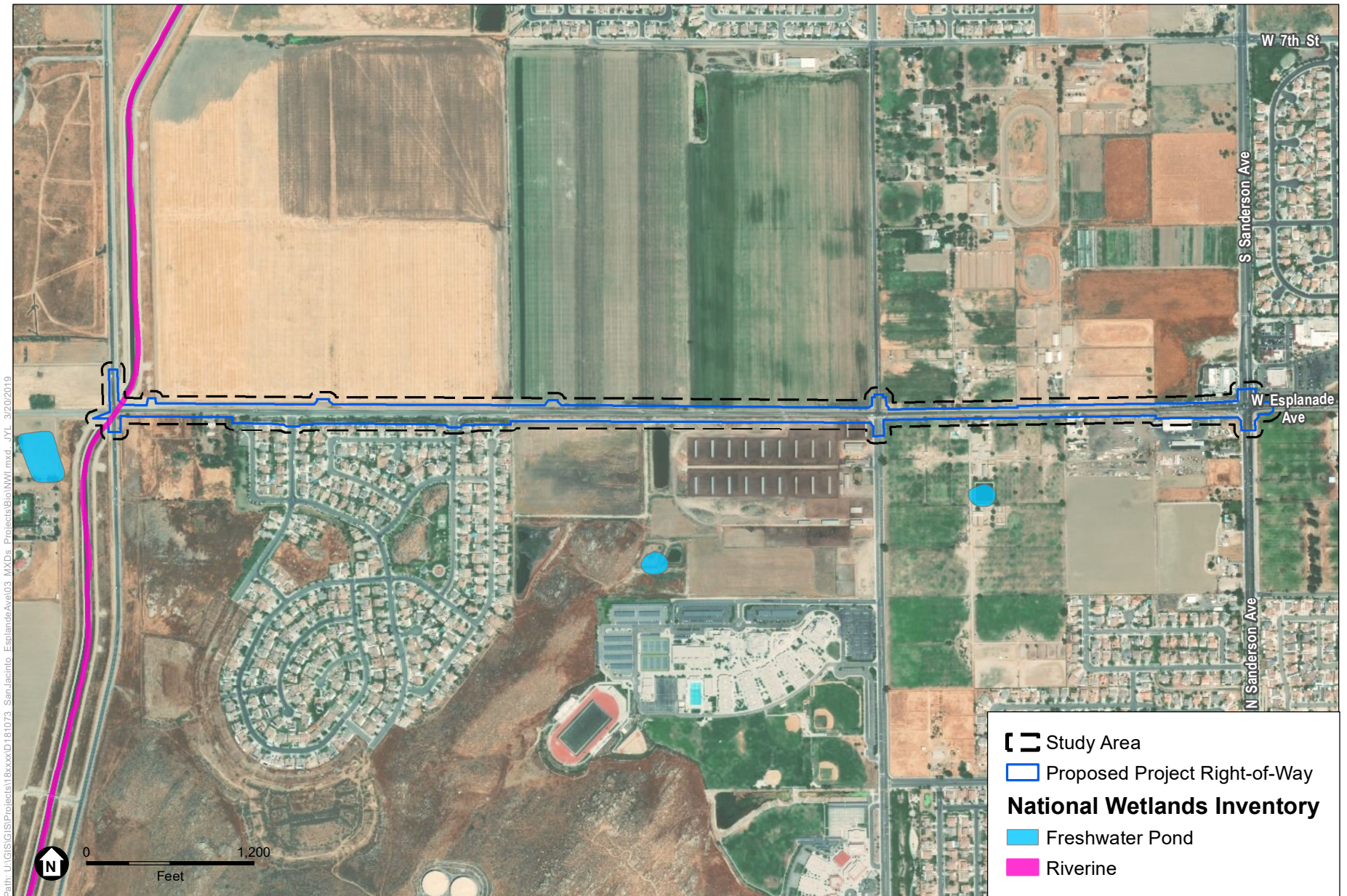
Prior to conducting the jurisdictional delineation, ESA conducted a review of available background information pertaining to the Project area to obtain information on the hydrology, including information on the local geography and topography. Aerial maps (Google Earth 2019) were used to conduct a preliminary assessment of the limits of waters of the U.S. and CDFW-jurisdictional areas in the study area. This information was verified in the field as described below in Section 3.2. The following resources were reviewed:

- *The National Wetland Plant List*: 2016 wetland ratings (Lichvar et al., 2016);
- Natural Resources Conservation Service's (NRCS) *Web Soil Survey*, queried to determine the soils that have been mapped within the study area (NRCS, 2019); and
- *Hydric Soils List of California*, 2016 (NRCS, 2016).
- The National Wetlands Inventory (NWI) (USFWS, 2019) (**Figure 3-1**);
- USGS topographic maps: Lakeview 1943, 1953, 1967, 1975, 1996 and 2018 (USGS, 1943, 1953, 1967, 1975, 1996, and 2018).

### 3.2 Jurisdictional Delineation

ESA wetland scientists' Ryan Villanueva and Lily Sam conducted the delineation on February 5, 2019. The jurisdictional delineation as concentrated on the Project site, including areas improvements will occur (e.g., drainage facilities), as well as, an additional 50-foot buffer in all directions. Collectively, this constituted the study area that was assessed and where federal and State waters were delineated. The limits of potential jurisdictional features were recorded in the field within accessible areas using aerial maps and a Trimble® GeoXT Global Positioning System (GPS) with sub-foot accuracy. Inaccessible areas, such as private residences and property, were scanned for potential jurisdictional features from the nearest vantage point and assessed with the aid of aerial imagery. Vegetation communities were characterized and mapped based on nomenclature described in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009).

Data collected in the field was mapped on an orthorectified aerial image using Geographic Information System (GIS) software (ArcGIS 10.2), and GIS was used to quantify the extent of the mapped jurisdiction, i.e., waters of the U.S., water of the State, and lakes, streams and associated vegetation.



SOURCE: FWS NWI 2019

San Jacinto Esplanade Avenue

**Figure 3-1**  
National Wetlands Inventory



## Waters of the U.S.

Delineation of waters of the U.S. was based on the “Routine Determination Method” as described in the *1987 Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987), hereafter called the “1987 Manual.” The 1987 Manual was referenced in conjunction with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE, 2008), hereafter called the “Arid West Supplement.” For areas where the 1987 Manual and the Arid West Supplement differ, the Arid West Supplement was followed. Wetlands and waters were classified using commonly accepted habitat types; however, the Cowardin classification (Cowardin et al., 1979) of each feature type is noted in the discussion in Chapter 5.

## Wetlands

To determine the extent of potential jurisdictional wetlands on a study area, the Corps of Engineers *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008b) was used as a guide for identifying wetland characteristics. Accordingly, three positive wetland parameters must normally be present for an area to be considered a wetland: 1) a dominance of wetland vegetation, 2) presence of hydric soils, and 3) presence of wetland hydrology. Presence of positive indicators for wetland vegetation, soils and hydrology was assessed per the 1987 Manual and Arid West Supplement guidelines. Data points were taken within suspected wetlands and recorded using GPS, and a paired point was taken (where applicable) in nearby upland areas. Data points were recorded on Arid West Region wetland determination data forms, which are provided in **Appendix A**.

At each data point, a visual assessment of the dominant plant species within the vegetation community was made. Dominant species were assessed using the recommended “50/20” rule per the Arid West Supplement. Plants were identified to species using the *The Jepson Manual: Vascular plants of California, second edition* (Baldwin et al., 2012). The *Arid West 2016 Regional Wetland Plant List* (Lichvar et al., 2016) was used to determine the wetland indicator status of the plants. Frequency of a species occurrence in wetlands has been divided into the following five categories.

1. Obligate Wetland (OBL): Occurs almost always (estimated probability >99%) under natural conditions in wetlands.
2. Facultative Wetland (FACW): Usually occurs in wetlands (estimated probability 67%–99%) but occasionally found in non-wetlands.
3. Facultative (FAC): Equally likely to occur in wetlands or non-wetlands (estimated probability 34%–66%).
4. Facultative Upland (FACU): Usually occurs in non-wetlands (estimated probability 67%–99%) but occasionally found in wetlands (estimated probability 1%–33%).
5. Obligate Upland (UPL): Occurs in wetlands in another region but occurs almost always (estimated probability >99%) under natural conditions in non-wetlands in the region specified.

In addition, species that are not included on the National Wetland Plant List are categorized as not listed (NL) and are not considered hydrophytic plants. The USACE considers species that fall into the OBL, FACW, and FAC categories as being positive indicators of wetland vegetation.

A dominance test (Indicator 1) is the basic hydrophytic vegetation indicator and is used to determine the dominant species of a given plant community. The 50/20 Rule is used to determine wetland status by examining the species that dominate a community. This method involves identifying the species type that makes up at least 50% of the stratum of the community, and then identifying a second species type that makes up at least 20% of the stratum. Although some plant communities cannot be characterized by the dominance test, most wetlands in the Arid West have plant communities that will pass the dominance test, and therefore this test provides a sufficient indicator in most situations. If the plant community passes the dominance test for wetland species, then the vegetation is characterized as hydrophytic and no further vegetation analysis is required.

The prevalence index (Indicator 2) is used when the vegetation fails the dominance test, but hydric soils and wetland hydrology are present. The prevalence index weighs all of the plant species in a community, rather than just the dominant species. The prevalence index is a weighted-average wetland indicator status of the plant species in a sampling plot. Each indicator status is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5) and is weighted by the percent cover. Hydrophytic vegetation is present if the prevalence index is 3.0 or less.

Plant morphological adaptations (Indicator 3) can be used to distinguish certain wetland plant communities in the Arid West in the presence of hydric soils and wetland hydrology. Some hydrophytes develop easily recognized physical characteristics due to their adaption to wetland conditions. Common morphological adaptations include adventitious roots and shallow root systems developed on or in the upper layers of the soil. This indicator is applied when the wetland morphological adaptations are found on 50% or more of the FACU species present.

Problematic hydrophytic vegetation (Indicator 4) can be used to distinguish certain wetland plant communities in the Arid West in the presence of hydric soils and wetland hydrology. This indicator can be used when temporal shifts occur in vegetation, vegetation is sparse and patchy, in riparian areas, in areas affected by grazing, in managed plant communities, in areas affected by fires, floods, and other natural disturbances and during vigor and stress responses to wetland conditions.

Hydric soils were identified by digging soil pits and using soil indicators presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE 2008a) and the *Field Indicators of Hydric Soils in the United States*, Version 8.2, 2018 (NRCS 2018). Three soil pits were dug in locations that were likely to pass the USACE wetland criteria for both hydrology and vegetation based on a visual assessment. Soils at each data point were characterized by color, texture, organic matter accumulation, and the presence or absence of hydric soil indicators. The coloration of the soil samples, matrix, and mottles was assessed using the *Munsell Soil Color Charts* (Munsell, 2000). Wetland hydrology

was determined at each data point by presence of one or more of the primary and/or secondary indicators, per guidance of the Arid West Supplement.

## Non-wetlands

Federal jurisdiction over a non-wetland waters of the U.S. extends to the ordinary high-water mark (OHWM), which is defined in 33 C.F.R. § 328.3 as the line on the shore or bank established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris. In the Arid West region of the United States, waters are variable and include ephemeral/intermittent and perennial channel forms. The most problematic ordinary high-water delineations are associated with the commonly occurring ephemeral/intermittent channel forms that dominate the Arid West landscape. The climate of the region drastically influences the hydrology, channel-forming processes, and distribution of OHWM indicators such that delineations can be inconsistent (over space and time) and problematic. The ordinary high water zone in low-gradient, alluvial ephemeral/intermittent channel forms in the Arid West is the active floodplain. The dynamics of arid channel forms and the transitory nature of traditional OHWM indicators in arid environments render the limit of the active floodplain the only reliable and repeatable feature in terms of OHWM delineation (USACE 2008a). This was supported by recent additional research in *Vegetation and Channel Morphology Responses to Ordinary High Water Discharge Events in Arid West Stream Channels* (Lichvar et al. 2009).

Delineation methods and data sheets were completed for non-wetlands in accordance with *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a), and the *Ordinary High Water Mark (OHWM) Delineation Cover Sheet*. OHWM data sheets are provided in Appendix A.

## Waters of the State

Waters of the State were delineated using the same methodology as waters of the U.S.

## Lakes, Streams, and Associated Vegetation

Potential CDFW-jurisdictional features were delineated based on the top of the bank of a stream, wash or other drainage feature, and include the outer dripline of the adjacent wetland or riparian vegetation, if present.

# Chapter 4

---

## Results and Conclusions

The results of the database/literature review and jurisdictional delineation are discussed in this section. Representative photographs from the field delineation are located in **Appendix B**, and observed plant species area are listed in **Appendix C**.

Three types of aquatic manmade features were delineated within the study area: roadside ditches, a catch basin and the San Diego Canal. Six manmade, roadside ditches occur within the study area that are identified as Ditch 1, Ditch 2, Ditch 3, Ditch 4, Ditch 5 and Ditch 6. As depicted on **Figures 4-1A through 4-1I**, Ditches 1, 2, 5 and 6 are immediately adjacent to, and parallel with, Esplanade Avenue; Ditch 3, and a portion of Ditch 5, are located immediately to the east of Warren Road; and, Ditch 4 is a relatively short north-south flowing ditch that converges with Ditch 2. The ditches are mostly earthen bottomed and range between 2- to 5 feet-wide, except for the segment of Ditch 2 between Alabaster Avenue and Cinnabar Avenue that is 14 feet-wide and is made of riprap, concrete lined, and appears to be maintained with the surrounding landscape as evidenced by previous vegetation removal within the area.

A catch basin which serves to collect surface runoff from nearby roadways and agricultural areas via the roadside ditches is located south of Esplanade Avenue and west of Turnstone Court at the terminus of Ditches 2 and 4.

The San Diego Canal is concrete-lined, contains open water and occurs to the northeast and southwest of the intersection of Esplanade Avenue and Warren Road. The San Diego crosses under the Esplanade Ave and Warren Road intersection via an underground culvert.

### 4.1 Hydrology

The hydrology of the six ditches, catch basin and San Diego Canal are described in detail below. Based on gradient, Stormwater runoff within the study area and the adjacent ditches flows from east to west. In areas north of the Esplanade Avenue, water flows south towards Esplanade Avenue, and in areas south of Esplanade Avenue, water flows northward towards Esplanade Avenue. The six ditches convey stormwater runoff from Esplanade Avenue and nearby cross streets as well as nearby urban and agricultural runoff. The catch basin at the terminus for Ditches 2 and 4 appears to be a closed system with apparent egress for water to flow. The San Diego Canal, a part of the San Diego Aqueduct which carries water originating from the Colorado River, is perennial and flows north to south and drains into Lake Skinner approximately 13 miles to the south.

## Ditch 1

Ditch 1 originates from a culvert near the intersection of Esplanade Avenue and Sanderson Avenue. The ditch flows in an east to west direction and crosses through several culverts before dissipating just west of Cawston Avenue North and north of Esplanade Avenue. Surface water in Ditch 1 was absent at the time of the delineation and is believed to originate from the commercial areas north of Esplanade Avenue at its intersection with Sanderson Avenue, as evidenced by culverts observed in that area. Flows in this ditch are considered minimal as it was the only ditch in the Project area that lacked surface water despite recent heavy rains. Flows that occur within this ditch likely percolate into the ground.

## Ditch 2

Ditch 2 originates from a culvert near the intersection of Esplanade Avenue and Sanderson Avenue, and receives seasonal flows/runoff captured in Ditch 4. The ditch flows in an east to west direction and crosses through several culverts before terminating in a catch basin located to the south of Esplanade Avenue and just west of Turnstone Court. Surface water was present during the time of survey.

## Ditch 3

At the time of the delineation, water was being pumped from an unknown source into Ditch 3 at the northeastern corner of Warren Road and Esplanade Avenue. The pumped water flowed both to the north and to the south from where it was entering the ditch. Northern flows continued along the eastern side of Warren Road before entering Reflection Lake at the intersection of Warren Road and Cottonwood Avenue to the north of the study area. Flows continued north through a culvert under Cottonwood Avenue and within a roadside ditch along the east side of Warren Road before crossing west under Warren Road and continuing in a northwesterly direction through agricultural lands. Flows are believed to terminate south of Ramona Expressway near its intersection with Pico Road into an isolated agricultural pond; however, this could not be confirmed with certainty due to access limitations from private property. Southerly flows travel through a culvert under Esplanade Avenue before, connecting with Ditch 2 and heading east into the catch basin south of Esplanade Avenue.

## Ditch 4

Ditch 4 originates in an open field south of Esplanade Avenue and the source of water in this ditch is from adjacent pastureland and agricultural fields. The ditch flows in a south to north direction and converges into Ditch 2. Surface water was present during the time of survey.

## Ditch 5

Ditch 5 originates along the eastern side of Warren Road, south of Esplanade Avenue. The ditch flows in a south to north direction along Warren Road before extending in a west to east direction along the south-side of Esplanade Avenue. The ditch terminates in a catch basin. Flows pumped into Ditch 3 appear to connect with Ditch 5 via an underground culvert. Surface water was present during the time of survey.

## Ditch 6

Ditch 6 originates along the northern side of Esplanade Avenue and eastern side of Sanderson Avenue. The ditch flows in a southerly direction along Sanderson Avenue, as well as in a westerly direction along Esplanade Avenue. The ditch terminates at a culvert just north of Esplanade where it flows underground to the south. It is unclear where the culvert terminates, but it likely flows into Ditch 1 to the southeast. Surface water was absent in Ditch 6 at the time of the delineation.

## Catch Basin

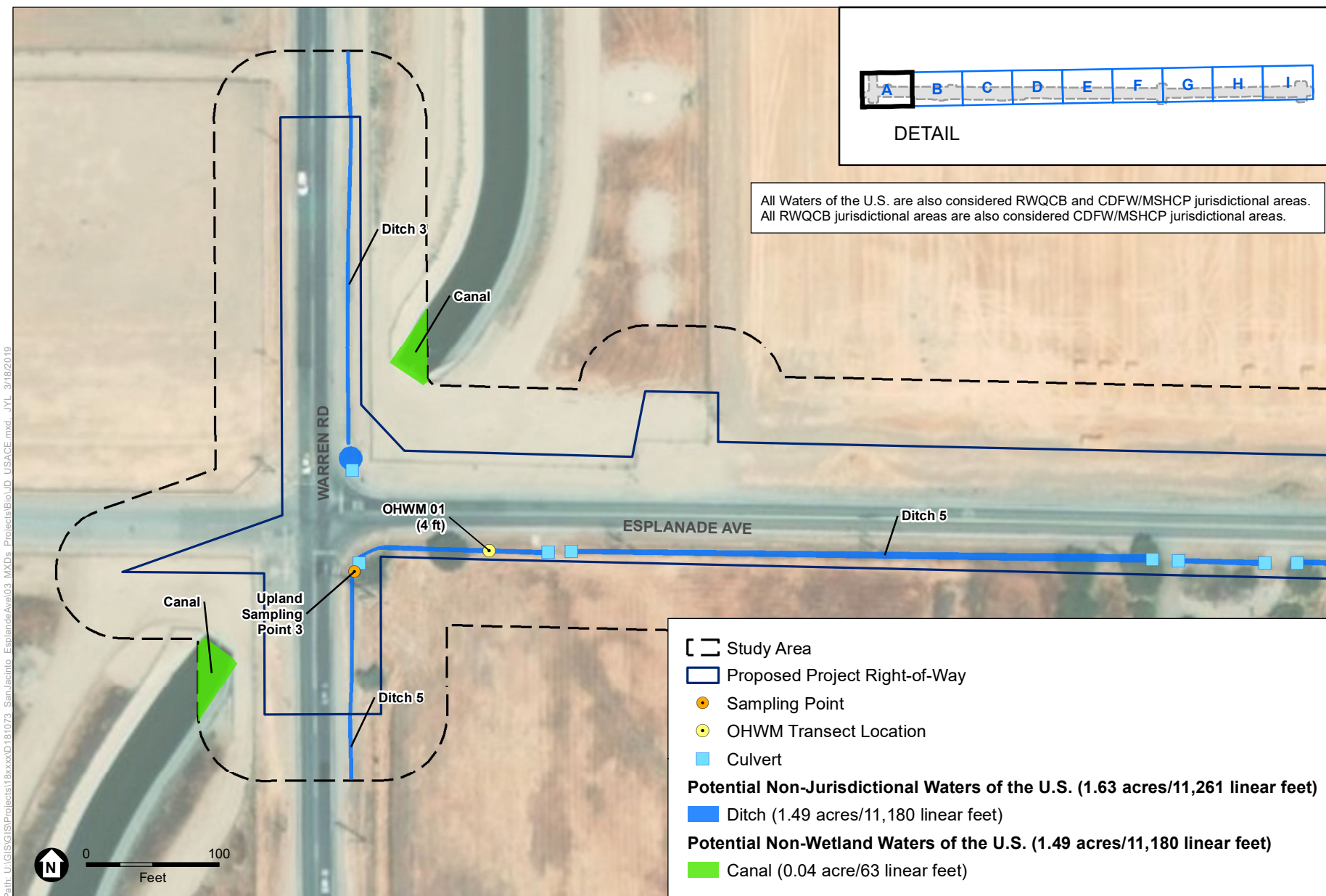
A catch basin is located at the terminus of Ditches 2 and 5 and contained ponded water at the time of delineation. The catch basin appears to be a closed system and captured water appears to percolate into the ground.

## San Diego Canal

Flow within the San Diego Canal travels in a north to south direction. Surface water was present during the time of survey. The San Diego Canal is part of the San Diego Aqueduct system with its terminus located at Lake Skinner approximately 13 miles to the south of the project site.

As shown in Figure 3-1, the NWI only identifies one feature within the study area, the San Diego Canal. Using the Cowardin code, the NWI data classifies the San Diego Canal as R2UBHx (Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated). This is an accurate categorization for the San Diego Canal by the NWI.

The width of the ditches was determined to range between 2 feet and 15 feet based on the OHWM along the edges of the ditches that have been established by flowing water and physical characteristics, such as drift deposits and drainage patterns (**Figures 4-1(A-I) and Figures 4-2(A-I)**).



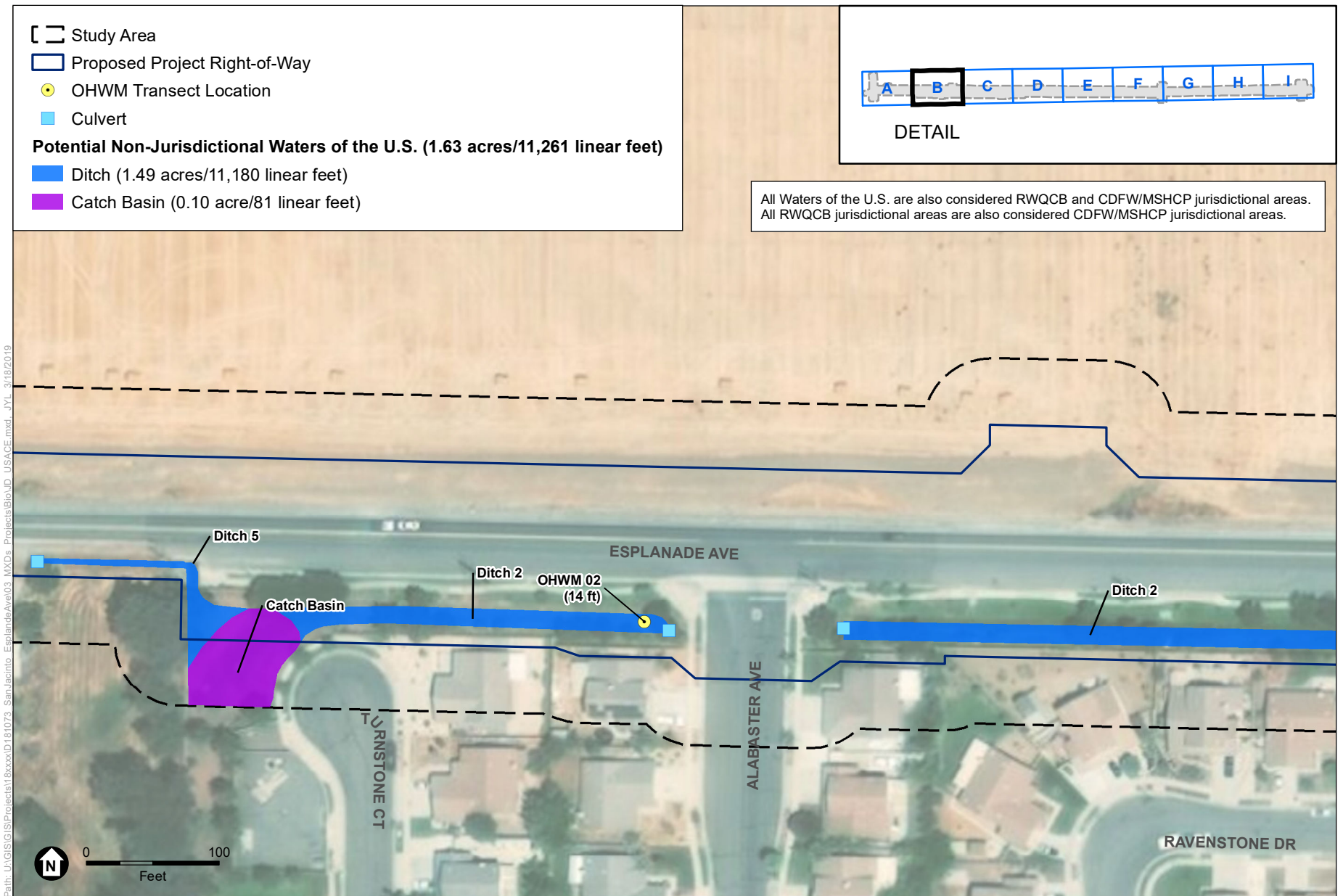
SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-1A**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.





SOURCE: ESRI 2017

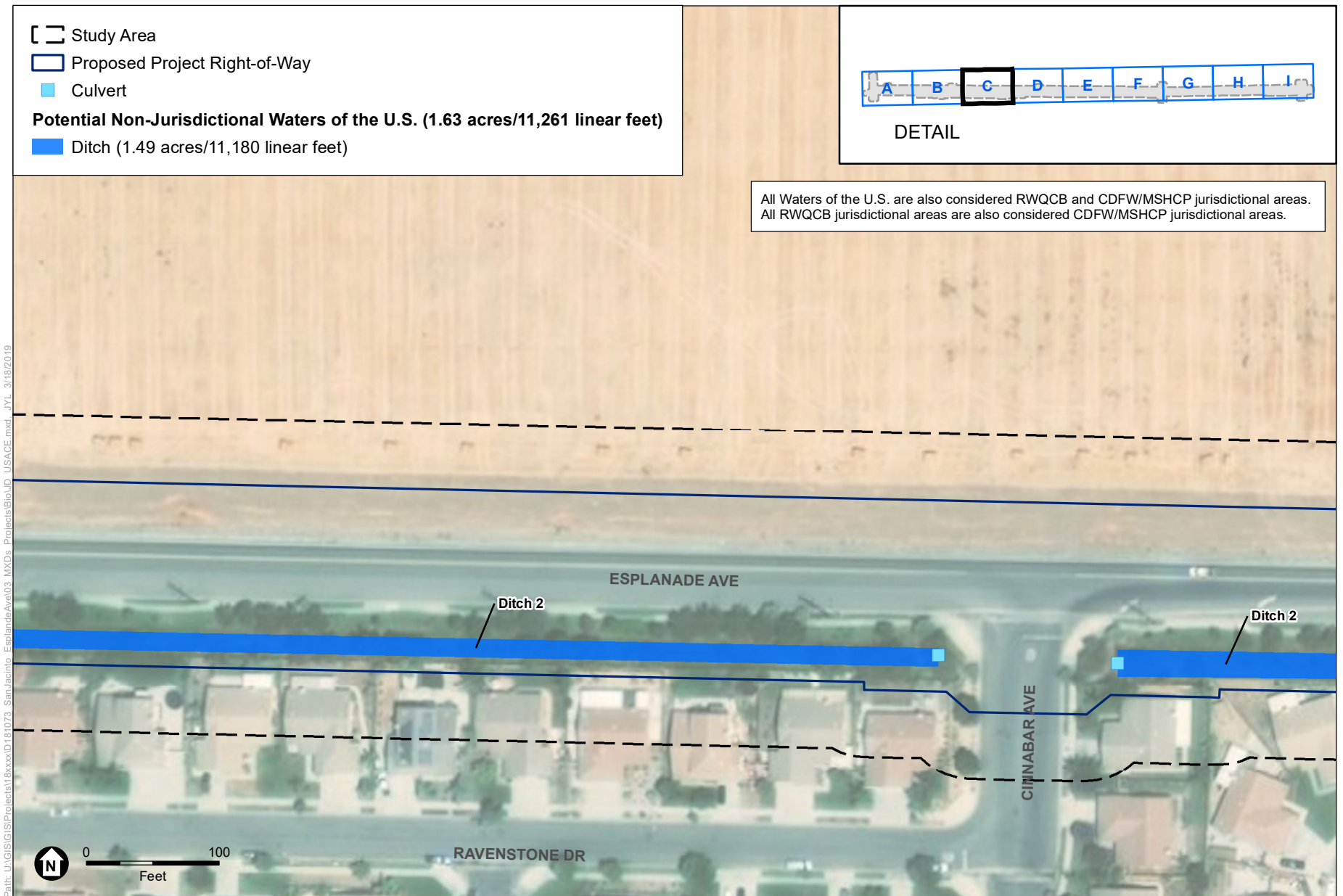
San Jacinto Esplanade Avenue

**Figure 4-1B**

Jurisdictional Delineation Map -

Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.





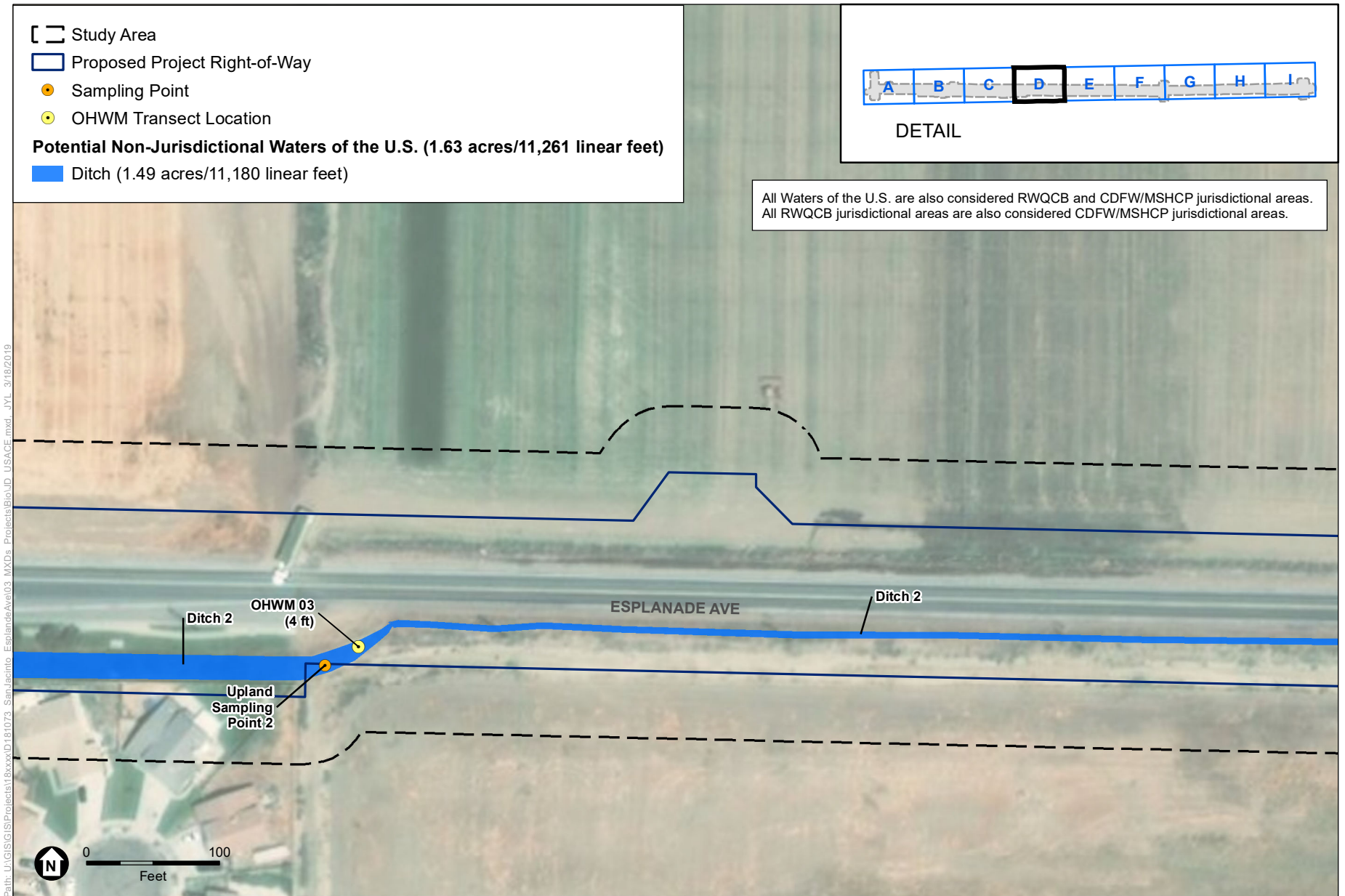
SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-1C**

Jurisdictional Delineation Map -

Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.

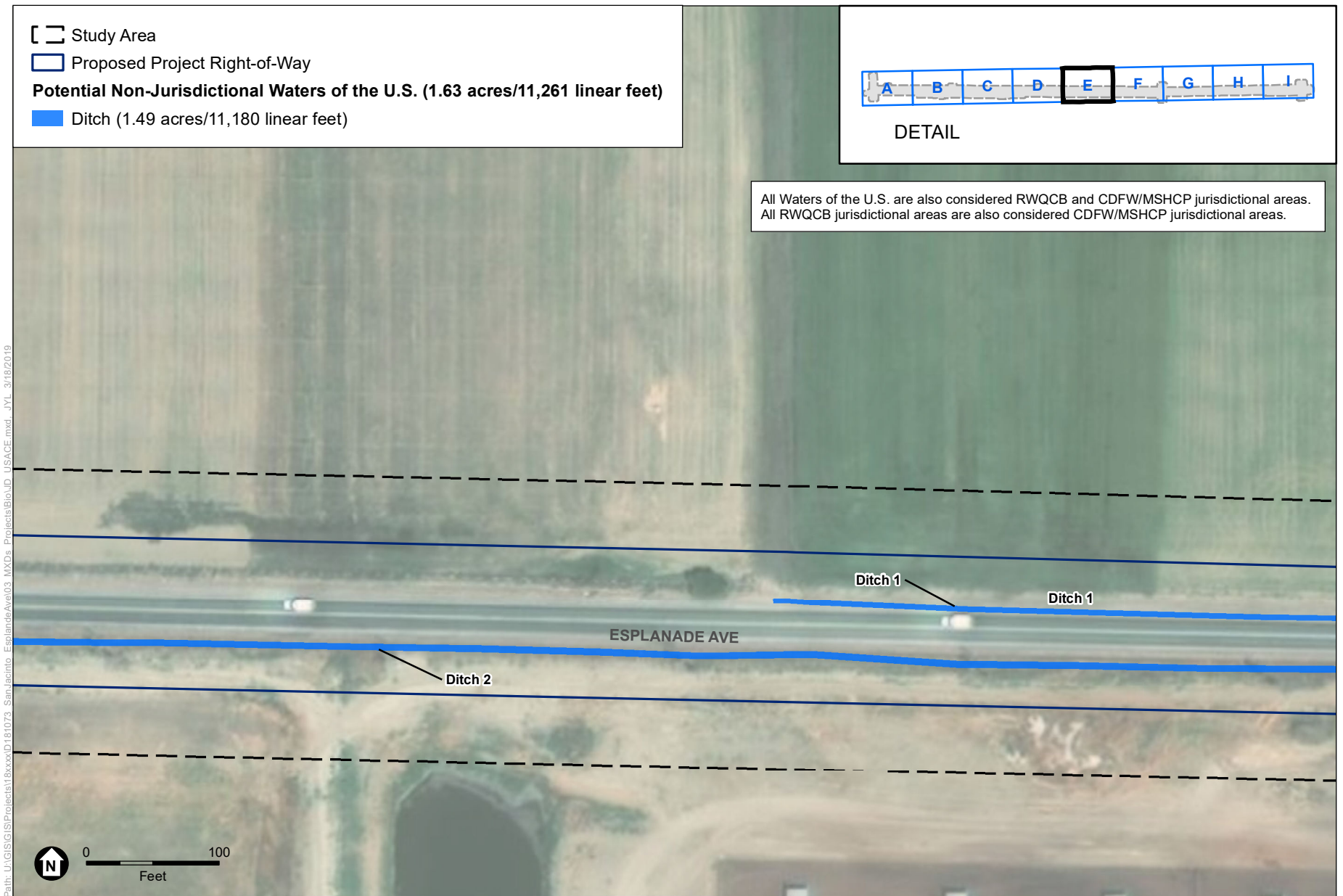


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-1D**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



SOURCE: ESRI 2017

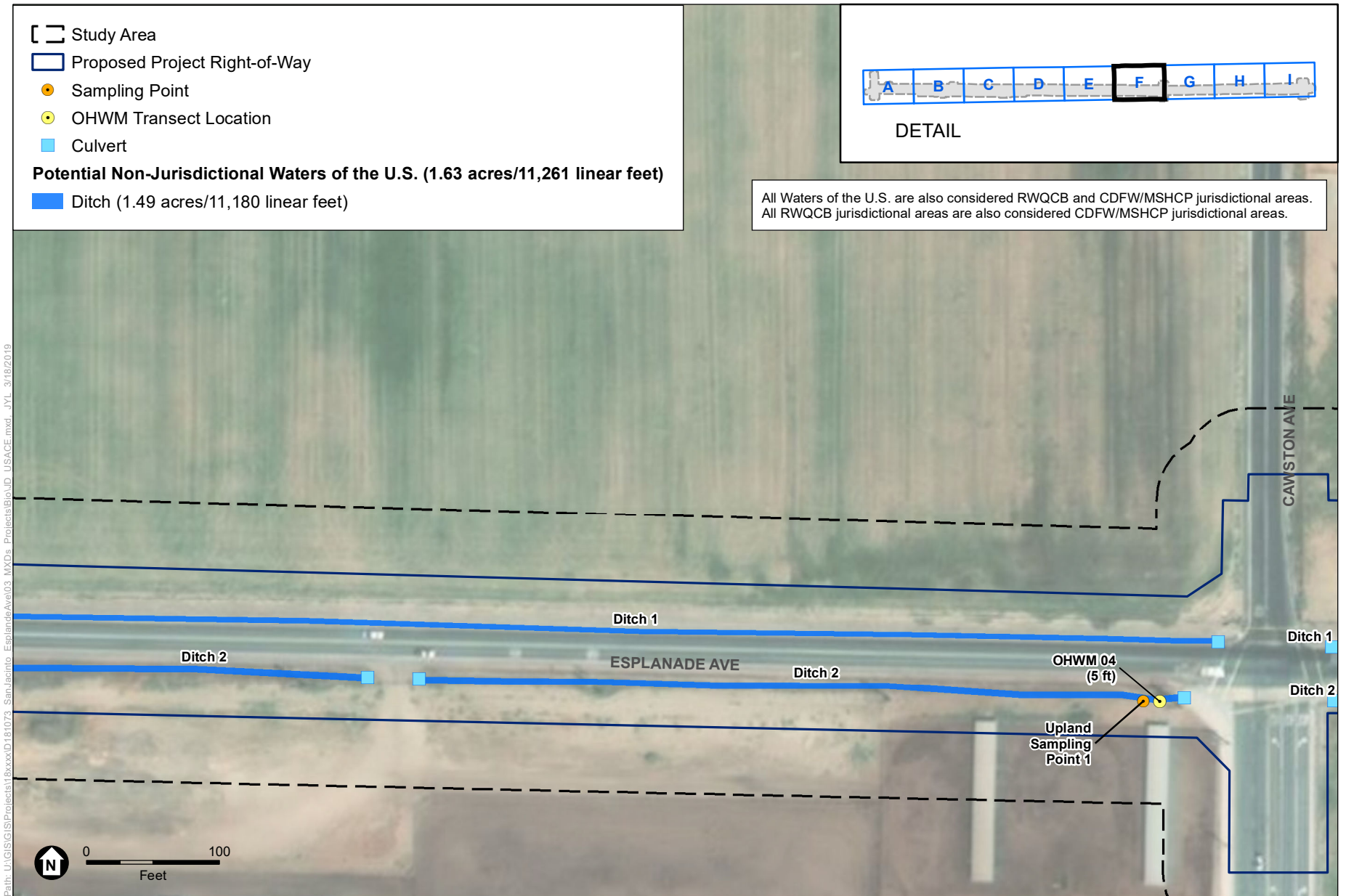
San Jacinto Esplanade Avenue

**Figure 4-1E**

Jurisdictional Delineation Map -

Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



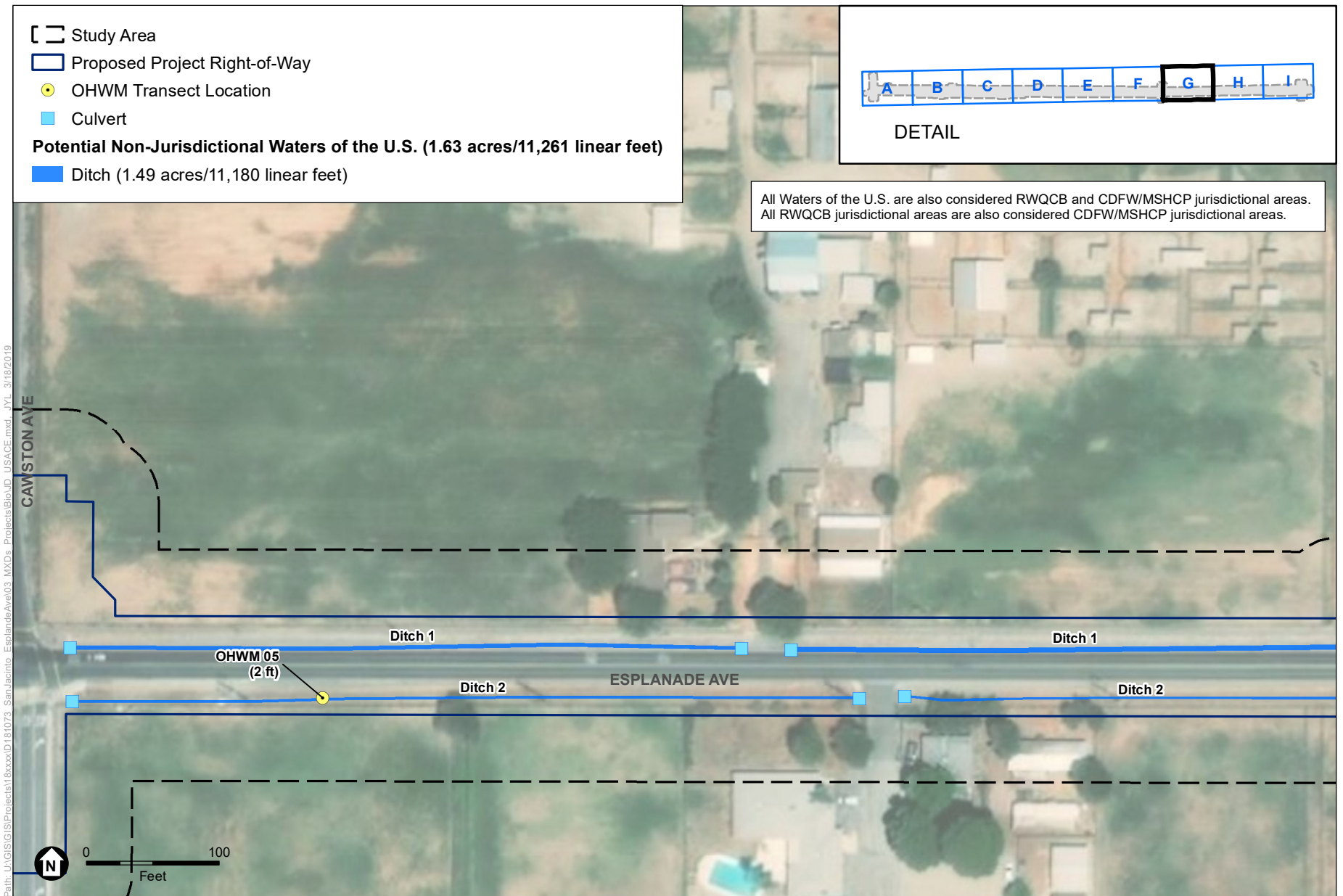


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-1F**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



