FINAL

Initial Study/ Mitigated Negative Declaration

City of Arvin Sanitary Sewer Master Plan

July 2020

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Table of Contents

Acronyms and Abbreviations ..... **v**

Document Overview ..... **vii**

Section 1 Project Description **1**

1.1 Project Overview 1
1.2 Project Location and Environmental Setting 5
1.3 Project Background 5
1.4 Project Construction 5
1.5 Surrounding Land Uses 5
1.6 Regulatory Requirements, Permits, and Approvals 6
1.6.1 Consultation 6

Section 2 Initial Study Checklist **47**

2.1 Project Information 47
2.2 Environmental Factors Potentially Affected 49
2.3 Lead Agency Determination 50
2.4 Evaluation of Environmental Impacts 51
2.4.1 Aesthetics 52
2.4.2 Agriculture and Forestry Resources 55
2.4.3 Air Quality 57
2.4.4 Biological Resources 65
2.4.5 Cultural Resources 139
2.4.6 Energy 142
2.4.7 Geology and Soils 144
2.4.8 Greenhouse Gas Emissions 149
2.4.9 Hazards and Hazardous Materials 152
2.4.10 Hydrology and Water Quality 157
2.4.11 Land Use and Planning 162
2.4.12 Mineral Resources 163
2.4.13 Noise 164
2.4.14 Population and Housing 167
2.4.15 Public Services 168
2.4.16 Recreation 170
2.4.17 Transportation 171
2.4.18 Tribal Cultural Resources 173
2.4.19 Utilities and Service Systems 175
2.4.20 Wildfire 178
2.4.21 Mandatory Findings of Significance 180

Section 3 List of Preparers **183**
3.1 Lead Agency 183
3.2 Consultants 183
Section 4 References **185**

Figures

Figure 1. Regional Location 9
Figure 2. Project Site Overview 11
Figure 2a. A Street CIP 13
Figure 2b. Campus Drive Alley CIP 15
Figure 2c. Comanche Drive CIP 17
Figure 2d. East Di Giorgio Park CIP 19
Figure 2e. Haven Drive CIP 21
Figure 2f. Langford Avenue CIP 23
Figure 2g. Meyer Street CIP 25
Figure 2h. Millux Road Pipeline and Pump Station CIP 27
Figure 2i. Plumtree Drive Alleys CIP 29
Figure 2j. Potato-Sycamore CIP 31
Figure 2k. Small Pipeline Replacement CIP 33
Figure 2l. Small Spot Repair CIP 35
Figure 2m. Southeast Kovacevich Park CIP 37
Figure 2n. Southwest Kovacevich Park CIP 39
Figure 2o. Stand-Alone Manhole Repair and Replacement CIP 41
Figure 2p. West Di Giorgio Park CIP 43
Figure 2q. West Smothermon Park CIP 45
Figure 3. Vegetation Communities Overview 75
Figure 3a. Campus Drive Alley CIP 77
Figure 3b. Comanche Drive CIP 79
Figure 3c. Haven Drive CIP 81
Figure 3d. Millux Road Pipeline and Pump Station CIP 83
Figure 3e. Plumtree Drive Alleys CIP 85
Figure 3f. Potato-Sycamore CIP 87
Figure 3g. Small Pipeline Replacement CIP 89
Figure 3h. Small Spot Repair CIP 91
Figure 3i. Southeast Kovacevich Park CIP 93
Figure 3j. Stand-Alone Manhole Repair and Replacement CIP 95
Figure 3k. West Smothermon Park CIP 97
Figure 4. Impacts to Vegetation Communities – Index 99
Figure 4a. Impacts to Vegetation Communities Campus Drive Alley 101

Figure 4b. Impacts to Vegetation Communities Small Spot Repair 103
Figure 4c. Impacts to Vegetation Communities Potato-Sycamore 105
Figure 4d. Impacts to Vegetation Communities Potato-Sycamore 107
Figure 4e. Impacts to Vegetation Communities Comanche Drive 109
Figure 4f. Impacts to Vegetation Communities Comanche Drive and Millux Road Pipeline and Pump Station 111
Figure 4g. Impacts to Vegetation Communities Millux Road Pipeline and Pump Station 113
Figure 4h. Impacts to Vegetation Communities Millux Road Pipeline and Pump Station 115
Figure 4i. Impacts to Vegetation Communities Millux Road Pipeline and Pump Station 117
Figure 4j. Impacts to Vegetation Communities Millux Road Pipeline and Pump Station 119
Figure 4k. Impacts to Vegetation Communities Millux Road Pipeline and Pump Station 121
Figure 4l. Impacts to Vegetation Communities Millux Road Pipeline and Pump Station 123
Figure 4m. Impacts to Vegetation Communities Millux Road Pipeline and Pump Station 125
Figure 4n. Impacts to Vegetation Communities Millux Road Pipeline and Pump Station 127
Figure 5. Aquatic Resources – Index 129
Figure 5a. Aquatic Resources 131
Figure 5b. Aquatic Resources 133
Figure 5c. Aquatic Resources 135
Figure 5d. Aquatic Resources 137

Tables

Table 1. Capital Improvement Projects Details 1
Table 2. Anticipated Project Approvals and Permits 6
Table 3. Ambient Background Concentrations at Monitoring Station (ppm unless otherwise indicated) 59
Table 4. Air Quality Thresholds of Significance for Criteria Pollutants During Construction 60
Table 5. Worst-Case Maximum Annual Air Pollutant Emissions (tons/year) 61
Table 6. Direct and Indirect Impacts to Special-Status Wildlife Species 68
Table 7. Worst-Case Annual Construction Greenhouse Gas Emissions 150

Appendices

Appendix A. Biological Resources Letter Report
Appendix B. Air Quality/Greenhouse Gas Model Outputs
Appendix C. Cultural Resources Study