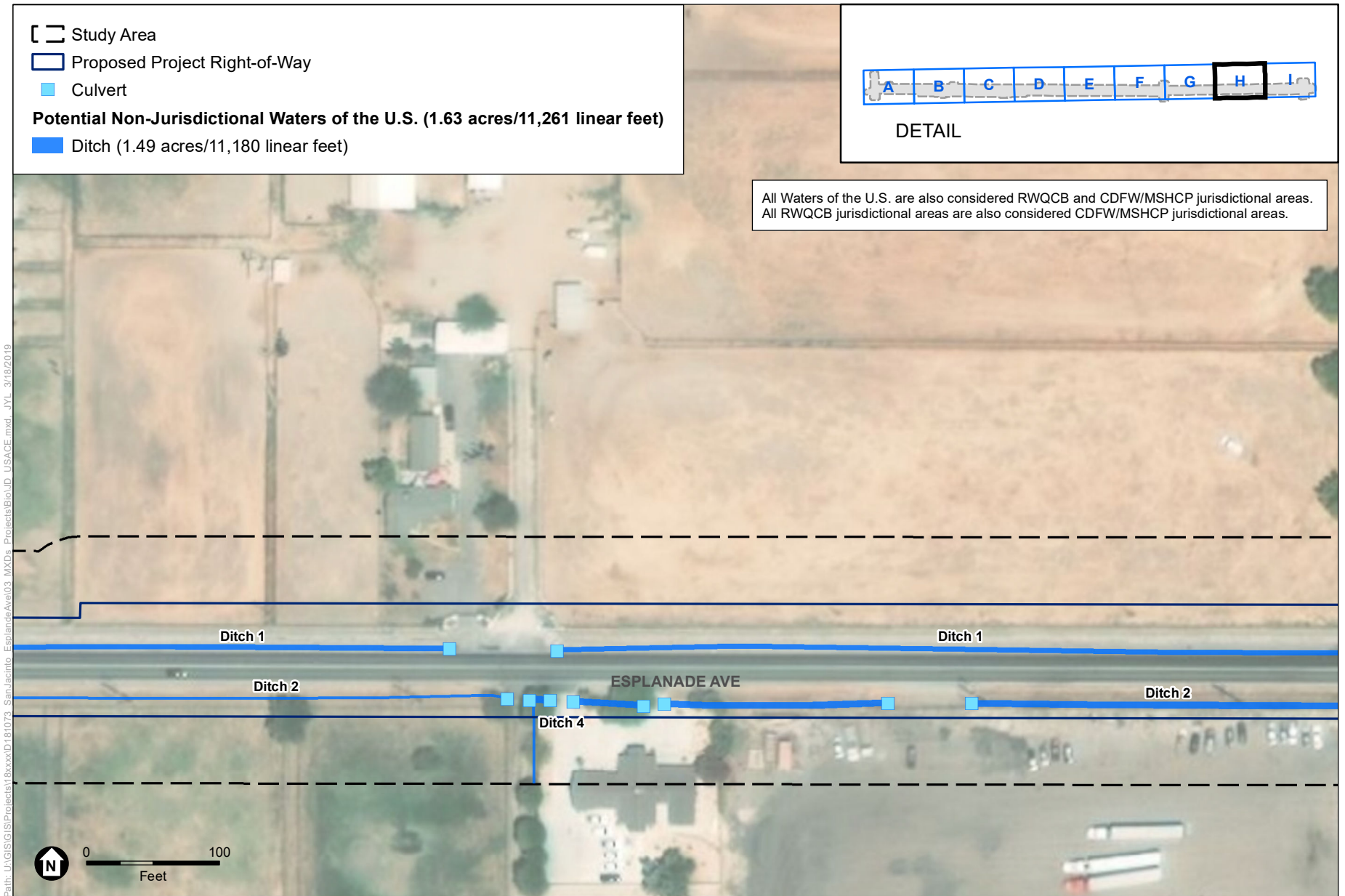
SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-1G**

Jurisdictional Delineation Map -

Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



SOURCE: ESRI 2017

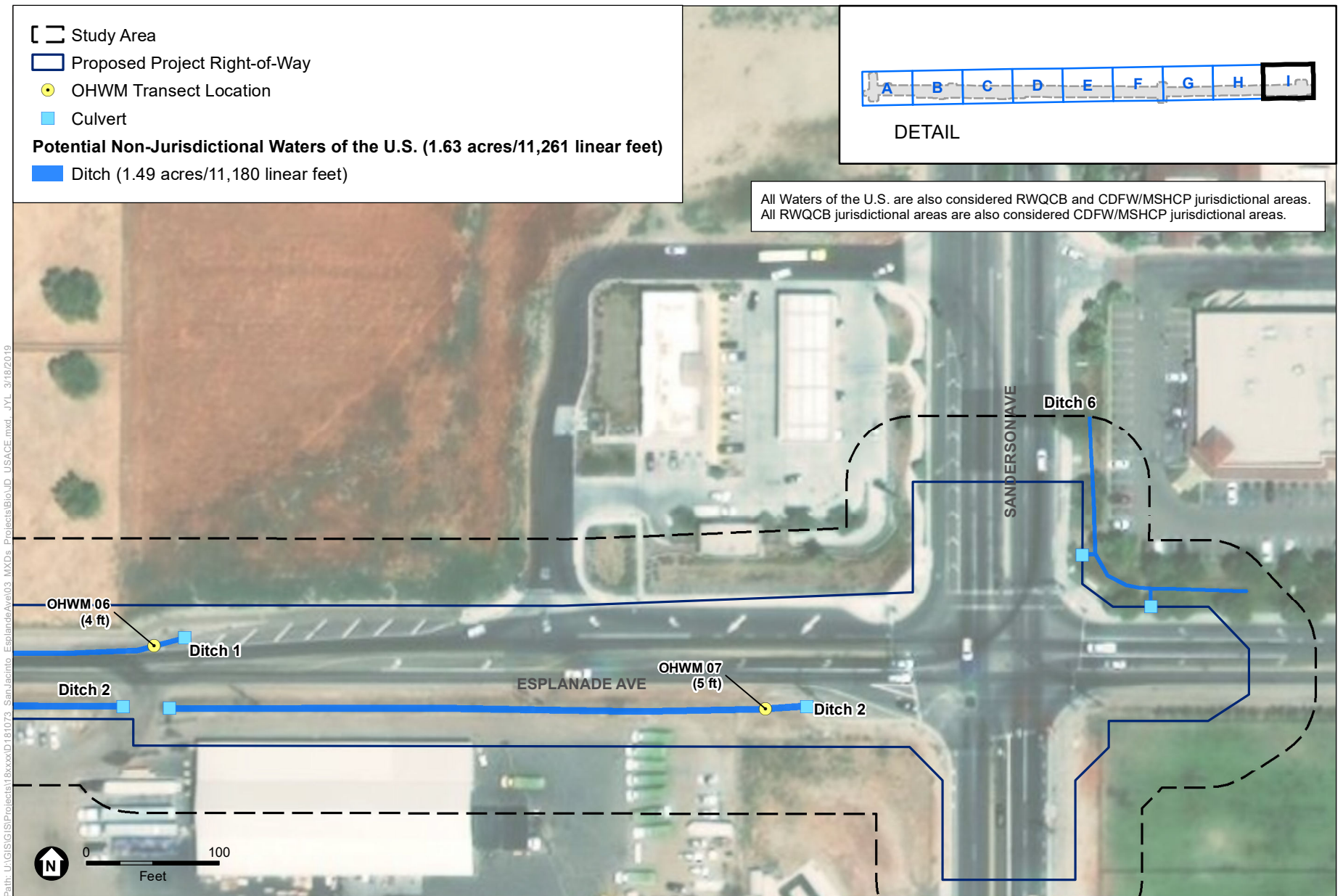
San Jacinto Esplanade Avenue

**Figure 4-1H**

Jurisdictional Delineation Map -

Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



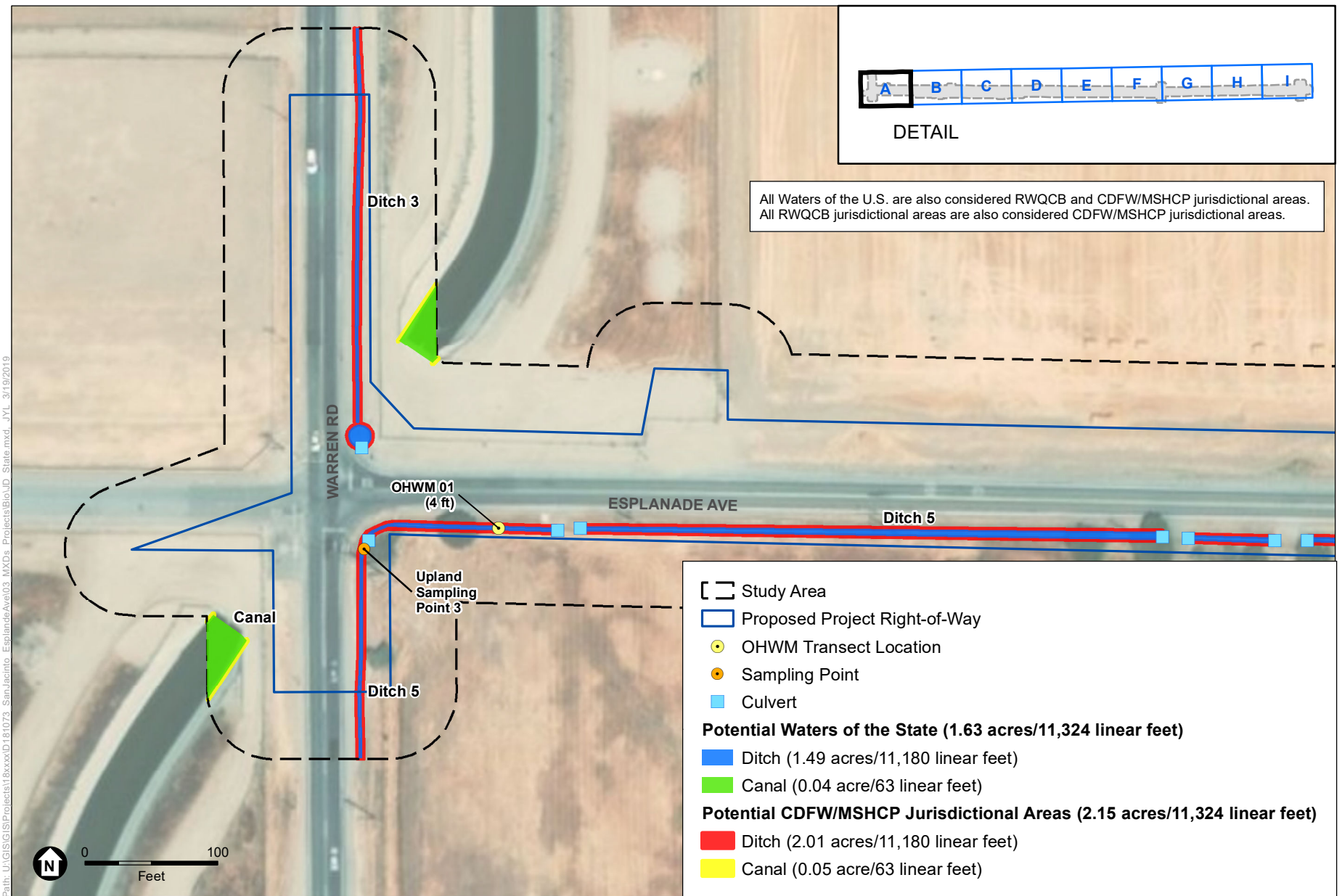


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-11**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.

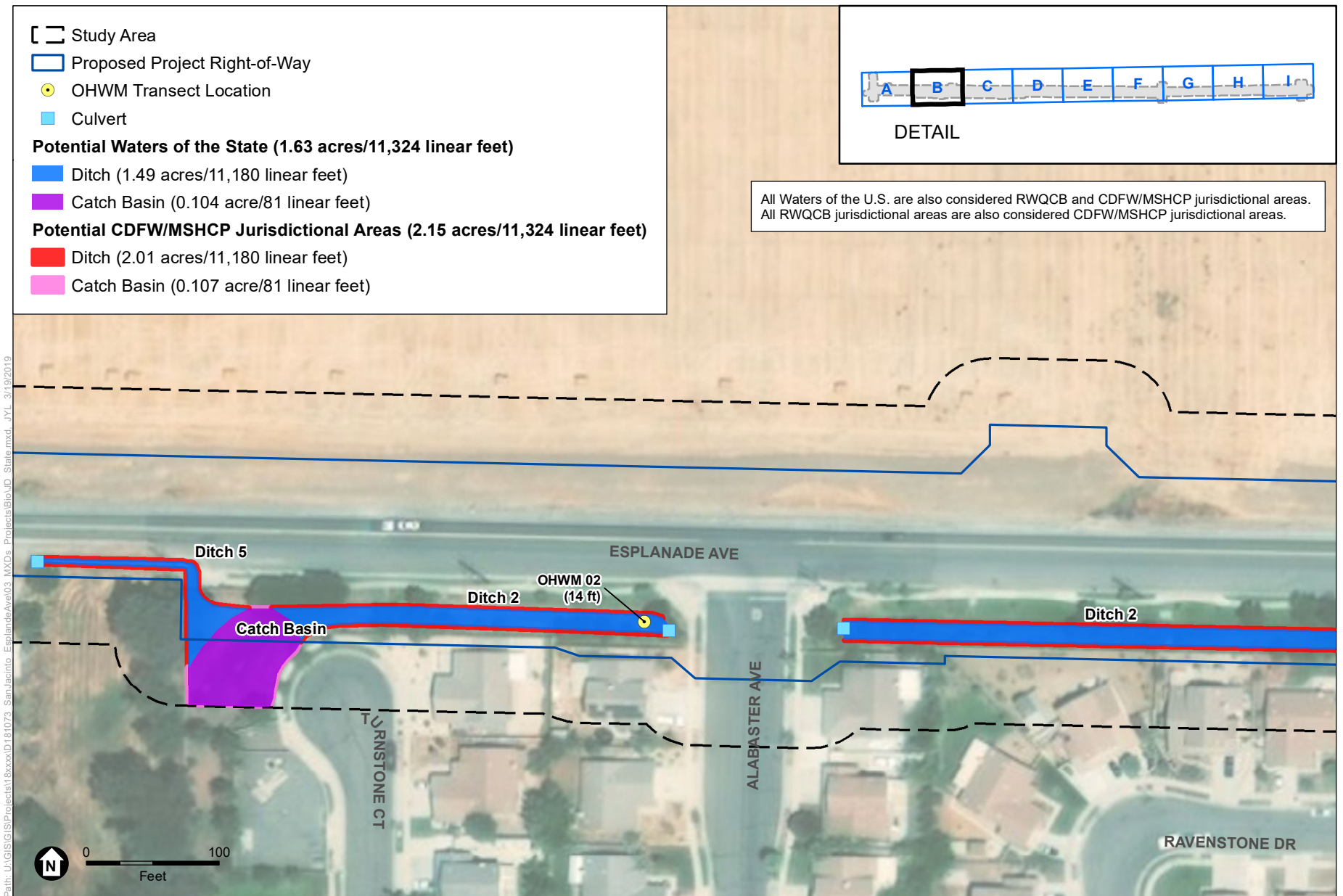


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-2A**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas





SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

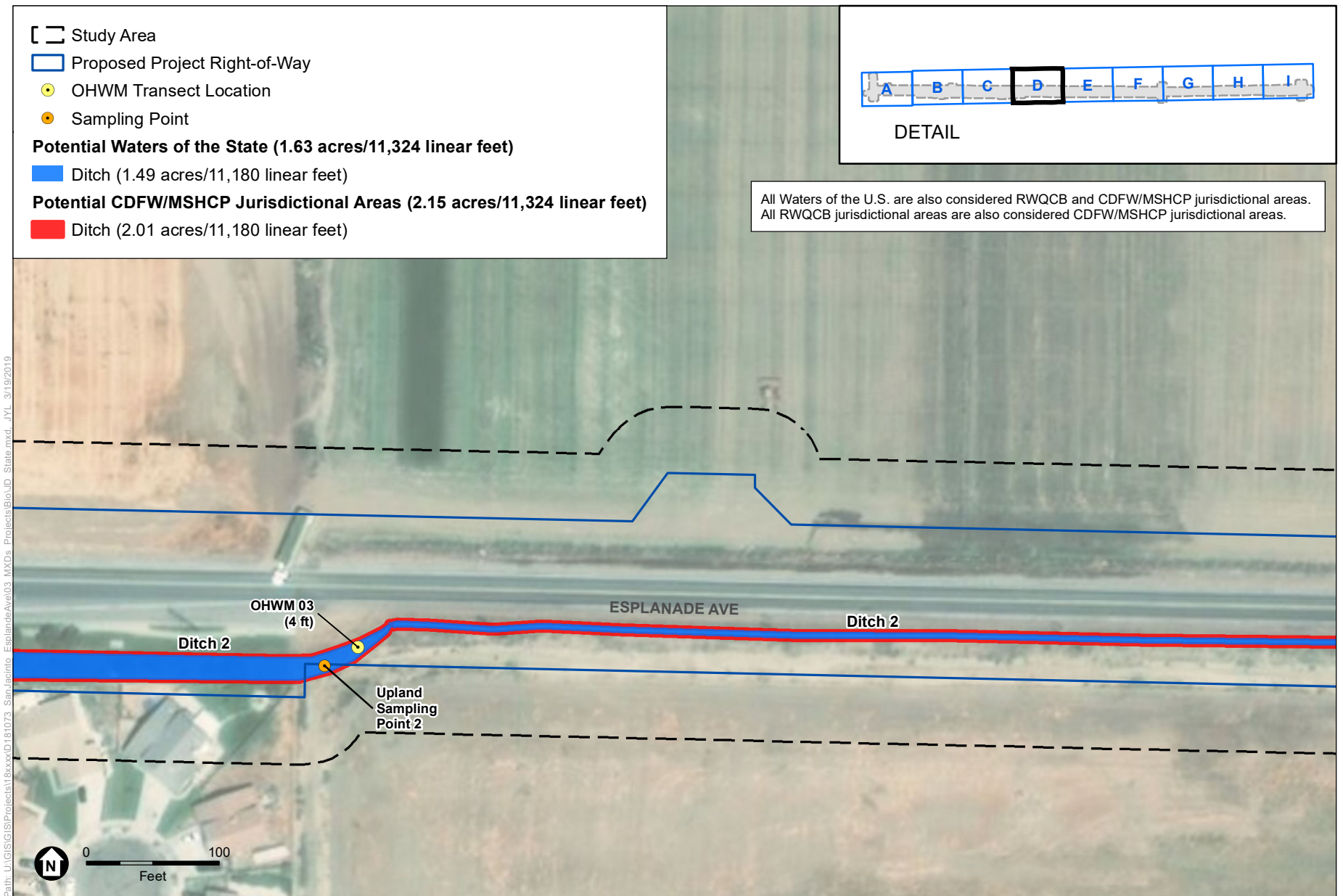
**Figure 4-2B**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas



SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-2C**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas

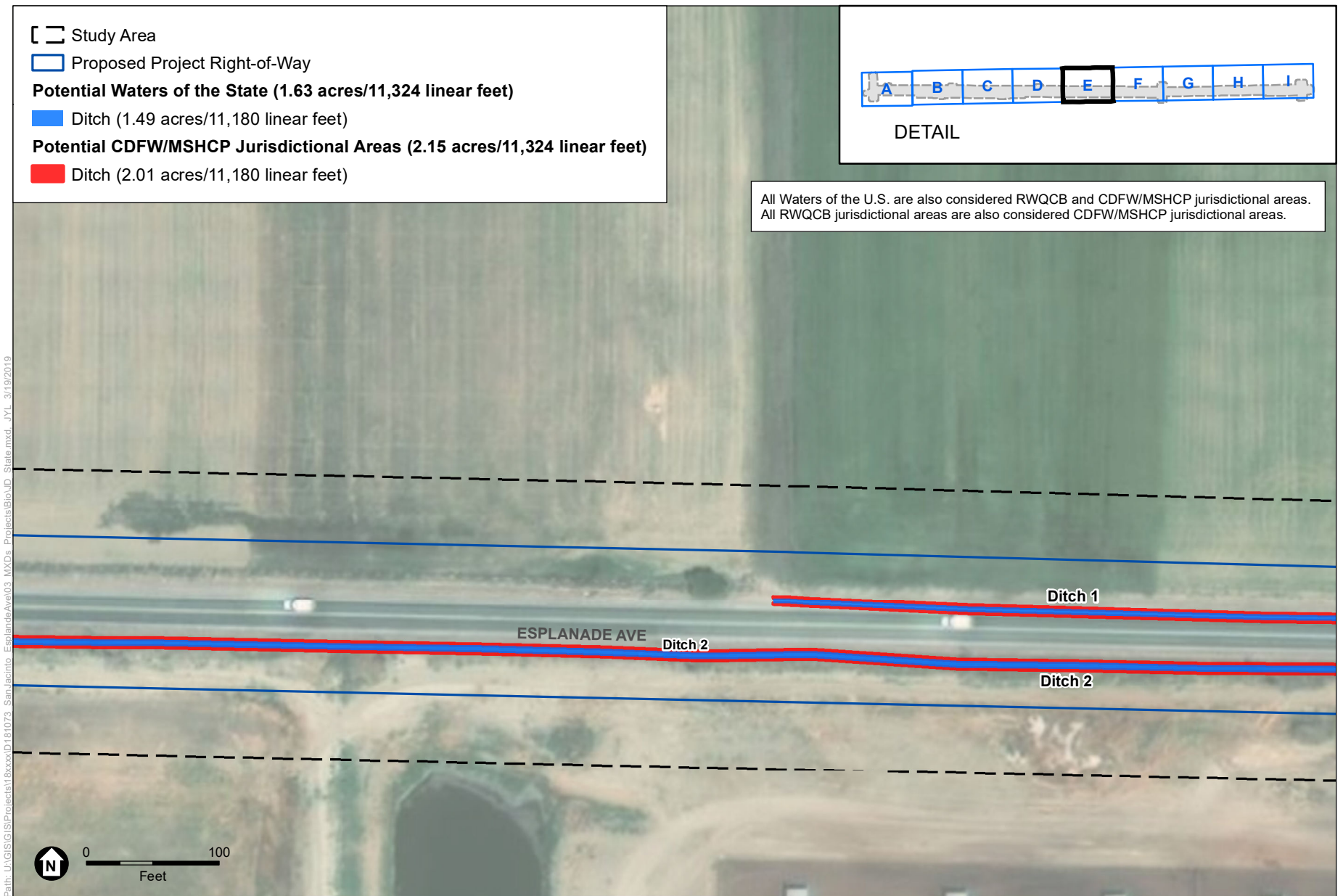


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-2D**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas



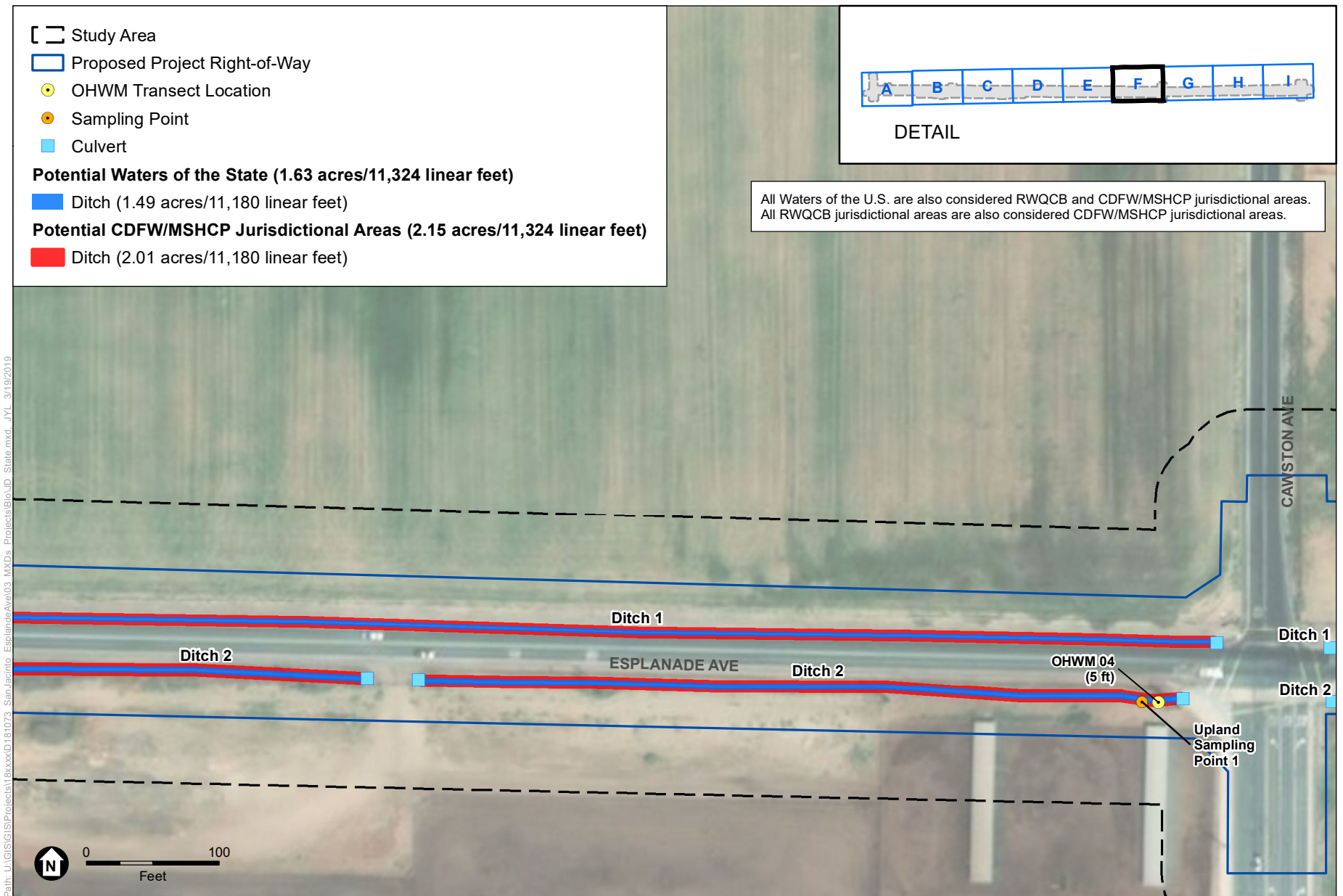


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-2E**

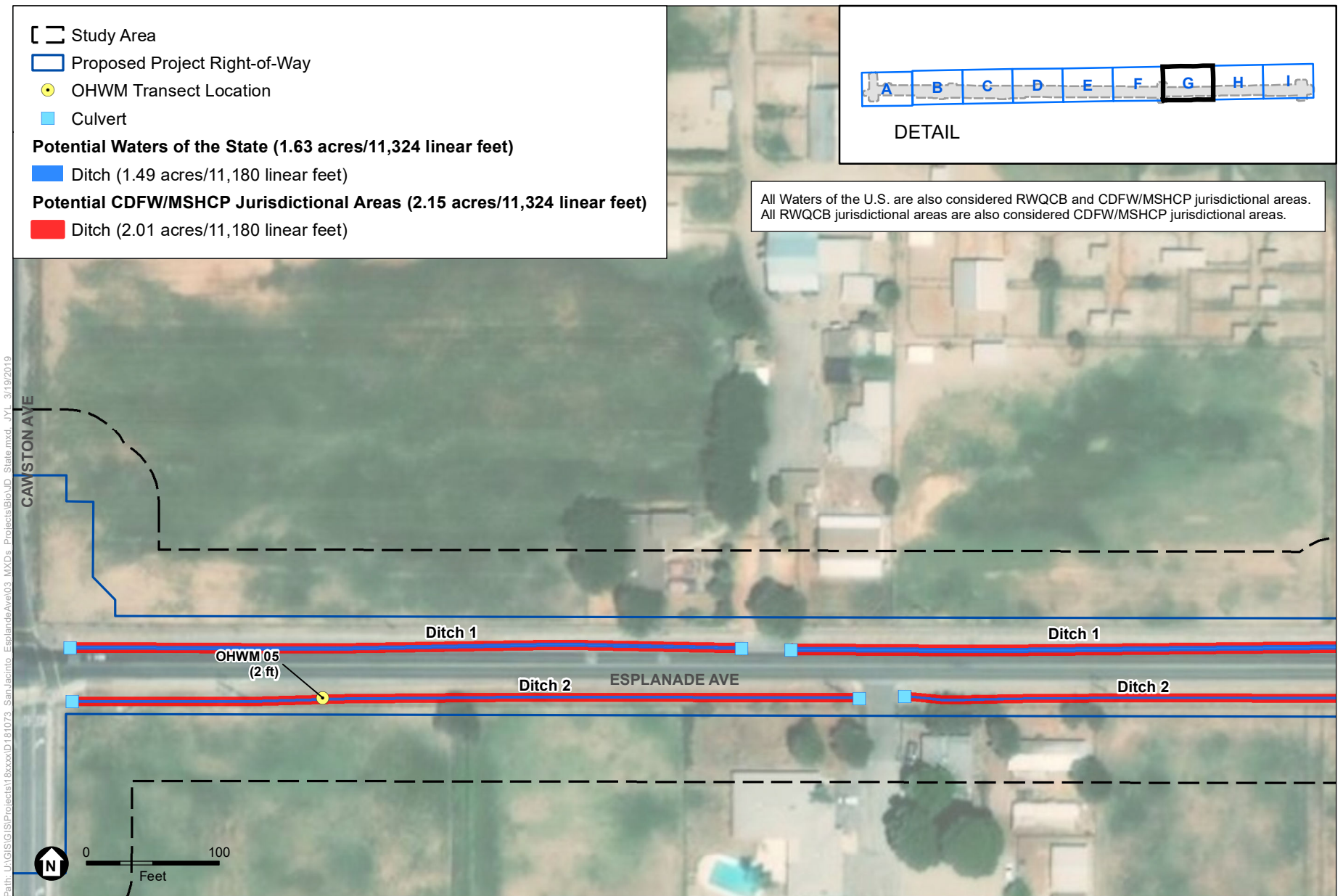
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas



SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-2F**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas



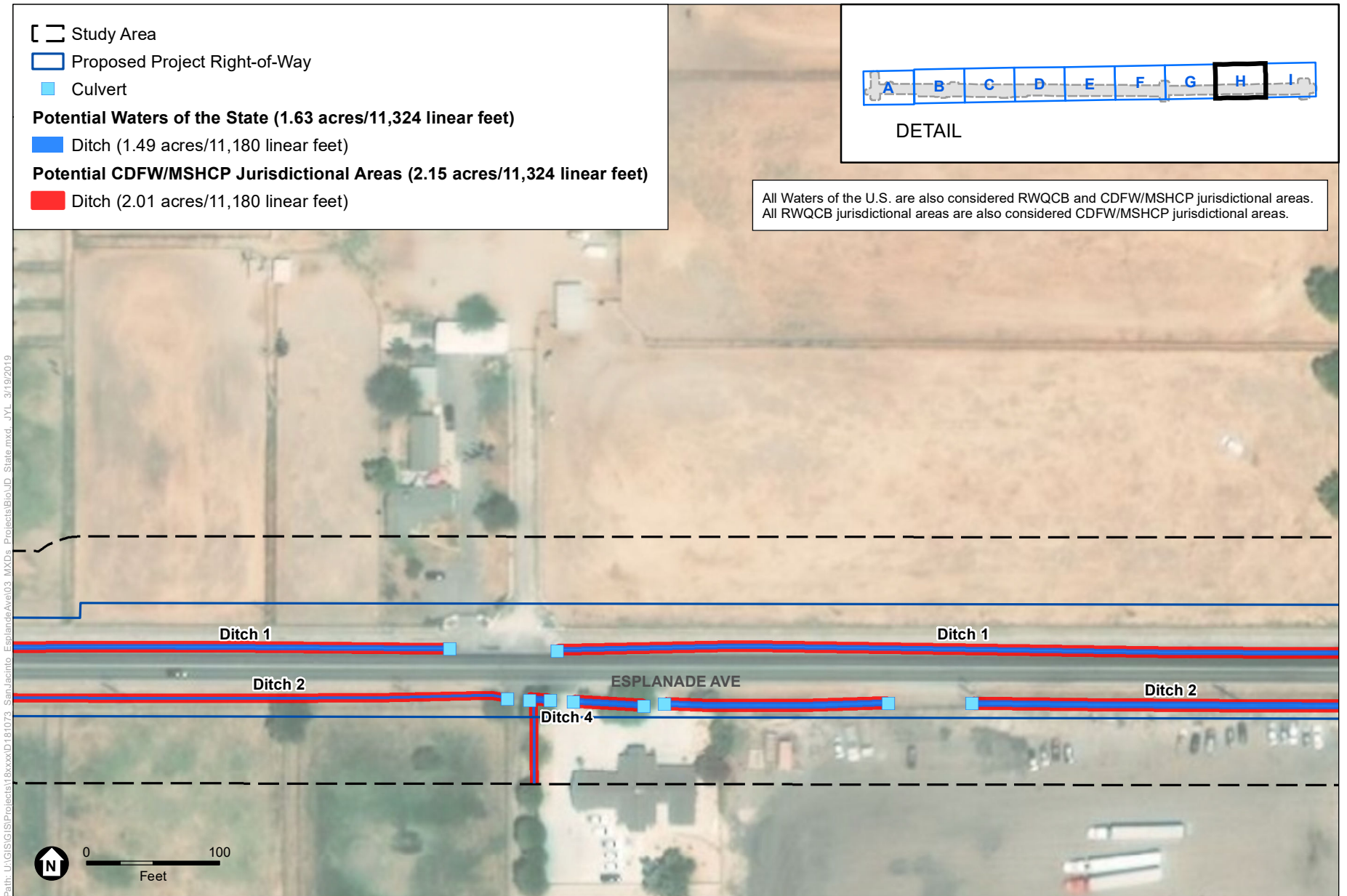
SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-2G**

Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas

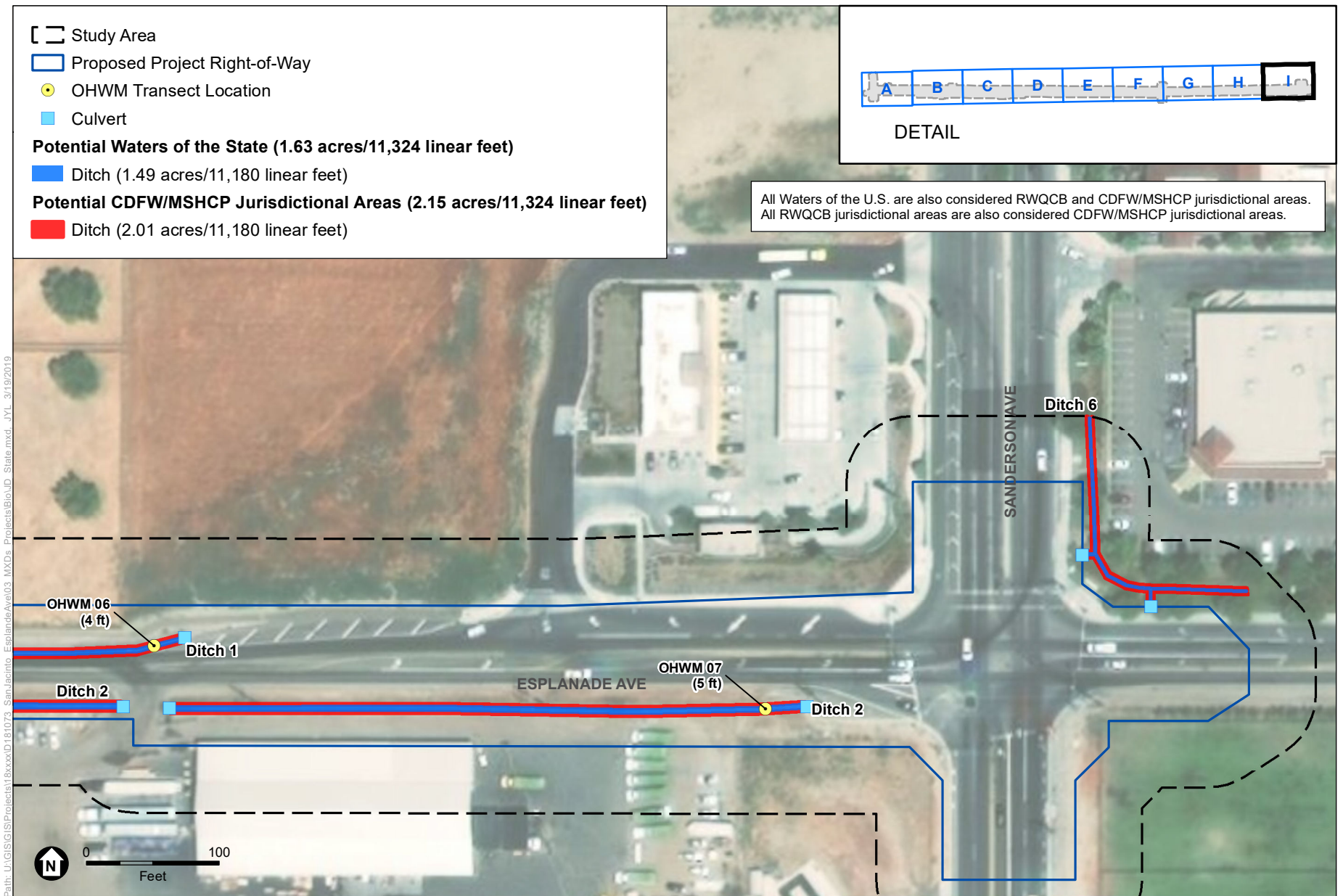




SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-2H**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas



SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4-21**

Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas



## 4.2 Land Cover Types

The ditches support a minimal amount of vegetation, and no vegetation was observed within the catch basin or within the San Diego Canal. One vegetation community and five land cover types occur within or immediately adjacent to the Project site as shown in **Figure 4-3** and as described below. This includes agricultural, disturbed, bare ground, developed, open water, and sprangletop grass patches. Their respective acreages in the study area are indicated in **Table 4-1**.

**TABLE 4-1**  
**LAND COVER TYPES**

Land Cover Types	Acreage within the Study Area
Agricultural	18.63
Disturbed	0.58
Bare Ground	17.20
Developed	7.46
Open Water	0.04
Sprangletop Grass Patches	0.04
<b>Total</b>	<b>43.96</b>

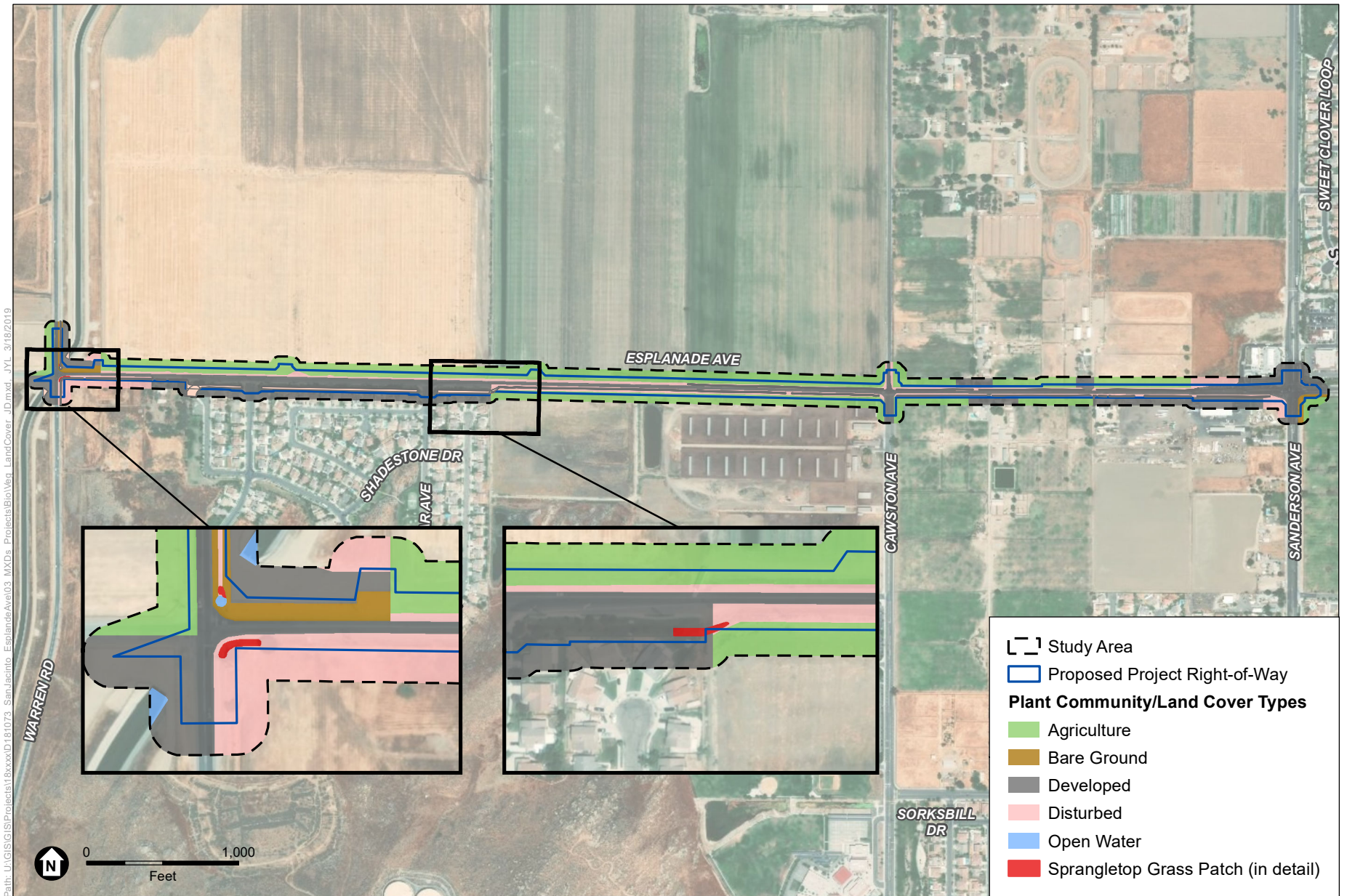
Sparse patches of annual beard grass (*Polypogon monspeliensis*) (FACW) and barnyard grass (*Echinochloa crus-galli*) (FACW) occur within the roadside ditches, as well as upland species such as white sweetclover (*Melilotus albus*) (NL) and Sprangletop grass (*Leptochloa fusca*) (NL). Upland species observed adjacent to the roadside ditches in the agricultural fields and disturbed areas included mostly Russian thistle (*Salsola tragus*) (FACU) and cheeseweed (*Malva parviflora*) (NL).

### Agricultural

Agricultural lands are characterized by the presence of crops, highly disturbed grazing lands containing upland, non-native grasses such as foxtail barley (*Hordeum murinum*) (FACU) and red brome (*Bromus madritensis*) (UPL) and fallow fields that showed signs of recent agricultural use based on visual observations and review of recent aerial photography (Google Earth Pro 2019). Agricultural lands are located throughout the study area and cover approximately 18.63 acres.

### Disturbed

Disturbed areas mostly include the right-of-way roadside shoulders that are mostly devoid of vegetation, but include some patchy ruderal, vegetation such as cheeseweed (NL), ripgut brome (*Bromus diandrus*) (NL), tree tobacco (*Nicotiana glauca*) (FAC), Russian thistle (FACU), short pod mustard (*Hirschfeldia incana*) (NL), white sweetclover (NL), annual sunflower (*Helianthus annuus*) (FACU), stinknet (*Oncosiphon piluliferum*) (FACU), canary grass (*Phalaris* sp.) (FAC), prostrate knotweed (*Polygonum aviculare*) (NL) and common fiddleneck (*Amsinckia intermedia*) (NL). Disturbed areas are located throughout the study area and cover approximately 1.56 acres.



SOURCE: ESRI

San Jacinto Esplanade Avenue

**Figure 4-3**  
Plant Community/Land Cover Map

A variety of non-native trees occur along the roadways and residential areas within, and adjacent to, the study area. These include gum trees (*Eucalyptus* sp.) (FAC), pine trees (*Pinus* sp.) (NL), liquid amber (*Liquidambar styraciflua*) (FAC), European olive (*Olea europaea*) (NL), palo verde (*Parkinsonia aculeata*) (FAC), and Mexican fan palm (*Washingtonia robusta*) (FACW).

## Bare Ground

Areas of bare ground occurs at the western end of the study area and at the intersection of Esplanade Avenue and Sanderson Avenue. Bare ground covers approximately 0.58 acre of the study area.

## Developed

Developed include paved roads, residences, commercial facilities and associated landscaped areas containing non-native ornamental plants. Developed areas are located throughout the study area and cover 17.20 acres.

## Sprangletop Grass Patches

Patches of sprangletop grass (NL) are located at the northeastern and southeastern corners of Esplanade Avenue and Warren Road in portions of Ditches 2, 3 and 4. This native vegetation community consists of saturated soils and hydrophytic vegetation. This native community is dominated by sprangletop grass and some areas also contain small amounts of tubered bulrush (*Bolboschoenus glaucus*) (OBL), northern willow herb (*Epilobium ciliatum*) (FACW), scarlet pimpernel (*Lysimachia arvensis*) (FAC), white sweetclover (NL), and annual beard grass (FACW). Sprangletop grass patches covers 0.04 acre of the study area.

## Open Water

Open water consists of standing or flowing water in the San Diego Canal and the southern end of Ditch 3. Open water covers approximately 0.05 acre of the study area.

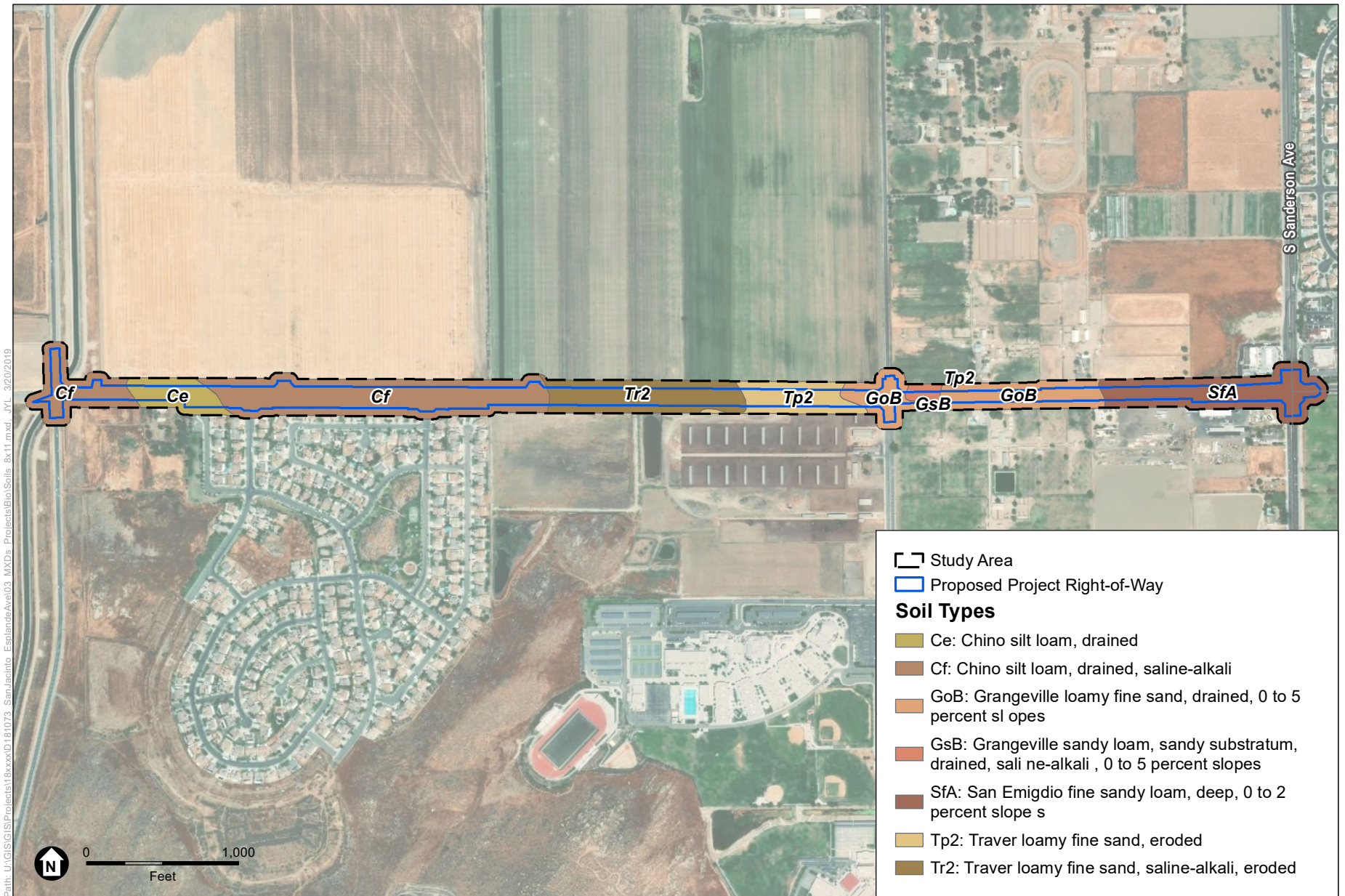
## 4.3 Soils

Based on review of the NRCS *Web Soil Survey* (NRCS 2019), the study area includes four soil types as shown in **Figure 4-4**. None of these soil types are on the *Hydric Soils List of California* (NRCS 2016).

### Chino Series

The Chino series consists of shallow soils that formed in alluvium derived from granite. The soils are found on floodplains that have slopes of 0 to 2 percent. Chino soils are well-drained, with poor to somewhat poor permeability. Entries within this series located within the study area include Chino silt loam, drained and Chino silt loam, drained, saline-alkali.





SOURCE: SSURGO

San Jacinto Esplanade Avenue

**Figure 4-4**  
Soil Types

## Grangeville Series

The Grangeville series consists of very deep soils that formed in alluvium derived from granite. The soils are found on alluvial fans and floodplains that have slopes of 0 to 2 percent. Grangeville soils are somewhat poorly drained, with moderate to moderately rapid permeability. Entries within this series located within the study area include Grangeville loamy fine sand, drained, 0 to 5 percent slopes and Grangeville sandy loam, sandy substratum, drained, saline-alkali, 0 to 5 percent slopes.

## San Emigdio Series

The San Emigdio series consists of soils that formed in alluvium. The soils are found on fans and floodplains that have slopes of 0 to 15 percent. San Emigdio soils are well drained, with moderately rapid permeability. Entries within this series located within the study area include San Emigdio fine sandy loam, deep, 0 to 2 percent slopes.

## Traver Series

The Traver series consists of soils that formed in alluvium derived from granite. The soils are found on valley floors that have slopes of 0 to 5 percent. Traver soils are moderately well to somewhat poorly drained, with moderate to slow permeability. Entries within this series located within the study area include Traver loamy fine sand, eroded and Traver loamy fine sand, saline-alkali, eroded.

## 4.4 Conclusions

The following summarizes the potentially jurisdictional features within the study area, and the regulatory permits that may be required prior to any Project impacts to these features.

### Wetland Waters of the U.S.

Wetlands are not present within the study area. Soil pits were dug along Ditches 2 and 5 at Sample Points 1-3 due to the presence of hydrophytic vegetation and hydrologic indicators (i.e., surface water). The soil pits revealed that hydric soils were not present. Vegetation observed within the ditches is dominated by mostly non-native, upland species such as white sweetclover (NL) and sprangletop grass (NL), as well as two hydrophytic species that include rabbitfoot grass (FACW) and barnyard grass (FACW). Although hydrophytic plant species were present at the sample points, they did not meet the wetland criteria for vegetation as they did not pass the dominance test or prevalence index and were not problematic. There are no hydric soils containing primary or secondary indicators existing within the study area, which was verified by digging several soil pits. Based upon the soils with less permeability and presence of surface water, hydric soils may develop in Ditches 2, 3 and 5. Wetland hydrology observed at the time of the delineation included the following USACE hydrology indicators at all three sample points: surface water (A1), high water table (A2), drift deposits (B3) and drainage patterns (B10). Ditches 1-6, the catch basin and San Diego Canal all met the hydrology criteria, but did not meet the vegetation or soil USACE wetland criteria and are therefore not considered a wetland waters of U.S.; therefore, wetland waters of the U.S. are absent from the study area.

The USACE regulates activities that impact both wetland and non-wetland waters of the U.S., including dredging and the placement of fill material into waters of the U.S. The Project is not anticipated to impact wetland waters of U.S. as none are present within the study area and will therefore not require permitting under the Clean Water Act as administered by the USACE. The USACE will verify the findings of this report as well as the Project's permitting requirements under Section 404 of the Clean Water Act.

## Non-Wetland Waters of the U.S.

An OHWM was observed within Ditches 1-6, the catch basin and the San Diego Canal. However, the San Diego Canal is considered the only non-wetland waters of the U.S. within the study area. Ditches 1-6 are ephemeral or intermittent ditches that are not a relocated tributary, excavated in a tributary or drain wetlands. As such, Ditches 1-6 are excluded by the 2015 Clean Water Rule. The catch basin located at the terminus of the ditches is therefore also excluded by the 2015 Clean Water Rule. A review of the 1953 USGS quadrangle for Lakeview, where the project is located, does not indicate tributaries or other waterways where the ditches and catch basin are currently located; therefore, Ditches 1-6 and the catch basin are not non-wetland waters of the U.S.

The San Diego Canal is part of the San Diego Aqueduct feeding both Diamond Valley Reservoir and Lake Skinner in the regional area. Lake Skinner is an impoundment of Tualota Creek, a waters of the U.S. since it is a tributary to Murrieta Creek which flows into the Santa Margarita River to the south and eventually into the Pacific Ocean to the west. Therefore, because there is a nexus between San Diego Canal and Lake Skinner, the canal is waters of the U.S. As shown in **Table 4-2**, 0.04 acre of non-wetland waters of the U.S. occur within the study area. The Project is not anticipated to impact the San Diego Canal and will therefore not require permitting under the Clean Water Act as administered by the USACE.

## Waters of the State

### Santa Ana Regional Water Quality Control Board

All areas mapped as USACE-jurisdictional areas (i.e., San Diego Canal) also fall within the Clean Water Act Section 401 authority of the Santa Ana RWQCB. Isolated waters that include Ditches 1-6 and the catch basin fall within the Porter-Cologne Water Quality Control Act authority of the Santa Ana RWQCB. Therefore, a total of 1.63 acres of RWQCB waters of the State are found within the study area. A 401 Water Quality Certification from the RWQCB is not anticipated for the Project as the San Diego Canal is not anticipated to be impacted. A Waste Discharge Requirement (WDR) from the RWQCB is anticipated, since the isolated ditches are anticipated to be impacted by the Project.

## CDFW Streambed, Bank, and Vegetation

Areas within CDFW jurisdiction typically refer to streambeds and associated wetland or riparian vegetation. Within the study area, the potential extent of CDFW limits was taken to the outer banks of Ditches 1-6 as well as the catch basin and San Diego Canal. Sprangletop grass patches, which is not considered a riparian community, were present within Ditches 2, 3 and 5 but were confined within the banks of each of the respective ditches, therefore, no riparian communities

occur or extend beyond the banks of the ditches. Ditches 1, 4 and 6, the catch basin and the San Diego Canal also lacked riparian vegetation and were either unvegetated or contained open water. In addition, all areas delineated as CDFW jurisdiction s are also considered MSHCP riverine/riparian areas, because they occurred within the banks of each respective feature.

As shown in **Table 4-4**, 1.26 acres of vegetated streambed and 0.91 acres of unvegetated streambed in the study area could be subject to CDFW jurisdiction. A Streambed Alteration Agreement (SAA) from CDFW and a DBESP from RCA is anticipated for the Project.

**TABLE 4-2**  
**USACE DELINEATED WATERS SUMMARY**

Feature	Cowardin Type	Wetland Waters of the U.S. Acres	Non-Wetland Waters of the U.S. Acres	Excluded by 2015 Clean Water Rule	Length (feet)	OHHW <sup>1</sup>	Vegetation/ Land Cover	Location
Ditch 1	Riverine	0	0	Yes	3,150	4 feet	Developed, disturbed	33.772808°, -117.012414 °
Ditch 2	Riverine	0	0	Yes	6,410	2 – 14 feet	Agricultural, developed, disturbed, sprangletop grass patches	33.772691°, -117.016274°
Ditch 3	Riverine	0	0	Yes	316	4 feet	Bare ground, disturbed, open water, sprangletop grass patches	33.773119°, -117.033339°
Ditch 4	Riverine	0	0	Yes	81	4 feet	Agricultural, disturbed	33.772654°, -117.010993°
Ditch 5	Riverine	0	0	Yes	992	4 feet	Developed, disturbed, sprangletop grass patches	33.772885°, -117.032585°
Ditch 6	Riverine	0	0	Yes	232	3 feet	Disturbed	33.772990°, -117.006444°
Catch basin	Lacustrine	0	0	Yes	81	N/A	Developed	33.772735°, -117.030505°
San Diego Canal	Riverine	0	0.04	No	63	45 feet	Developed, open water	33.773275°, -117.033182°
<b>Totals:</b>		<b>0.00</b>	<b>0.04</b>		<b>11,325</b>			

1. Average width of OHHW in feet.

**TABLE 4-3**  
**RWQCB DELINEATED AREAS SUMMARY**

Feature	Cowardin Type	Wetland Waters of the U.S. / State Acres	Non-Wetland Waters of the U.S. / State Acres	Isolated Waters of the State Acres	Length (feet)	OHHM1	Vegetation/ Land Cover	Location
Ditch 1	Riverine	0	0	0.42	3,150	4 feet	Developed, disturbed	33.772808°, -117.012414 °
Ditch 2	Riverine	0	0	1.34	6,410	2 – 14 feet	Agricultural, developed, disturbed, sprangletop grass patches	33.772691°, -117.016274°
Ditch 3	Riverine	0	0	0.04	316	4 feet	Bare ground, disturbed, open water, sprangletop grass patches	33.773119°, -117.033339°
Ditch 4	Riverine	0	0	0.01	81	4 feet	Agricultural, disturbed	33.772654°, -117.010993°
Ditch 5	Riverine	0	0	0.17	992	4 feet	Developed, disturbed, sprangletop grass patches	33.772885°, -117.032585°
Ditch 6	Riverine	0	0	0.03	232	3 feet	Disturbed	33.772990°, -117.006444°
Catch basin	Lacustrine	0	0	0.11	81	N/A	Developed	33.772735°, -117.030505°
San Diego Canal	Riverine	0	0.04	N/A	63	45 feet	Developed, open water	33.773275°, -117.033182°
<b>Totals:</b>		<b>0.00</b>	<b>0.04</b>	<b>1.59</b>	<b>11,325</b>			
1. Average width of OHHM in feet.								



**TABLE 4-4**  
**CDFW/MSHCP DELINEATED AREAS SUMMARY**

<b>Feature</b>	<b>Cowardin Type</b>	<b>CDFW/MSHCP Limit Acres (Vegetated Streambed)</b>	<b>CDFW/MSHCP Limit Acres (Unvegetated Streambed)</b>	<b>Length (feet)</b>	<b>Vegetation/ Land Cover</b>	<b>Location</b>
Ditch 1	Riverine	0.38	0.04	3,150	Developed, disturbed	33.772808°, -117.012414 °
Ditch 2	Riverine	0.68	0.66	6,410	Agricultural, developed, disturbed, sprangletop grass patches	33.772691°, -117.016274°
Ditch 3	Riverine	0.03	0.01	316	Bare ground, disturbed, open water, sprangletop grass patches	33.773119°, -117.033339°
Ditch 4	Riverine	0.01	0	81	Agricultural, disturbed	33.772654°, -117.010993°
Ditch 5	Riverine	0.11	0.06	992	Developed, disturbed, sprangletop grass patches	33.772885°, -117.032585°
Ditch 6	Riverine	0	0.03	232	Disturbed	33.772990°, -117.006444°
Catch basin	Lacustrine	0	0.11	81	Developed	33.772735°, -117.030505°
San Diego Canal	Riverine	0.05	0	63	Developed, open water	33.773275°, -117.033182°
<b>Totals:</b>		<b>1.26</b>	<b>0.91</b>	<b>11,325</b>		

## **Chapter 5**

---

### **Supplemental Information**

#### **5.1 Directions to the Jurisdictional Delineation Study Area**

From Los Angeles, take State Route (SR) 60 east to the Gilman Springs Road exit in the City of Moreno Valley. Continue south on Gilman Springs Road before heading south on SR-79. Continue south on SR-79 which turns into North Sanderson Avenue until its intersection with Esplanade Avenue. The study area is located along Esplanade Avenue from Sanderson Avenue to Warren Road.

#### **5.2 Project Applicant Contact Information**

Habib Motlagh, City Engineer  
City of San Jacinto  
595 S. San Jacinto Avenue  
San Jacinto, CA 92583  
(915) 322-4280

#### **5.3 Field Delineator Contact Information**

Ryan Villanueva  
Environmental Science Associates  
626 Wilshire Boulevard, Suite 1100  
Los Angeles, CA 90017  
(213) 599-4300  
RVillanueva@esassoc.com

# Chapter 6

---

## References

- B.G. Baldwin, D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, Editors. 2012. *The Jepson Manual: vascular plants of California, second edition*. University of California Press, Berkeley, CA.
- Environmental Laboratory. 1987. U.S. Army Corps of Engineers Wetland Delineation Manual. Prepared for the U.S. Army Corps of Engineers.
- Google Earth. 2019. Desktop application Available at: <http://www.google.com/earth/index.html>. Accessed February 2019.
- Lichvar, R.W., B. Allen, J. Byersdorfer, D. Cate, L. Dixon, and C. Photos. 2009. Vegetation and Channel Morphology Responses to Ordinary High Water Discharge Events in Arid West Stream Channels. U.S. Army Engineer Research and Development Center. ERDC/CRREL TR-09-5
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. *Phytoneuron* 2016-30: 1-17. Published 28 April 2016.
- Munsell. 2000. Munsell soil color charts. Gretag Macbeth, New Windsor, New York, USA.
- Natural Resources Conservation Service (NRCS). 2016. Hydric Soils List of California Available at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>. Accessed May 2017.
- . 2018. Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. Edited by L.M. Vasilas, G.W. Hurt, and C.V. Noble. U.S. Department of Agriculture, Natural Resources Conservation Service, in cooperation with the National Technical Committee for Hydric Soils.
- . 2019. Web Soil Survey. Available at: <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed February 2019.
- Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, CA. 1300 pp.
- U.S. Army Corps of Engineers (USACE). 2008a. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. August.
- . 2008b. Arid West Supplement to the 1987 Wetlands Delineation Manual.
- . 2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. July.

U.S. Army Corps of Engineers and Environmental Protection Agency (EPA). 2015. "Clean Water Rule: Definition of 'Waters of the United States'." Final Rule. Federal Register, 80 FR 37053.

U.S. Fish and Wildlife Service. 2019. National Wetland Inventory. Accessed January 2019.  
<https://www.fws.gov/wetlands/data/Mapper.html>

U.S. Geological Survey. 1943. Lakeview 7.5-Minute Quadrangle

———. 1953. Lakeview 7.5-Minute Quadrangle.

———. 1967. Lakeview 7.5-Minute Quadrangle.

———. 1975. Lakeview 7.5-Minute Quadrangle.

———. 1996. Lakeview 7.5-Minute Quadrangle.

———. 2018. Lakeview 7.5-Minute Quadrangle.

Western Riverside County Regional Conservation Authority (RCA). 2003. Western Riverside County Multiple Species Habitat Conservation Plan.

Appendix A

**Wetland Determination Data  
Forms and OHWM Data Sheets**

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Esplanade Avenue Widening Project City/County: San Jacinto, Riverside Sampling Date: 2/8/19  
 Applicant/Owner: City of San Jacinto State: CA Sampling Point: 01  
 Investigator(s): Ryan Villanueva and Lily Sam Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): basin floor Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): South Coast Lat: 33.772681 Long: -117.015748 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Grangeville loamy fine sand, drained, 0 to 5 percent slopes NWI classification: unclassified

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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Significant rains (approximately 3.8 inches) occurred just prior to the site visit (January 31-February 6, 2019). Abundance of surface water present during the site visit.	

## VEGETATION – Use scientific names of plants.

<b>Tree Stratum</b> (Plot size: <u>N/A</u> ) 1. _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>N/A</u> ) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover	
<b>Herb Stratum</b> (Plot size: <u>10ft x 20ft</u> ) 1. <u>Leptochloa fusca</u> <u>30</u> <u>Yes</u> <u>NL</u> 2. <u>Malva parviflora</u> <u>10</u> <u>No</u> <u>NL</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
<b>Woody Vine Stratum</b> (Plot size: <u>N/A</u> ) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>60</u> % Cover of Biotic Crust <u>0</u>	
<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

## SOIL

Sampling Point: 01

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	7.5YR 3/1	100	N/A				loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**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<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (**LRR C**)  
☐ 2 cm Muck (A10) (**LRR B**)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**Type: N/A

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No ☒

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☒ 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 Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ 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)  
☐ 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): 8Saturation Present? Yes ☒ No \_\_\_\_\_ Depth (inches): 0-8  
(includes capillary fringe)**Wetland Hydrology Present?** Yes ☒ No \_\_\_\_\_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rains occurred a few days prior to the site visit. Surface water present in the roadside ditch.

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Esplanade Avenue Widening Project City/County: San Jacinto, Riverside Sampling Date: 2/8/19  
 Applicant/Owner: City of San Jacinto State: CA Sampling Point: 02  
 Investigator(s): Ryan Villanueva and Lily Sam Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): basin floor Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): South Coast Lat: 33.772706 Long: -117.024029 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chino silt loam, drained, saline-alkali NWI classification: unclassified

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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Significant rains (approximately 3.8 inches) occurred just prior to the site visit (January 31-February 6, 2019). Abundance of surface water present during the site visit.	

## VEGETATION – Use scientific names of plants.

<b>Tree Stratum</b> (Plot size: <u>N/A</u> ) 1. _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>N/A</u> ) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover	
<b>Herb Stratum</b> (Plot size: <u>10ft x 20ft</u> ) 1. <u>Leptochloa fusca</u> <u>30</u> <u>Yes</u> <u>NL</u> 2. <u>Lysimachia arvensis</u> <u>5</u> <u>No</u> <u>FAC</u> 3. <u>Epilobium ciliatum</u> <u>5</u> <u>No</u> <u>FACW</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
<b>Woody Vine Stratum</b> (Plot size: <u>N/A</u> ) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>60</u> % Cover of Biotic Crust <u>0</u>	
<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>	

Remarks:



## SOIL

Sampling Point: 02

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Water Marks (B1) ( <b>Riverine</b> )
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) ( <b>Riverine</b> )
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input checked="" type="checkbox"/> Drift Deposits (B3) ( <b>Riverine</b> )
<input type="checkbox"/> Water Marks (B1) ( <b>Nonriverine</b> )	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) ( <b>Nonriverine</b> )	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) ( <b>Nonriverine</b> )	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-8</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Heavy rains occurred a few days prior to the site visit. Surface water present in the roadside ditch.		

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Esplanade Avenue Widening Project City/County: San Jacinto, Riverside Sampling Date: 2/8/19  
 Applicant/Owner: City of San Jacinto State: CA Sampling Point: 03  
 Investigator(s): Ryan Villanueva and Lily Sam Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): basin floor Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): South Coast Lat: 33.772845 Long: -117.033334 Datum: \_\_\_\_\_  
 Soil Map Unit Name: Chino silt loam, drained, saline-alkali NWI classification: unclassified

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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Significant rains (approximately 3.8 inches) occurred just prior to the site visit (January 31-February 6, 2019). Abundance of surface water present during the site visit.	

## VEGETATION – Use scientific names of plants.

<b>Tree Stratum</b> (Plot size: <u>N/A</u> ) 1. _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>N/A</u> ) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover	
<b>Herb Stratum</b> (Plot size: <u>5ft x 10ft</u> ) 1. <u>Bolboschoenus glaucus</u> <u>30</u> <u>Yes</u> <u>OBL</u> 2. <u>Leptochloa fusca</u> <u>20</u> <u>Yes</u> <u>NL</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
<b>Woody Vine Stratum</b> (Plot size: <u>N/A</u> ) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>50</u> % Cover of Biotic Crust <u>0</u>	
<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

# SOIL

Sampling Point: 03

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 4/2	100	N/A				sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**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<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: N/A  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes \_\_\_\_\_ No ☒**

Remarks:

# HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☒ 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 Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ 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)
- ☐ 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): 8  
Saturation Present? Yes ☒ No \_\_\_\_\_ Depth (inches): 0-8  
(includes capillary fringe)

**Wetland Hydrology Present? Yes ☒ No \_\_\_\_\_**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rains occurred a few days prior to the site visit. Surface water present in the roadside ditch.

**Project:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Location:** \_\_\_\_\_ **Investigator(s):** \_\_\_\_\_

**Project Description:**

**Describe the river or stream's condition (disturbances, in-stream structures, etc.):**

**Off-site Information**

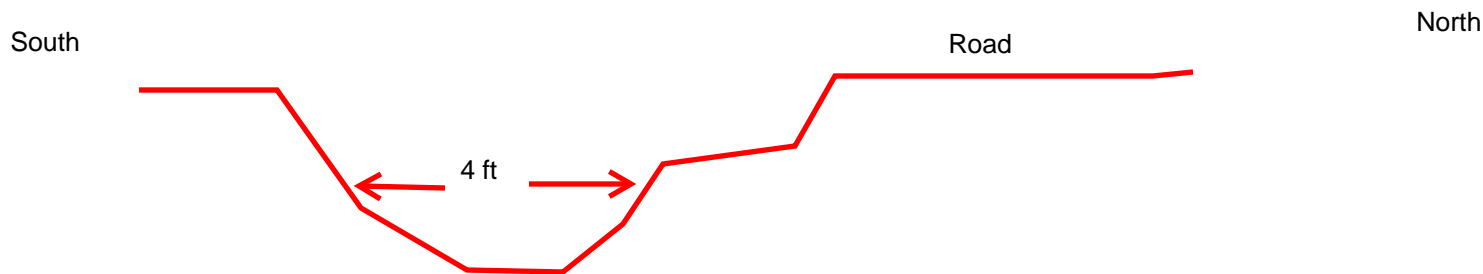
**Remotely sensed image(s) acquired?** ☐ **Yes** ☐ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

**Hydrologic/hydraulic information acquired?** ☐ **Yes** ☐ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

**List and describe any other supporting information received/acquired:**

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

**Transect (cross-section) drawing:** (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



**Break in Slope at OHWM:** ☐ Sharp ( $> 60^\circ$ ) | ☐ Moderate ( $30\text{--}60^\circ$ ) | ☐ Gentle ( $< 30^\circ$ ) | ☐ None

Notes/Description:

**Sediment Texture:** Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

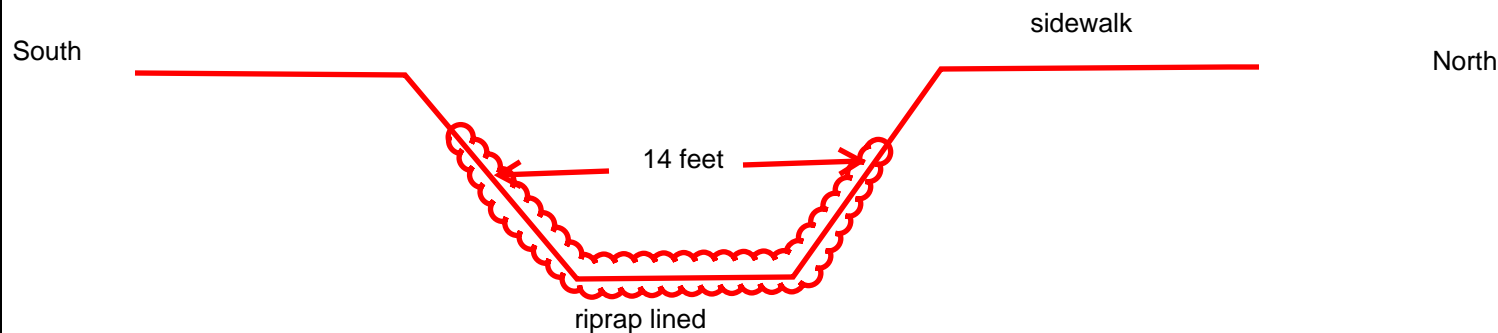
**Vegetation:** Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

Notes/Description:

**Other Evidence:** List/describe any additional field evidence and/or lines of reasoning used to support your delineation

**Transect (cross-section) drawing:** (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



**Break in Slope at OHWM:** ☐ Sharp ( $> 60^\circ$ ) | ☐ Moderate ( $30-60^\circ$ ) | ☐ Gentle ( $< 30^\circ$ ) | ☐ None

Notes/Description:

**Sediment Texture:** Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

**Vegetation:** Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

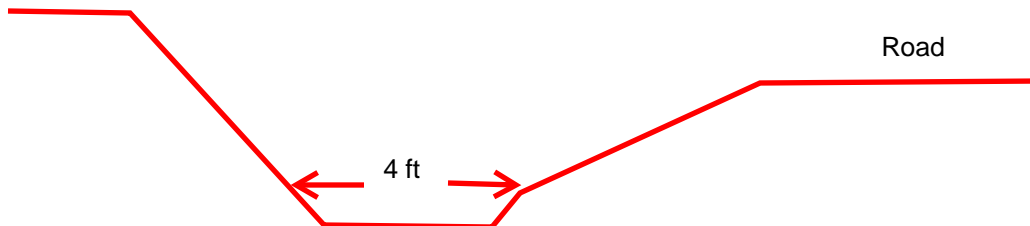
Notes/Description:

**Other Evidence:** List/describe any additional field evidence and/or lines of reasoning used to support your delineation

**Transect (cross-section) drawing:** (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

South

North



**Break in Slope at OHWM:** ☐ Sharp ( $> 60^\circ$ ) | ☐ Moderate ( $30\text{--}60^\circ$ ) | ☐ Gentle ( $< 30^\circ$ ) | ☐ None

Notes/Description:

**Sediment Texture:** Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

**Vegetation:** Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

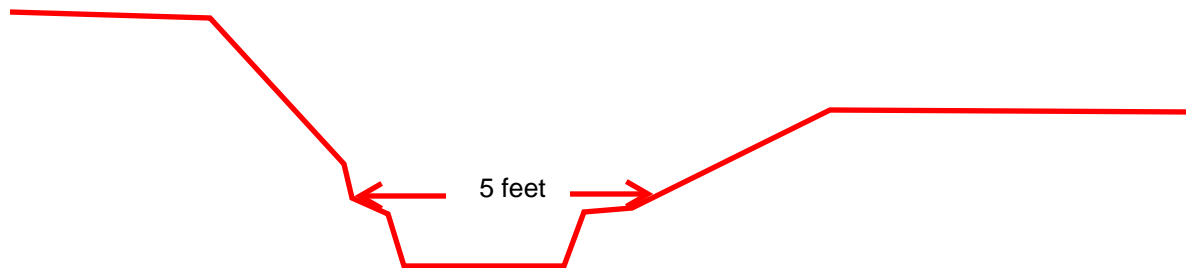
Notes/Description:

**Other Evidence:** List/describe any additional field evidence and/or lines of reasoning used to support your delineation

**Transect (cross-section) drawing:** (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

South

North



**Break in Slope at OHWM:** ☐ Sharp ( $> 60^\circ$ ) | ☐ Moderate ( $30-60^\circ$ ) | ☐ Gentle ( $< 30^\circ$ ) | ☐ None

Notes/Description:

**Sediment Texture:** Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

**Vegetation:** Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

Notes/Description:

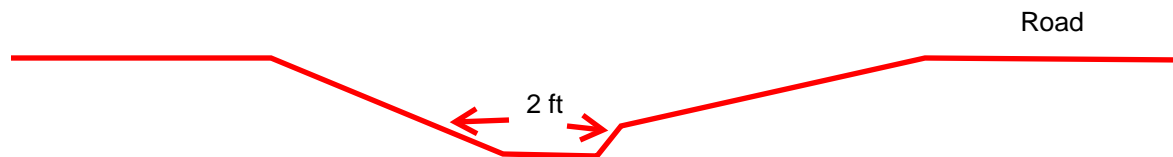
**Other Evidence:** List/describe any additional field evidence and/or lines of reasoning used to support your delineation



**Transect (cross-section) drawing:** (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

South

North



**Break in Slope at OHWM:** ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

**Sediment Texture:** Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

**Vegetation:** Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

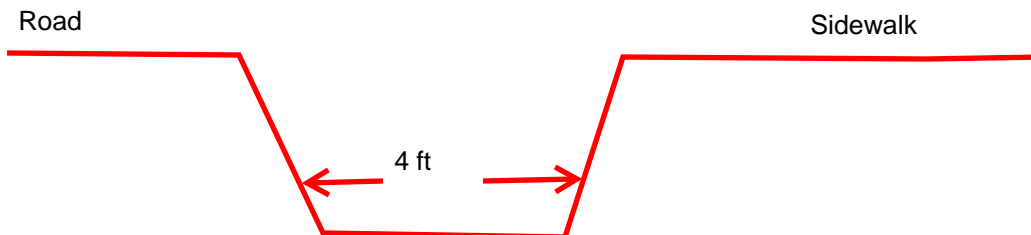
Notes/Description:

**Other Evidence:** List/describe any additional field evidence and/or lines of reasoning used to support your delineation

**Transect (cross-section) drawing:** (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

South

North



**Break in Slope at OHWM:** ☐ Sharp ( $> 60^\circ$ ) | ☐ Moderate ( $30-60^\circ$ ) | ☐ Gentle ( $< 30^\circ$ ) | ☐ None

Notes/Description:

**Sediment Texture:** Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

**Vegetation:** Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

Notes/Description:

**Other Evidence:** List/describe any additional field evidence and/or lines of reasoning used to support your delineation

**Transect (cross-section) drawing:** (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

South

North

Road

5 ft

**Break in Slope at OHWM:** ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

**Sediment Texture:** Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

**Vegetation:** Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

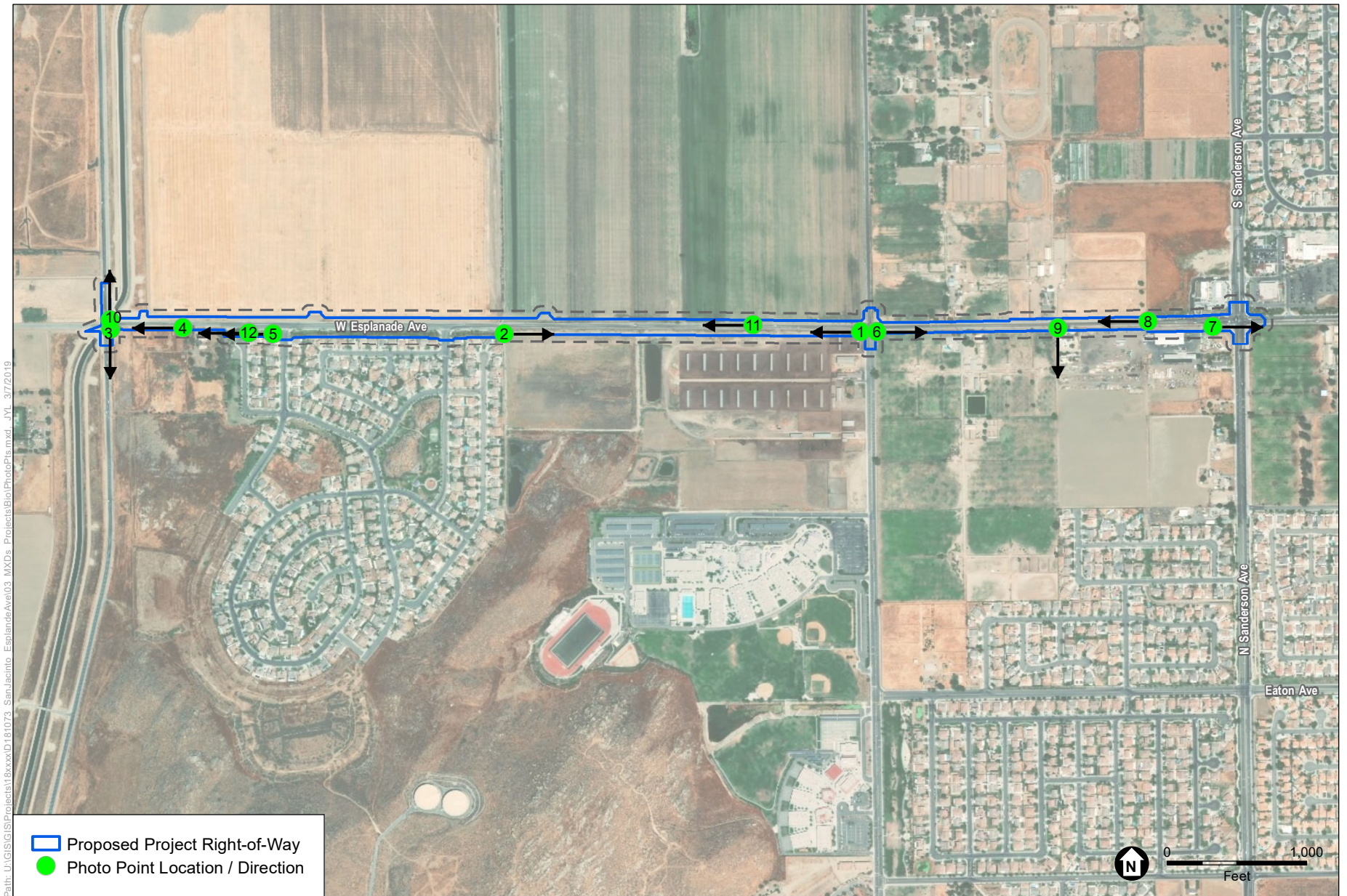
	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

Notes/Description:

**Other Evidence:** List/describe any additional field evidence and/or lines of reasoning used to support your delineation

# Appendix B

## **Photographic Log**



Path: U:\GIS\GIS\Projects\18xxxx\181073\_SanJacinto\_EsplanadeAve\03\_MXD\Projects\BIO\PhotoPts.mxd\_JVL\_3/7/2019

SOURCE: ESA

San Jacinto Esplanade Avenue  
**Figure B-1**  
 Photo Points Location Map





**Photograph 1** – Ditch 2 south of Esplanade Avenue, facing west. Location of Sample Point 01.



**Photograph 2** – Ditch 2 south of Esplanade Avenue, facing east. Sample Point 02.





**Photograph 3** – Ditch 5 at the southeastern corner of Esplanade Avenue and Warren Road, facing southwest.  
Location of Sample Point 03.