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$\mu g/m^3$	micrograms per cubic meter of
AB	Assembly Bill
Alquist-Priolo	Alquist-Priolo Earthquake Fault Zoning Act
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CIP	capital improvement project
City	City of Arvin
CO	carbon monoxide
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
County	Kern County
EIR	Environmental Impact Report
GHG	greenhouse gas
IS	Initial Study
LOS	level of service
MND	Mitigated Negative Declaration
MT	metric ton
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
PM_{10}	particulate matter measuring no more than 10 microns in diameter
$PM_{2.5}$	fine particulate matter measuring no more than 2.5 microns in diameter
ppm	parts per million
project	City of Arvin Sanitary Sewer Master Plan
RACT	Reasonably Available Control Technology
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_X	sulfur oxide
SWPPP	Stormwater Pollutant Prevention Plan
TAC	toxic air contaminant
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency

USFWS	U.S. Fish and Wildlife Services
VFHCP	Valley Floor Habitat Conservation Plan

Document Overview

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared in accordance with California Environmental Quality Act (CEQA) and the CEQA Guidelines for the proposed City of Arvin Sanitary Sewer Master Plan (project). This IS/MND incorporates information and analysis presented in the City's General Plan Master Environmental Impact Report and the City's General Plan Update MND (Kern Council of Governments 1988; City of Arvin 2011). The intent of this IS/MND is to (1) determine whether project implementation would result in potentially significant impacts to the environment, and (2) incorporate project design features (PDFs) and mitigation measures into the project design as necessary to eliminate or reduce the project's potentially significant impacts to less than significant levels.

In accordance with CEQA, projects that have the potential to result in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment must undergo analysis to disclose potential significant effects. The provisions of CEQA apply to California governmental agencies at all levels, including local agencies, regional agencies, state agencies, boards, commissions, and special districts. CEQA requires preparation of an IS for a discretionary project to determine the range of potential environmental impacts of that project and to define the scope of the environment review document. As specified in Section 15064(f) of the CEQA Guidelines, the lead agency may prepare an MND if, in the course of the IS analysis, it is recognized that the project may have a significant impact on the environment but that implementation of specific PDFs and mitigation measures would reduce potentially significant impacts to less than significant levels. As the lead agency for the project, the City of Arvin (City) has the principal responsibility for conducting the CEQA environmental review to analyze the potential environmental effects associated with project implementation. During the review process, it was determined that potential impacts would be reduced to less than significant levels with the implementation of PDFs and mitigation measures. The City has incorporated PDFs and mitigation measures to reduce or eliminate any potentially significant project-related impacts. Therefore, an IS/MND has been prepared for the project.

Note: The project has not been approved or denied. It is being reviewed for environmental impacts only. Approval of the project can take place only after the MND has been adopted.

This IS/MND is organized as follows:

- **Section 1: Project Description.** This section introduces the document and discusses the project description, including location, setting, and specifics of the lead agency and contacts.
- **Section 2: Initial Study Checklist.** This section discusses the CEQA environmental topics and checklist questions, identifies the potential for impacts, and proposes PDFs and mitigation measures to avoid these impacts.

- **Section 3: List of Preparers.** This section lists the organizations and individuals who were consulted or prepared this IS/MND.
- **Section 4: References.** This section presents a list of reference materials consulted during preparation of this IS/MND.

Public Review

The IS/MND will be circulated for a 30-day public review period from June 11, 2020, to July 10, 2020.

Comments regarding this IS/MND must be made in writing and submitted to Mitzy Cuxum, Senior Planner, at City of Arvin, Community Development Department, 141 Plumtree Drive, Arvin, California 93203, or by email at mcuxum@arvin.org.

Section 1 Project Description

1.1 Project Overview

The City proposes the development of the project set forth in the City's General Plan Update (2012) and implementation of a comprehensive capital improvement plan for its wastewater collection system. The purpose of the project is to apply the level of service (LOS) standards in the capital improvement plan to provide continuous sewer service to ratepayers in the City and to ensure construction and operation of the sanitary sewer system minimize the possibility of overflow and environmental impact. The project involves improvements to the existing sanitary sewer infrastructure, including the replacement, upgrade, and installation of sanitary sewer pipeline within the City boundary as defined by the City's General Plan. Additional information regarding the project is detailed below.

The project includes improvements to approximately 54,771 linear feet of sanitary sewer pipeline and 257 manholes throughout the City and comprises 17 individual capital improvement projects (CIPs) (Figure 1, Regional Location, and Figure 2 series, Project Site). The 17 CIP sites make up the project site (collectively referred to as the "project site" throughout this IS/MND). The 17 CIPs are outlined in Table 1, Capital Improvement Projects Details, and described further in the sections below.

Table 1. Capital Improvement Projects Details

CIP	Linear Feet of Sanitary Sewer Pipeline	Number of Manholes
A Street	4,306	14
Campus Drive Alley	1,967	7
Comanche Drive	1,110	8
East Di Giorgio Park	3,303	9
Haven Drive	2,797	12
Langford Avenue	2,007	10
Meyer Street	3,706	14
Millux Road Pipeline and Pump Station	6,700	0
Plum Tree Drive Alleys	3,878	14
Potato-Sycamore	1,320	5
Small Pipeline Replacement	1,080	13
Small Spot Repair	303	3
Southeast Kovacevich Park	5,669	16
Southwest Kovacevich Park	6,961	21
Stand-Alone Manhole Repair and Replacement	0	86
West Di Giorgio Park	3,651	7
West Smothermon Park	6,013	18
Total	**54,771**	**257**

Notes: CIP = capital improvement project

The improvements to the existing sanitary sewer infrastructure, including replacement, upgrade, and installation of sanitary sewer pipeline, proposed by the project are primarily in existing City rights-of-way but are also in undeveloped and vacant parcels throughout the City (Figure 2 series). In addition, one segment of pipeline proposed to be installed is outside of the City boundary (Assessor's Parcel Number 18935217). This parcel is proposed for annexation by the City to construct and maintain this portion of the sanitary sewer system.

Descriptions of Capital Improvement Projects

A Street

The A Street CIP is in three alleys east of A Street generally bounded by Tucker Street to the north, Derby Street to the east, A Street to the west, and Haven Drive to the south (Figure 2 series). This CIP includes replacing 2,611 feet of existing 8-inch pipe with new 8-inch pipe, replacing 321 feet of existing 10-inch pipe with new 10-inch pipe, lining 1,268 feet of existing pipe, performing spot repair on 106 feet of existing pipe, and replacing 14 manholes.