**Photograph 4** – Ditch 5 south of Esplanade Avenue, facing west near Warren Road.





**Photograph 5** – Ditch 2 south of Esplanade Avenue just west of Alabaster Avenue, facing west.



**Photograph 6** – Ditch 2 south of Esplanade Avenue just east of Cawston Avenue North, facing east.





**Photograph 7** – Ditch 2 south of Esplanade Avenue just west of Sanderson Avenue, facing east.



**Photograph 8** – Ditch 1 north of Esplanade Avenue west of Sanderson Avenue, facing west.





**Photograph 9** – Ditch 4 south of Esplanade Avenue, tributary to Ditch 2, facing south.



**Photograph 10** – Ditch 1 west of Cawston Avenue, facing west.





**Photograph 11** – Ditch 6 east of Sanderson Avenue and north of Esplanade Avenue, facing north.



**Photograph 12** – Catch basin south of Esplanade Avenue, facing west.

# Appendix C

## **Plant Species Compendium**

# Appendix C: Plant Species Compendium

Scientific Name	Common Name	Wetland Indicator Status
<b>EUDICOTS</b>		
<b>Anacardiaceae - Sunflower family</b>		
* <i>Schinus molle</i>	Peruvian pepper tree	FACU
<b>Asteraceae - Sunflower family</b>		
<i>Helianthus annuus</i>	annual sunflower	FACU
* <i>Oncosiphon piluliferum</i>	stinknet	FACU
<b>Boraginaceae - Borage family</b>		
<i>Amsinckia intermedia</i>	common fiddleneck	NL
<b>Brassicaceae - Mustard family</b>		
* <i>Hirschfeldia incana</i>	Shortpod mustard	NL
<b>Chenopodiaceae - Goosefoot family</b>		
* <i>Salsola tragus</i>	Russian thistle, tumbleweed	FACU
<b>Cyperaceae - Sedge family</b>		
* <i>Bolboschoenus glaucus</i>	tubered bulrush	OBL
* <i>Cyperus sp.</i>	Sedge	FACU
<b>Fabaceae - Legume family</b>		
* <i>Melilotus albus</i>	White sweetclover	NL
* <i>Parkinsonia aculeata</i>	Mexican palo verde	FAC
<b>Hamamelidaceae – Witch-Hazel family</b>		
* <i>Liquidambar styraciflua</i>	liquid amber	FAC
<b>Malvaceae – Mallow Family</b>		
* <i>Malva parviflora</i>	cheeseweed	NL
<b>Myrtaceae- Myrtle family</b>		
* <i>Eucalyptus sp.</i>	eucalyptus	FAC
<b>Oleaceae - Olive family</b>		
* <i>Olea europaea</i>	olive	NL
<b>Pinaceae - Pine family</b>		
* <i>Pinus sp.</i>	Pine	NL
<b>Polygonaceae - Buckwheat family</b>		
* <i>Polygonum aviculare</i>	prostrate knotweed	NL

### **Solanaceae - Nightshade family**

* <i>Nicotiana glauca</i>	tree tobacco	FAC
---------------------------	--------------	-----

## **MONOCOTS**

### **Arecaceae - Palm family**

* <i>Washingtonia robusta</i>	Mexican fan palm	FACW
-------------------------------	------------------	------

### **Poaceae - Grass family**

* <i>Bromus diandrus</i>	ripgut brome	NL
* <i>Bromus madritensis</i>	red brome	UPL
* <i>Echinochloa crus-galli</i>	barnyard grass	FACW
* <i>Hordeum murinum</i>	foxtail barley	FACU
<i>Leptochloa fusca</i>	sprangletop grass	NL
* <i>Phalaris sp.</i>	Canary grass	FAC
* <i>Polypogon monspeliensis</i>	Annual beard grass, rabbitfoot grass	FACW

---

### **Legend**

\*= Non-native or invasive species

Wetland Indicator Status:

Obligate (OBL) – plants that always occur in standing water or in saturated soils

Facultative Wet FACW – plants that nearly always occur in areas in prolonged flooding or require standing water or saturated soils but may, on rare occasions, occur in non-wetlands

Facultative (FAC) – plants that occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but commonly occur in standing water or saturated soils

Facultative Upland (FACU) – plants that typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils

Upland (UPL) – plants that almost never occur in water or saturated soils.

Not Listed (NL) – plants that are not listed; are considered UPL for wetland delineation purposes.

# Appendix C

## **Biological Resource Reports**







April 3, 2019

Grace Alvarez  
Habib Motlagh  
24 S. D Street, Suite 100  
Perris, CA 92572

**Subject:** Biological Resource Reconnaissance Report for the City of San Jacinto Esplanade Widening Phase I Project, Riverside County, California

Dear Ms. Alvarez:

This letter report documents the findings of a biological resource reconnaissance survey for wildlife species and vegetation communities on the City of San Jacinto's Esplanade Widening Phase I Project (Project). A description of the Project, methods used during the reconnaissance, survey results, and recommendations for avoiding and minimizing impacts to biological resources during construction of the Project are described below.

## **Project Description**

The City of San Jacinto (City) proposes to widen Esplanade Avenue the width of two additional lanes north of the current alignment from Sanderson Avenue to Warren Road, approximately 1.5 miles (also referred to herein as "Project site") (**Figure 1**). The City's General Plan calls for a major arterial [112-foot right-of-way (ROW)] along Esplanade Avenue from Ramona Expressway to Warren Road to be expanded. The expansion will include providing four lanes of travel (two in each direction), curb or painted median, curb, gutter and sidewalk (**Figure 2**). The Project would be implemented in two phases (Phase 1 and Phase 2) and the scope of this report only covers Phase 1 of the Project.

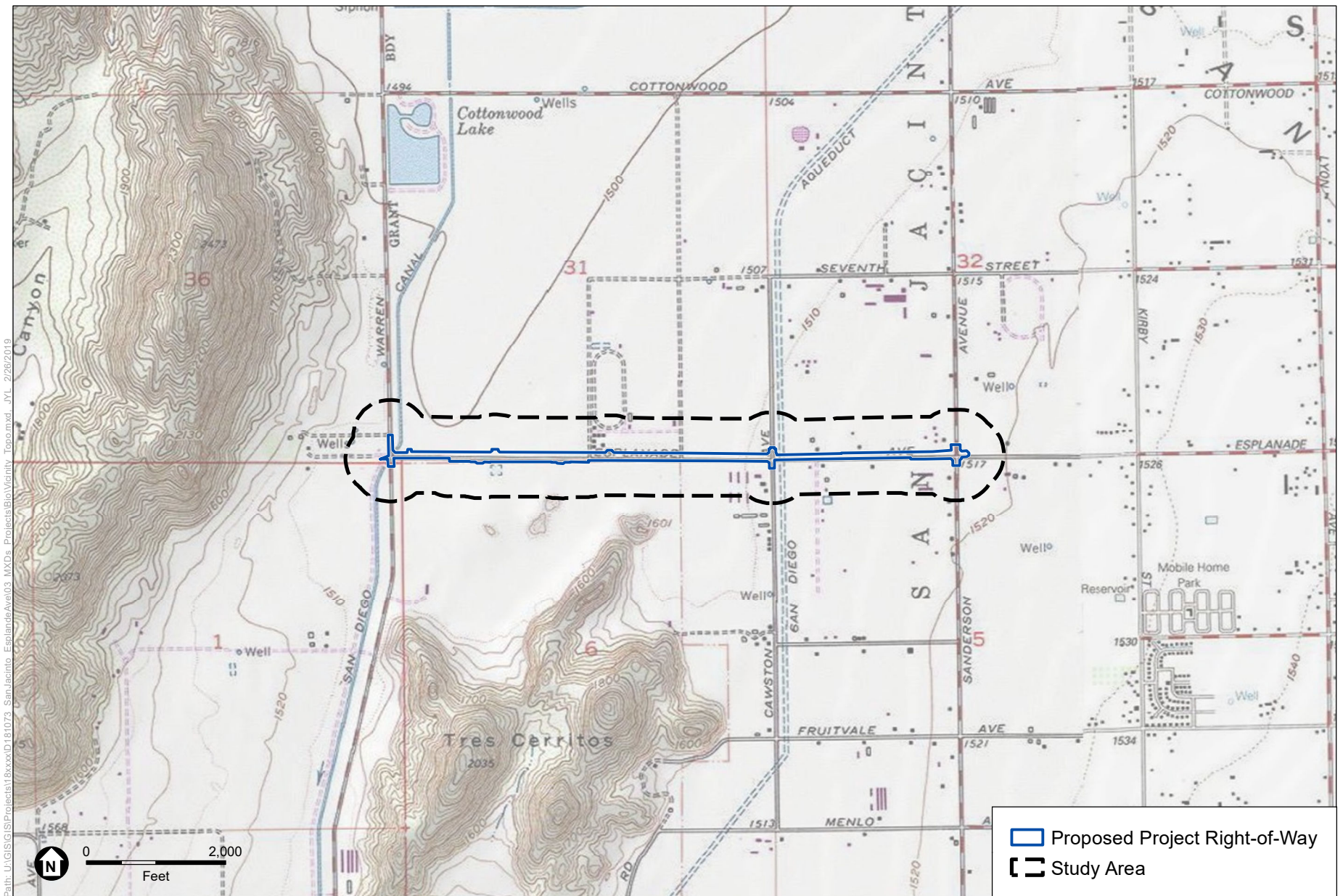
## **Methods**

### ***Biological Resource Reconnaissance***

The biological resource reconnaissance was conducted by Environmental Science Associates (ESA) biologists' Lily Sam and Ryan Villanueva on February 8, 2019 between the hours of 7:00 a.m. to 1:00 p.m. Temperatures during the reconnaissance ranged between 36 - 54° Fahrenheit with winds ranging between 0 to 3 miles per hour (mph) and clear skies. The reconnaissance consisted of mapping the vegetation communities and land uses that would be impacted by the Project (**Figure 3**) and noting the dominant species that comprise the communities.



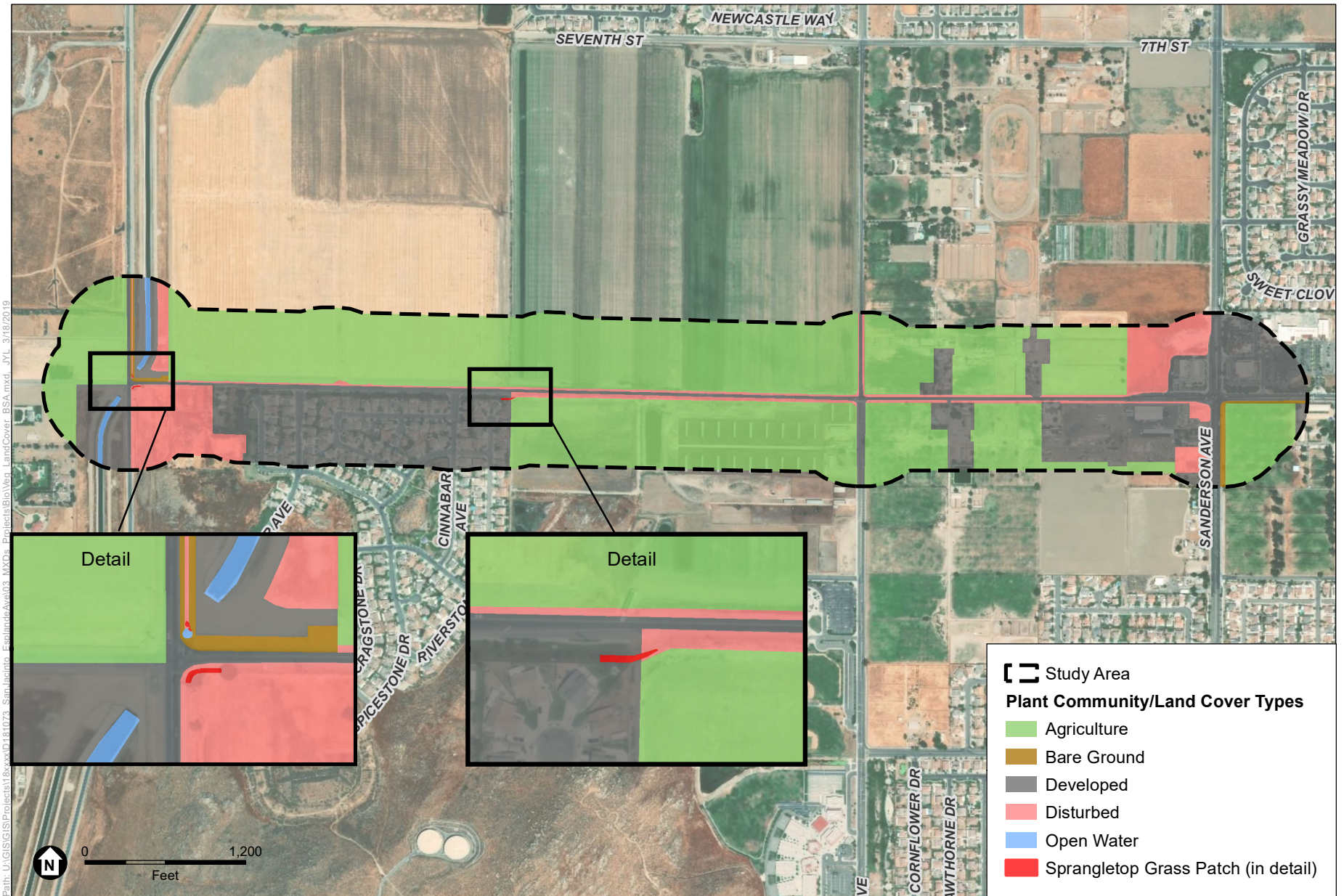




SOURCE: USGS 7.5' Topo Quad Lakeview 1976, 1980; San Jacinto 1978, 1980

San Jacinto Esplanade Avenue  
**Figure 2**  
 USGS Topographic Map





SOURCE: ESRI

San Jacinto Esplanade Avenue

**Figure 3**  
Plant Community/Land Cover Map

The biological reconnaissance was conducted along the proposed Project impact area, including a 500-foot buffer in all directions (i.e., study area). While all of the Project features were able to be surveyed, much of the 500 foot buffer area contained limited access as a majority of the areas adjacent to the proposed pipeline contained private property, active agricultural lands, and fenced areas. Areas with limited access were scanned with binoculars. Accessible areas were walked with 100% visual coverage to verify the plant communities, habitats, and the presence of burrows or burrowing owls. Any signs or direct observations of wildlife and wildlife activity were noted.

The information gathered during the reconnaissance was used to assess the potential for special-status species<sup>1</sup> to occur and confirm whether California Department of Fish and Wildlife (CDFW) sensitive natural communities<sup>2</sup> are present within the Project impact areas. Plant communities were characterized based on *A Manual of California Vegetation, Second Ed.* (Sawyer et al 2009), or by species dominance. Plant taxonomy followed Baldwin, et al. (2012).

The reconnaissance also included a burrowing owl habitat assessment and burrow search in accordance with the requirements of the Western Riverside County Multiple Species Habitat Conservation Program (MSHCP), which included a visual survey of the entire Project site, including a minimum 500-foot buffer, in search of suitable burrows that can be used by burrowing owl for wintering and nesting. This included identification of any sign of burrowing owl occupancy, such as white wash, pellets, feathers, and tracks. A formal delineation of potential jurisdictional resources<sup>3</sup> was performed on the same visit as the reconnaissance as well. The results of the jurisdictional delineation are provided in a separate report, but are summarized further below in this letter report. Representative photographs taken during the reconnaissance are provided in **Attachment A**.

### **Literature and Database Review**

Prior to conducting the site reconnaissance, database searches of the CDFW California Natural Diversity Data Base (CNDDB) (CDFW 2019a), United States Fish and Wildlife's (USFWS) Critical Habitat Mapper (USFWS 2019a) and the California Native Plant Society (CNPS) Rare Plant Inventory (CNPS 2019) were conducted to query special-status biological resources that have been recorded in the region and that could potentially occur on the Project site. The query included the Lakeview United States Geological Survey (USGS) Quadrangle 7.5-minute map for which the Project site is located, as well as the surrounding eight USGS quadrangles (Sunnymead, El Casco, Beaumont, Perris, San Jacinto, Romoland, Winchester and Hemet). In addition, the Western Riverside County Regional Conservation Authority's (RCA) website and MSHCP Information Application was reviewed (RCA 2019).

### **Regulatory Framework**

The following provides a general description of the applicable regulatory requirements for the Project, including federal, State, and local policies and guidelines.

---

<sup>1</sup> Special-status species include those listed as endangered, threatened, or candidate by the CESA or FESA. This also includes species with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B; California Fully Protected Species; Watch List Species and CDFW Species of Special Concern.

<sup>2</sup> CDFW sensitive natural communities include those communities given a State rank of S1-S3 (CDFW 2019b).

## ***Federal***

### **Endangered Species Act (USC, Title 16, § 1531 through 1543)**

The Federal Endangered Species Act (FESA) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The USFWS and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in CCR Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing “take” (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of “harm” includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. “Harass” is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at 50 CFR 13 and 17 for species under the jurisdiction of USFWS and 50 CFR 217, 220, and 222 for species under the jurisdiction of NMFS.

### **Migratory Bird Treaty Act (16 USC 703 through 711)**

The Migratory Bird Treaty Act (MBTA) is the domestic law that affirms, or implements, a commitment by the U.S. to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. The MBTA makes it unlawful at any time, by any means, or in any manner to pursue, hunt, take, capture, or kill migratory birds. The law also applies to the removal of nests occupied by migratory birds during the breeding season. The MBTA makes it unlawful to take, pursue, molest, or disturb these species, their nests, or their eggs anywhere in the United States.

### **Federal Clean Water Act (33 USC 1251 through 1376)**

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires a federal license or permit that allows activities resulting in a discharge to waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The RWQCB administers the certification program in

California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found at 33 CFR 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the United States Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

### **2015 Clean Water Rule**

In 2015, the U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA) issued the Clean Water Rule detailing the process for determining Clean Water Act (CWA) jurisdiction over waters of the United States (waters of the U.S.) (USACE 2015). The rule is currently in effect in California and 21 other states. The 2015 Clean Water Rule includes a detailed process for determining which areas may be subject to jurisdiction under the Clean Water Act, and broadly classifies features into three categories: those that are jurisdictional by rule (Category A below), those that excluded by rule (Category C below) and those features that require a “significant nexus test” (Category B below).

The significant nexus test includes consideration of hydrologic and ecologic factors. For circumstances such as those described in Category B below, the significant nexus test would take into account physical indicators of flow (evidence of an ordinary high water mark [OHWM]), if a hydrologic connection to a Traditionally Navigable Water (TNW) exists, and if the aquatic functions of the water body have a significant effect (more than speculative or insubstantial) on the chemical, physical, and biological integrity of a TNW. The USACE and EPA will apply the significant nexus standard to assess the flow characteristics and functions of a potential waters of the U.S. to determine if it significantly affects the chemical, physical, and biological integrity of the downstream TNW.

Wetlands (including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas) are also considered waters of the U.S., and are defined by USACE as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (Environmental Laboratory 1987).



## 2015 Clean Water Rule Key Points Summary

(A) The USACE and EPA will assert jurisdiction over the following waters (jurisdictional by rule):

- TNWs.
- Interstate waters and wetlands.
- Territorial seas.
- Impoundments of waters (reservoirs, etc.).
- Tributaries with the following attributes:
  - Contributes flow to a TNW.
  - Contain bed, banks, and ordinary high water mark.
  - Can be natural, man-altered, or man-made.
  - Can have constructed breaks (culverts, pipes, etc.) or natural breaks.
- Waters “adjacent” to TNW and their tributaries, including:
  - Waters that are bordering, contiguous, or neighboring a TNW, interstate water, territorial sea, impoundment or tributary. Includes waters separated from other “waters of the United States” by constructed dikes or barriers, natural river berms, beach dunes or similar.
  - Waters within 100 feet of the OHWM of a TNW, interstate water, territorial sea, impoundment or tributary.
  - Waters within the 100-year floodplain and within 1,500 feet of a TNW, interstate water, territorial sea, impoundment or tributary.
  - Waters within 1,500 feet of the high tide line or OHWM of a TNW or territorial sea.

(B) The USACE and EPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW unless excluded by rule (significant nexus test):

- Vernal pools that have a significant nexus to a TNW or territorial sea.
- Waters within the 100-year floodplain of a TNW, interstate water or territorial sea.
- Waters within 4,000 feet of the high tide line or OHWM of a TNW, interstate water, territorial sea, impoundment or tributary.

(C) The USACE and EPA will not assert jurisdiction over the following features (excluded by rule):

- Waste treatment facilities including basins and percolation ponds.
- Prior converted cropland.
- The following types of ditches:
  - Ephemeral ditches that are not a relocated tributary or excavated in a tributary.
  - Intermittent ditches that are not a relocated tributary, excavated in a tributary, or drain wetlands.
  - Ditches that do not flow, either directly or through another water, into a TNW, interstate waters, territorial sea.

- Artificially irrigated areas that would revert to upland.
- Artificial, constructed lakes and ponds created in dry land such as stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, cooling ponds
- Swimming pools or reflecting pools in dry land.
- Small ornamental waters created in dry land.
- Water-filled depressions created in dry land from mining or construction activities including pits for fill, sand, or gravel.
- Erosional features including gullies and rills that are not tributaries, non-wetland swales and constructed grass waterways.
- Puddles.
- Groundwater.
- Stormwater control features created in dry land.
- Wastewater recycling structures created in dry land including detention and retention basins, groundwater recharge basins, percolation ponds and water distributary structures.

### **Wetlands and Other Waters of the United States**

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and can fall under the jurisdiction of several regulatory agencies. USACE exerts jurisdiction over waters of the United States, including all waters that are subject to the ebb and flow of the tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. USACE can also exert jurisdiction over ditches under certain circumstances such as those that are tributary to a traditional navigable water (TNW) or that replace a natural feature. The extent of waters of the United States is generally defined as that portion that falls within the limits of the OHWM. Typically, the OHWM corresponds to the two-year flood event.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by USACE as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (Environmental Laboratory, 1987).

### **State**

#### **California Endangered Species Act (California Fish and Game Code § 2050 et seq.)**

The CESA establishes the policy of the State to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that State agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no State agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would

satisfy the CESA if CDFW determines that the federal incidental take authorization is “consistent” with the CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project operator would have to apply for a take permit under Section 2081(b).

### **California State Fish and Game Code § 1602**

Under these sections of the California Fish and Game Code, the project operator is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the code, a “stream” is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses, which may include ditches, that are valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events.

Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement, which becomes part of the plans, specifications, and bid documents for the project.

### **California Fully Protected Species**

California fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

### **California State Fish and Game Code §§ 2080 and 2081**

Section 2080 of the California Fish and Game Code states that “No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act.” Pursuant to Section 2081 of the code, CDFW may authorize individuals or public agencies to import, export, take, or possess State-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or Memoranda of Understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

### **California State Fish and Game Code §§ 3503, 3503.5, 3513, and 3800**

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including its nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting

from disturbance of nesting pairs by nearby project construction. This statute does not provide for the issuance of any type of incidental take permit.

Section 3800 of the California Fish and Game Code affords protection to all nongame birds, which are all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. Section 3513 of the California Fish and Game Code upholds the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA.

### **California Environmental Quality Act Guidelines, § 15380**

Although threatened and endangered species are protected by specific federal and State statutes, *CEQA Guidelines* § 15380(b) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected, and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDDB as sensitive are considered by CDFW to be significant resources and fall under the *CEQA Guidelines* for addressing impacts. Local planning documents such as general plans often identify these resources as well.

### **Native Plant Protection Act (California Fish and Game Code §§ 1900 through 1913)**

California's NPPA requires all State agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project operator is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

### **California Wetland Definition**

Unlike the federal government, California has adopted the Cowardin et al. (1979) definition of wetlands. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes (at least 50 percent of the aerial vegetative cover); (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and saturated with water or covered by shallow water at some time during the growing season of each year.

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the Cowardin definition requires the presence of at least one of these parameters. For this reason, identification of wetlands by State agencies consists of the union of all areas that are periodically

inundated or saturated or in which at least seasonal dominance by hydrophytes may be documented or in which hydric soils are present.

### **Section 401 Clean Water Act**

Under Section 401 of the CWA, the local RWQCB, Santa Ana RWQCB, must certify that actions receiving authorization under Section 404 of the CWA also meet State water quality standards. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. Compensatory mitigation for impacts to wetlands and/or waters of the State is required.

### **Porter-Cologne Water Quality Control Act**

The RWQCB also has jurisdiction over waters deemed 'isolated' or not subject to Section 404 jurisdiction under the SWANCC decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the State and prospective dischargers are required obtain authorization through an Order of Waste Discharge or waiver thereof from the RWQCB and comply with other requirements of Porter-Cologne Act.

## ***Regional***

### **Western Riverside County Multiple Species Habitat Conservation Plan**

The MSHCP is a comprehensive, multi-jurisdictional habitat conservation plan (HCP) focused on the conservation of species and their associated habitats in western Riverside County. The primary goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region. The MSHCP involves the assembly and management of a 500,000-acre Conservation Area for the conservation of natural habitats and their constituent wildlife populations. The MSHCP was developed to serve as a HCP pursuant to the Natural Communities Conservation Planning (NCCP) Act and Section 10(a)(1)(B) of the FESA. The MSHCP encompasses 1.26 million acres and includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line as well as jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto. The overarching purpose of the plan is to balance development and economic interests with species and lands conservation goals. The MSHCP permits development of lands and take of species "in exchange for the assembly and management of a coordinated MSHCP Conservation Area" (Western Riverside County Regional Conservation Authority, 2003a).

The City of Hemet and the City of San Jacinto have adopted ordinances to implement the MSHCP, which addresses habitat protection issues throughout the County and Cities and establishes "criteria areas," which require high levels of habitat protection. All development projects within criteria areas are first required to undergo an extensive habitat assessment and if necessary, undergo an acquisition process from the RCA.

## **Existing Conditions**

### ***Land Cover Vegetation Communities***

As shown in Figure 3, the study area is primarily comprised of agricultural lands, developed areas and disturbed areas that are devoid of vegetation, with minor areas that support sprangletop grass patches and open water.

## **Agricultural Lands**

The agricultural lands within the Project area are characterized by the presence of crops, primarily sod, and cattle farming/grazing lands which are dominated by highly disturbed open fields. Agricultural lands are located throughout the study area and cover approximately 5.56 acres of the Project site.

## **Developed and Disturbed Areas**

Developed areas are characterized by the presence of paved roads, residences, commercial facilities and associated landscaped areas containing non-native ornamental plants. Developed areas are located throughout the biological study area and cover 10.53 acres of the Project site.

Disturbed areas are characterized by signs of recent disturbance, typically in the form of disking for agricultural purposes or roadside maintenance, and the presence of non-native plants such as red brome (*Bromus madritensis*), red-stemmed filaree (*Erodium cicutarium*), foxtail barley (*Hordeum murinum*), cheeseweed (*Malva parvifolia*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), and a number of other non-native plants. Native plants observed within disturbed areas included annual sunflower (*Helianthus annuus*) and common fiddleneck (*Amsinckia intermedia*). Disturbed areas are located throughout the study area and cover 5.91 acres.

A variety of planted trees on the Project site occur along roadways and residential areas. These include Eucalyptus (*Eucalyptus* sp.), liquidambar (*Liquidambar styraciflua*), olive (*Olea europaea*), prickly pear (*Opuntia* sp.), palo verde (*Parkinsonia aculeata*), pine trees (*Pinus* sp.), cottonwood (*Populus* sp.), Peruvian pepper tree (*Schinus molle*), and Mexican fan palm (*Washingtonia robusta*).

Bare ground is used to characterize habitats that have hard, compacted soils and are devoid of vegetation, which occurs at the western end of the Project site and along Sanderson Avenue. Bare ground covers 0.41 acres of the Project site.

## **Sprangletop Grass Patches**

Patches of sprangletop grass (*Leptochloa fusca* ssp) are located at the northeastern and southeastern corners of Esplanade Avenue and Warren Road. This native community consists of saturated soils and hydrophytic vegetation. This community is dominated by sprangletop grass and some areas also contain small amounts of tubered bulrush (*Bolboschoenus glaucus*), northern willow herb (*Epilobium ciliatum*), scarlet pimpernel (*Lysimachia arvensis*), white sweetclover (*Melilotus albus*), and annual beard grass (*Polypogon monspeliensis*). Sprangletop grass patches covers less than 0.1 acre of the Project site.

## **Open Water**

Open water occurred within a roadside ditch located at the northeast corner of Esplanade Avenue and Warren Road. Sprangletop grass patches occur along the margins of the ditch. As shown on Figure 2, the San Diego Canal and an agricultural pond located to the south of Esplanade Avenue and west of Cawston Avenue are also present in the vicinity, both of which contain open water. Open water covers 1.06 acre of the biological study area and 0.01 acre of the Project site.

## **Wildlife**

Common birds observed during the reconnaissance included Canada goose (*Branta canadensis*), red-tailed hawk (*Buteo jamaicensis*), Anna's hummingbird (*Calypte anna*), turkey vulture (*Cathartes aura*), hermit thrush

(*Catharus guttatus*), killdeer (*Charadrius vociferous*), rock pigeon (*Columba livia*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), snowy egret (*Egretta thula*), American kestrel (*Falco sparverius*), house finch (*Haemorhous mexicanus*), California gull (*Larus californicus*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), cliff swallow (*Petrochelidon pyrrhonota*), white-faced ibis (*Plegadis chihi*), bushtit (*Psaltiriparus minimus*), great-tailed grackle (*Quiscalus mexicanus*), black phoebe (*Sayornis nigricans*), Allen's hummingbird (*Selasphorus sasin*), yellow-rumped warbler (*Setophaga coronate*), western bluebird (*Sialia mexicana*), Eurasian collard-dove (*Streptopelia decaocto*), European starling (*Sturnus vulgaris*), Cassin's kingbird (*Tyrannus vociferans*), and mourning dove (*Zenaida macroura*). Three special-status wildlife species, northern harrier (*Circus hudsonius*), California horned-lark (*Eremophila alpestris*), and white-faced ibis (*Plegadis chihi*). These species were observed or otherwise detected flying over the site or foraging near the site during the biological reconnaissance. Mosquitofish (*Gambusia affinis*), was observed in the open water within the roadside ditch.

### **Special-Status Biological Resources**

According to the CNDDDB, CNPS and USFWS databases, a total of 54 special-status plant species, 49 special-status wildlife species, and six (6) sensitive natural communities have been previously recorded within the database search area (i.e., within the region). However, 96 of these special-status species do not have the potential to occur in the study area, because the habitat is not suitable due to its disturbed condition and surrounding urbanization, improper vegetation and soil requirements, and/or the Project site is outside the known range for the species. Sensitive natural communities are omitted from discussion, because it was confirmed that none are present within the study area. The results of the database searches are provided in **Attachment B**.

### **Special-Status Plants and Wildlife**

Based on the habitats (e.g., soils, vegetation cover, slope, hydrology, etc.) and land cover (e.g., Disturbed and Developed, Agricultural Land and Spangletop Grass Patches) that are present, previously recorded species occurrences in the region, it was determined that three special-status wildlife species and seven special-status plant species have potential to occur within the study area: Cooper's hawk (*Accipiter cooperi*), coastal whiptail (*Aspidoscelis tigris* ssp. *stejnegeri*), burrowing owl (*Athene cunicularia*), San Jacinto Valley crowscale (*Atriplex coronata* var. *notator*), Parish's brittle scale (*Atriplex parishii*), Davidson's salt scale (*Atriplex serenana* var. *davidsonii*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mouse tail (*Myosurus minimus* ssp. *apus*) and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). Three special-status wildlife species, northern harrier, California horned lark, and white-faced ibis were observed to be present (foraging) within the agricultural fields and nearby agricultural pond located in close proximity to the Project site. All six wildlife species and seven plant species are MSHCP-covered species. **Table 1** identifies the protective status of the species that were observed, including those that have the potential to occur based on their preferred habitat requirements and the quality of habitat located within the study area.

The "Potential for Occurrence" category indicated in Table 1 is defined as follows:

- **Low Potential:** The Project area and/or immediate vicinity provides low-quality habitat for a particular species, such as improper substrate, disturbed or otherwise degraded habitat, or improper assemblage of desired vegetation, and/or the site is outside of the known range of the species.
- **Moderate Potential:** The Project area and/or immediate vicinity provides marginal habitat for a particular species. For example, proper substrate may be present, but the desired vegetation assemblage or density is



less than ideal, or substrate and vegetation are suitable, but the site is outside of the known elevation range of the species.

- **High Potential:** The Project area and/or immediate vicinity provides high-quality or ideal habitat (i.e., soils, vegetation assemblage, and topography) for a particular species and/or there are known occurrences in the general vicinity of the Project area.

**TABLE 1**  
**SPECIAL-STATUS WILDLIFE AND PLANT SPECIES WITH POTENTIAL TO OCCUR AT THE PROJECT SITE**

Common Name	Scientific Name	Status <sup>1,2</sup> (Federal/State/CNPS)	Habitat	Potential to Occur at Project Site
<b>Birds</b>				
Cooper's hawk	<i>Accipiter cooperi</i>	None/SWL/None	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks. Can also occur in parks, neighborhoods, over fields, at backyard feeders, tree-lined urban streets.	<b>High.</b> Open fields and residential neighborhoods with mature trees adjacent to the Project area provide suitable nesting habitat.
burrowing owl	<i>Athene cunicularia</i>	None/SSC/None	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran Desert scrub, Valley & foothill grassland. Also known to occur within open agricultural fields with fossorial mammal burrows present.	<b>Moderate.</b> Potential foraging habitat is present on the Project site in the un-tilled agricultural lands and disturbed areas. Little evidence of ground dwelling mammal activity or suitable burrows were observed during the field reconnaissance.
northern harrier	<i>Circus hudsonius</i>	None/SSC/None	Breed in dry upland habitats and use a range of habitats with low vegetation, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, old fields, estuaries, open floodplains, and marshes.	<b>Present.</b> Observed flying over the Project site. Good foraging habitat near site with the presence of active agricultural lands and disturbed lands dominated by a short herbaceous layer but not likely to nest in the study area. Likely attracted by nearby waterbodies to the north.
California horned lark	<i>Eremophila alpestris actia</i>	None/SWL/None	Favor bare, dry ground and areas of short, sparse vegetation. Common habitats include prairies, deserts, beaches, dunes, and heavily grazed pastures. Horned Larks also frequent areas cleared by humans, such as plowed fields and mowed expanses around airstrips.	<b>Present.</b> Observed flying over and foraging adjacent to the Project site within the nearby agricultural fields.

Common Name	Scientific Name	Status <sup>1,2</sup> (Federal/State/CNPS)	Habitat	Potential to Occur at Project Site
white-faced ibis	<i>Plegadis chihi</i>	None/SWL/None	Marsh, swamp, & wetland	<b>Present.</b> Observed flying over the site. Marginal foraging and nesting habitat within Project site. Likely attracted by nearby waterbodies to the north. Not expected to occur within the roadside ditch, but could potentially be present within the nearby agriculture pond.
<b>Reptiles</b>				
coastal whiptail	<i>Aspidoscelis tigris</i> ssp. <i>stejnegeri</i>	None/SSC/None	Woodland, riparian, deserts, semiarid areas with sparse vegetation and open areas	<b>Moderate.</b> Disturbed areas, agricultural lands and bare ground may provide suitable habitat, primarily where friable soils are present with open vegetation cover.
<b>Plants</b>				
Munz's onion	<i>Allium munzii</i>	FE/ST/1B.1	Chaparral, coastal scrub, cismontane woodland, pinon and juniper woodland, valley and foothill grassland. Heavy clay soils; grows in grasslands & openings within shrublands or woodlands. Elevation range: 375-1040 m.	<b>Low.</b> Agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat do not provide habitat associated with this species, which is typically found in openings in coastal scrub.
San Diego ambrosia	<i>Ambrosia pumila</i>	FE/None/1B.1	Chaparral, coastal scrub, valley and foothill grassland. Sandy loam or clay soil; sometimes alkaline. In valleys; persists where disturbance has been superficial. Sometimes on margins or near vernal pools. Elevation range: 3-580 m.	<b>Low.</b> Disturbed areas and sprangletop grass patches within ditches and the catch basin may provide suitable habitat; however, the species is primarily found in the Santa Ana Mountain foothills.
San Jacinto Valley crownscale	<i>Atriplex coronata</i> var. <i>notator</i>	FE/None/1B.1	Playas, valley and foothill grassland, vernal pools. Alkaline areas in the San Jacinto River Valley. Elevation range: 35-460 m.	<b>High.</b> Inactive, untilled agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat provide marginal habitat associated with this species, for which many locations are recorded within one mile south of the Project site.

Common Name	Scientific Name	Status <sup>1,2</sup> (Federal/State/CNPS)	Habitat	Potential to Occur at Project Site
Parish's brittlescale	<i>Atriplex parishii</i>	None/None/1B.1	Vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils. Elevation range: 4-1420 m.	<b>High.</b> Inactive, untilled agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat provide marginal habitat associated with this species, for which several locations are recorded within one mile south of the Project site.
Davidson's saltscale	<i>Atriplex serenana</i> var. <i>davidsonii</i>	None/None/1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil. Elevation range: 0-480 m.	<b>High.</b> Inactive, untilled agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat provide marginal habitat associated with this species, for which many locations are recorded within one mile south of the Project site.
thread-leaved brodiaea	<i>Brodiaea filifolia</i>	FT/SE/1B.1	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Occurs in openings on clay soils. Elevation range: 15-1030 m.	<b>Low.</b> Agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat do not provide habitat associated with this species; however, the species is recorded within two miles of the Project site.
round-leaved filaree	<i>California macrophylla</i>	None/None/None	Valley grassland, foothill woodland.	<b>Low.</b> Agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat do not provide habitat associated with this species.
smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	None/None/1B.1	Alkali playa, Chenopod scrub, Meadow and seep, Riparian woodland, Valley and foothill grassland & Wetland.	<b>High.</b> Disturbed areas and sprangletop grass patches within ditches and the catch basin may provide suitable habitat.
many-stemmed dudleya	<i>Dudleya multicaulis</i>	None/None/1B.2	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. Elevation range: 1-910 m.	<b>Low.</b> Agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat do not provide habitat associated with this species.
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	None/None/1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. Elevation range: 1-1375 m.	<b>High.</b> Disturbed areas and sprangletop grass patches within ditches and the catch basin may provide suitable habitat.

Common Name	Scientific Name	Status <sup>1,2</sup> (Federal/State/CNPS)	Habitat	Potential to Occur at Project Site
little mouseltail	<i>Myosurus minimus</i> <i>ssp. apus</i>	None/None/3.1	Vernal pools, valley and foothill grassland. Alkaline soils. Elevation range: 20-640 m.	<b>High.</b> Inactive, untilled agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat provide marginal habitat associated with this species, for which many locations are recorded within one mile south of the Project site.
mud nama	<i>Nama stenocarpa</i>	None/None/2B.2	Marshes and swamps. Lake shores, river banks, intermittently wet areas. Elevation range: 5-500 m.	<b>Low.</b> Disturbed areas and sprangletop grass patches within ditches and the catch basin may provide suitable habitat; however, species records concentrated within San Jacinto Wildlife Reserve to the north.
spreading navarretia	<i>Navarretia fossalis</i>	FT/None/1B.1	Vernal pools, chenopod scrub, marshes and swamps, playas. San Diego hardpan and San Diego claypan vernal pools; in swales & vernal pools, often surrounded by other habitat types. Elevation range: 15-850 m.	<b>Low.</b> Agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat do not provide habitat associated with this species. No vernal pool habitat present.
California Orcutt grass	<i>Orcuttia californica</i>	FE/SE/1B.1	Vernal pools. Elevation range: 10-660 m.	<b>Low.</b> Agricultural lands, developed and disturbed areas, areas of bare ground, sprangletop grass patches and open water habitat do not provide habitat associated with this species. No vernal pool habitat present.
Wright's trichocoronis	<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	None/None/2B.1	Marshes and swamps, riparian forest, meadows and seeps, vernal pools. Mud flats of vernal lakes, drying river beds, alkali meadows. Elevation range: 5-435 m.	<b>Moderate.</b> Disturbed areas and sprangletop grass patches within ditches and the catch basin may provide suitable habitat. Chiefly found within the main San Jacinto River floodplain.

<sup>1</sup> Federal/State/Other Status: FE – Federally listed as endangered, FT – Federally listed as threatened, SE – State listed as endangered, ST – State listed as threatened, SSC – Species of Special Concern, SWL – State Watch List

<sup>2</sup> All species included in Table 2-8 are also MSHCP covered species.

California Rare Plant Ranking (CRPR)

CRPR 1B Plants considered rare, threatened or endangered in California and elsewhere;

CRPR 2B Plants are considered rare, threatened, or endangered in California but more common elsewhere;

CRPR 3 Plants about which more information is needed;

CRPR 0.1 Seriously threatened in California;

CRPR 0.2 Moderately threatened in California

## Results

Three special-status avian species, California horned lark, northern harrier, and white-faced ibis, were observed flying overhead during the site reconnaissance. The white-faced ibis was likely an incidental sighting associated with nearby waterbodies in the region that can provide foraging habitat, such as San Jacinto Reservoir located approximately 2.5 miles to the northeast, or recharge ponds along the San Jacinto River. The California horned larks and the northern harrier were observed foraging within the nearby agricultural fields; however, neither of these species are expected to nest within or immediately adjacent to the Project site because of the presence of active and ongoing use of agricultural lands and the lack of shrubby vegetation near marshes.

Open areas containing untilled agricultural lands and disturbed areas abutting active roadways do not provide suitable foraging habitat for burrowing owls. Untilled agricultural lands and disturbed areas not abutting active roadways provide suitable foraging habitat for burrowing owls, although no suitable burrows, owls, or signs of owls were observed during the site visit. A few, small rodent burrows of undetermined species were observed along Esplanade Avenue and Sanderson Avenue, but none were of the appropriate size for burrowing owl as these were likely created by smaller species such as the common deer mouse. California ground squirrel (*Otospermophilus beecheyi*) burrows are often favored by burrowing owl; however, none were observed during the survey, nor were any other small mammals. The agricultural and fallow fields of row crops and sod make for suitable foraging habitat for burrowing owl; however, no sign of burrowing owl presence was observed in these areas either. Since no suitable burrows are present, no focused surveys are required at this time.

Open areas consisting of agricultural fields and disturbed areas that abut active roadways do not provide suitable foraging habitat for coastal whiptail. Agricultural fields and disturbed areas that do not abut active roadways provide suitable foraging habitat for coastal whiptail; however, no individuals or sign thereof was observed during the site visit; which is not to suggest that this species could not be present.

Within the study area, sprangletop grass patches and disturbed habitat within the ditches and catch basin may provide suitable habitat for San Jacinto Valley crownscale, Parish's brittlescale, Davidson's saltscale, smooth tarplant, Coulter's goldfields, little mouseland and Wright's trichocoronis, since these species do well in disturbed riparian habitats and disturbed wet areas. Sprangletop grass patches account for 0.04 acre within the study area. This includes ditches along Esplanade Avenue and Warren Road and the catch basin south of Esplanade Avenue adjacent to Turnstone Court, both of which are maintained, but provide marginal habitat for these species. However, marginal suitable habitat for these species is limited to ditches north of Esplanade Avenue and east Warren Road within the Project site where impacts are proposed to occur (Figure 3). Sprangletop grass patches within the study area are limited to three locations; one location in the southern tip of the ditch east of Warren Road and north of Esplanade Avenue and two locations in the ditch south of Esplanade Avenue. Only the sprangletop patch east of Warren Road and north of Esplanade Avenue occurs within the Project site where impacts are to occur. No individuals of these species were observed during the survey, but a focused rare plant survey was not conducted for this species during the appropriate blooming period. Non-native plant species such as white sweet-clover were present within the marginally suitable ditches and catch basin and can outcompete native plants making it less likely for natives to occur such as those listed above. As noted in CNDDB and CalFlora, one individual smooth tarplant was collected within the project area in 2006.

There is no critical habitat in the study area. The nearest critical habitat is located approximately 1.6 miles south of the Project site, which was established for preserving spreading navarretia (*Navarretia fossalis*)<sup>3</sup>. In addition, critical habitat for San Bernardino kangaroo rat (*Dipodomys merriami parvus*) occurs approximately 4 miles to the east of the Project site within the San Jacinto River. The construction and operation of the Project would not present any negative effects on the critical habitats located in the region.

### **Nesting Birds**

The habitat on the Project site is highly disturbed by anthropogenic activities and traffic, and the flora within the Project site consists mostly of non-native, ruderal species. As such there is moderate quality habitat for foraging and nesting birds. Nonetheless, vegetation that does occur on the Project site (i.e., pine trees, Eucalyptus trees, cottonwood trees and landscaped plants) and the adjacent agricultural fields have the potential to provide nesting and foraging habitat for a variety of common bird species, particularly horned larks, which are a ground-nesting species.

### **Jurisdictional Waters**

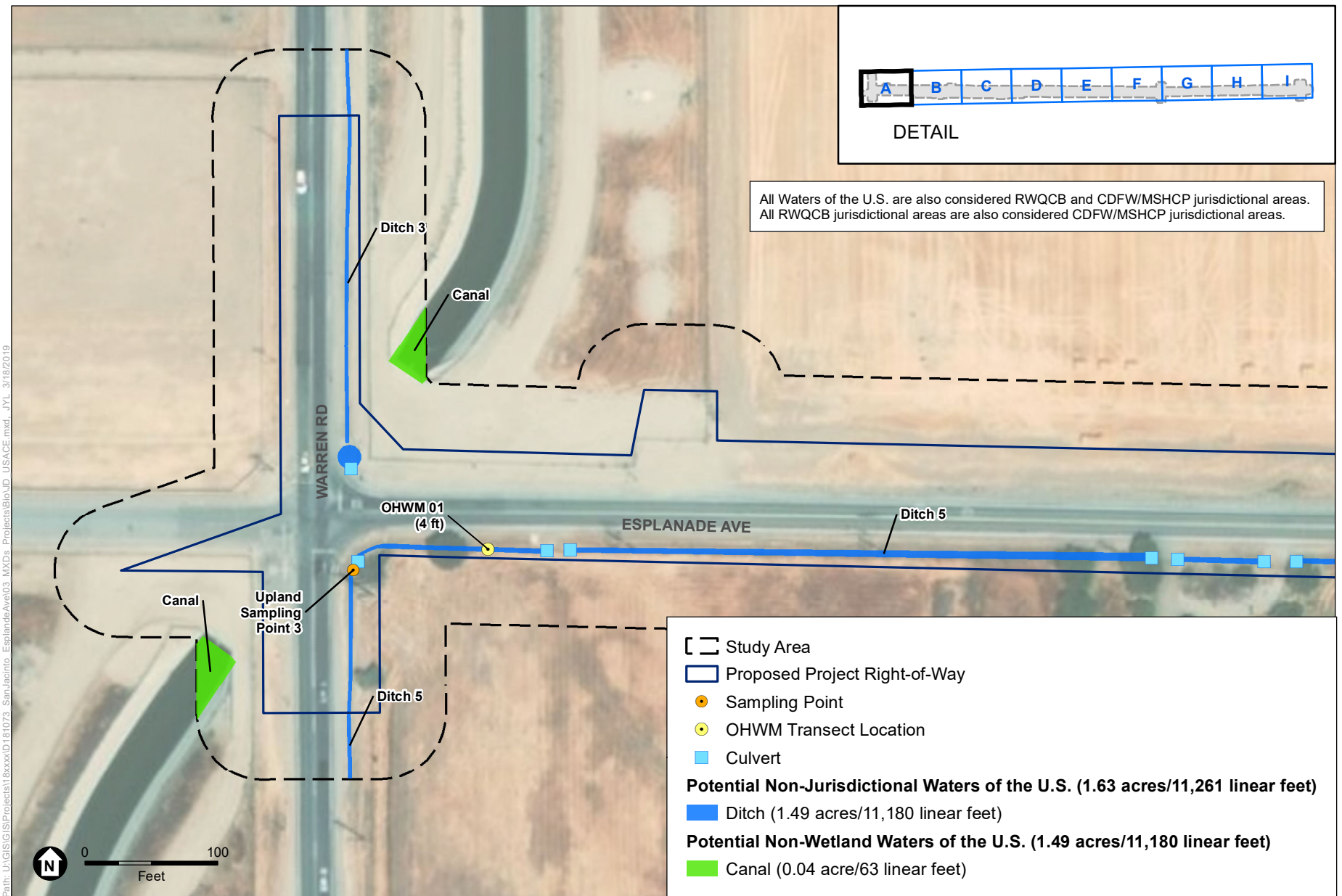
As depicted on **Figures 4A through 4I** and **5A through 5I**, three potentially jurisdictional waters types were observed on or adjacent to the Project site that include ditches, catch basin and canal. The ditches and catch basin are likely not regulated by the USACE as they appear to lack a connection with a TNW and are excluded by rule in accordance with the 2015 Clean Water Rule. However, they may be regulated by the RWQCB, and/or CDFW. The San Diego Canal is the only canal feature onsite and is considered a potential non-wetland waters of the U.S. as it is perennial and connects with Lake Skinner to the south which is an impoundment of Tualat Creek, a tributary to a TNW, the Santa Margarita River. Anticipated permits include a Waste Discharge Requirement issued by the RWQCB and a Streambed Alteration Agreement issued by CDFW.

Ditches that convey stormwater flow off the roadway and urban runoff occur along both sides of Esplanade Avenue as well as the east side of Warren Road. The ditches are mostly earthen bottomed and 2 to 5 feet wide. Flows within the ditches likely seep back into the ground within the ditches, flow into the catch basin south of Esplanade Ave and seep into the ground or drain into Reflection Lake to the north. Native vegetation and/or open water occur within small portions of the ditches at the northeast and southeast corners of the intersection of Esplanade Ave and Warren Road and are fed via urban runoff.

A catch basin is located south of Esplanade Avenue and west of Turnstone Court and connects to the ditch that runs south of Esplanade Avenue. The San Diego Canal contains open water and occurs at the northeastern and southwestern corners of the intersection of Esplanade Ave and Warren Road.

---

<sup>3</sup> US Department of Fish and Wildlife ECOS database. <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>. Accessed February 2019



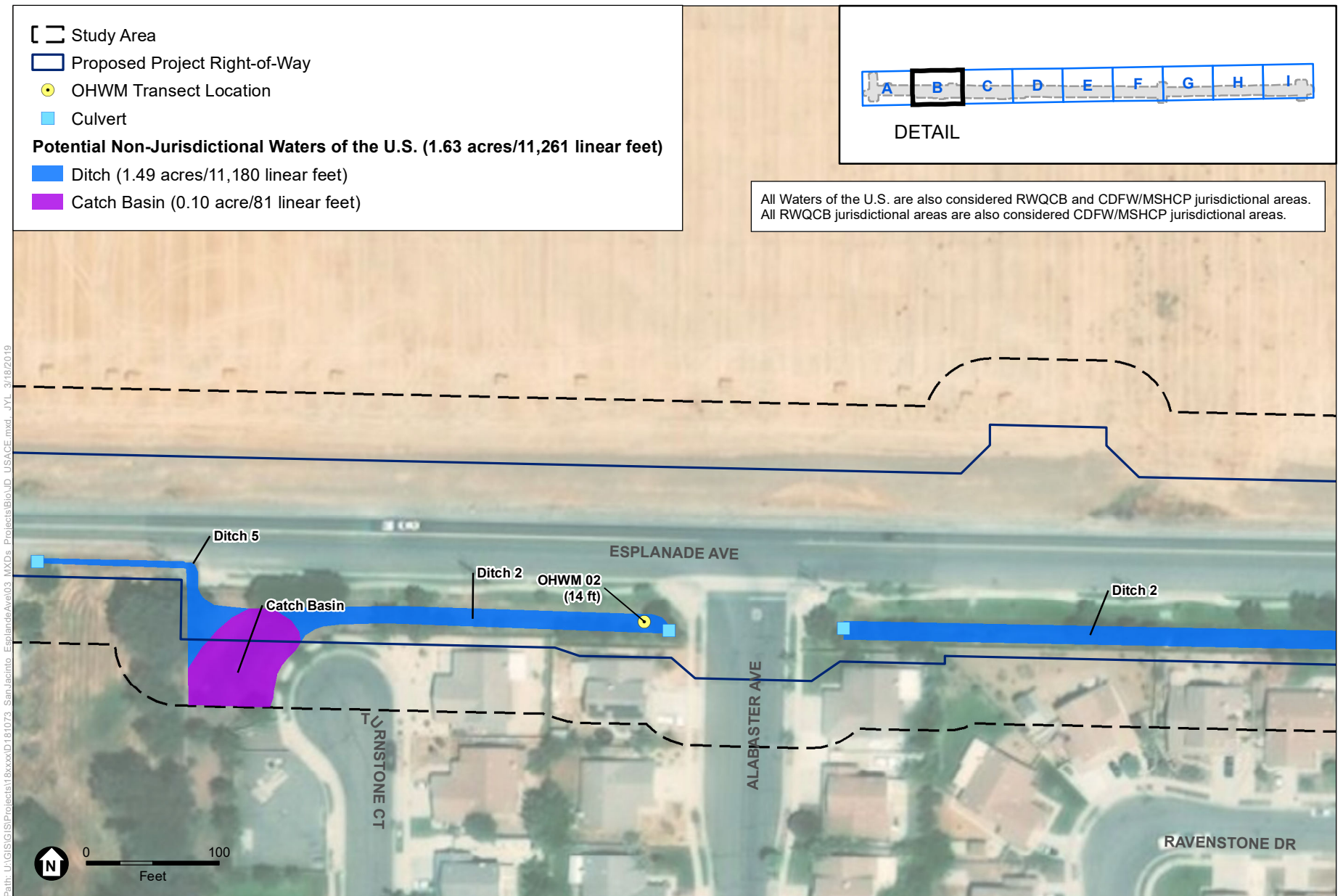
SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4A**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



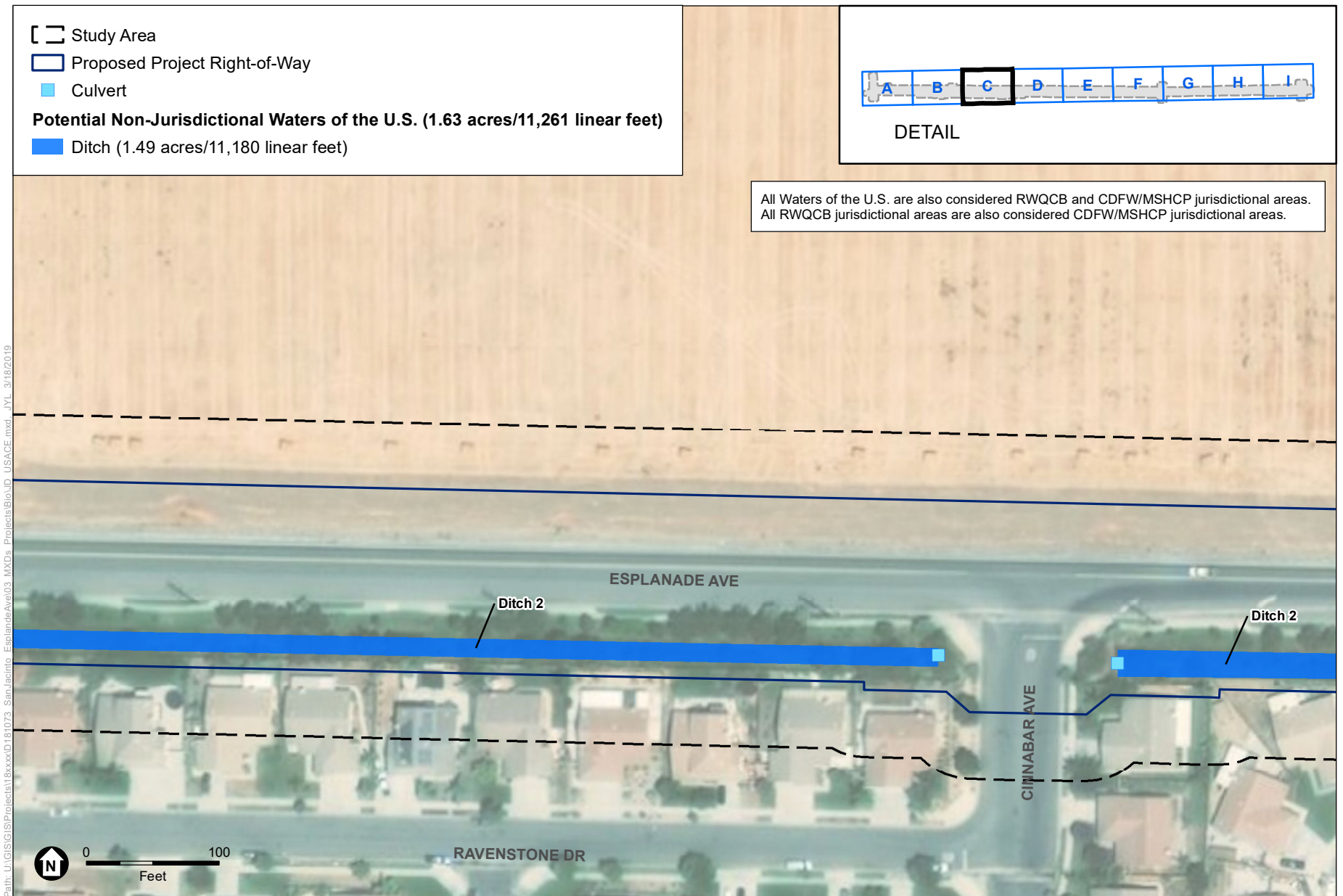


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4B**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.

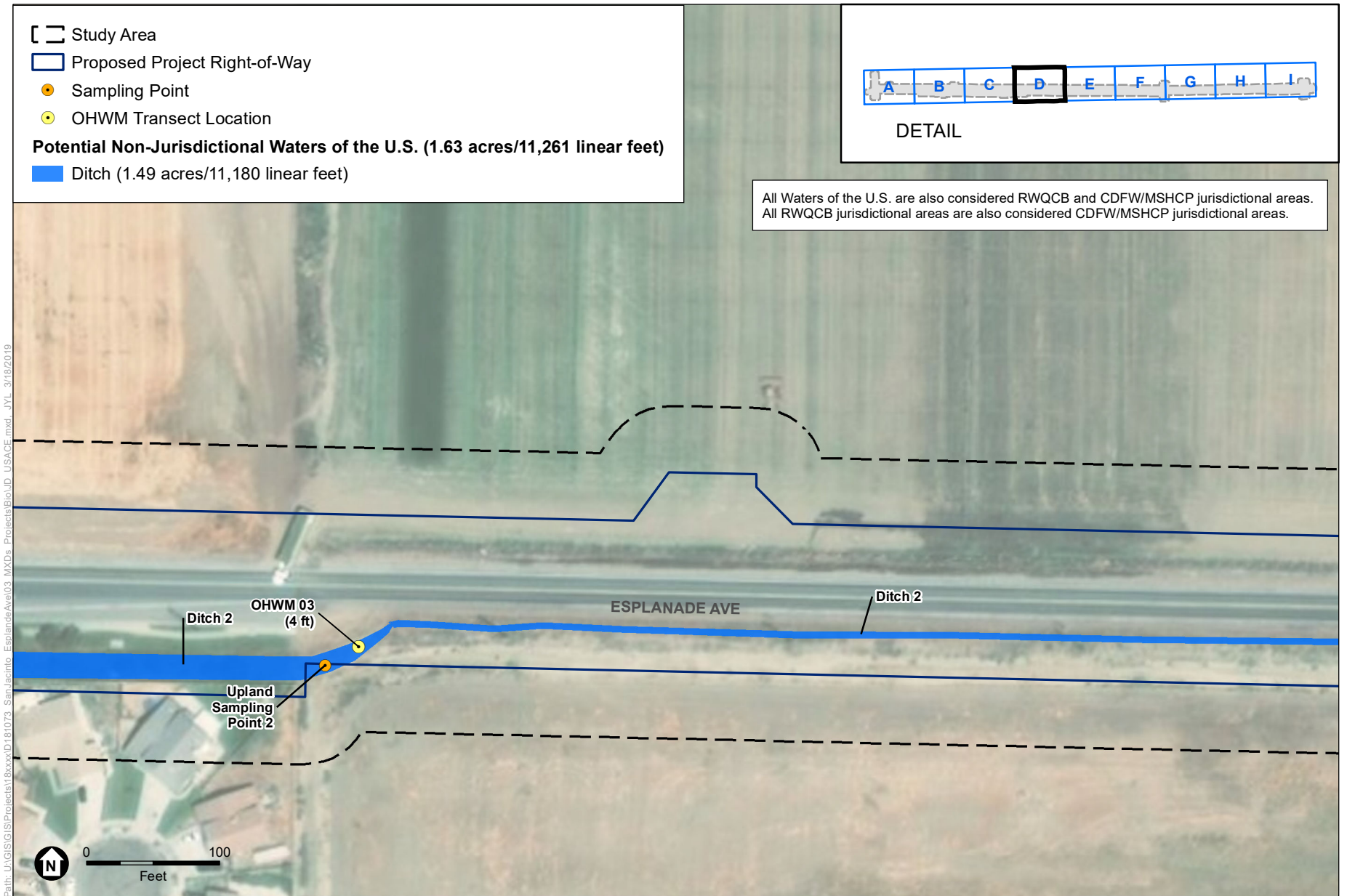


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4C**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



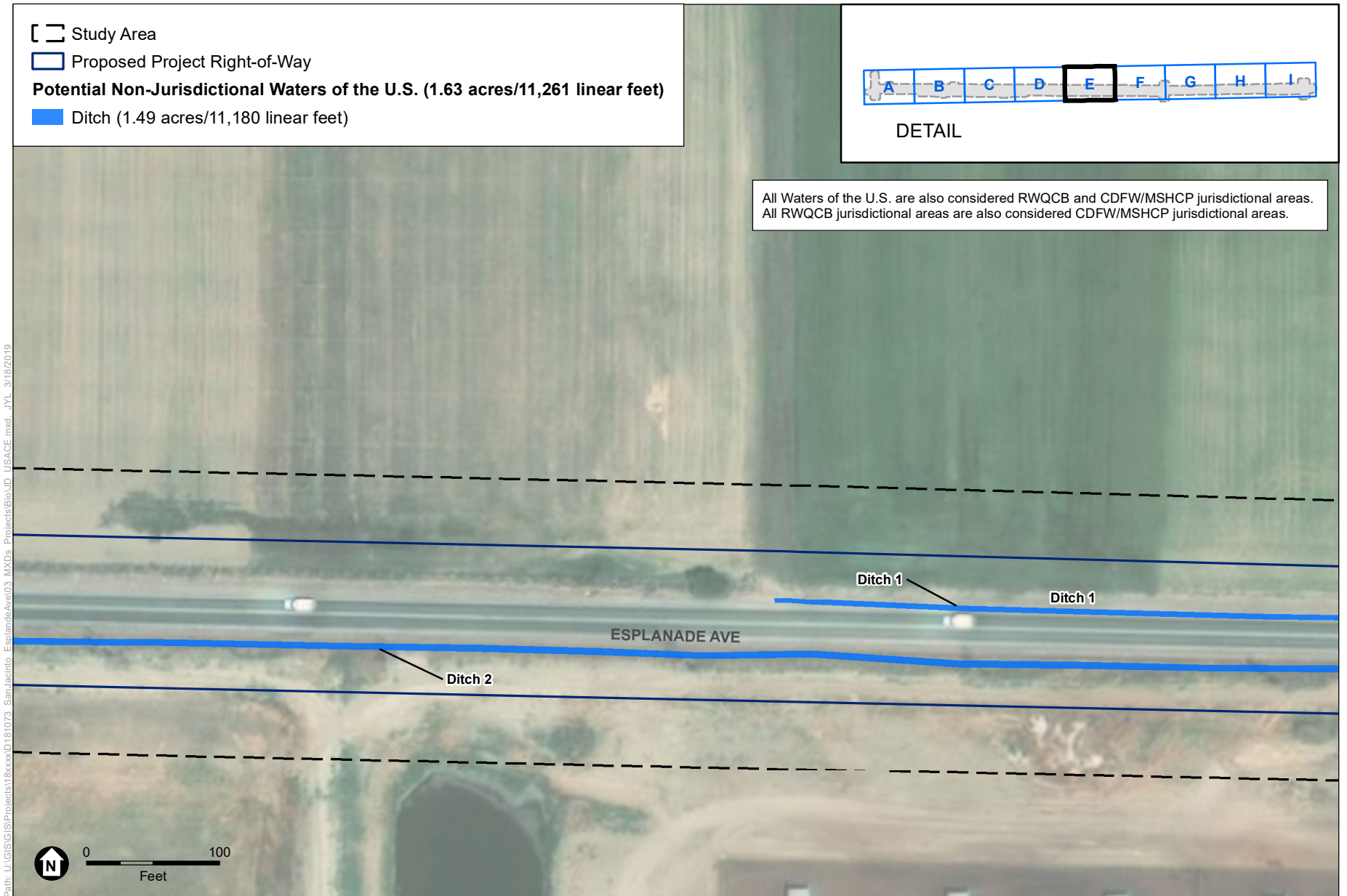
SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4D**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



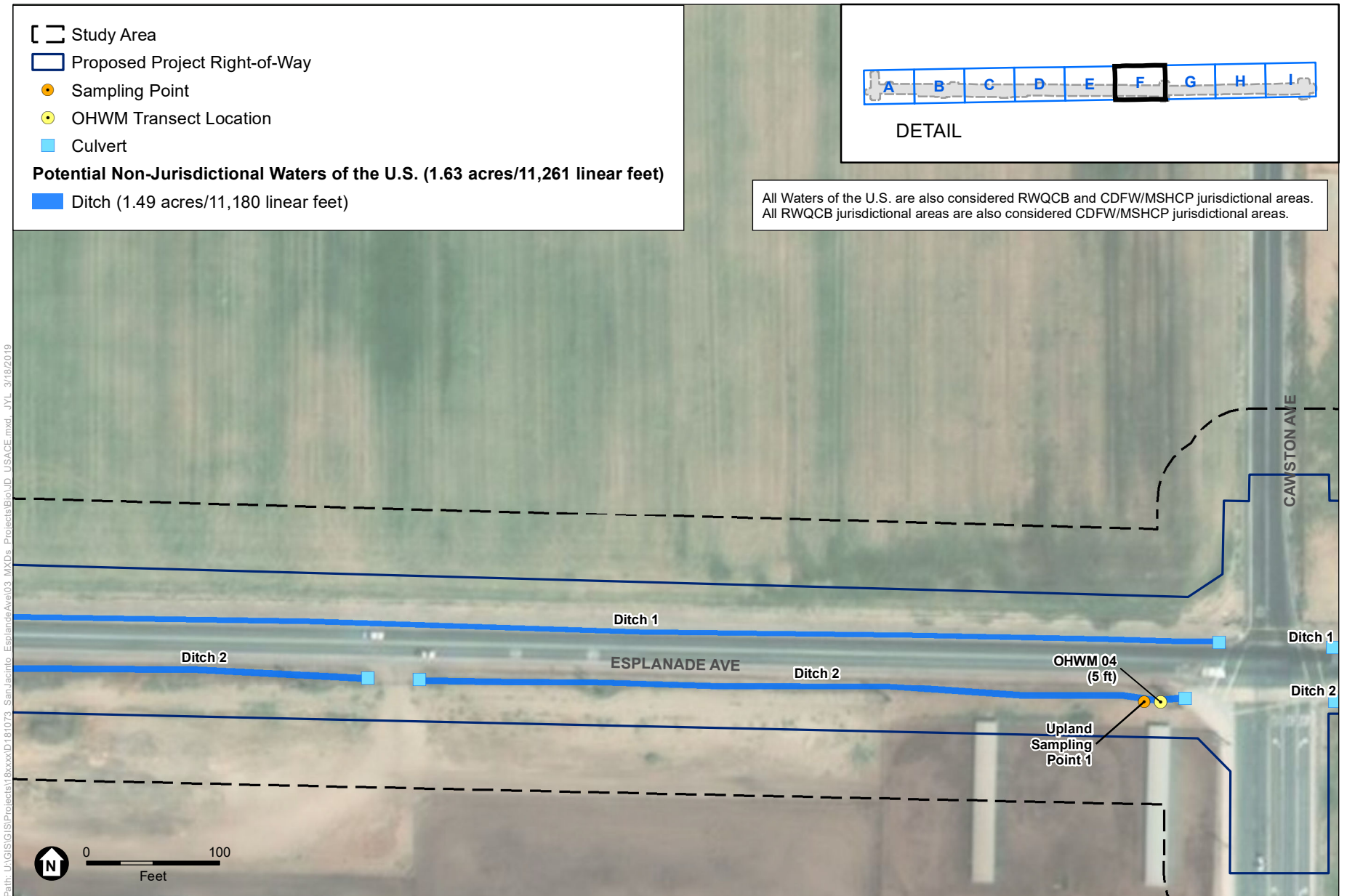


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4E**

Jurisdictional Delineation Map -  
 Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.

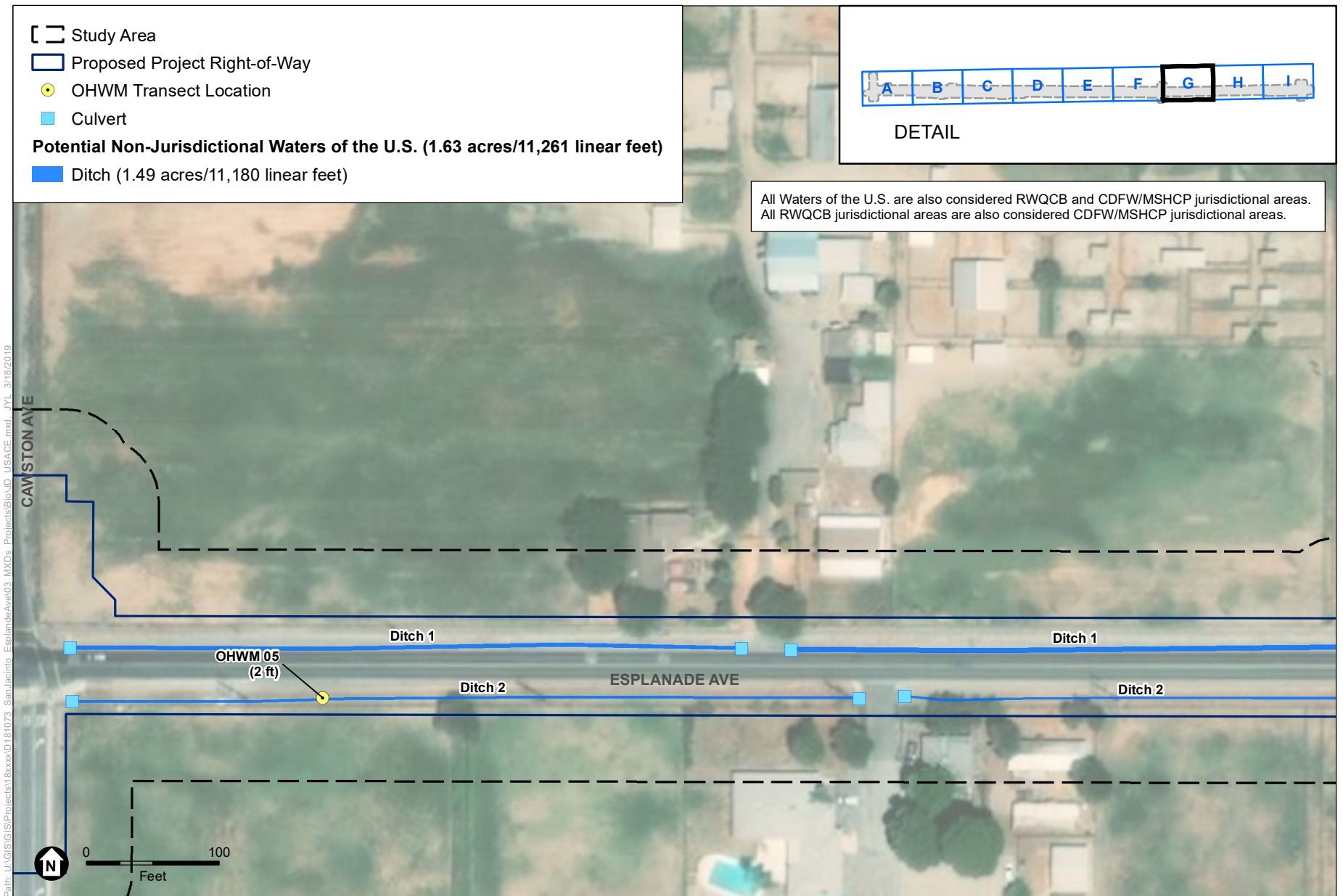


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4F**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



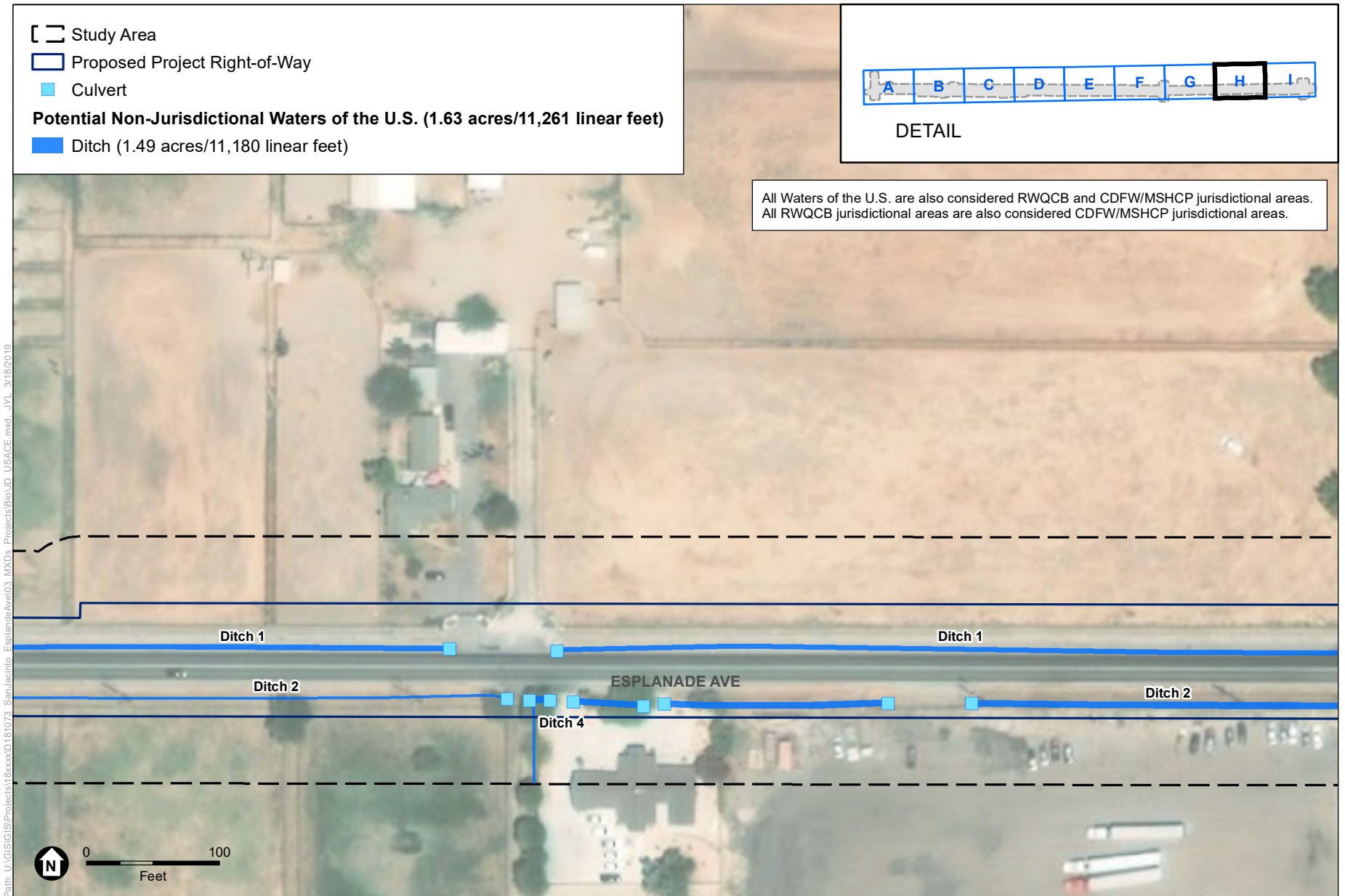
SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4G**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.





SOURCE: ESRI 2017

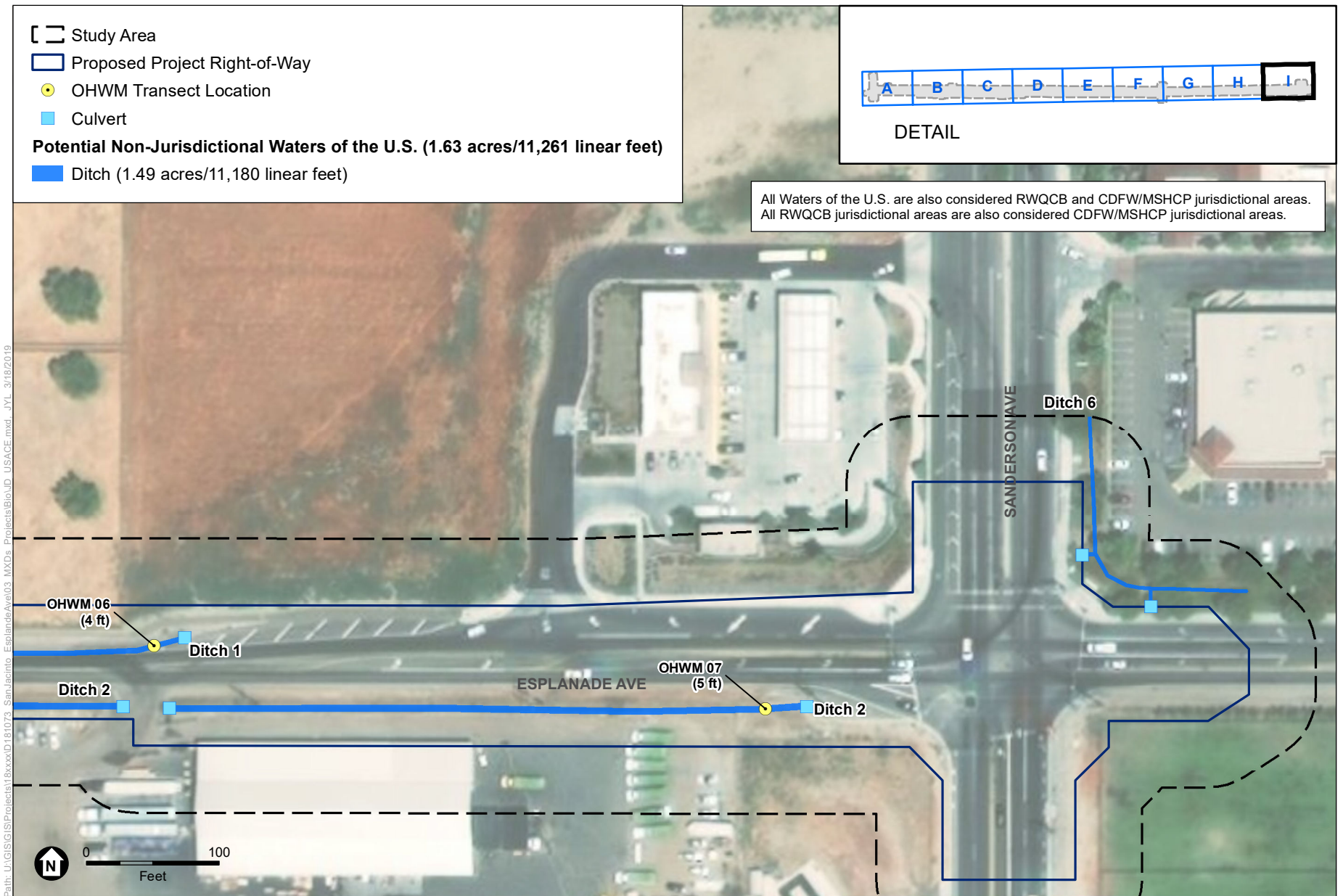
San Jacinto Esplanade Avenue

**Figure 4H**

Jurisdictional Delineation Map -

Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.



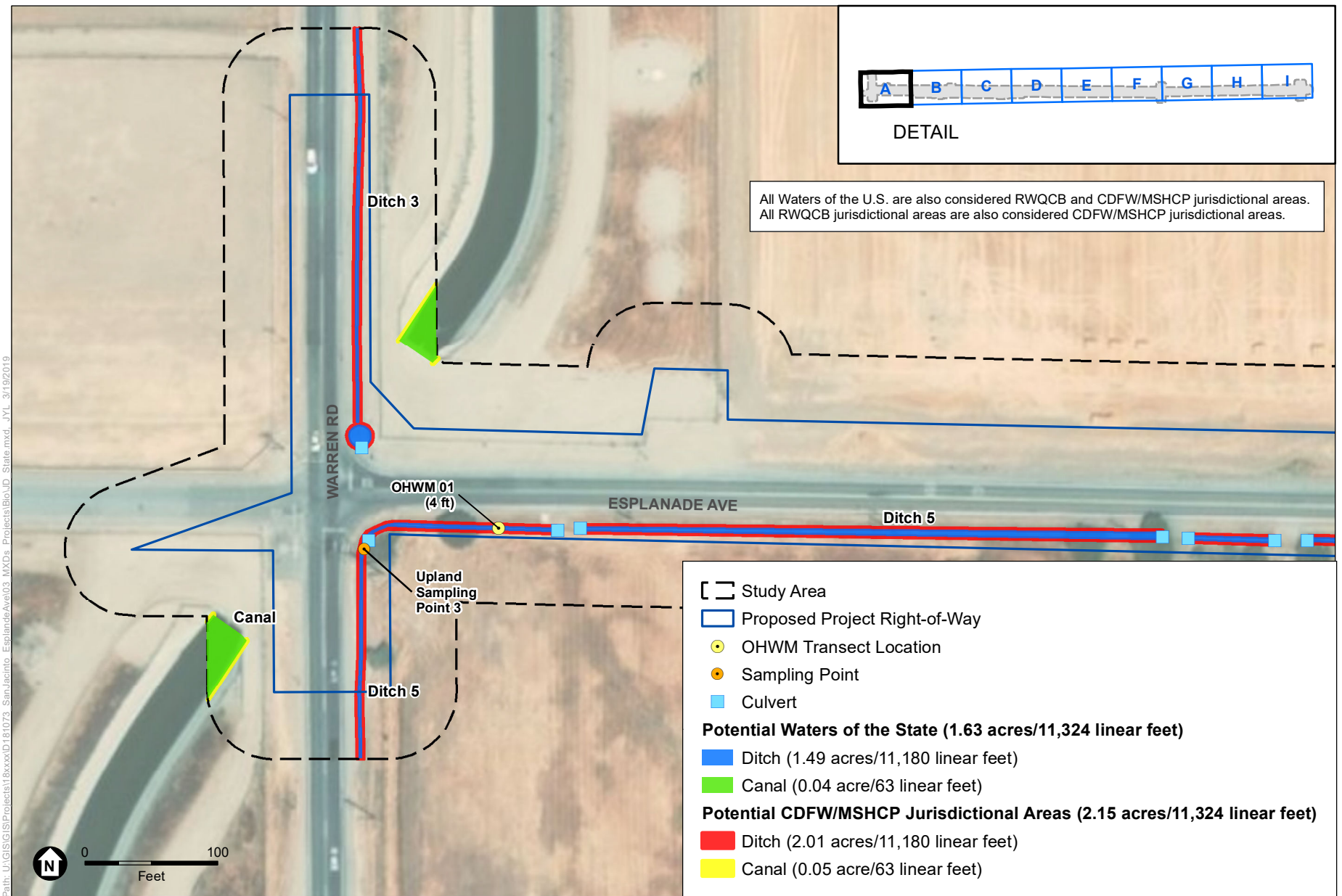


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 4I**

Jurisdictional Delineation Map -  
Potential Non-Wetland Waters and Non-Jurisdictional Waters of the U.S.