Campus Drive Alley

The Campus Drive Alley CIP is in the alley west of Campus Drive between Varsity Avenue and Bear Mountain Boulevard (Figure 2 series). The CIP includes replacing 1,634 feet of existing 8-inch pipe with new 8-inch pipe, lining 198 feet of existing pipe, performing spot repair on 135 feet of existing pipe, and replacing seven manholes.

Comanche Drive

The Comanche Drive CIP is generally located in Comanche Drive between Sycamore Road and El Camino Real and includes replacing 1,110 feet of existing 18-inch pipe with new 18-inch pipe and replacing eight manholes (Figure 2 series).

East Di Giorgio Park

The East Di Giorgio Park CIP is east of Di Giorgio Park and is generally bounded by Holden Street to the north, A Street to the east, Hill Street to the west, and Langford Avenue to the south and includes a pipeline that crosses Di Giorgio Park (Figure 2 series). This CIP includes replacing 2,059 feet of existing 6-inch pipe with new 8-inch pipe, replacing 899 feet of existing 8-inch pipe with new 8-inch pipe, lining 345 feet of existing pipe, and replacing nine manholes.

Haven Drive

The Haven Drive CIP is within Haven Drive, Monroe Street, Santa Rosa Street, and Walnut Drive (Figure 2 series). The CIP includes replacing 563 feet of existing 6-inch pipe with new 8-inch pipe, replacing 1,899 feet of existing 8-inch pipe with new 8-inch pipe, replacing 335 feet of existing 15-inch pipe with new 15-inch pipe, and replacing 12 manholes.

Langford Avenue

The Langford Avenue CIP is in Langford Avenue between Stockton Avenue and A Street and is generally bounded by Franklin Street to the north, Stockton Avenue to the east, A Street to the west, and Fallbrook Avenue to the south (Figure 2 series). This CIP includes replacing 945 feet of existing 8-inch pipe with new 8-inch pipe, lining 977 feet of existing pipe, performing spot repair on 85 feet of existing pipe, replacing seven manholes, and repairing three manholes.

Meyer Street

The Meyer Street CIP is generally bounded by Bear Mountain Boulevard to the north, Acala Street to the east, Meyer Street to the west, and Haven Drive to the south (Figure 2 series). This CIP includes replacing 1,952 feet of existing 6-inch pipe with new 8-inch pipe, replacing 1,808 feet of existing 12-inch pipe with new 12-inch pipe, and replacing 14 manholes.

Millux Road Pipeline and Pump Station

The Millux Road Pipeline and Pump Station CIP is generally located in Millux Road between Malovich Road and Comanche Road (Figure 2 series). The CIP includes installing 6,700 feet of new 15-inch pipe between the intersection of A Street and El Camino Real and the intersection of Millux Road and Comanche Drive. In addition, the CIP includes constructing a 0.06-acre fenced pump station in the vicinity of the intersection of Millux Road and Comanche Drive. A 6-inch force main would be installed in Comanche Drive between Millux Road and El Camino Real.

Plumtree Drive Alleys

The Plumtree Drive Alleys CIP is generally located in the alleys east and west of Plumtree Drive between Orchard Drive and 4th Avenue (Figure 2 series). The CIP includes replacing 641 feet of existing 8-inch pipe with new 8-inch pipe, lining 2,987 feet of existing pipe, performing spot repair on 250 feet of existing pipe, replacing nine manholes, and repairing five manholes.

Potato-Sycamore

The Potato-Sycamore CIP is in Sycamore Road between Walnut Drive and Comanche Drive (Figure 2 series). The CIP includes replacing approximately 1,320 feet of existing 15-inch sewer in Sycamore Road between Walnut Drive and Comanche Drive with new 24-inch pipe and installing five new manholes in the alignment. This CIP also includes the future development of industrial land uses northeast of the intersection of Derby Street and Sycamore Road.

Small Pipeline Replacement

The Small Pipeline Replacement CIP includes six small replacement projects throughout the City (Figure 2 series). This CIP includes replacing 1,080 feet of existing 8-inch pipe with new 8-inch pipe and replacing 13 manholes.

Small Spot Repair

The Small Spot Repair CIP includes 10 small spot repair projects throughout the City (Figure 2 series). This CIP includes repairing 303 feet of existing pipe and repairing three manholes.

Southeast Kovacevich Park

The Southeast Kovacevich Park CIP is southeast of Kovacevich Park; generally bounded by 5th Avenue to the north, Derby Street to the east, B Street to the west, and the alley south of Bear Mountain Boulevard to the south; and includes an additional pipe in 5th Avenue east of Derby Street (Figure 2 series). This CIP includes replacing 2,438 feet of existing 8-inch pipe with new 8-inch pipe, lining 3,070 feet of existing pipe, performing spot repair on 161 feet of existing pipe, replacing 13 manholes, and repairing 3 manholes.

Southwest Kovacevich Park

The South Kovacevich Park CIP is southwest of Kovacevich Park and generally bounded by 5th Avenue to the north, B Street to the east, Hill Street to the west, and Bear Mountain Boulevard to the south, with some additional pipes in and around Bear Mountain Boulevard west of Hill Street (Figure 2 series). The CIP includes replacing 227 feet of existing 6-inch pipe with new 8-inch pipe, replacing 4,361 feet of existing 8-inch pipe with new 8-inch pipe, replacing 335 feet of existing 10-inch pipe with new 10-inch pipe, lining 226 feet of existing 12-inch pipe, lining 1,729 feet of existing 8-inch pipe, performing spot repair on 83 feet of existing pipe, and replacing 21 manholes.

Stand-Alone Manhole Repair and Replacement

The Stand-Alone Manhole Repair and Replacement CIP includes repairing 62 manholes and replacing 24 manholes throughout the City (Figure 2 series).

West Di Giorgio Park

The West Di Giorgio Park CIP is west of Di Giorgio Park and generally bounded by Haven Drive to the north, Meyer Street to the east, Walnut Drive to the west, and Franklin Street to the south (Figure 2 series). This CIP includes replacing 938 feet of existing 8-inch pipe with new 8-inch pipe, lining 2,656 feet of existing pipe, performing spot repair on 57 feet of existing pipe, and replacing seven manholes.

West Smothermon Park

The West Smothermon Park CIP is west of Smothermon Park and generally bounded by Mark Street to the north, Walnut Drive to the east, Comanche Drive to the west, and the alley parallel to and south of Durham Street to the south, with some additional pipelines in and around Bush Street east of Walnut Drive (Figure 2 series). This CIP includes replacing 4,004 feet of existing 6-inch

pipe with new 8-inch pipe, replacing 1,976 feet of existing 8-inch pipe with new 8-inch pipe, performing spot repair on 33 feet of existing pipe, replacing 17 manholes, and repairing 1 manhole.

1.2 Project Location and Environmental Setting

The project site is within the boundary of the City, which is situated in the southern-most portion of California's Central Valley (Figure 1). The City, located in Kern County (County), is approximately 5 square miles (approximately 3,200 acres) in size and is surrounded by farmland (Figure 2 series). Elevation on the project site ranges from 384 to 465 feet above mean sea level.

The majority of the project site is made up of developed land. Vegetation on the project site is dominated by agriculture, non-native grassland, and disturbed land (Figure 3 series, Vegetation Communities) (Appendix A, Biological Resources Letter Report). Extensive agricultural activity, homeless encampments, and abandoned industrial properties exist around the periphery of the project site and include areas of disturbed or bare ground with accumulated trash and human-made debris.

1.3 Project Background

As described in Section 1.1, Project Overview, the project includes implementation of the City's Sanitary Sewer Master Plan and associated CIPs as set forth in the City's General Plan Land Use Element. Of the approximately 3,020 acres planned for development in the City, as outlined in the City's General Plan, approximately 1,064 acres are currently developed and being served by the sanitary sewer system. The remaining 1,956 acres of land in the City is planned for future development and would require expansion of the current sanitary sewer system to provide adequate capacity for the increase in population and activity.

1.4 Project Construction

The extent of construction activities associated with the project's sanitary sewer pipeline improvements and installations would remain within a 25-foot-wide construction activity zone. In the construction activity zone, 5-foot-wide trenches would be excavated in the roadway or ground surface directly over the pipelines to provide access to the pipelines. For manhole improvements, construction would remain within a 15-foot-wide construction activity zone. Construction staging areas would be in developed areas in the City's rights-of-way. Upon completion of the project, the roadway and ground surface disturbed during construction would be restored to their previous condition and function.

1.5 Surrounding Land Uses

The project site encompasses much of the City and includes rights-of-way, undeveloped, and vacant parcels. In the City, the project site is surrounded primarily by lands designated in the City's General Plan as low-density residential and light and heavy industrial, but is also bordered by lands

designated as medium- and high-density residential, estate residential, residential reserve, general commercial, agricultural, public facilities, schools, and parks (City of Arvin 2012).

Portions of the project on the edge of the City also border lands in unincorporated Kern County. These areas are designated in the County's General Plan (2009) as intensive agriculture and mineral and petroleum extraction zones.

1.6 Regulatory Requirements, Permits, and Approvals

This IS/MND is an informational document intended to inform public agency decision makers and the public of the significant environmental effects of the project and to identify ways to minimize the significant effects.

The City is the lead agency for the project under CEQA since it is the agency with primary authority over the project's discretionary approvals. Other agencies, identified as trustee and responsible agencies, will also use this IS/MND for their consideration of approvals or permits under their respective authorities. For the purpose of CEQA, the term "trustee agency" means a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of California. The term "responsible agency" includes public agencies other than the lead agency that may have discretionary actions associated with the implementation of the project or an aspect of subsequent implementation of the project. Accordingly, the approvals anticipated to be required from a lead agency or responsible agency are identified in Table 2.

Table 2. Anticipated Project Approvals and Permits

Permit/Action Required	Approving Agency	Lead/ Responsible Agency Designation
Site Plan	City	Lead Agency
Landscape Plan	City	Lead Agency
MND	City	Lead Agency
Waste Discharge Permit	RWQCB	Responsible Agency
Statewide NPDES General Permit for Stormwater Discharges Associated with Construction Activity – SWPPP[1]	RWQCB	Responsible Agency
Construction Permit and Encroachment Permit	City/Caltrans	Lead Agency/Responsible Agency

Note: Caltrans = California Department of Transportation; City = City of Arvin; MND = Mitigated Negative Declaration; NPDES = National Pollutant Discharge Elimination System; RWQCB = Regional Water Quality Control Board; SWPPP = stormwater pollutant prevention plan

[1] The required SWPPP would be prepared to the satisfaction of the City Water Quality Engineer in accordance with the City's Grading Ordinance, the City's Water Quality Ordinance, and the latest NPDES General Permit.

1.6.1 Consultation

1.6.1.1 Federal Agencies

U.S. Army Corps of Engineers (USACE). Two disturbed potential aquatic resources with associated riparian vegetation and three open water ponds were documented on the project site. The project

has been designed to avoid direct impacts to potential aquatic resources and riparian vegetation. However, should the project result in direct or indirect impacts to jurisdictional aquatic resources and riparian vegetation, the USACE would be consulted and coordinated with to reduce these impacts (see Section 2.4.4, Biological Resources, for additional information).

U.S. Fish and Wildlife Service (USFWS). Special-status plant and wildlife species covered under the federal Endangered Species Act as administered by the USFWS have the potential to exist on the project site. PDFs and mitigation measures (described in Section 2.4.4) would reduce the project's potential impacts to special-status plant and wildlife species. However, should the project result in direct or indirect impacts to federally listed plant or wildlife species, the USFWS would be consulted and coordinated with to reduce these impacts (see Section 2.4.4 for additional information).

1.6.1.2 State Agencies

Assembly Bill (AB) 52. AB 52 (Chapter 532, Statutes of 2014) establishes a formal consultation process for California Native American tribes as part of CEQA and equates significant impacts on tribal cultural resources with significant environmental impacts (California Public Resources Code, Section 21084.2). Under AB 52, formal consultation with tribes is required by a lead agency prior to determining the level of environmental document if a tribe has requested to be informed by the lead agency of projects and if the tribe, upon receiving notice of the project, accepts the opportunity to consult within 30 days of receipt of the notice. AB 52 also requires that consultation, if initiated, addresses project alternatives and mitigation measures for significant effects if specifically requested by the tribe. The City is currently undertaking coordination efforts to ensure that the project is in conformance with the AB 52 notification and consultation requirements.