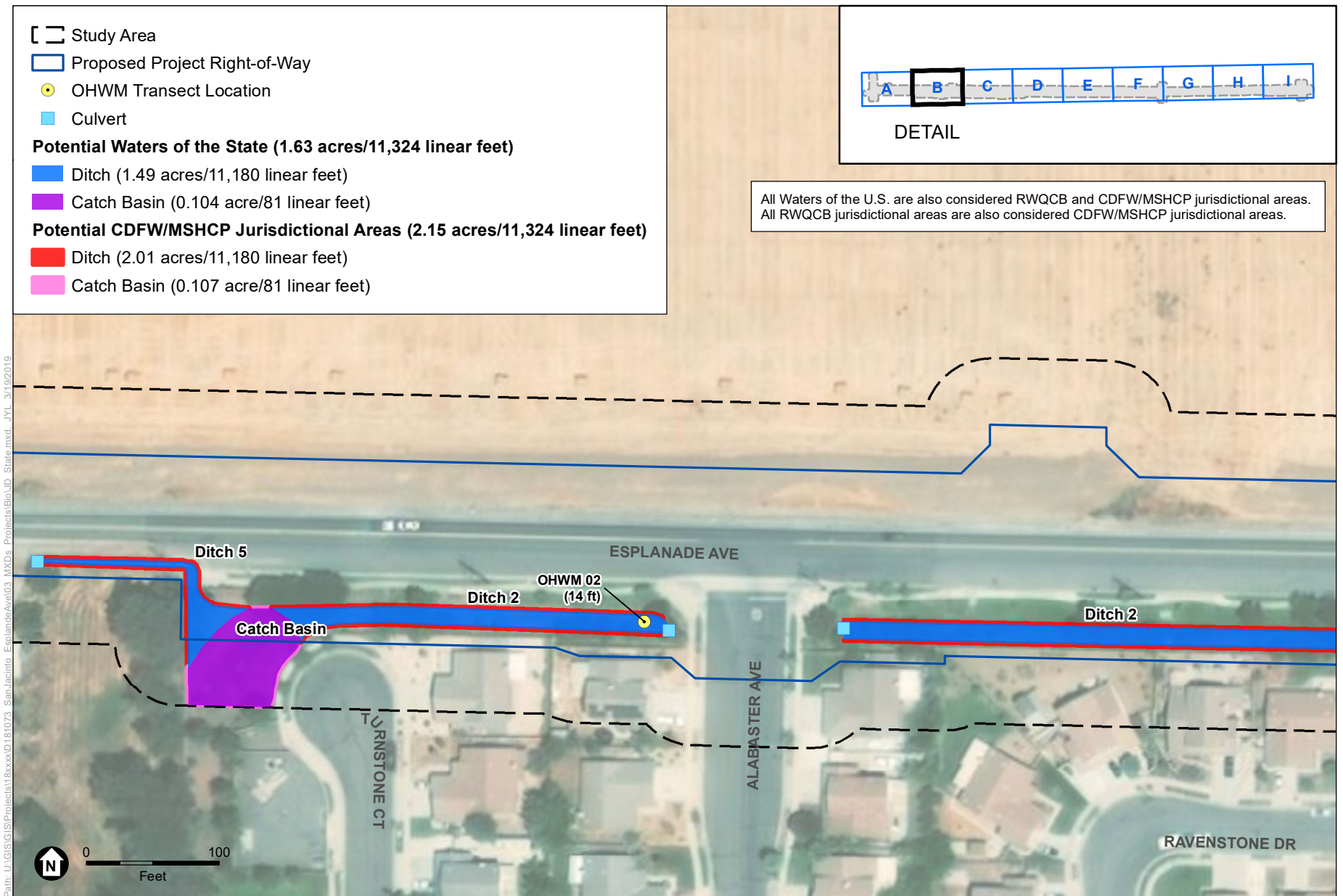


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 5A**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas





SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 5B**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas

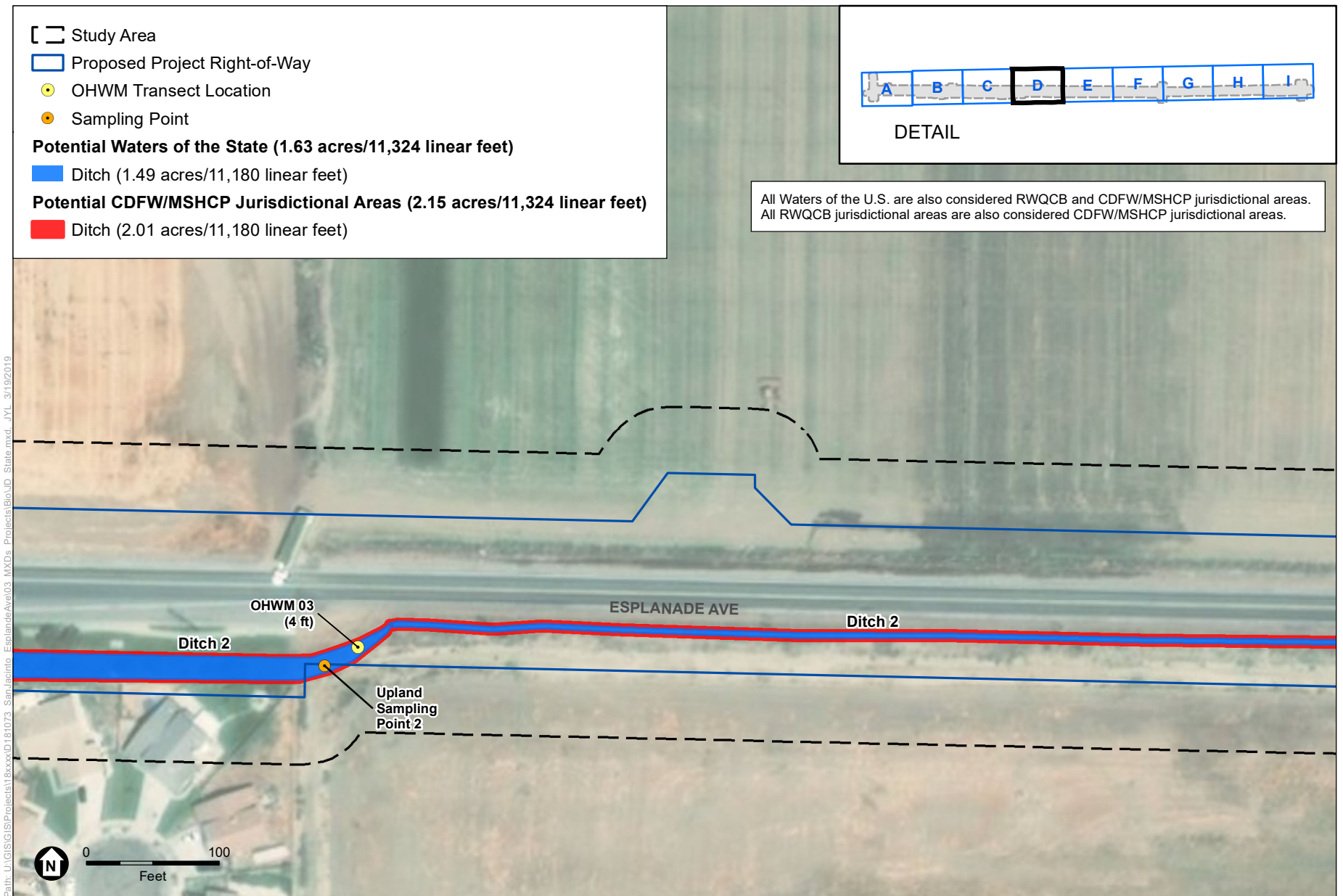


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 5C**

Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas



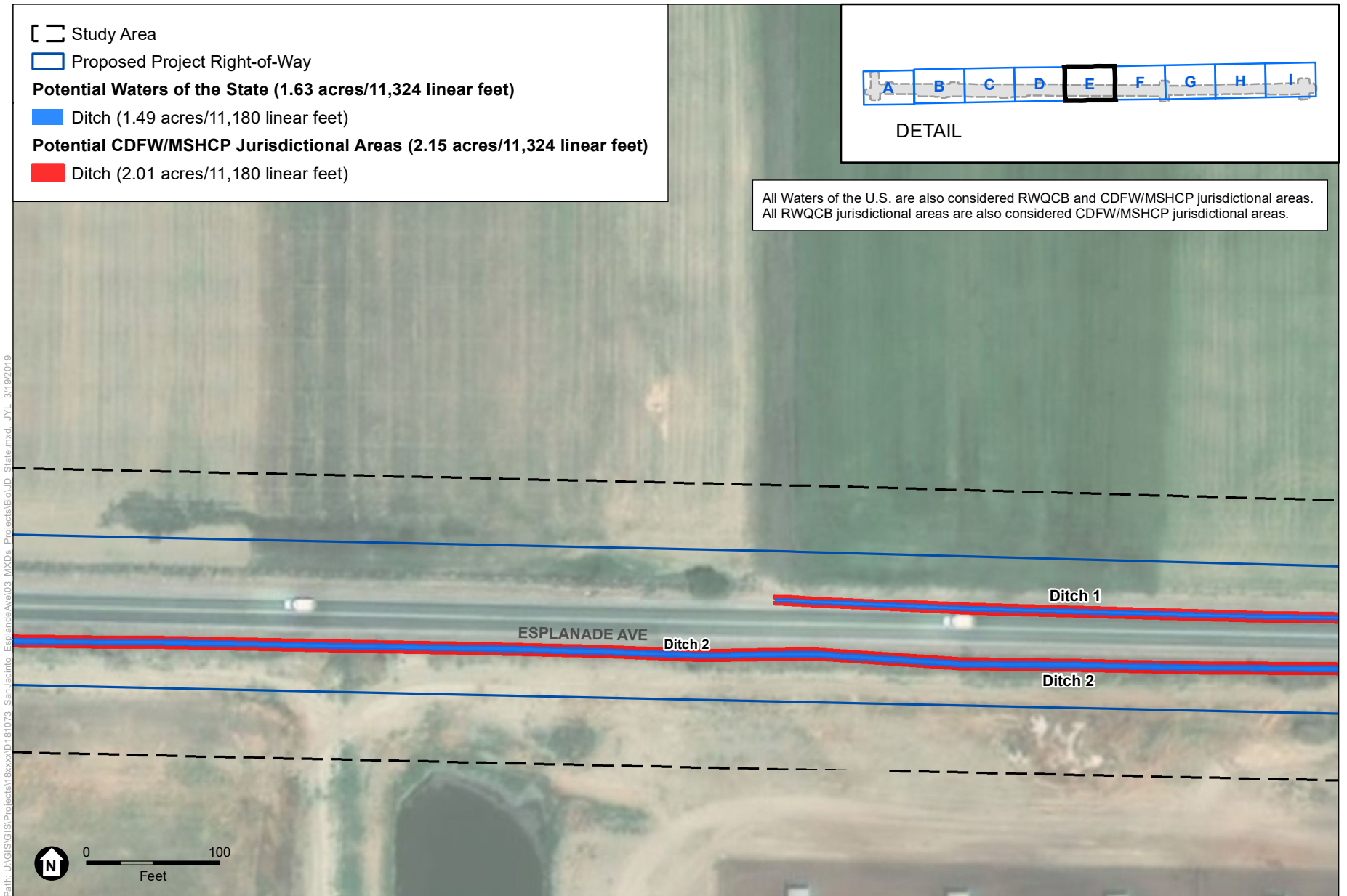
SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 5D**

Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas



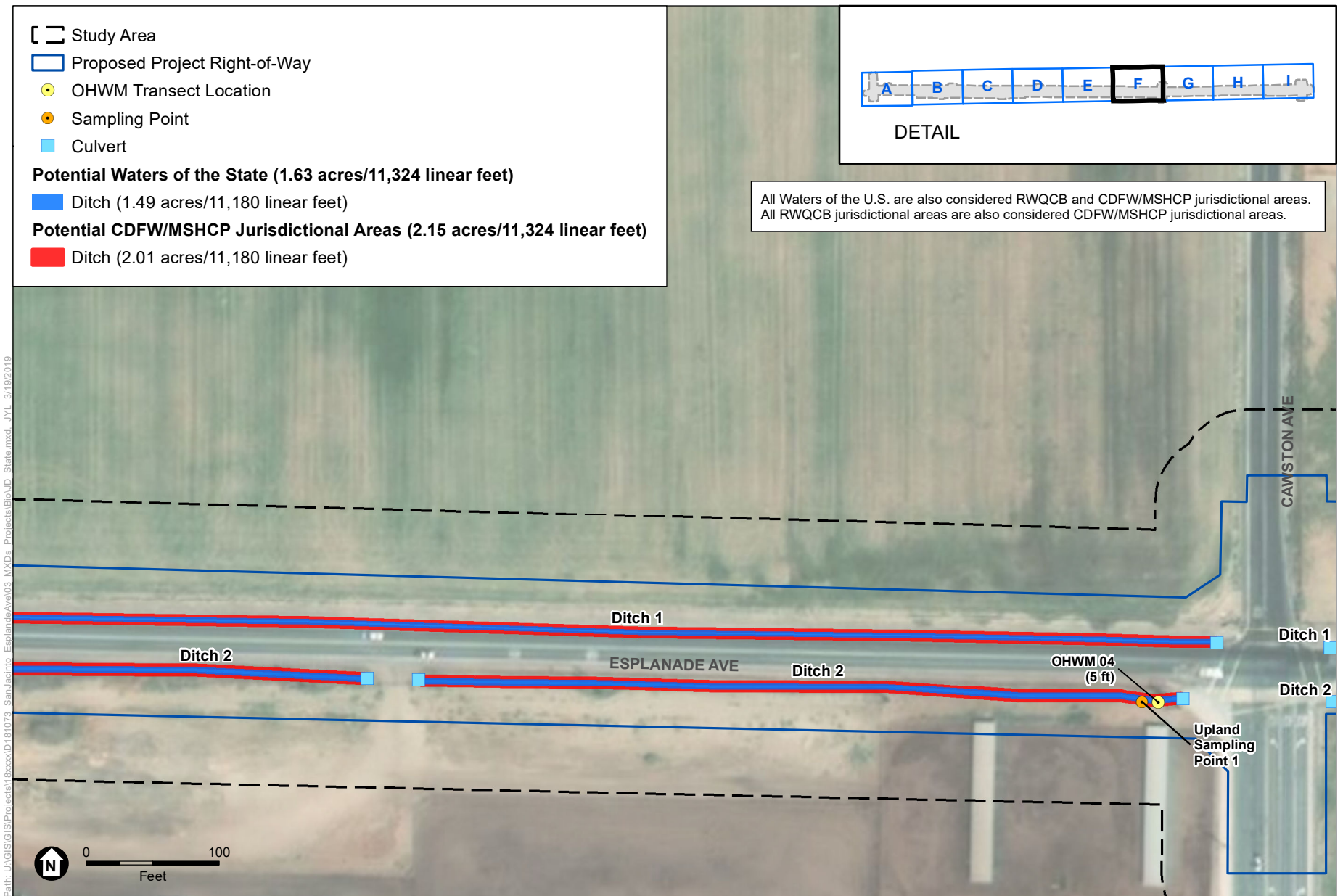


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 5E**

Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas

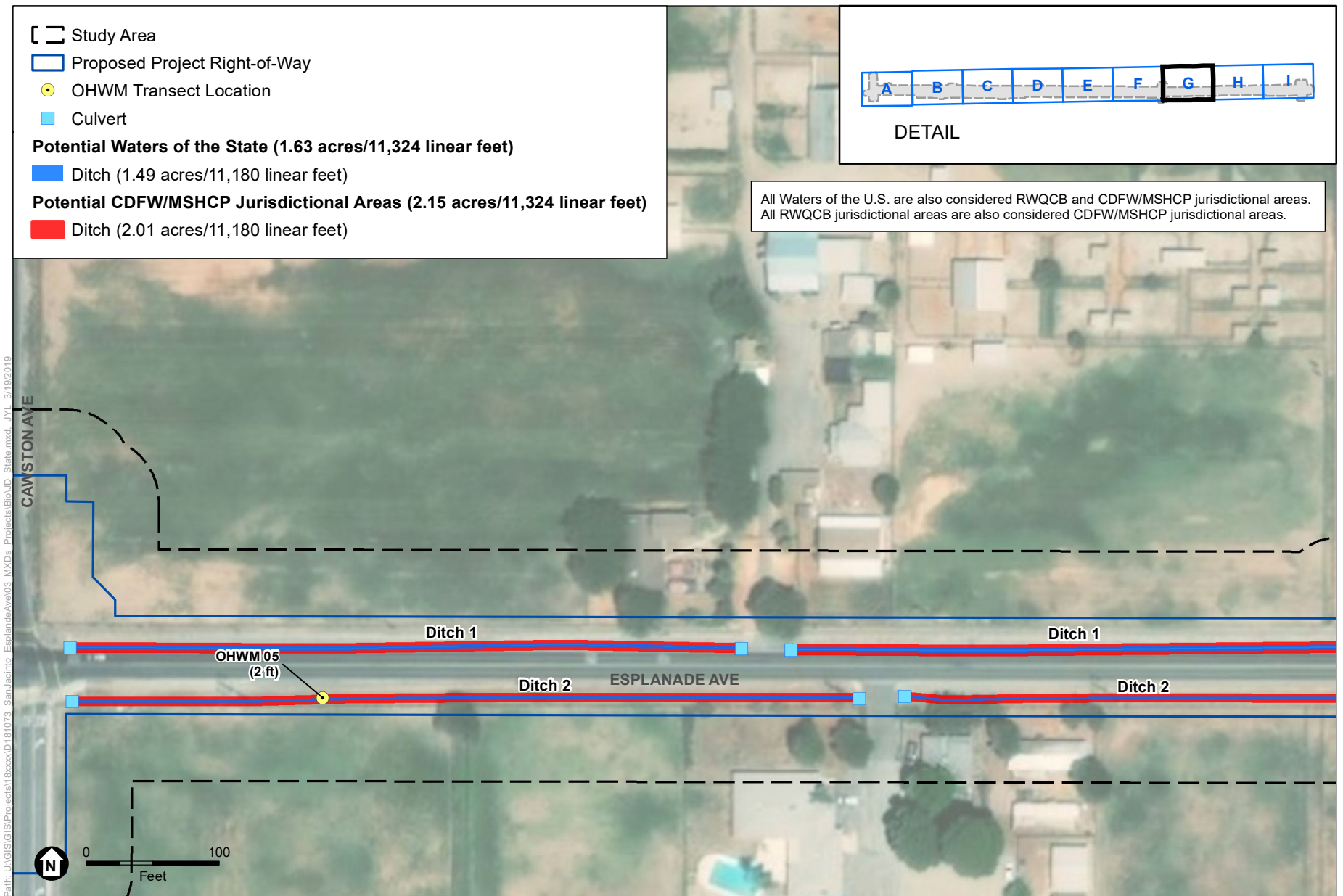


SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 5F**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas

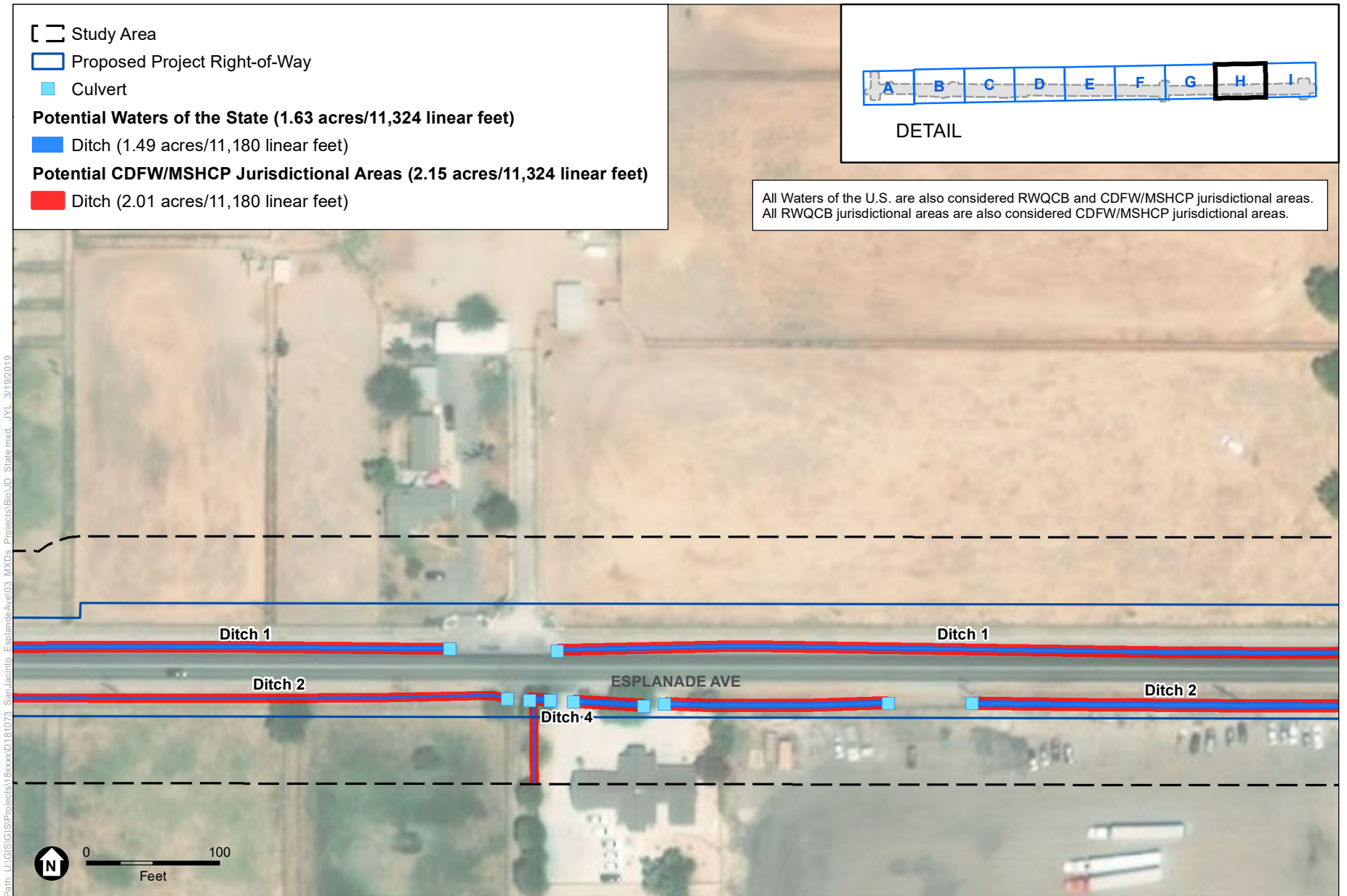




SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 5G**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas



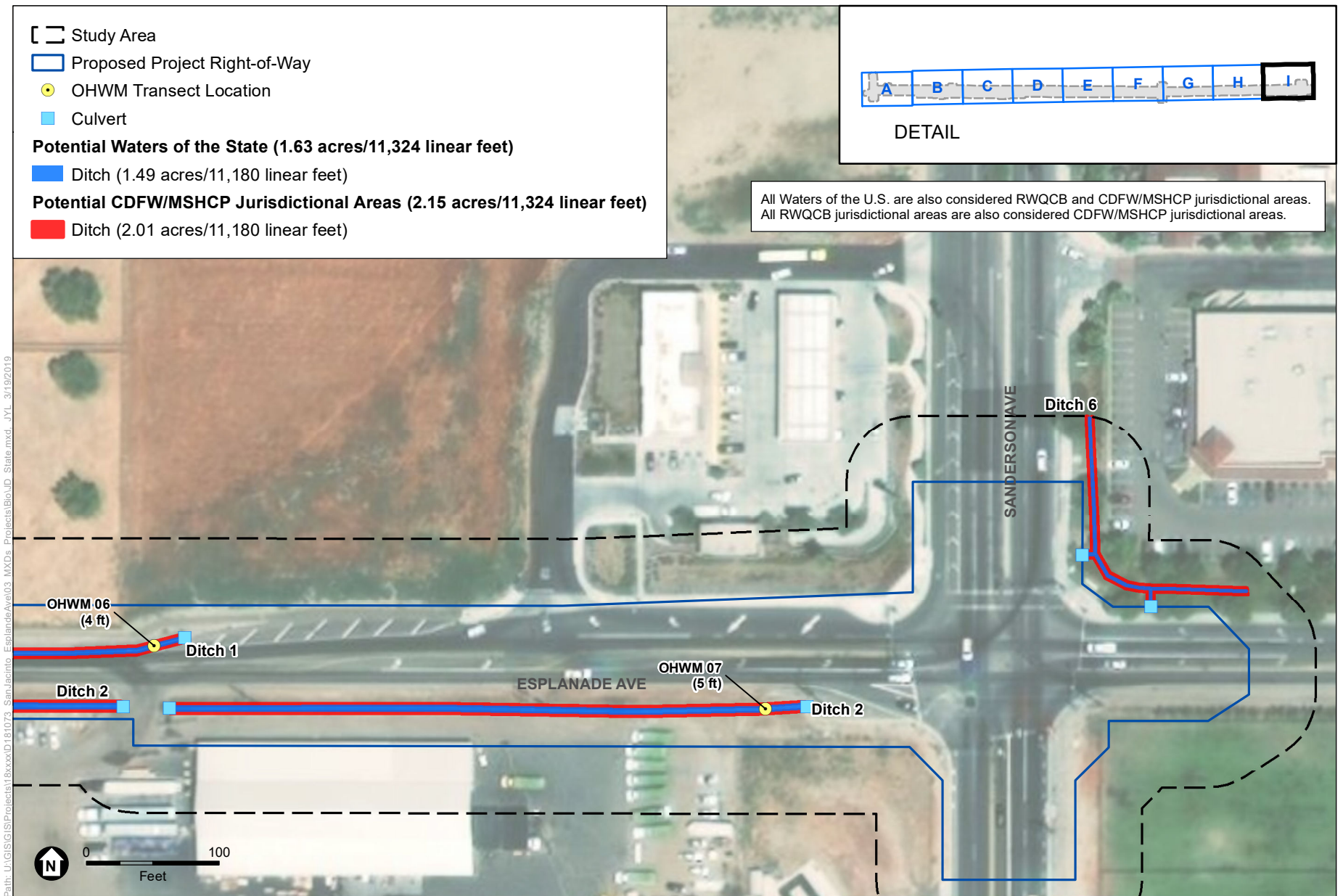
SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 5H**

Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas





SOURCE: ESRI 2017

San Jacinto Esplanade Avenue

**Figure 51**  
Potential Waters of the State and CDFW/MSHCP Jurisdictional Areas

## Local Ordinance

The Proposed Project is located within the Cities of San Jacinto and Hemet which have very similar public tree planting and removal ordinances that prohibit the removal and planting of trees or shrubs from public parks, public grounds, public streets, alleys, ways and parking place unless obtaining permission from the City's director. Although trees occur within the study area including liquidambar and eucalyptus, they will either not be impacted by project activities or occur within the boundaries of private residences and therefore not subject to the Cities of San Jacinto and Hemet tree ordinances. The Proposed Project does not fall within an area under the influence of an additional local policy or ordinance protecting biological resources.

## Habitat Conservation Plan

The Project site is located within the Western Riverside County MSHCP. The Project site is located within the MSHCP's burrowing owl survey area and portions of the Project site are within the MSHCP's Narrow Endemic Plant Species survey area, as well as Subunit 4: Hemet Vernal Pool Areas. Narrow endemic plant species include Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*) and Wrights's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). Narrow endemic plants are likely to occur within disturbed areas and sprangletop grass patches within the ditches and catch basins as well as disturbed areas outside the ditches and catch basins.

Rare plant surveys will be required to address the potential for Narrow Endemic Plants to be present and potentially affected by the Project. The Project is required to demonstrate Project consistency, through the preparation of a consistency analysis, with the goals and provisions of the MSHCP as they pertain to biological resources. A such, an MSHCP Consistency Analysis Report will be required. In addition, since impacts to potentially jurisdictional riverine/riparian features are unavoidable, a Determination of Biologically Equivalent or Superior Preservation (DBESP) Report will also be required which must be supported by relevant species surveys, and needs to include a discussion of why avoidance is not feasible, including minimization measures for addressing potential indirect impacts, mitigation that will offset the Project's impacts, and a determination that mitigation proposed is biologically equivalent or superior. Although located in Subunit 4: Hemet Vernal Pool Areas, vernal pools do not occur within the Project site and will be discussed in the DBESP.

The Proposed Project is also located within the Stephens Kangaroo Rat Habitat Conservation Plan (SKR HCP). However, the City of San Jacinto is not a listed member in the SKR HCP and is not required to demonstrate Project consistency with the goals and provisions of the SKR HCP. The Proposed Project area does not occur within another habitat conservation plan, natural community conservation plan or other approved local, regional, or State HCP.

## Wildlife Movement Corridors

The study area is located within an urbanized area of the City of San Jacinto that is surrounded by development and agricultural land. There are two disturbed areas along Esplanade Avenue that previously contained agricultural lands or developed areas and have not been recently maintained. Additionally, maintained, narrow roadside ditches occur along Esplanade Avenue. However, disturbed areas and roadside ditches are not contiguous and do not function as a corridor between two larger stands of habitat or open space that could constitute a wildlife corridor. In short, the study area does not provide a suitable corridor for wildlife species to move from one area of habitat to another.

## **Recommended Minimization and Avoidance Measures**

### ***Special-status Wildlife and Plants***

Per the MSHCP requirements, focused protocol and preconstruction surveys for burrowing owl must be conducted prior to initiation of the Project in areas that are located within a burrowing owl survey area and contain suitable habitat for the species. This includes disturbed areas located at the southeast corner of Esplanade Ave and Warren Road as well as disturbed areas near the northwestern corner of Esplanade Ave and Sanderson Ave. The focused protocol surveys should be conducted by a qualified biologist following protocol outlined in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW, 2012). If burrowing owl or sign of burrowing owl presence is observed during the focused surveys and found to be potentially impacted by the Project, additional avoidance and mitigation measures will be required. Avoidance measures may include constructing Project facilities outside the breeding season, establishing a suitable buffer around an active burrow, restricting activities around certain times of year, and excluding and relocating owls. A Burrow Exclusion Plan approved by CDFW will be required to implement exclusion and relocation. Permanent impacts to land that previously contained burrowing owls may also require conservation of mitigation lands to offset the impact to burrowing owl and its habitat. The conservation of mitigation lands will be determined through consultation with CDFW.

Per the MSHCP requirements, focused protocol surveys for sensitive/rare plants must be conducted prior to the initiation of the Project in areas that are located within a narrow endemic species survey area. Surveys for the Narrow Endemic Species will be conducted as part of the Project review process for public and private projects within the Narrow Endemic Plant Species survey area where suitable habitat is present. Focused surveys for Narrow Endemic Species will be conducted during the blooming period for these species, which occurs from March to May for Munz's onion, April through October for San Diego ambrosia, April through July for many-stemmed dudleya, April through June for spreading navarretia, April through August for California orcutt grass and May through September for Wright's trichocoronis. The focused protocol survey shall be conducted by a knowledgeable biologist following protocol outlined in the CNPS Botanical Survey Guidelines (CNPS 2001), General Rare Plant Survey Guidelines (USFWS 2002) and Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2009). The results of the survey will be included in the MSHCP consistency analysis and Determination of Biologically Equivalent or Superior Preservation (DBESP) as required. If an endemic species is identified, it must be conserved in accordance with procedures described within Section 6.1.3 of the MSHCP.

To minimize the Project's potential impact to this species, preconstruction surveys should be conducted to determine if the species is present within the Project impact areas. If the species is present, Best Management Practices (BMPs) should be implemented to avoid impacts to individuals and a Worker Environmental Awareness Program (WEAP) training should be implemented for all onsite construction personnel. Example BMPs that may be implemented during construction include limiting vehicle speed onsite to 15 miles per hour, covering trenches and open pits, if trenches are left open adding wooden ramps in the trench to allow small wildlife to escape, temporarily fencing work areas using silt fencing, and cleaning up all trash and debris daily. Additional avoidance measures may include establishing a buffer around the species with and onsite monitoring to ensure avoidance. Additionally, the WEAP training should be facilitated by a knowledgeable biologist or an informational WEAP brochure should be provided to all construction personnel with signed verification that they agree to the avoidance measures and legal status of special-status species that could be present. Specifically, the WEAP should provide construction personnel with instructions on how to avoid directly harming wildlife and

procedural actions to avoid impacts, such as halting or minimizing activities until the species can move to offsite areas on its own accord or with the assistance of a qualified biologist.

### ***Nesting Birds***

To avoid potential impacts to nesting birds, it is recommended that any vegetation removal and/or ground disturbance be timed to occur between September 1 and January 31, which is outside of the typical nesting season for birds in the region. If vegetation removal and/or ground disturbances must occur during the typical nesting season (February 1 – August 31), it is recommended that a qualified biologist conduct a preconstruction survey for active nests within areas that will be subject to vegetation removal and/or ground disturbances, including an approximate 100-300-foot buffer, to identify any active nests. Buffer distances should be adjusted at the discretion of the biologist based on the location of the nest, species, and surrounding land uses. If no sign of nesting activity is observed, construction may proceed without potential impacts to nesting birds.

If an active nest is observed during the pre-construction clearance survey, an adequate buffer should be established around the active nest depending on sensitivity of the species and proximity to Proposed Project impact areas. Onsite construction monitoring may also be required to ensure that no direct or indirect impacts occur to the active nest. Proposed Project activities should be avoided within the buffer, unless otherwise approved by the monitoring biologist. The buffer should be delineated with exclusionary fencing or flagging to prevent the nest from being inadvertently impacted, and should remain in place until the nest is no longer active as determined by the monitoring biologist.

### ***Jurisdictional Waters***

As a result of Project design, potential jurisdictional waters identified in Figures 4a and 4b cannot be avoided and impacts to potential jurisdictional waters are anticipated. Therefore, permits including those issued by the RWQCB under Section 404 of the CWA or the California Water Code or those issued by CDFW under Section 1600 of the California Fish and Game Code will be necessary. Refer to the Project's Jurisdictional Delineation Report for information related to jurisdictional waters.

### ***Local Ordinances***

Minimization and avoidance measures to account for local ordinances protecting biological resources, including the Cities of San Jacinto and Hemet tree removal ordinances, are not required as protected trees and shrubs will not be impacted and the Project does not fall under the influence of an additional local policy or ordinance protecting biological resources.

### ***Habitat Conservation Plan***

Recommended minimization and avoidance measures described above will be sufficient to protect biological resources. The City of San Jacinto is within the MSCHP; therefore, the Project is required to demonstrate consistency with the goals and provisions of the MSHCP as they pertain to biological resources. Additionally, further focused rare plant and burrowing owl surveys are required along with a DBESP report to address impacts to riverine/riparian areas that are unavoidable.

## **Wildlife Movement Corridors**

Minimization and avoidance measures to account for wildlife movement corridors are not required as wildlife movement corridors are absent from the Project site.

## **References**

- Baldwin, et al. 2012. Jepson Manual: Vascular Plants of California; Second Edition. University of California Press.
- California Department of Fish and Wildlife (CDFW). 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities.
- CDFW. 2012. Staff Report on Burrowing Owl Mitigation.
- CDFW. 2019a. California Natural Diversity Database (CNDDDB) Commercial version, Information dated February 8, 2018. Rarefind 5 query results for Lakeview and surrounding USGS 7.5-minute quadrangles.
- CDFW. 2019b. California Sensitive Natural Communities.
- California Native Plant Society (CNPS). 2001. Botanical Survey Guidelines.
- California Native Plant Society. 2019. Inventory of Rare and Endangered Plants of California. Accessed February 8, 2019.
- Environmental Laboratory. 1987. *U.S. Army Corps of Engineers Wetland Delineation Manual*. Prepared for the U.S. Army Corps of Engineers.
- Environmental Science Associates. 2018a. Eastern Municipal Water District San Jacinto Valley Water Banking – Enhanced Recharge and Recovery Program, Program and Environmental Impact Report.
- Environmental Science Associates. 2018b. San Jacinto Valley – Enhanced Recharge and Recovery Program Biological Technical Report.
- Google Earth Pro. 2019. Aerial imagery. Accessed February 7, 2019.
- Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation. 2nd Edition. California Native Plant Society.
- U.S. Army Corps of Engineers and Environmental Protection Agency (EPA). 2015. "Clean Water Rule: Definition of 'Waters of the United States'." Final Rule. Federal Register, 80 FR 37053.
- U.S. Fish and Wildlife Service (USFWS). 2002. General Rare Plant Survey Guidelines.]
- USFWS. 2018a. Critical Habitat Portal. Accessed on August 7, 2018 at <http://ecos.fws.gov/crithab>.
- USFWS. 2018b. National Wetlands Inventory. Accessed August 7, 2018.
- Western Riverside County Regional Conservation Authority (RCA). 2003. Western Riverside County Multiple Species Habitat Conservation Plan.
- RCA. 2019. RCA MSHCP Information Map. Accessed March 2019 at <http://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=a73e69d2a64d41c29ebd3acd67467abd>



On behalf of ESA, it has been a pleasure preparing this information for you. Please do not hesitate to contact Greg Ainsworth or Ryan Villanueva at (213) 599-4300 if you have any questions or comments regarding this report.

Sincerely,

A handwritten signature in black ink that reads "Lily Sam". The script is fluid and cursive, with the first letters of each name being capitalized and prominent.

Lily Sam  
Senior Associate Biologist

A handwritten signature in black ink that reads "Greg Ainsworth". The signature is more stylized and elongated than the one to its left, with a long horizontal stroke extending to the right.

Greg Ainsworth  
Director, Biological Resources

Attachments: Attachment A – Representative Site Photographs  
Attachment B – CNDDDB and CNPS Database Search Results

Attachment A  
**Representative Site Photographs**



**Photograph 1** – Ditch south of Esplanade Avenue and west of Cawston Avenue, facing west.



**Photograph 2** – Ditch south of Esplanade Avenue, facing west near Warren Road. Disturbed area to the south (left) of ditch.





**Photograph 3** – Ditch south of Esplanade Avenue just west of Alabaster Avenue, facing west. Developed area (residential) to the south (left) of the ditch.



**Photograph 4** – Ditch north of Esplanade Avenue and west of Sanderson Avenue, facing west. Developed area (industrial) to the south (left) of Esplanade Avenue.





**Photograph 5** – Ditch north of Esplanade Avenue and west of Cawston Avenue, facing west. Agricultural lands to the north (right).