California Department of Fish and Wildlife (CDFW). State of California plant and wildlife species listed under the California Endangered Species Act as administered by the CDFW have the potential to exist on the project site. PDFs and mitigation measures (described in Section 2.4.4) would reduce the project's potential impacts to special-status plant and wildlife species. However, should the project result in direct or indirect impacts to special-status plant or wildlife species, the CDFW would be consulted and coordinated with to reduce these impacts (see Section 2.4.4 for additional information).

Regional Water Quality Control Board (RWQCB). Two disturbed potential aquatic resources with associated riparian vegetation and three open water ponds were documented on the project site. The project has been designed to avoid direct impacts to potential aquatic resources and riparian vegetation. However, should the project result in direct or indirect impacts to jurisdictional potential aquatic resources and riparian vegetation, the RWQCB would be consulted and coordinated with to reduce these impacts (see Section 2.4.4 for additional information). Furthermore, the project has been designed to avoid indirect water quality impacts with the implementation of a required stormwater-quality management plan, including proposed stormwater control best management practices (BMPs).

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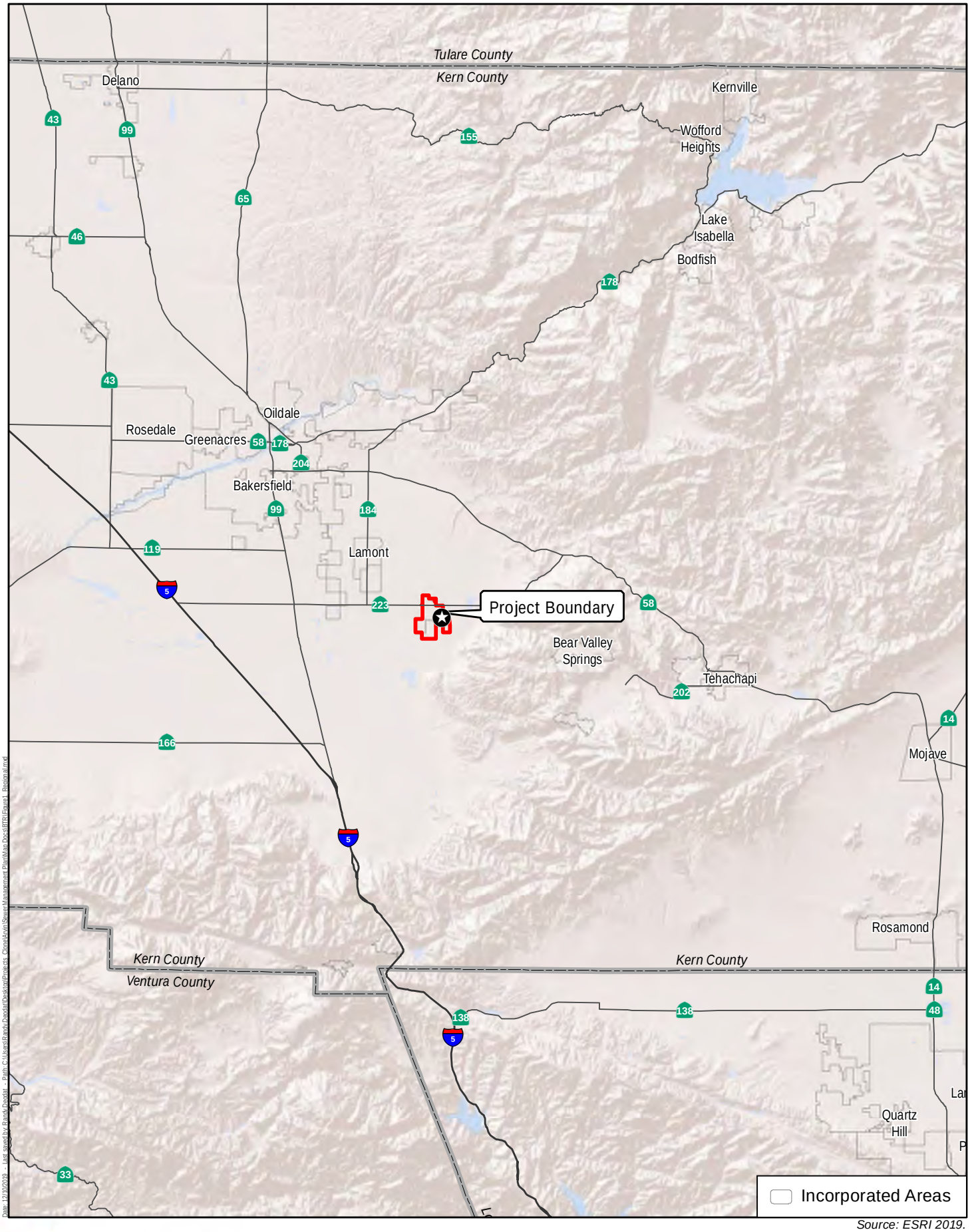

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Figure 1

Regional Location

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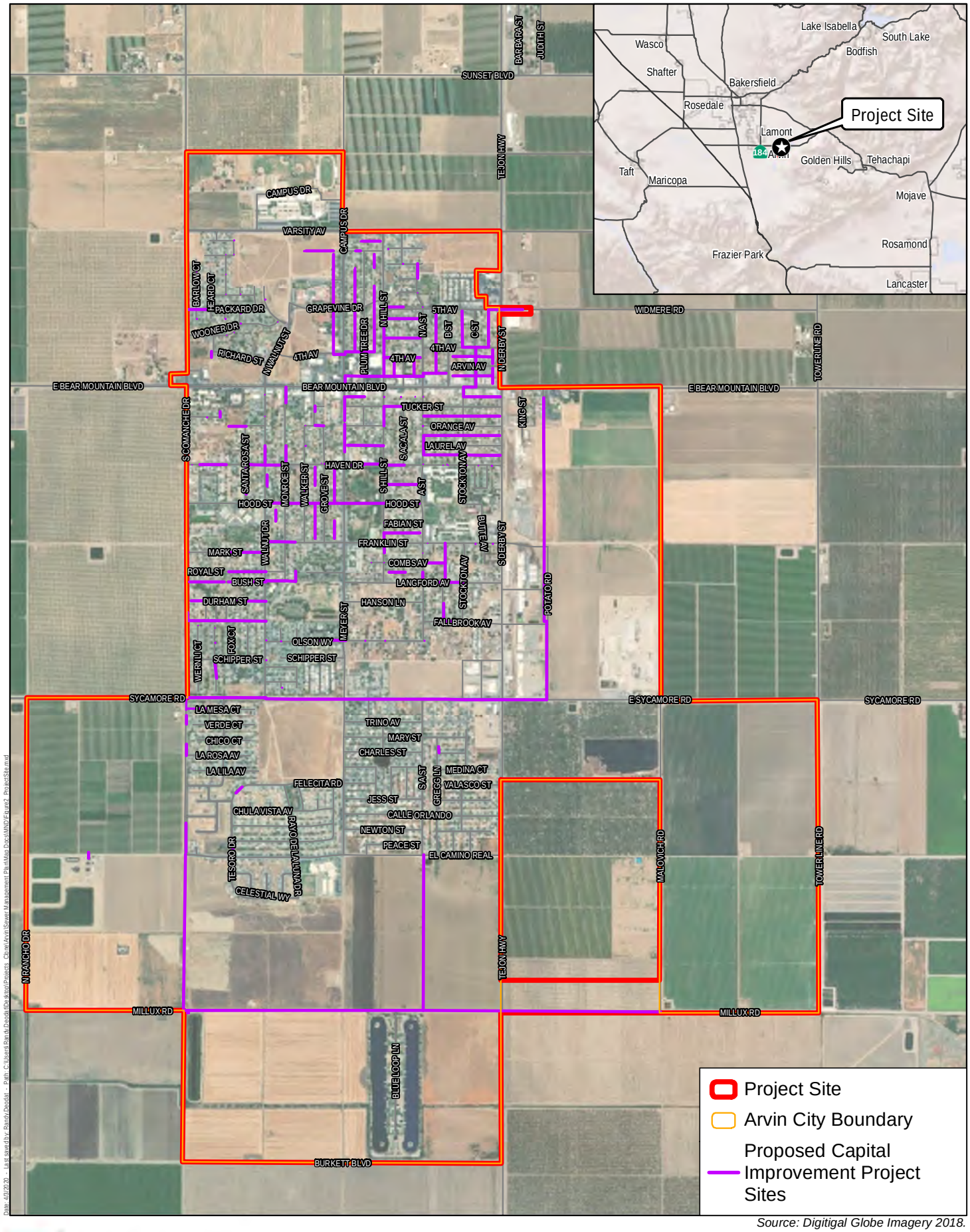

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Figure 2

Project Site Overview

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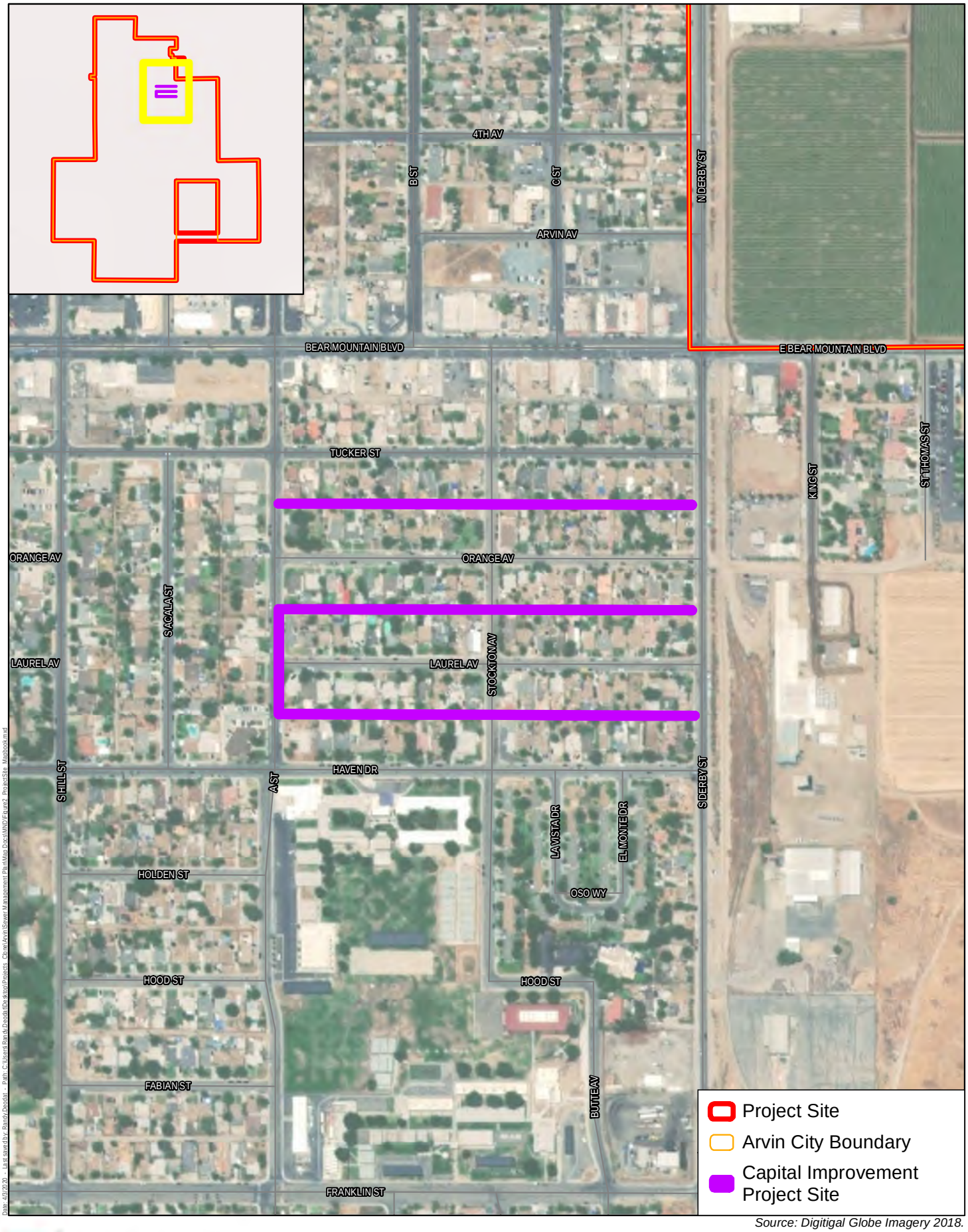