**Photograph 6** – Ditch south of Esplanade Avenue and west of Sanderson Avenue, facing east.

Attachment B

**CNDDDB and CNPS Database Search  
Results**





# Selected Elements by Scientific Name

## California Department of Fish and Wildlife

### California Natural Diversity Database



**Query Criteria:** Quad<span style='color:Red'> IS </span>(Lakeview (3311771)<span style='color:Red'> OR </span>San Jacinto (3311678)<span style='color:Red'> OR </span>Hemet (3311668)<span style='color:Red'> OR </span>Winchester (3311761)<span style='color:Red'> OR </span>Romoland (3311762)<span style='color:Red'> OR </span>Perris (3311772)<span style='color:Red'> OR </span>Sunnymead (3311782)<span style='color:Red'> OR </span>El Casco (3311781)<span style='color:Red'> OR </span>Beaumont (3311688))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Abronia villosa</i> var. <i>aurita</i></b> chaparral sand-verbena	PDNYC010P1	None	None	G5T2?	S2	1B.1
<b><i>Accipiter cooperii</i></b> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<b><i>Agelaius tricolor</i></b> tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
<b><i>Aimophila ruficeps canescens</i></b> southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S3	WL
<b><i>Allium marvinii</i></b> Yucaipa onion	PMLIL02330	None	None	G1	S1	1B.2
<b><i>Allium munzii</i></b> Munz's onion	PMLIL022Z0	Endangered	Threatened	G1	S1	1B.1
<b><i>Anniella stebbinsi</i></b> southern California legless lizard	ARACC01060	None	None	G3	S3	SSC
<b><i>Aquila chrysaetos</i></b> golden eagle	ABNKC22010	None	None	G5	S3	FP
<b><i>Arizona elegans occidentalis</i></b> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<b><i>Artemisiospiza belli belli</i></b> Bell's sage sparrow	ABPBX97021	None	None	G5T2T3	S3	WL
<b><i>Aspidoscelis hyperythra</i></b> orange-throated whiptail	ARACJ02060	None	None	G5	S2S3	WL
<b><i>Aspidoscelis tigris stejnegeri</i></b> coastal whiptail	ARACJ02143	None	None	G5T5	S3	SSC
<b><i>Astragalus lentiginosus</i> var. <i>coachellae</i></b> Coachella Valley milk-vetch	PDFAB0FB97	Endangered	None	G5T1	S1	1B.2
<b><i>Astragalus pachypus</i> var. <i>jaegeri</i></b> Jaeger's milk-vetch	PDFAB0F6G1	None	None	G4T1	S1	1B.1
<b><i>Athene cunicularia</i></b> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<b><i>Atriplex coronata</i> var. <i>notatior</i></b> San Jacinto Valley crownscale	PDCHE040C2	Endangered	None	G4T1	S1	1B.1
<b><i>Atriplex parishii</i></b> Parish's brittlescale	PDCHE041D0	None	None	G1G2	S1	1B.1
<b><i>Atriplex serenana</i> var. <i>davidsonii</i></b> Davidson's saltscale	PDCHE041T1	None	None	G5T1	S1	1B.2
<b><i>Bombus crotchii</i></b> Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	



# Selected Elements by Scientific Name

## California Department of Fish and Wildlife

### California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Branchinecta lynchi</i></b> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<b><i>Brodiaea filifolia</i></b> thread-leaved brodiaea	PMLIL0C050	Threatened	Endangered	G2	S2	1B.1
<b><i>Buteo regalis</i></b> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<b><i>Calochortus palmeri</i> var. <i>palmeri</i></b> Palmer's mariposa-lily	PMLIL0D122	None	None	G3T2	S2	1B.2
<b><i>Calochortus plummerae</i></b> Plummer's mariposa-lily	PMLIL0D150	None	None	G4	S4	4.2
<b><i>Calochortus weedii</i> var. <i>intermedius</i></b> intermediate mariposa-lily	PMLIL0D1J1	None	None	G3G4T2	S2	1B.2
<b><i>Campylorhynchus brunneicapillus sandiegensis</i></b> coastal cactus wren	ABPBG02095	None	None	G5T3Q	S3	SSC
<b><i>Caulanthus simulans</i></b> Payson's jewelflower	PDBRA0M0H0	None	None	G4	S4	4.2
<b><i>Centromadia pungens</i> ssp. <i>laevis</i></b> smooth tarplant	PDAST4R0R4	None	None	G3G4T2	S2	1B.1
<b><i>Chaetodipus californicus femoralis</i></b> Dulzura pocket mouse	AMAFD05021	None	None	G5T3	S3	SSC
<b><i>Chaetodipus fallax fallax</i></b> northwestern San Diego pocket mouse	AMAFD05031	None	None	G5T3T4	S3S4	SSC
<b><i>Chorizanthe parryi</i> var. <i>parryi</i></b> Parry's spineflower	PDPGN040J2	None	None	G3T2	S2	1B.1
<b><i>Chorizanthe polygonoides</i> var. <i>longispina</i></b> long-spined spineflower	PDPGN040K1	None	None	G5T3	S3	1B.2
<b><i>Circus hudsonius</i></b> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<b><i>Coccyzus americanus occidentalis</i></b> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<b><i>Coleonyx variegatus abbotti</i></b> San Diego banded gecko	ARACD01031	None	None	G5T3T4	S1S2	SSC
<b><i>Corynorhinus townsendii</i></b> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<b><i>Crotalus ruber</i></b> red-diamond rattlesnake	ARADE02090	None	None	G4	S3	SSC
<b><i>Deinandra mohavensis</i></b> Mojave tarplant	PDAST4R0K0	None	Endangered	G2	S2	1B.3
<b><i>Desert Fan Palm Oasis Woodland</i></b> Desert Fan Palm Oasis Woodland	CTT62300CA	None	None	G3	S3.2	
<b><i>Dipodomys merriami parvus</i></b> San Bernardino kangaroo rat	AMAFD03143	Endangered	None	G5T1	S1	SSC



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Dipodomys stephensi</i></b> Stephens' kangaroo rat	AMAFD03100	Endangered	Threatened	G2	S2	
<b><i>Dodecahema leptoceras</i></b> slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
<b><i>Elanus leucurus</i></b> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<b><i>Empidonax traillii extimus</i></b> southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T2	S1	
<b><i>Emys marmorata</i></b> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<b><i>Eremophila alpestris actia</i></b> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<b><i>Eumops perotis californicus</i></b> western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
<b><i>Euphydryas editha quino</i></b> quino checkerspot butterfly	IILEPK405L	Endangered	None	G5T1T2	S1S2	
<b><i>Harpagonella palmeri</i></b> Palmer's grapplinghook	PDBOR0H010	None	None	G4	S3	4.2
<b><i>Horkelia cuneata var. puberula</i></b> mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
<b><i>Icteria virens</i></b> yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
<b><i>Imperata brevifolia</i></b> California satintail	PMPOA3D020	None	None	G4	S3	2B.1
<b><i>Lanius ludovicianus</i></b> loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
<b><i>Lasiurus xanthinus</i></b> western yellow bat	AMACC05070	None	None	G5	S3	SSC
<b><i>Lasthenia glabrata ssp. coulteri</i></b> Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
<b><i>Lepidium virginicum var. robinsonii</i></b> Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
<b><i>Lepus californicus bennettii</i></b> San Diego black-tailed jackrabbit	AMAEB03051	None	None	G5T3T4	S3S4	SSC
<b><i>Mentzelia tricuspid</i></b> spiny-hair blazing star	PDLOA031T0	None	None	G4	S2	2B.1
<b><i>Myosurus minimus ssp. apus</i></b> little mouseltail	PDRAN0H031	None	None	G5T2Q	S2	3.1
<b><i>Nama stenocarpa</i></b> mud nama	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
<b><i>Navarretia fossalis</i></b> spreading navarretia	PDPLM0C080	Threatened	None	G2	S2	1B.1



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Neotoma lepida intermedia</i></b> San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
<b><i>Onychomys torridus ramona</i></b> southern grasshopper mouse	AMAFF06022	None	None	G5T3	S3	SSC
<b><i>Orcuttia californica</i></b> California Orcutt grass	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
<b><i>Perognathus longimembris brevinasus</i></b> Los Angeles pocket mouse	AMAFD01041	None	None	G5T1T2	S1S2	SSC
<b><i>Petalonyx linearis</i></b> narrow-leaf sandpaper-plant	PDLOA04010	None	None	G4	S3?	2B.3
<b><i>Phrynosoma blainvillii</i></b> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<b><i>Plegadis chihi</i></b> white-faced ibis	ABNGE02020	None	None	G5	S3S4	WL
<b><i>Poliophtila californica californica</i></b> coastal California gnatcatcher	ABPB08081	Threatened	None	G4G5T2Q	S2	SSC
<b><i>Progne subis</i></b> purple martin	ABPAU01010	None	None	G5	S3	SSC
<b><i>Pseudognaphalium leucocephalum</i></b> white rabbit-tobacco	PDAST440C0	None	None	G4	S2	2B.2
<b><i>Salvadora hexalepis virgulata</i></b> coast patch-nosed snake	ARADB30033	None	None	G5T4	S2S3	SSC
<b><i>Setophaga petechia</i></b> yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
<b><i>Sidalcea neomexicana</i></b> salt spring checkerbloom	PDMAL110J0	None	None	G4	S2	2B.2
<b><i>Socalchemmis icenoglei</i></b> Icenogle's socalchemmis spider	ILARAU7020	None	None	G1	S1	
<b><i>Southern Coast Live Oak Riparian Forest</i></b> Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
<b><i>Southern Cottonwood Willow Riparian Forest</i></b> Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	G3	S3.2	
<b><i>Southern Mixed Riparian Forest</i></b> Southern Mixed Riparian Forest	CTT61340CA	None	None	G2	S2.1	
<b><i>Southern Riparian Scrub</i></b> Southern Riparian Scrub	CTT63300CA	None	None	G3	S3.2	
<b><i>Southern Sycamore Alder Riparian Woodland</i></b> Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	G4	S4	
<b><i>Spea hammondi</i></b> western spadefoot	AAABF02020	None	None	G3	S3	SSC
<b><i>Spinus lawrencei</i></b> Lawrence's goldfinch	ABPBY06100	None	None	G3G4	S3S4	



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Streptocephalus woottoni</i></b> Riverside fairy shrimp	ICBRA07010	Endangered	None	G1G2	S1S2	
<b><i>Symphyotrichum defoliatum</i></b> San Bernardino aster	PDASTE80C0	None	None	G2	S2	1B.2
<b><i>Taxidea taxus</i></b> American badger	AMAJF04010	None	None	G5	S3	SSC
<b><i>Tortula californica</i></b> California screw moss	NBMUS7L090	None	None	G2G3	S2S3	1B.2
<b><i>Trichocoronis wrightii</i> var. <i>wrightii</i></b> Wright's trichocoronis	PDAST9F031	None	None	G4T3	S1	2B.1
<b><i>Vireo bellii pusillus</i></b> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
<b><i>Xanthocephalus xanthocephalus</i></b> yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 89



## Plant List

### Inventory of Rare and Endangered Plants

53 matches found. *Click on scientific name for details*

#### Search Criteria

Found in Quads 3311782, 3311781, 3311688, 3311772, 3311771, 3311678, 3311762 3311761 and 3311668;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
<a href="#">Abronia villosa var. aurita</a>	chaparral sand-verbena	Nyctaginaceae	annual herb	(Jan)Mar-Sep	1B.1	S2	G5T2?
<a href="#">Allium marvinii</a>	Yucaipa onion	Alliaceae	perennial bulbiferous herb	Apr-May	1B.2	S1	G1
<a href="#">Allium munzii</a>	Munz's onion	Alliaceae	perennial bulbiferous herb	Mar-May	1B.1	S1	G1
<a href="#">Artemisia palmeri</a>	San Diego sagewort	Asteraceae	perennial deciduous shrub	(Feb)May-Sep	4.2	S3?	G3?
<a href="#">Astragalus lentiginosus var. borreganus</a>	Borrego milk-vetch	Fabaceae	annual herb	Feb-May	4.3	S4	G5T5?
<a href="#">Astragalus lentiginosus var. coachellae</a>	Coachella Valley milk-vetch	Fabaceae	annual / perennial herb	Feb-May	1B.2	S1	G5T1
<a href="#">Astragalus pachypus var. jaegeri</a>	Jaeger's bush milk-vetch	Fabaceae	perennial shrub	Dec-Jun	1B.1	S1	G4T1
<a href="#">Atriplex coronata var. notatior</a>	San Jacinto Valley crownscale	Chenopodiaceae	annual herb	Apr-Aug	1B.1	S1	G4T1
<a href="#">Atriplex pacifica</a>	South Coast saltscale	Chenopodiaceae	annual herb	Mar-Oct	1B.2	S2	G4
<a href="#">Atriplex parishii</a>	Parish's brittlescale	Chenopodiaceae	annual herb	Jun-Oct	1B.1	S1	G1G2
<a href="#">Atriplex serenana var. davidsonii</a>	Davidson's saltscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S1	G5T1
<a href="#">Berberis nevinii</a>	Nevin's barberry	Berberidaceae	perennial evergreen shrub	(Feb)Mar-Jun	1B.1	S1	G1
<a href="#">Brodiaea filifolia</a>	thread-leaved brodiaea	Themidaceae	perennial bulbiferous herb	Mar-Jun	1B.1	S2	G2
<a href="#">Calochortus palmeri var. palmeri</a>	Palmer's mariposa lily	Liliaceae	perennial bulbiferous herb	Apr-Jul	1B.2	S2	G3T2
<a href="#">Calochortus plummerae</a>	Plummer's mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	4.2	S4	G4
<a href="#">Calochortus weedii var. intermedius</a>	intermediate mariposa lily	Liliaceae	perennial bulbiferous	May-Jul	1B.2	S2	G3G4T2



		herb						
<u><a href="#">Caulanthus simulans</a></u>	Payson's jewelflower	Brassicaceae	annual herb	(Feb)Mar-May(Jun)	4.2	S4	G4	
<u><a href="#">Centromadia pungens ssp. laevis</a></u>	smooth tarplant	Asteraceae	annual herb	Apr-Sep	1B.1	S2	G3G4T2	
<u><a href="#">Chorizanthe leptotheca</a></u>	Peninsular spineflower	Polygonaceae	annual herb	May-Aug	4.2	S3	G3	
<u><a href="#">Chorizanthe parryi var. parryi</a></u>	Parry's spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S2	G3T2	
<u><a href="#">Chorizanthe polygonoides var. longispina</a></u>	long-spined spineflower	Polygonaceae	annual herb	Apr-Jul	1B.2	S3	G5T3	
<u><a href="#">Clinopodium chandleri</a></u>	San Miguel savory	Lamiaceae	perennial shrub	Mar-Jul	1B.2	S2	G3	
<u><a href="#">Convolvulus simulans</a></u>	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	4.2	S4	G4	
<u><a href="#">Deinandra mohavensis</a></u>	Mojave tarplant	Asteraceae	annual herb	(May)Jun-Oct(Jan)	1B.3	S2	G2	
<u><a href="#">Deinandra paniculata</a></u>	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-Nov(Dec)	4.2	S4	G4	
<u><a href="#">Delphinium parishii ssp. subglobosum</a></u>	Colorado Desert larkspur	Ranunculaceae	perennial herb	Mar-Jun	4.3	S4	G4T4	
<u><a href="#">Delphinium parryi ssp. purpureum</a></u>	Mt. Pinos larkspur	Ranunculaceae	perennial herb	May-Jun	4.3	S4	G4T4	
<u><a href="#">Dodecahema leptoceras</a></u>	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S1	G1	
<u><a href="#">Erythranthe diffusa</a></u>	Palomar monkeyflower	Phrymaceae	annual herb	Apr-Jun	4.3	S3	G4	
<u><a href="#">Erythranthe purpurea</a></u>	little purple monkeyflower	Phrymaceae	annual herb	May-Jun	1B.2	S2	G2	
<u><a href="#">Galium angustifolium ssp. jacinticum</a></u>	San Jacinto Mountains bedstraw	Rubiaceae	perennial herb	Jun-Aug	1B.3	S2?	G5T2?	
<u><a href="#">Harpagonella palmeri</a></u>	Palmer's grapplinghook	Boraginaceae	annual herb	Mar-May	4.2	S3	G4	
<u><a href="#">Holocarpha virgata ssp. elongata</a></u>	graceful tarplant	Asteraceae	annual herb	May-Nov	4.2	S3	G5T3	
<u><a href="#">Hordeum intercedens</a></u>	vernal barley	Poaceae	annual herb	Mar-Jun	3.2	S3S4	G3G4	
<u><a href="#">Horkelia cuneata var. puberula</a></u>	mesa horkelia	Rosaceae	perennial herb	Feb-Jul(Sep)	1B.1	S1	G4T1	
<u><a href="#">Imperata brevifolia</a></u>	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	2B.1	S3	G4	
<u><a href="#">Juglans californica</a></u>	Southern California black walnut	Juglandaceae	perennial deciduous tree	Mar-Aug	4.2	S4	G4	
<u><a href="#">Lasthenia glabrata ssp. coulteri</a></u>	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	1B.1	S2	G4T2	
<u><a href="#">Lepechinia cardiophylla</a></u>	heart-leaved pitcher sage	Lamiaceae	perennial shrub	Apr-Jul	1B.2	S2S3	G3	
<u><a href="#">Lepidium virginicum var. robinsonii</a></u>	Robinson's pepper-grass	Brassicaceae	annual herb	Jan-Jul	4.3	S3	G5T3	
<u><a href="#">Lilium parryi</a></u>	lemon lily	Liliaceae	perennial bulbiferous herb	Jul-Aug	1B.2	S3	G3	

<a href="#"><u>Lycium torreyi</u></a>	Torrey's box-thorn	Solanaceae	perennial shrub	(Jan-Feb)Mar-Jun(Sep-Nov)	4.2	S3	G4G5
<a href="#"><u>Mentzelia tricuspidis</u></a>	spiny-hair blazing star	Loasaceae	annual herb	Mar-May	2B.1	S2	G4
<a href="#"><u>Microseris douglasii ssp. platycarpa</u></a>	small-flowered microseris	Asteraceae	annual herb	Mar-May	4.2	S4	G4T4
<a href="#"><u>Myosurus minimus ssp. apus</u></a>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
<a href="#"><u>Nama stenocarpa</u></a>	mud nama	Namaceae	annual / perennial herb	Jan-Jul	2B.2	S1S2	G4G5
<a href="#"><u>Navarretia fossalis</u></a>	spreading navarretia	Polemoniaceae	annual herb	Apr-Jun	1B.1	S2	G2
<a href="#"><u>Orcuttia californica</u></a>	California Orcutt grass	Poaceae	annual herb	Apr-Aug	1B.1	S1	G1
<a href="#"><u>Pseudognaphalium leucocephalum</u></a>	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	2B.2	S2	G4
<a href="#"><u>Sidalcea neomexicana</u></a>	salt spring checkerbloom	Malvaceae	perennial herb	Mar-Jun	2B.2	S2	G4
<a href="#"><u>Symphyotrichum defoliatum</u></a>	San Bernardino aster	Asteraceae	perennial rhizomatous herb	Jul-Nov(Dec)	1B.2	S2	G2
<a href="#"><u>Tortula californica</u></a>	California screw-moss	Pottiaceae	moss		1B.2	S2S3	G2G3
<a href="#"><u>Trichocoronis wrightii var. wrightii</u></a>	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	2B.1	S1	G4T3

### Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 19 February 2019].

### Search the Inventory

[Simple Search](#)

[Advanced Search](#)

[Glossary](#)

### Information

[About the Inventory](#)

[About the Rare Plant Program](#)

[CNPS Home Page](#)

[About CNPS](#)

[Join CNPS](#)

### Contributors

[The Calflora Database](#)

[The California Lichen Society](#)

[California Natural Diversity Database](#)

[The Jepson Flora Project](#)

[The Consortium of California Herbaria](#)

[CalPhotos](#)

### Questions and Comments

[rareplants@cnps.org](mailto:rareplants@cnps.org)





U.S. Fish and Wildlife Service



# National Wetlands Inventory

## San Jacinto Esplanade Widening



February 19, 2019

### Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
	Freshwater Pond		Riverine		

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.





October 8, 2019

Stuart McKibbin, City Engineer  
City of San Jacinto  
166 E. Main St., Ste. 2  
San Jacinto, CA 92583

**Subject:** Results of the Focused Burrowing Owl Surveys for the City of San Jacinto Esplanade Widening Phase I Project, Riverside County, California

Dear Ms. Alvarez:

This letter report summarizes the methodology and findings of focused burrowing owl (*Athene cunicularia*, BUOW) surveys conducted by ESA for the Esplanade Widening Phase I Project (Project) located in the Cities of San Jacinto and Hemet, Riverside County, California. The surveys were conducted within all potentially suitable habitat of the Project site and within a 500-foot survey buffer surrounding the perimeter of the Project site (collectively, the “study area”). Burrowing owl is a covered species under the MSHCP and is also a California Species of Special Concern as determined by California Department of Fish and Game (CDFW). As such, both the Western Riverside County Regional Conservation Authority (RCA) and CDFW will be consulted regarding potential impacts to the species should they occur and relocation efforts should they be required.

## Study Area Description

The study area is located in the Cities of San Jacinto and Hemet, Riverside County, California, along Esplanade Avenue, between Warren Road on the west and Sanderson Avenue on the east, as shown in **Figure 1, Regional Map** (attached). The study area is depicted on the U.S. Geological Survey (USGS) 7.5' Lakeview<sup>1</sup> topographic quadrangle map between Sections 31 and 32, Township 4 South, Range 1 West, and Sections 5 and 6, Township 5 South, Range 1 West, as shown in **Figure 2, Vicinity Map** (attached). The study area is located entirely within a Burrowing Owl Survey Area as identified by the MSHCP.

The topography of the study area consists of flat areas with very little topographic changes. Elevations range from approximately 1,504 feet above mean sea level (MSL) in the western portion of the study area to 1,521 feet above MSL in the eastern portion. Surrounding land uses include a mix of residential uses in the southwest and agricultural fields along the northern survey area and to the southeast.

## Plant Communities

### *Land Cover Vegetation Communities*

---

<sup>1</sup> United States Geological Survey (USGS). 2018. *Lakeview*, California. Topographic quadrangle map.

As shown in **Figure 3, Plant Community/Land Cover Map**, the study area is primarily comprised of agricultural lands, developed areas and disturbed areas that are devoid of vegetation, with minor areas that support sprangletop grass patches and open water. A description of these plant communities/land covers is included below.

### **Agricultural Lands**

The agricultural lands within the Project area are characterized by the presence of crops, primarily alfalfa, and dairy farming/grazing lands, in which highly disturbed open fields are dominant. Percent cover ranged from 0% within the dairy farm to 100% in areas containing low growing grasses meant for grazing. Agricultural lands are located throughout the study area.

### **Developed and Disturbed Areas**

Developed areas are characterized by the presence of paved roads, residences, commercial facilities and associated landscaped areas containing non-native ornamental plants. Developed areas are located throughout the study area.

Disturbed areas are characterized by signs of recent disturbance, typically in the form of disking for agricultural purposes or roadside maintenance, and the presence of non-native plants such as red brome (*Bromus madritensis* ssp. *rubens*), whitestem filaree (*Erodium moschatum*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), cheese-weed (*Malva parvifolia*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), and a number of other non-native plants. Native plants observed within disturbed areas included annual sunflower (*Helianthus annuus*) and Menzies' fiddleneck (*Amsinckia menziesii*). Percent cover ranged from 0% within newly disked areas to 100% in areas containing fallow fields or previously developed lands. Disturbed areas are located throughout the study area.

A variety of planted trees on the Project site occur along roadways and residential areas. These include red iron bark (*Eucalyptus sideroxylon*), liquidambar (*Liquidambar styraciflua*), olive (*Olea europaea*), prickly pear (*Opuntia* sp.), palo verde (*Parkinsonia aculeata*), pine trees (*Pinus* sp.), cottonwood (*Populus* sp.), Peruvian pepper tree (*Schinus molle*), and Mexican fan palm (*Washingtonia robusta*).

Bare ground is used to characterize habitats that have hard, compacted soils and are devoid of vegetation, which occurs at the western end of the Project site and along Sanderson Avenue. Percent cover is 0% within bare ground areas.

### **Sprangletop Grass Patches**

Patches of sprangletop grass (*Leptochloa fusca*) are located at the northeastern and southeastern corners of Esplanade Avenue and Warren Road. This native community consists of saturated soils and hydrophytic vegetation. This community has sprangletop grass as the dominant species and some areas also contain small amounts of tubered bulrush (*Bolboschoenus glaucus*), northern willow herb (*Epilobium ciliatum*), scarlet pimpernel (*Lysimachia arvensis*), white sweetclover (*Melilotus albus*), and annual beard grass (*Polypogon monspeliensis*). Percent cover ranged from 50% to 70% within this community.



## Open Water

Open water occurred within a roadside ditch located at the northeast corner of Esplanade Avenue and Warren Road. Sprangletop grass patches occur along the margins of the ditch. Percent cover ranged was 0% within this community. As shown on Figure 2, the San Diego Canal and an agricultural pond located to the south of Esplanade Avenue and west of Cawston Avenue are also present in the vicinity, both of which contain open water.

## Methodology

Since the study area is within a Burrowing Owl Survey Area identified in the MSHCP and it contains suitable habitat for the species, Step I and Step II burrowing owl surveys are required. Surveys were conducted in accordance with the County of Riverside's 2006 *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*.<sup>2</sup>

### Step I - Habitat Assessment

The Step I habitat assessment was conducted within the study area, which comprised the Project area and a 150-meter (approximately 500-foot) buffer zone around the perimeter of the Project area. To determine presence/absence of suitable habitat for BUOW, the Project area was thoroughly searched for areas containing suitable habitat indicators. Key indicators include the presence of low-growing vegetation within grassland, desert, and scrublands; small fossorial mammals and mammal burrows; and isolated, man-made features (e.g., cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement). The Step I habitat assessment was conducted on February 8, 2019 prior to performing the first Step II focused survey.

### Step II – Locating Burrows and Burrowing Owls

Step II surveys were conducted within the study area and focused on the detection of BUOW individuals, small fossorial mammal burrows potentially suitable for BUOW, and BUOW diagnostic sign (e.g., molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance). Areas within the off-site 500-foot survey buffer were surveyed by foot where accessible, or with the use of binoculars in areas that were inaccessible.

Focused surveys were conducted on June 28, July 12, July 24 and August 9, 2019 by a combination of ESA Biologists including Lily Sam, Daryl Koutnik, Karl Fairchild, and Ryan Villanueva. Surveys were conducted between one hour prior to and two hours after sunrise during suitable weather conditions. Transects were not utilized as access to private property was not granted during the survey effort and because the study area is mostly a linear transportation corridor. However, all suitable areas were scanned with binoculars from road shoulders within the study area. Weather conditions consisted of clear to partially cloudy skies with winds between 0 and 5 miles per hour (mph) and air temperatures ranging from 55° to 80° Fahrenheit. Survey data is presented in **Table 1, Survey Data**, below.

---

<sup>2</sup> County of Riverside. 2006. *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*. March 2006.

**TABLE 1  
SURVEY DATA**

Date	Time Start-End	Wind (mph) Start-End	Temperature (°F) Start-End	Cloud Cover (%) Start-End	Results	Surveyor
6/28/2019	06:00 – 09:00	0-5 / 0-5	55 - 78	0 - 0	No BUOW or BUOW sign	L. Sam D. Koutnik
7/12/2019	06:25 – 07:41	0 / 0-1	74 - 80	0 - 0	No BUOW or BUOW sign	K. Fairchild
7/24/2019	05:42 – 07:00	0 / 0	76 - 78	10 - 15	No BUOW or BUOW sign	K. Fairchild R. Villanueva
8/9/2019	05:50 – 07:56	0 / 0	62 – 72	0 – 0	No BUOW or BUOW sign	L. Sam R. Villanueva

SOURCE: ESA, 2019

## Results

BUOW or diagnostic BUOW sign was not observed within the study area during the habitat assessment or four focused surveys. The following sections present the findings of the Step I Habitat Assessment and Step II Locating Burrows and Burrowing Owls focused surveys.

### Step I - Habitat Assessment

Results of the Step I Habitat Assessment concluded that the study area exhibited suitable BUOW habitat consisting of disturbed, low-growing vegetation and bare ground. This was limited to areas containing disturbed land cover, unplanted agricultural lands and grazing lands. Suitable burrows were observed within the study area and are discussed in detail below in the results for Step II surveys.

### Step II – Locating Burrows and Burrowing Owls

As shown in Table 1, no individual BUOW, active BUOW burrows, or BUOW sign were observed within the study area during the four focused surveys. Several different suitable burrow types were observed within the study area and included fossorial mammal burrows most likely created by California ground squirrel (*Otospermophilus beecheyi*) with entrances approximately 4 to 6 inches wide, culverts and debris piles, as depicted in **Figure 4, Burrowing Owl Survey Results**. A majority of the fossorial mammal burrows and all of the debris piles were observed in the eastern portion of the study area near the intersection of Esplanade Avenue and Sanderson Avenue. Several California ground squirrels were observed in various locations throughout the study area. As such, additional suitable burrows for BUOW could be created prior to the start of project activities.

The culverts were a minimum of 10 inches in diameter and were scattered along Esplanade Avenue within ditches that occur to both the north and south of and run parallel to Esplanade Avenue. The culverts generally only convey water during and shortly after rain events as evidenced by the lack of water in all but the westernmost two culverts during the June, July and August surveys and the presence of water in all culverts south of Esplanade Avenue during the February habitat assessment. The westernmost culverts located at the southeastern and northeastern corners of the Esplanade Avenue-Warren Road intersection contained water during all visits to the site and are therefore not suitable for burrowing owls as they convey perennial flows.

A complete list of all avian species observed within the study area is included in **Appendix A, *Avian Compendium***, attached.

## **Recommended Minimization and Avoidance Measures**

Due to the presence of potentially suitable habitat, a pre-construction survey for burrowing owl within 30 days of Project activities is required pursuant to the MSHCP. If the survey finds burrowing owls on the site, the results should be conveyed to the Wildlife Agencies within three business days of discovering the owls, and a Burrowing Owl Protection and Relocation Plan the Project would need to be prepared in consultation with the RCA. If burrowing owls are determined present during the 30-day pre-construction survey, occupied burrows shall be avoided to the greatest extent feasible. If occupied burrows cannot be avoided, the Burrowing Owl Protection and Relocation Plan will describe methodology for exclusion, including the potential for active relocation. The Burrowing Owl Exclusion Plan will be prepared in accordance with the MSHCP and CDFW guidelines.

In accordance with the MSHCP, take of active nests is not allowed. Passive relocation (i.e., the exclusion of burrowing owl from burrows followed by collapsing burrows free of BUOW) will occur when owls are present outside the nesting season. The Wildlife Agencies may require active relocation for the burrowing owl to create burrows in the MSHCP reserve for the establishment of new colonies. Translocation sites, if required, will be identified in consultation with CDFW and RCA taking into consideration unoccupied habitat areas, presence of burrowing mammals, existing colonies, and effects to other MSHCP Covered Species.

On behalf of ESA, it has been a pleasure preparing this information for you. Please do not hesitate to contact Daryl Koutnik at (949) 753-7001 or Ryan Villanueva at (213) 599-4300 if you have any questions or comments regarding this report.

Sincerely,



Ryan Villanueva  
Senior Biologist



Daryl Koutnik  
Principal Associate, Biological Resources

### Attachments

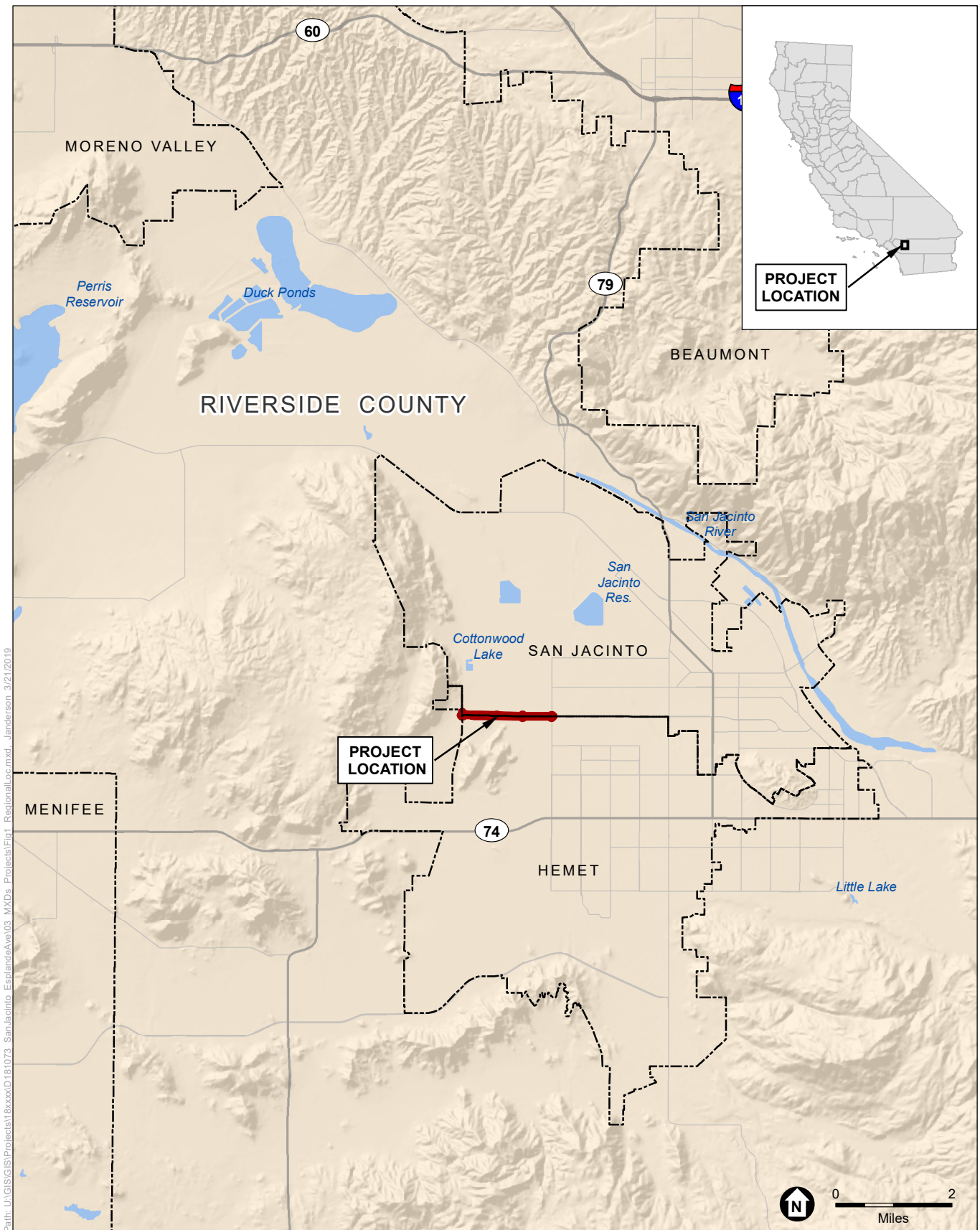
Figure 1: Regional Map

Figure 2: Vicinity Map

Figure 3: Plant Communities/Land Cover Map

Figure 4: Burrowing Owl Survey Results

Appendix A: Avian Compendium

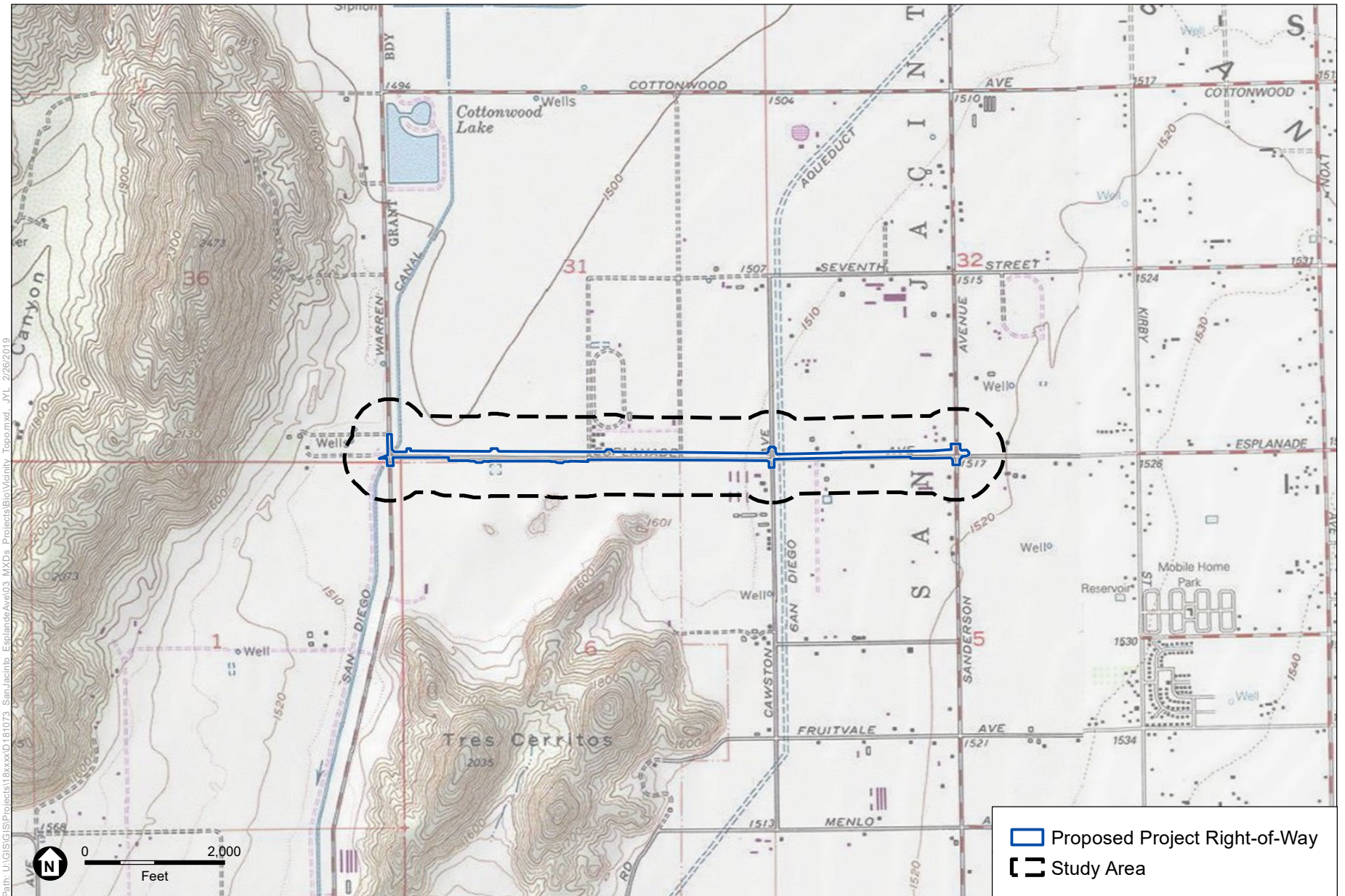


SOURCE: ESRI

San Jacinto Esplanade Avenue

**Figure 1**  
Regional Map



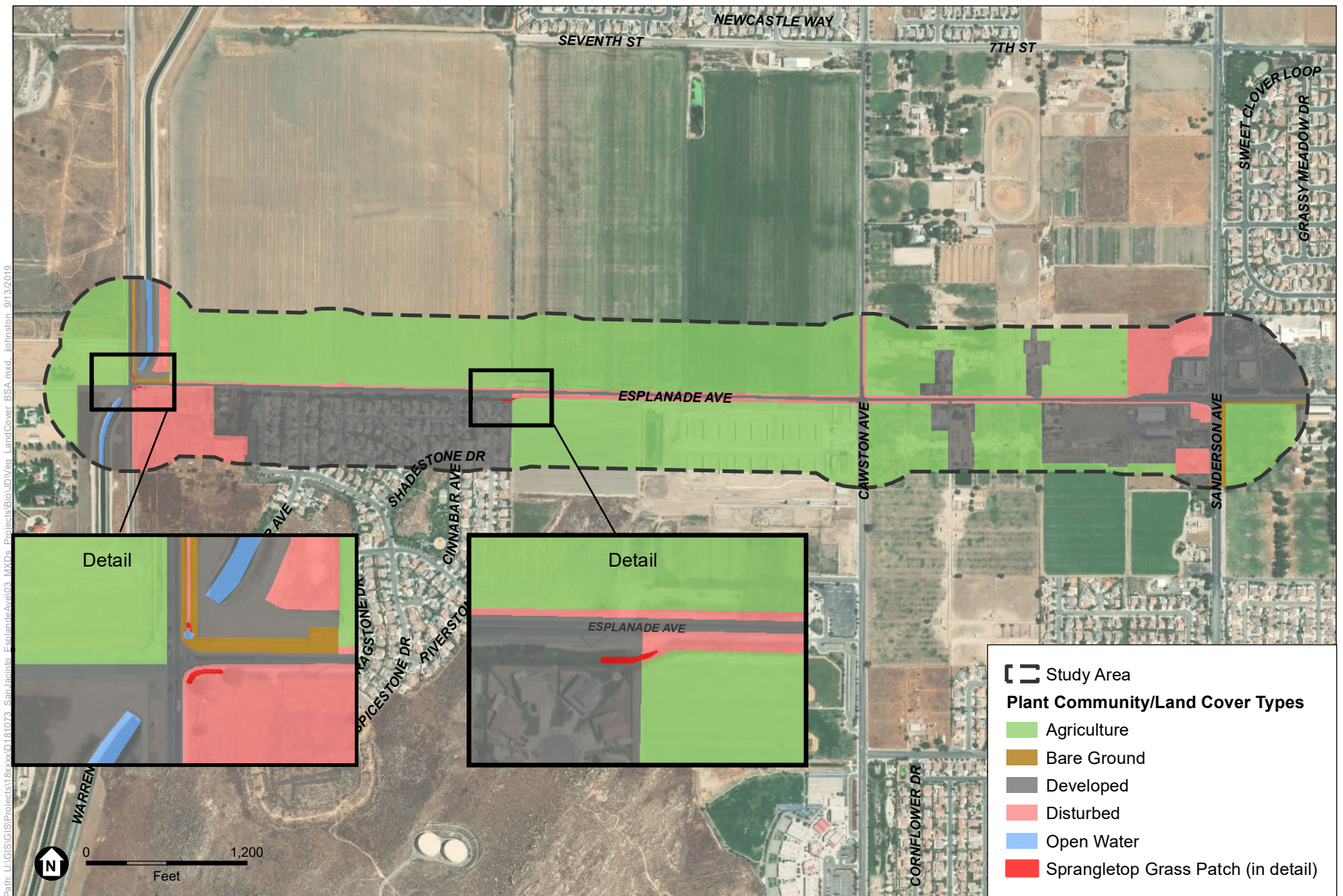


SOURCE: USGS 7.5' Topo Quad Lakeview 1976, 1980; San Jacinto 1978, 1980

San Jacinto Esplanade Avenue

**Figure 2**  
Vicinity Map



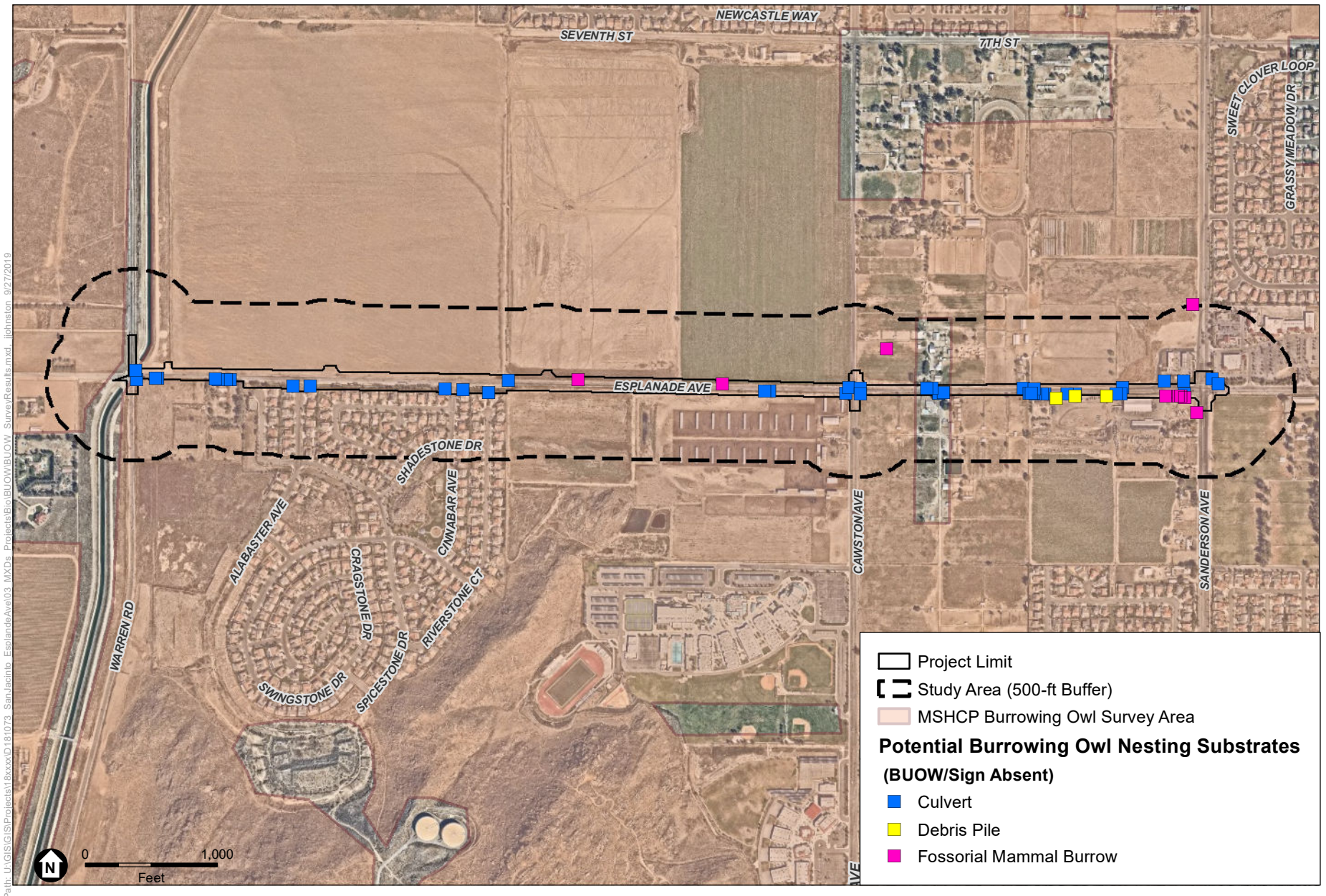


SOURCE: ESRI

San Jacinto Esplanade Avenue

**Figure 3**  
Plant Community/Land Cover Map





SOURCE: ESRI 2018; County of Riverside 2019

San Jacinto Esplanade Avenue  
**Figure 4**  
 Burrowing Owl Survey Results

Attachment A  
**Avian Compendium**

# APPENDIX A – AVIAN COMPENDIUM

---

## Scientific Name

### Anatidae

*Anas platyrhynchos*

### Recurvirostridae

*Himantopus mexicanus*

### Charadriidae

*Charadrius vociferus*

### Phalacrocoracidae

*Phalacrocorax auritus*

### Ardeidae

*Ardea alba*

*Bubulcus ibis*

*Egretta thula*

### Threskiornithidae

*Plegadis chihi*

### Cathartidae

*Cathartes aura*

### Accipitridae

*Accipiter cooperii*

*Buteo jamaicensis*

*Circus hudsonius*

### Falconidae

*Falco sparverius*

### Columbidae

\* *Columba livia*

\* *Streptopelia decaocto*

*Zenaida macroura*

### Trochilidae

*Calypte anna*

### Tyrannidae

*Sayornis nigricans*

*Sayornis saya*

*Tyrannus verticalis*

*Tyrannus vociferans*

### Corvidae

*Corvus brachyrhynchos*

*Corvus corax*

### Hirundinidae

*Hirundo rustica*

*Petrochelidon pyrrhonota*

## Common Name

### Ducks, Geese, and Waterfowl

mallard

### Stilts and Avocets

black-necked stilt

### Plovers and Lapwings

killdeer

### Comorants and Shags

double-crested cormorant

### Hérons

great egret

cattle heron

snowy egret

### Ibises and Spoonbills

white-faced ibis

### New World Vultures

turkey vulture

### Hawks

Cooper's hawk

red-tailed hawk

northern harrier

### Falcons

American kestrel

### Pigeons and Doves

rock pigeon

Eurasian collared-dove

mourning dove

### Hummingbirds

Anna's hummingbird

### Tyrant Flycatchers

black phoebe

Say's phoebe

western kingbird

Cassin's kingbird

### Jays and Crows

American crow

common raven

### Swallows

barn swallow

cliff swallow

**Scientific Name***Stelgidopteryx serripennis***Troglodytidae***Thryomanes bewickii***Mimidae***Mimus polyglottos***Sturnidae**\* *Sturnus vulgaris***Emberizidae***Melospiza crissalis**Melospiza melodia***Cardinalidae***Passerina caerulea***Icteridae***Agelaius phoeniceus**Euphagus cyanocephalus**Icterus cucullatus**Quiscalus mexicanus**Sturnella neglecta***Fringillidae***Haemorhous mexicanus**Spinus psaltria***Passeridae***Passer domesticus***Common Name**

northern rough-winged swallow

**Wrens**

Bewick's wren

**Thrashers**

northern mockingbird

**Starlings**

European starling

**Emberizine Sparrows and Allies**

California towhee

song sparrow

**Buntings, Grosbeaks, and Tanagers**

blue grosbeak

**Blackbirds**

red-winged blackbird

Brewer's blackbird

hooded oriole

great-tailed grackle

western meadowlark

**Finches**

house finch

lesser goldfinch

**New World Sparrows**

house sparrow

October 8, 2019

Stuart McKibbin, City Engineer  
City of San Jacinto  
166 E. Main St., Ste. 2  
San Jacinto, CA 92583

**Subject:** Results of the Focused Special-Status Plant Survey for the City of San Jacinto Esplanade Widening Phase I Project, Riverside County, California

Dear Ms. Alvarez:

This letter report summarizes the methodology and findings of a focused special-status plant survey, including Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) narrow endemic plant species, conducted by ESA for the Esplanade Widening Phase I Project (Project) located in the Cities of San Jacinto and Hemet, Riverside County, California. The survey was conducted within all potentially suitable habitat of the Project site and within a 500-foot survey buffer surrounding the perimeter of the Project site (collectively, the “study area”).