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Figure 2a

A Street CIP

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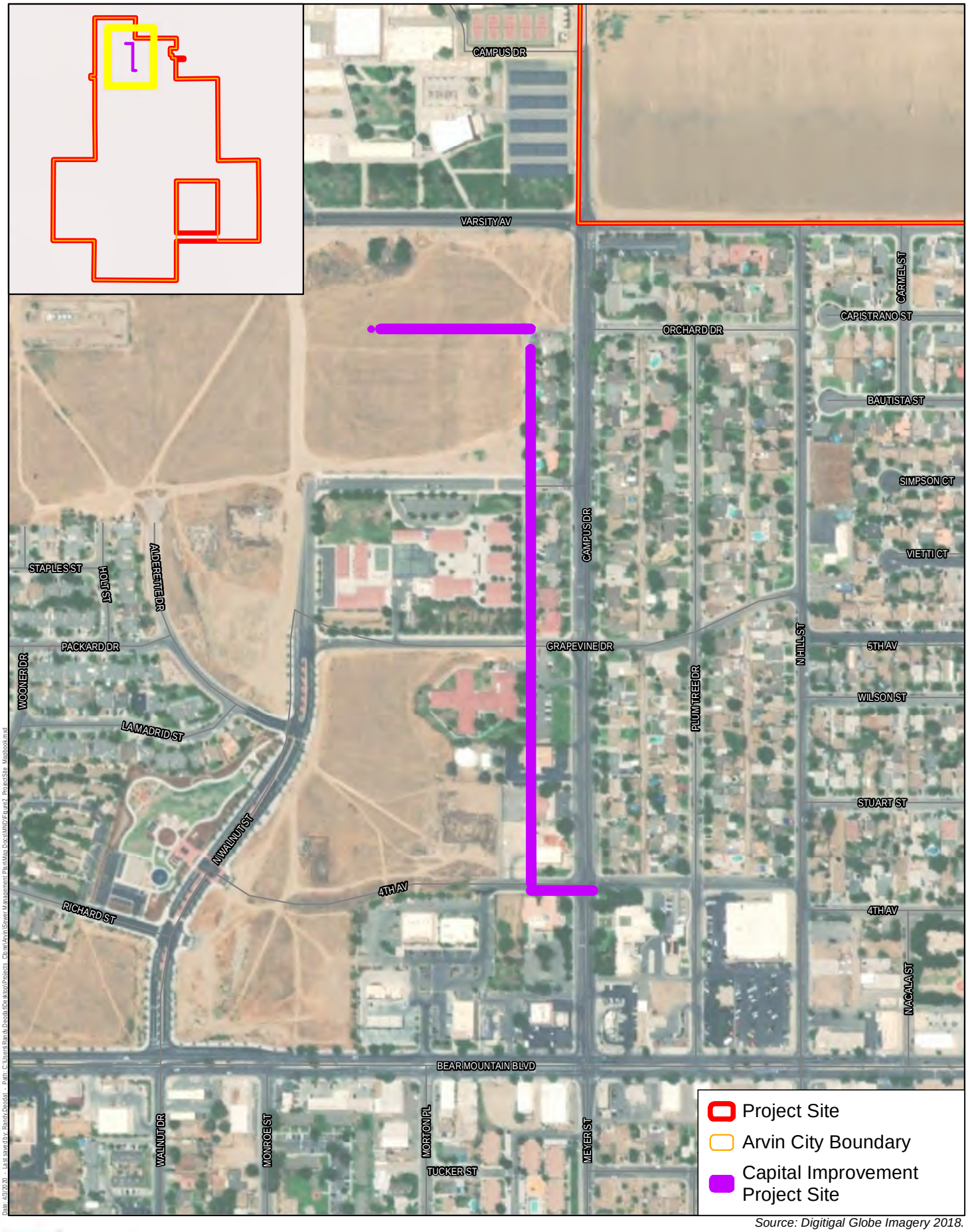