The survey was conducted to ensure compliance with the MSHCP general survey requirements and Narrow Endemic Plant Species (NEPS) *Additional Survey Needs and Procedures*, which include protection for several native plant species found within the MSHCP area. Portions of the Project site are within the MSHCP’s NEPS survey area, as well as Subunit 4: Hemet Vernal Pool Areas. The following NEPS species are protected under the MSHCP and required surveys: Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*) and Wrights's trichocoronis (*Trichocoronis wrightii* var. *wrightii*).

The study area is located within both a MSHCP Criteria Cell and a Cell Group. A Criteria Cell is defined as a unit within the Criteria Area generally 160 acres in size, approximating one quarter section. A MSHCP Cell Group is defined as an identified grouping of Criteria Cells within the Criteria Area. In addition, the Criteria Cell that overlaps with the study area requires the assembly of a Non-contiguous Habitat Block, which is defined as a block of habitat not connected to other habitat areas.

## Study Area Description

The study area is located in the Cities of San Jacinto and Hemet, Riverside County, California, along Esplanade Avenue, between Warren Road on the west and Sanderson Avenue on the east, as shown in **Figure 1, Regional Map** (attached). The study area is depicted on the U.S. Geological Survey (USGS) 7.5' Lakeview<sup>1</sup> topographic

---

<sup>1</sup> United States Geological Survey (USGS). 2018. Lakeview, California, 7.5-minute topographic quadrangle map.



quadrangle map between Sections 31 and 32, Township 4 South, Range 1 West, and Sections 5 and 6, Township 5 South, Range 1 West, as shown in **Figure 2**, *Vicinity Map* (attached). The study area is located entirely within a Burrowing Owl Survey Area as identified by the MSHCP in addition to the NEPS Survey Area.

The topography of the study area consists of flat areas with very little topographic changes. Elevations range from approximately 1,504 feet above mean sea level (MSL) in the western portion of the study area to 1,521 feet above MSL in the eastern portion. Surrounding land uses include a mix of residential uses in the southwest and agricultural fields along the northern study area and to the southeast.

The study area includes a portion of MSHCP Criteria Cell 3291 located south of Esplanade Avenue and east of Warren Road. Although no Project components are anticipated to occur within Criteria Cell, reserve assembly for Criteria Cell 3291 includes the contribution to the assembly of Proposed Non-contiguous Habitat Block 7 and will focus on grassland on approximately 5% of the Cell Group area focusing in the western portion of the Cell Group.

## **Plant Communities**

### ***Land Cover Vegetation Communities***

As shown in **Figure 3**, *Plant Community/Land Cover Map*, the study area is primarily comprised of agricultural lands, developed areas and disturbed areas that are devoid of vegetation, with minor areas that support sprangletop grass patches and open water. A description of these plant communities/land covers is included below.

### **Agricultural Lands**

The agricultural lands within the Project area are characterized by the presence of crops, primarily alfalfa, and dairy farming/grazing lands, in which highly disturbed open fields are dominant. Agricultural lands are located throughout the study area.

### **Developed and Disturbed Areas**

Developed areas are characterized by the presence of paved roads, residences, commercial facilities and associated landscaped areas containing non-native ornamental plants. Developed areas are located throughout the study area.

Disturbed areas are characterized by signs of recent disturbance, typically in the form of disking for agricultural purposes or roadside maintenance, and the presence of non-native plants such as red brome (*Bromus madritensis* ssp. *rubens*), whitestem filaree (*Erodium moschatum*), prickly lettuce (*Lactuca serriola*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), cheeseweed (*Malva parvifolia*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), and a number of other non-native plants. Native plants observed within disturbed areas included annual sunflower (*Helianthus annuus*) and Menzies' fiddleneck (*Amsinckia menziesii*). Disturbed areas are located throughout the study area.



A variety of planted trees on the Project site occur along roadways and residential areas. These include red iron bark (*Eucalyptus sideroxylon*), liquidambar (*Liquidambar styraciflua*), olive (*Olea europaea*), palo verde (*Parkinsonia aculeata*), pine trees (*Pinus* sp.), cottonwood (*Populus* sp.), Peruvian pepper tree (*Schinus molle*), and Mexican fan palm (*Washingtonia robusta*).

Bare ground is used to characterize habitats that have hard, compacted soils and are devoid of vegetation, which occurs at the western end of the Project site and along Sanderson Avenue.

### **Sprangletop Grass Patches**

Patches of sprangletop grass (*Leptochloa fusca*) are located at the northeastern and southeastern corners of Esplanade Avenue and Warren Road. This native community consists of saturated soils and hydrophytic vegetation. This community has sprangletop grass as the dominant species and some areas also contain small amounts of tubered bulrush (*Bolboschoenus glaucus*), northern willow herb (*Epilobium ciliatum*), scarlet pimpernel (*Lysimachia arvensis*), white sweetclover (*Melilotus albus*), and annual beard grass (*Polypogon monspeliensis*).

### **Open Water**

Open water occurred within a roadside ditch located at the northeast corner of Esplanade Avenue and Warren Road. Sprangletop grass patches occur along the margins of the ditch. As shown on Figure 2, the San Diego Canal and an agricultural pond located to the south of Esplanade Avenue and west of Cawston Avenue are also present in the vicinity, both of which contain open water.

## **Methodology**

The study area is within a MSHCP NEPS survey area and therefore a NEPS survey is required. Surveys were conducted in accordance with the MSHCP protocol, including the 2001 CNPS Botanical Survey Guidelines, 2002 USFWS General Rare Plant Survey Guidelines and 2009 CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities.<sup>2,3,4</sup> NEPS for this location included Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*) and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*).

Prior to conducting the survey, a database search of the CDFW California Natural Diversity Data Base (CNDDDB) (CDFW 2019), was conducted to query NEPS and other special-status plants species that have been recorded within or in close proximity to the study area<sup>5</sup>.

---

<sup>2</sup> California Native Plant Society (CNPS). 2001. Botanical Survey Guidelines.

<sup>3</sup> U.S. Fish and Wildlife Service (USFWS). 2002. General Rare Plant Survey Guidelines..

<sup>4</sup> California Department of Fish and Wildlife (CDFW). 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities.

<sup>5</sup> CDFW. 2019. California Natural Diversity Database (CNDDDB) Commercial version, Information dated February 8, 2018. Rarefind 5 query results for study area.

Surveys for special-status plants were conducted by ESA biologists Lily Sam and Daryl Koutnik on June 28, 2019. The survey date collectively encompassed the flowering periods of all NEPS plants potentially occurring within the study area with the exception of Munz's onion, whose flowering period ends in May. Munz's onion occurs in seasonally moist clay soils in grassy openings within coastal sage scrub, chaparral, juniper woodland, and valley and foothill grasslands, such habitats of which are not present.

Meandering transects were walked across all accessible portions of the study area and biological resources, including vegetation and special-status plants (if observed), were mapped on a 1" = 300' scale aerial photograph and recorded using Geographic Information Systems (GIS) technology. Plant species observed were recorded and a list of all plant species found was compiled (Appendix A, *Floral Compendium*, attached). Plant species nomenclature follows that of Baldwin et al.<sup>6</sup>

## Results

Based on the CNDDDB query, no NEPS occurrences were located within or adjacent to the study area. However, occurrences for the Criteria Area Species smooth tarplant (*Centromadia pungens* ssp. *laevis*, 2010) and salt spring checkerbloom (*Sidalcea neomexicana*, 1966) were located within the study area. In addition, occurrences for San Jacinto crownscale (*Atriplex coronata* var. *notatior*, 2005) and Davidson's saltscale (*Atriplex serenana* var. *davidsonii*, 2005) were located approximately 0.2 mile south and 0.1-mile south of the study area respectively.

Special-status plant species surveyed for included NEPS and MSHCP-covered plant species with known occurrences within or adjacent to the study area; and are provided in Table 1, *Special-Status Plant Species*, below, along with their sensitivity rankings. In addition, the survey noted all remaining plant species covered by the MSHCP, if observed. Smooth tarplant was the only special-status or MSHCP-covered species observed within the study area. NEPS species were not observed within the study area and are not anticipated to occur within the study area due to the species being absent during the 2019 survey, an absence of suitable habitat and the lack of historical occurrences in the area.<sup>7</sup>

Smooth tarplant, while not a NEPS species, is a Criteria Area Species and a California Rare Plant Rank (CRPR) 1B.1 species. The species was observed within the study area during focused surveys (Figure 4, *Special-status Plant Species Survey Results*, attached). This included approximately 6 individuals within the project site which are anticipated to be impacted as part of project activities. Of these 6 individuals 2 occur at the northwestern corner of Esplanade Avenue and Warren Road and 4 occur at the southwestern corner of Esplanade Avenue and Warren Road. An additional approximately 92 individuals were observed within the study area of which 39 individuals from four different patches will likely require flagging for avoidance. Patches of smooth tarplant anticipated to be flagged occur in the southeastern, southwestern and northeastern corners of Esplanade Avenue and Warren Road.

Smooth tarplant observations were mostly limited to the westernmost portion of the study area centered around the intersection of Esplanade Avenue and Warren Road. An additional 1,000 individuals were observed outside of

---

<sup>6</sup> Baldwin, B.G., et al. 2012. The Jepson Manual: Vascular Plants of California, Second Edition. University of California Press, Berkeley.

<sup>7</sup> California Department of Fish and Wildlife (CDFW). 2019. California Natural Diversity Database (CNDDDB) Commercial version. Retrieved August 26, 2019. Rarefind 5 query results for Lakeview and surrounding USGS 7.5-minute quadrangles.

the study area in areas located just east of the San Diego Canal and north of Esplanade Avenue as well as areas south of Esplanade Avenue both east and west of Warren Road.

**Table 1: Special-status Plant Species**

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Preferred Habitat	Distribution	Occurrence On-site
ANGIOSPERMS (DICOTYLEDONS)								
Alliaceae	Onion Family							
<i>Allium munzii</i>	Munz's onion	Mar.-May	NONE	NONE	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grass-land.	Riverside County.	Not encountered
<b>Comments:</b> This species is not expected to occur due to the negative results of a focused survey conducted for this species.								
Asteraceae	Aster Family							
<i>Ambrosia pumila</i>	San Diego am-brosia	Apr.-Oct.	NONE	NONE	1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/sandy loam or clay, often in disturbed areas, sometimes alkaline.	Riverside, San Diego Counties, and Baja Califor-nia.	Not encountered
<b>Comments:</b> This species is not expected to occur due to the negative results of a focused survey conducted for this species.								
<i>Centromadia (Hemizo-nia) pungens</i> ssp. <i>laevis</i>	smooth tarplant	Apr.-Sept.	NONE	NONE	1B.1	Valley & foothill grasslands with poorly drained alkaline soil conditions at low elevations.	Kern, Los Angeles, Or-ange, Riverside, Santa Barbara, San Bernardino, and San Diego Counties.	Observed
<b>Comments:</b> This species is expected to occur due to positive results of a focused survey conducted for this species. Approximately 98 individuals were observed within the study area during the survey.								
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's tricho-coronis	May-Sept.	None	None	2B.1	Vernal Pools, marshes & swamps, ri-parian forests, meadows and seeps.	Colusa, Merced, Riverside, San Joaquin, Sutter Coun-ties, Baja California, Texas.	Not encountered
<b>Comment:</b> This species is not expected to occur due to the negative results of a focused survey conducted for this species.								
Chenopodiaceae	Goosefoot Family							
<i>Atriplex coronata</i> var. <i>notator</i>	San Jacinto Valley crownscale	April-August	FE	NONE	1B.1	Alkali Sink, Freshwater Wetlands, wet-land-riparian; playas, vernal-pools; be-low 1,500 ft.	Kern, Riverside and San Diego Counties.	Not encountered

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Preferred Habitat	Distribution	Occurrence On-site
<b>Comment:</b> This species is not expected to occur due to the negative results of a focused survey conducted for this species.								
<i>Atriplex serenana</i> var. <i>davidsonii</i>	Davidson's salt-scale	April-October	NONE	NONE	1B.2	Coastal Sage Scrub, wetland-riparian; below 1,600 ft.	Los Angeles, Orange, Riverside, Santa Barbra and Ventura Counties.	Not encountered
<b>Comment:</b> This species is not expected to occur due to the negative results of a focused survey conducted for this species.								
<b>Crassulaceae</b>	<b>Stonecrop Family</b>							
<i>Dudleya multicaulis</i>	many-stemmed dudleya	May-Jul.	NONE	NONE	1B.2	Sage scrub, valley & foothill grassland; heavy clay soils or rock outcrops; below 2,000 ft.	Los Angeles County to San Onofre Mountain, San Diego County.	Not encountered
<b>Comment:</b> This species is not expected to occur due to the negative results of a focused survey conducted for this species.								
<b>Malvaceae</b>	<b>Mallow Family</b>							
<i>Sidalcea neomexicana</i>	Salt spring checkerbloom	May-June	NONE	NONE	2B.2	Creosote Bush Scrub, Chaparral, Yellow Pine Forest, Coastal Sage Scrub, Alkali Sink, wetland-riparian; playas; below 7,800 ft.	Alameda, Los Angeles, Monterey, Orange, Riverside, San Bernardino, San Diego and Ventura Counties.	Not encountered
<b>Comment:</b> This species is not expected to occur due to the negative results of a focused survey conducted for this species.								
<b>Poaceae</b>	<b>Grass Family</b>							
<i>Orcuttia californica</i>	California orcutt grass	Apr.-Jun.	FE	SE	1B.1	Vernal pools.	Los Angeles, Riverside, San Diego, San Luis Obispo Counties., and Baja California.	Not encountered
<b>Comments:</b> This species is not expected to occur due to the negative results of a focused survey conducted for this species.								
<b>Polemoniaceae</b>	<b>Phlox Family</b>							
<i>Navarretia fossalis</i>	spreading navarretia	Apr.-Jun.	None	None	1B.1	Chenopod scrub, Marshes and swamps, Playas, and Vernal pools.	Los Angeles, Riverside, San Diego, San Luis Obispo Counties, and Baja California.	Not encountered
<b>Comment:</b> This species is not expected to occur due to the negative results of a focused survey conducted for this species.								

VASCULAR PLANTS

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Preferred Habitat	Distribution	Occurrence On-site
<div>Key to Species Listing Status Codes</div> <div><div><div>FE</div><div>Federally Listed as Endangered</div></div><div><div>FT</div><div>Federally Listed as Threatened</div></div><div><div>FPE</div><div>Federally Proposed as Endangered</div></div><div><div>FPT</div><div>Federally Proposed as Threatened</div></div><div><div>FPD</div><div>Federally Proposed for Delisting</div></div><div><div>FC</div><div>Federal Candidate Species</div></div></div> <div><div><div>SE</div><div>State Listed as Endangered</div></div><div><div>ST</div><div>State Listed as Threatened</div></div><div><div>SCE</div><div>State Candidate for Endangered</div></div><div><div>SCT</div><div>State Candidate for Threatened</div></div><div><div>SR</div><div>State Rare</div></div><div><div>SFP</div><div>State Fully Protected</div></div></div> <div>California Native Plant Society (CNPS)</div> <div><div>Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere.</div><div>Rank 1B: Rare, threatened, or endangered in California and elsewhere.</div><div>Rank 2A: Presumed extirpated in California but common elsewhere.</div><div>Rank 2B: Rare, threatened, or endangered in California but more common elsewhere.</div><div>Rank 3: Plant species for which additional information is needed before rarity can be determined.</div><div>Rank 4: Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.</div></div> <div>CNPS Threat Ranks</div> <div><div>.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)</div><div>.2: Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat).</div><div>.3: Not very threatened in California (&lt;20% of occurrences threatened/low degree and immediacy of threat or no current threats known).</div></div> <div>Source: ESA, 2019.</div>								



## Recommended Minimization and Avoidance Measures

Since the study area contains a number of smooth tarplant individuals and six individuals are anticipated to be impacted, measures taken to avoid or mitigate potential impacts to the species are recommended for implementation during Project activities.

Smooth tarplant populations within 50 feet of the construction work area shall be flagged by a qualified biologist/botanist prior to the start of vegetation or ground-disturbing activities, and shall be avoided to the extent feasible. Prior to any vegetation or ground disturbance, a qualified biologist/botanist shall locate and flag any smooth tarplant individuals established within the construction work area. Because smooth tarplant is an annual plant and relocation of annual plants is generally not successful, seed will be collected from the flagged individuals that cannot be avoided. Smooth tarplant seed shall be collected prior to removal during the appropriate time of year, either from impacted individuals or from individuals in the adjacent vicinity. Seeds shall be directly sown in areas just outside the project site but within the study area in areas where smooth tarplant was previously observed. Seeds are anticipated to thrive given the number of individuals observed in the study area. A small portion of seed (no more than 20%) will be held in reserve in the event that the initial re-sowing does not provide a stable self-propagating population.

Since smooth tarplant is a MSHCP covered species and is anticipated to be impacted by project activities, a Determination of Biologically Equivalent or Superior Preservation (DBESP) will be required to be prepared for the project. The DBESP will follow the current template provided by the Resource Conservation Authority (RCA).

On behalf of ESA, it has been a pleasure preparing this information for you. Please do not hesitate to contact Daryl Koutnik at (949) 753-7001 or Ryan Villanueva at (213) 599-4300 if you have any questions or comments regarding this report.

Sincerely,



Ryan Villanueva  
Senior Biologist



Daryl Koutnik  
Principal Associate, Biological Resources

### Attachments

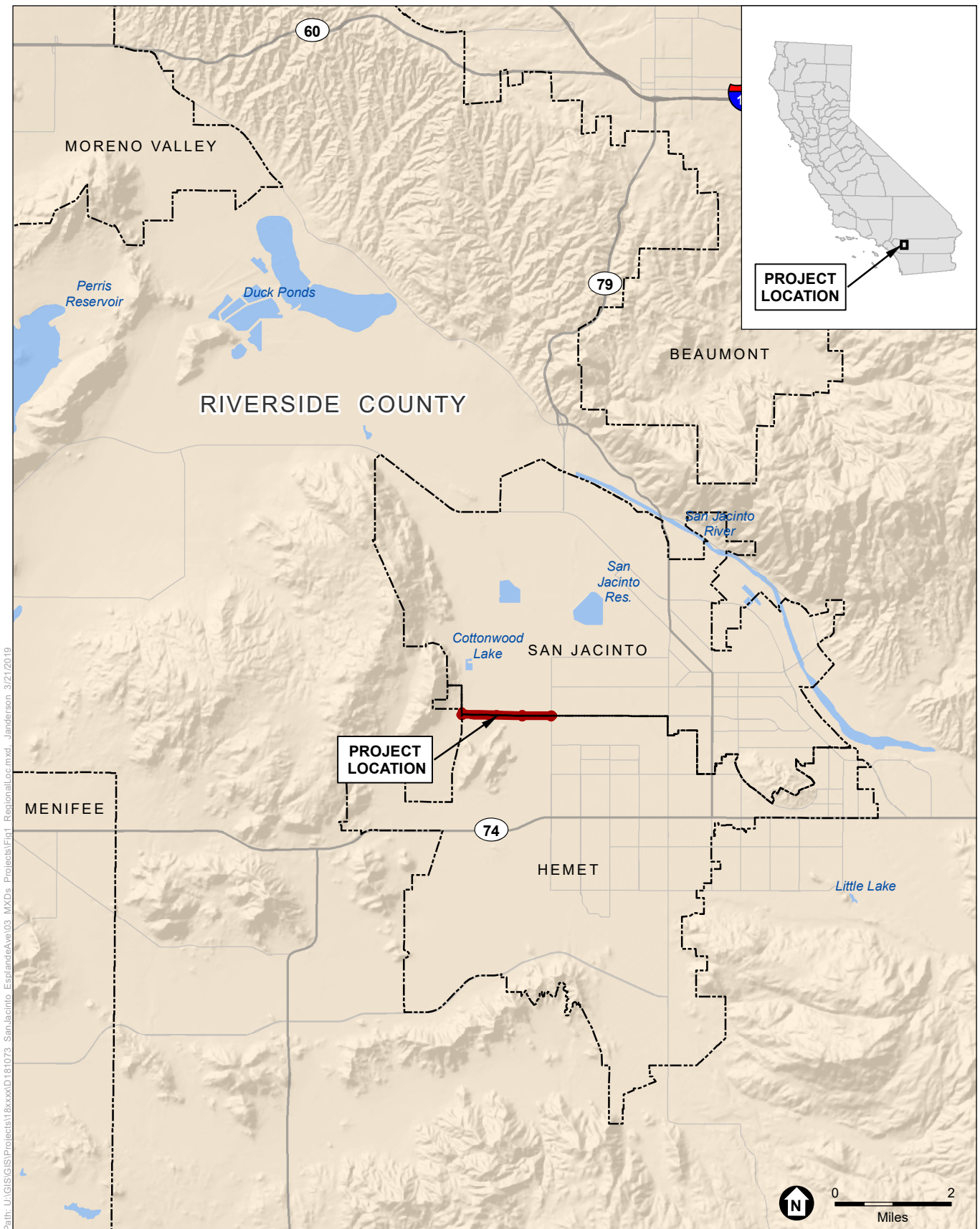
Figure 1: Regional Map

Figure 2: Vicinity Map

Figure 3: Plant Community/Land Cover Map

Figure 4: Special-status Plant Species Locations

Appendix A: Floral Compendium

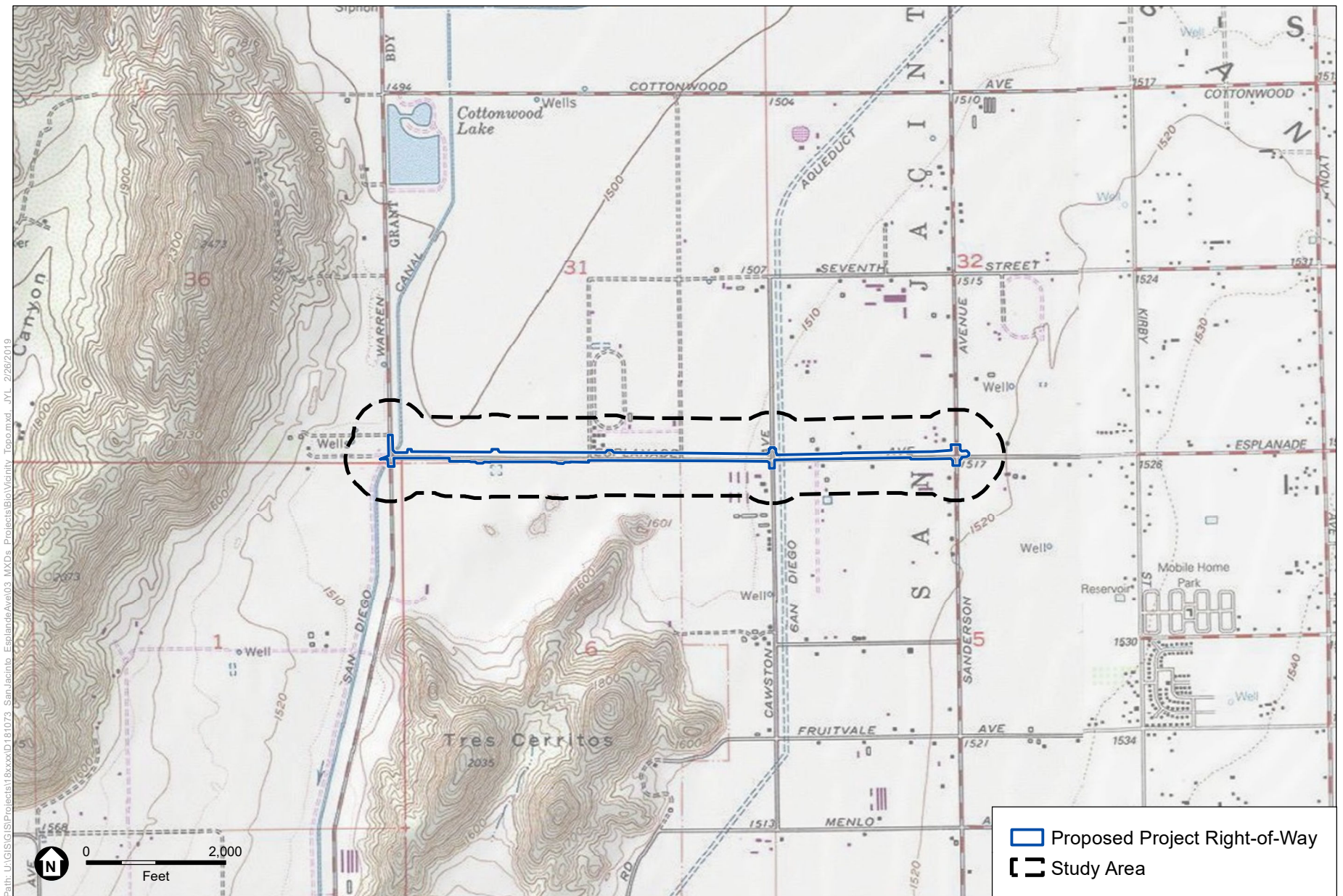


SOURCE: ESRI

San Jacinto Esplanade Avenue

**Figure 1**  
Regional Map



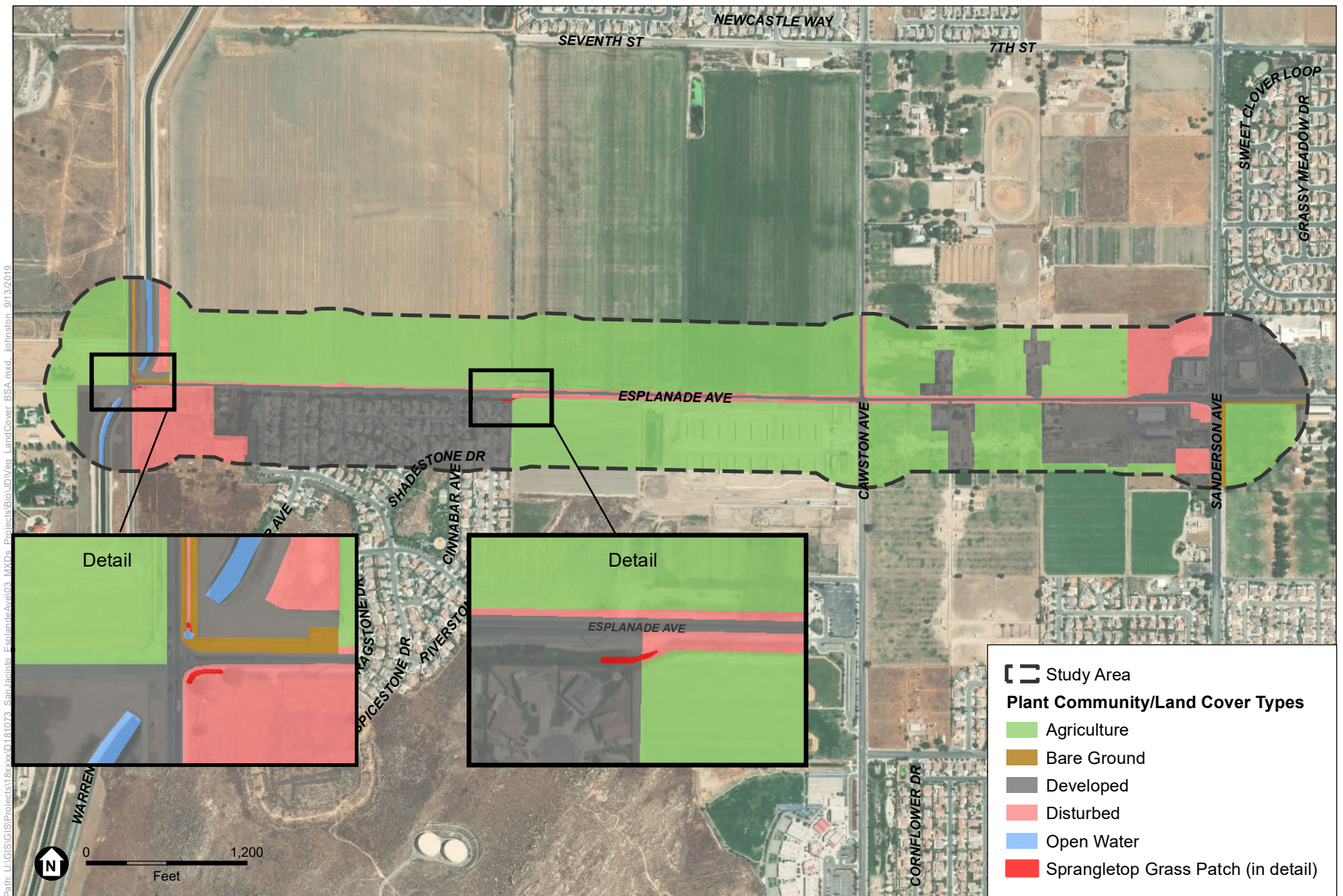


SOURCE: USGS 7.5' Topo Quad Lakeview 1976, 1980; San Jacinto 1978, 1980

San Jacinto Esplanade Avenue

**Figure 2**  
Vicinity Map



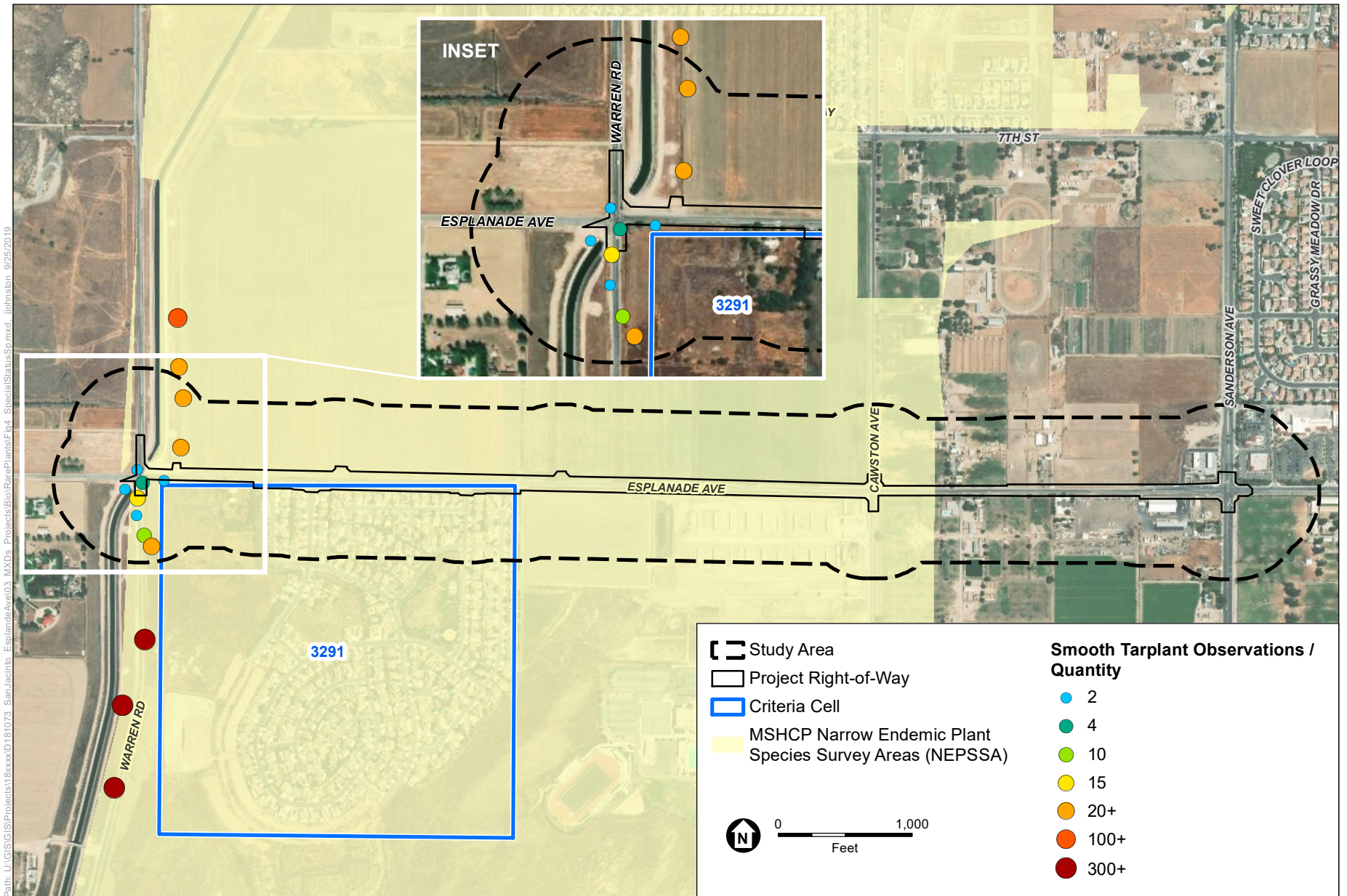


SOURCE: ESRI

San Jacinto Esplanade Avenue

**Figure 3**  
Plant Community/Land Cover Map





SOURCE: ESRI; County of Riverside 2019

San Jacinto Esplanade Avenue

**Figure 4**  
Special-Status Plant Species Locations

# Appendix A

## **Floral Compendium**



# Appendix A – Floral Compendium

---

## ANGIOSPERMS (DICOTYLEDONS)

### EUDICOTS

Scientific Name	Common Name
<b>Amaranthaceae</b>	<b>Amaranth Family</b>
* <i>Amaranthus albus</i>	tumbling pigweed
* <i>Amaranthus retroflexus</i>	rough pigweed
<b>Anacardiaceae</b>	<b>Sumac Family</b>
* <i>Schinus molle</i>	Peruvian peppertree
<b>Asteraceae</b>	<b>Aster Family</b>
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarweed
* <i>Cirsium vulgare</i>	Bull thistle
<i>Erigeron canadensis</i>	Canadian horseweed
<i>Helianthus annuus</i>	sunflower
<i>Heterotheca grandiflora</i>	telegraphweed
* <i>Lactuca serriola</i>	prickly lettuce
* <i>Oncosiphon piluliferum</i>	stinknet
* <i>Senecio vulgaris</i>	common groundsel
* <i>Sonchus oleraceus</i>	common sowthistle
<b>Boraginaceae</b>	<b>Borage Family</b>
<i>Amsinckia menziesii</i>	Menzies' fiddleneck
<b>Brassicaceae</b>	<b>Mustard Family</b>
* <i>Hirschfeldia incana</i>	shortpod mustard
* <i>Lepidium nitidum</i>	shining pepper grass
<i>Lepidium lasiocarpum</i>	shaggyfruit pepperweed
* <i>Raphanus sativus</i>	wild radish
* <i>Sisymbrium irio</i>	London rocket
<b>Caryophyllaceae</b>	<b>Pink Family</b>
* <i>Spergularia rubra</i>	purple sand spurry
<b>Chenopodiaceae</b>	<b>Goosefoot Family</b>
<i>Atriplex serenana</i> var. <i>serenana</i>	bractscale
* <i>Bassia hyssopifolia</i>	five horn bassia
* <i>Chenopodium album</i>	lamb's quarters
* <i>Salsola tragus</i>	prickly Russian thistle

<b>Convolvulaceae</b>	<b>Morning-Glory Family</b>
* <i>Convolvulus arvensis</i>	field bindweed
<i>Cressa truxillensis</i>	alkali weed
<b>Euphorbiaceae</b>	<b>Spurge Family</b>
* <i>Euphorbia serpens</i>	matted sandmat
<b>Fabaceae</b>	<b>Legume Family</b>
* <i>Medicago sativa</i>	alfalfa
* <i>Melilotus albus</i>	white sweetclover
* <i>Melilotus indicus</i>	sourclover
<b>Frankeniaceae</b>	<b>Frankenia Family</b>
<i>Frankenia salina</i>	alkali heath
<b>Geraniaceae</b>	<b>Geranium Family</b>
* <i>Erodium moschatum</i>	whitestem filaree
<b>Lythraceae</b>	<b>Loosestrife Family</b>
* <i>Lythrum hyssopifolia</i>	hyssop loosestrife
<b>Malvaceae</b>	<b>Mallow Family</b>
* <i>Malva parviflora</i>	cheeseweed
<b>Meliaceae</b>	<b>Mahogany Family</b>
* <i>Melia azedarach</i>	China berry tree
<b>Moraceae</b>	<b>Mulberry Family</b>
* <i>Morus alba</i>	mulberry
<b>Myrtaceae</b>	<b>Myrtle Family</b>
* <i>Eucalyptus sideroxylon</i>	red iron bark
<b>Plantaginaceae</b>	<b>Plantago Family</b>
* <i>Veronica anagallis-aquatica</i>	water speedwell
<b>Polygonaceae</b>	<b>Buckwheat Family</b>
<i>Persicaria lapathifolia</i>	common knotweed
* <i>Polygonum aviculare</i>	prostrate knotweed
* <i>Rumex crispus</i>	curly dock
* <i>Rumex pulcher</i>	fiddleleaf dock
<b>Portulacaceae</b>	<b>Purslane Family</b>
* <i>Portulaca oleracea</i>	common purslane
<i>Trianthema portulacastrum</i>	horse purslane
<b>Ranunculaceae</b>	<b>Ranunculus Family</b>
<i>Ranunculus sceleratus</i>	cursed buttercup
<b>Solanaceae</b>	<b>Nightshade Family</b>
* <i>Nicotiana glauca</i>	tree tobacco
<b>Ulmaceae</b>	<b>Elm Family</b>
* <i>Ulmus pumila</i>	Siberian elm
<b>Zygophyllaceae</b>	<b>Elm Family</b>
* <i>Tribulus terrestris</i>	puncture vine

## ANGIOSPERMS (MONOCOTYLEDONS)

Scientific Name	Common Name
<b>Cyperaceae</b>	<b>Sedge Family</b>
<i>Bolboschoenus glaucus</i>	tubered bulrush
<i>Cyperus eragrostis</i>	tall cyperus
<b>Poaceae</b>	<b>Grass Family</b>
* <i>Avena fatua</i>	wild oat
* <i>Bromus madritensis ssp. rubens</i>	foxtail chess
* <i>Cynodon dactylon</i>	Bermuda grass
* <i>Festuca perennis</i>	soft chess
* <i>Hordeum murinum ssp. leporinum</i>	Italian rye grass
* <i>Leptochloa fusca</i>	sprangletop
* <i>Phalaris minor</i>	littleseed canary grass
* <i>Polypogon monspeliensis</i>	annual beard grass
* <i>Sorghum halepense</i>	Johnson grass
* <i>Triticum aestivum</i>	common wheat