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Figure 2b

Campus Drive Alley CIP

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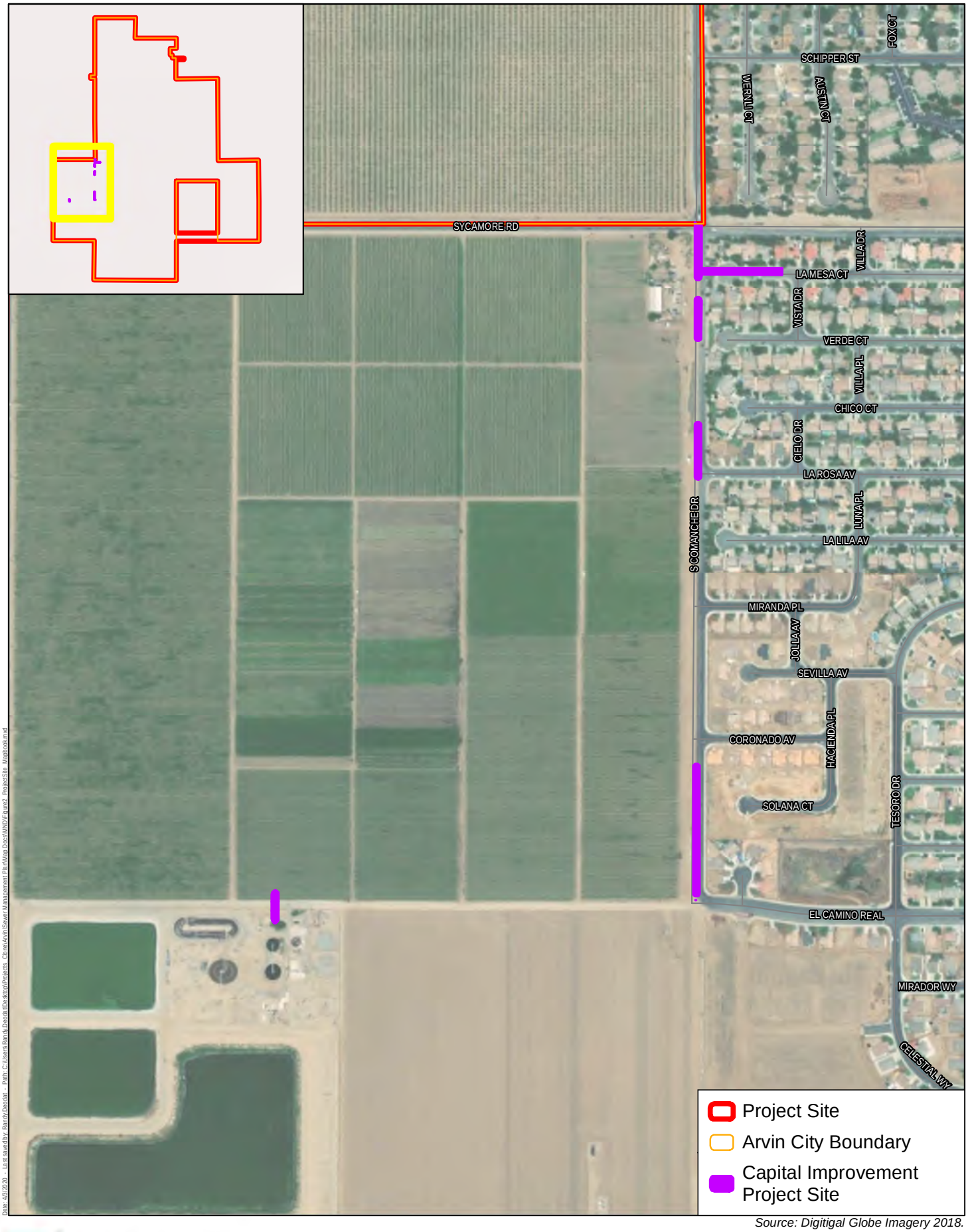

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Figure 2c

Comanche Drive CIP

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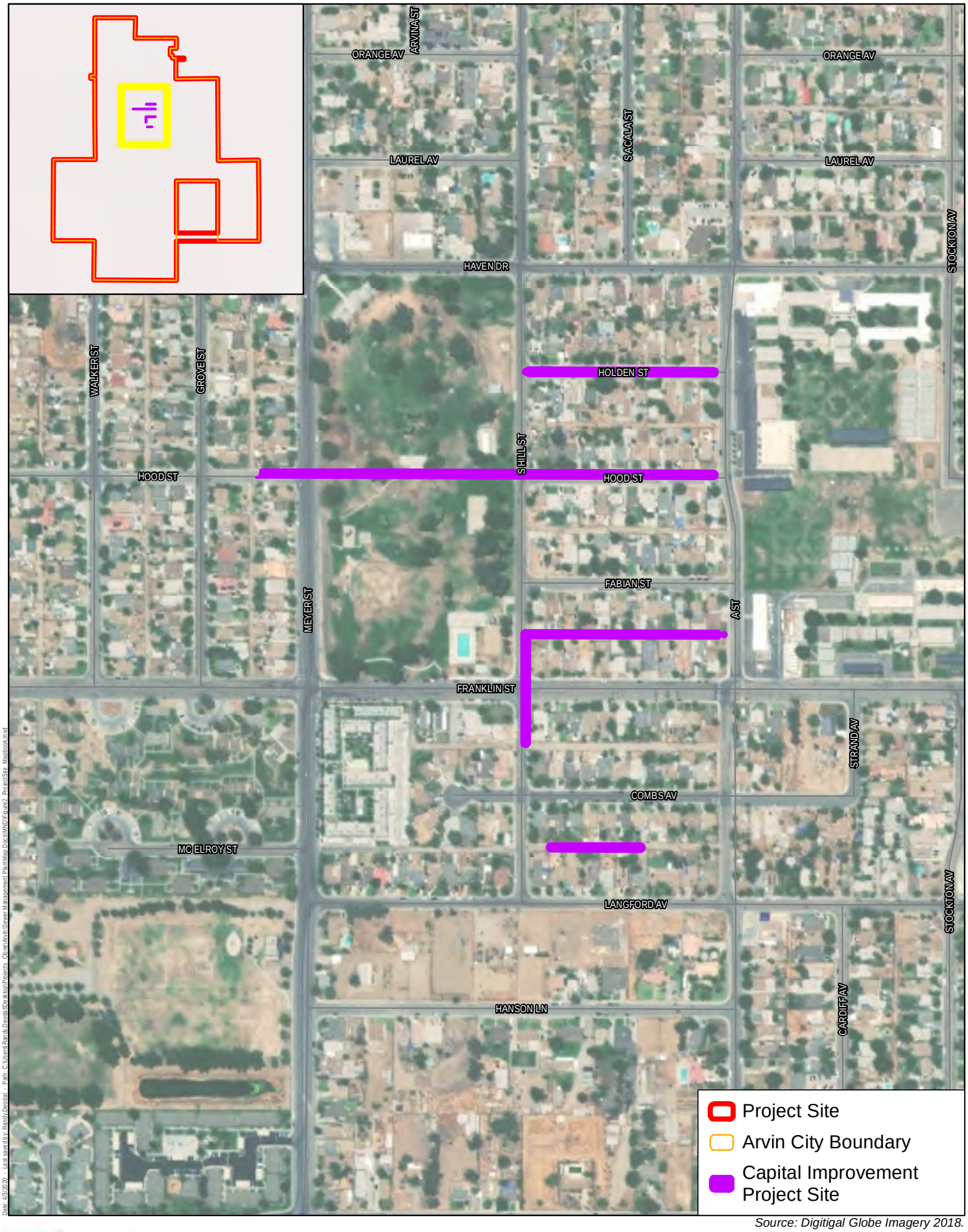

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Figure 2d

East Di Giorgio Park CIP

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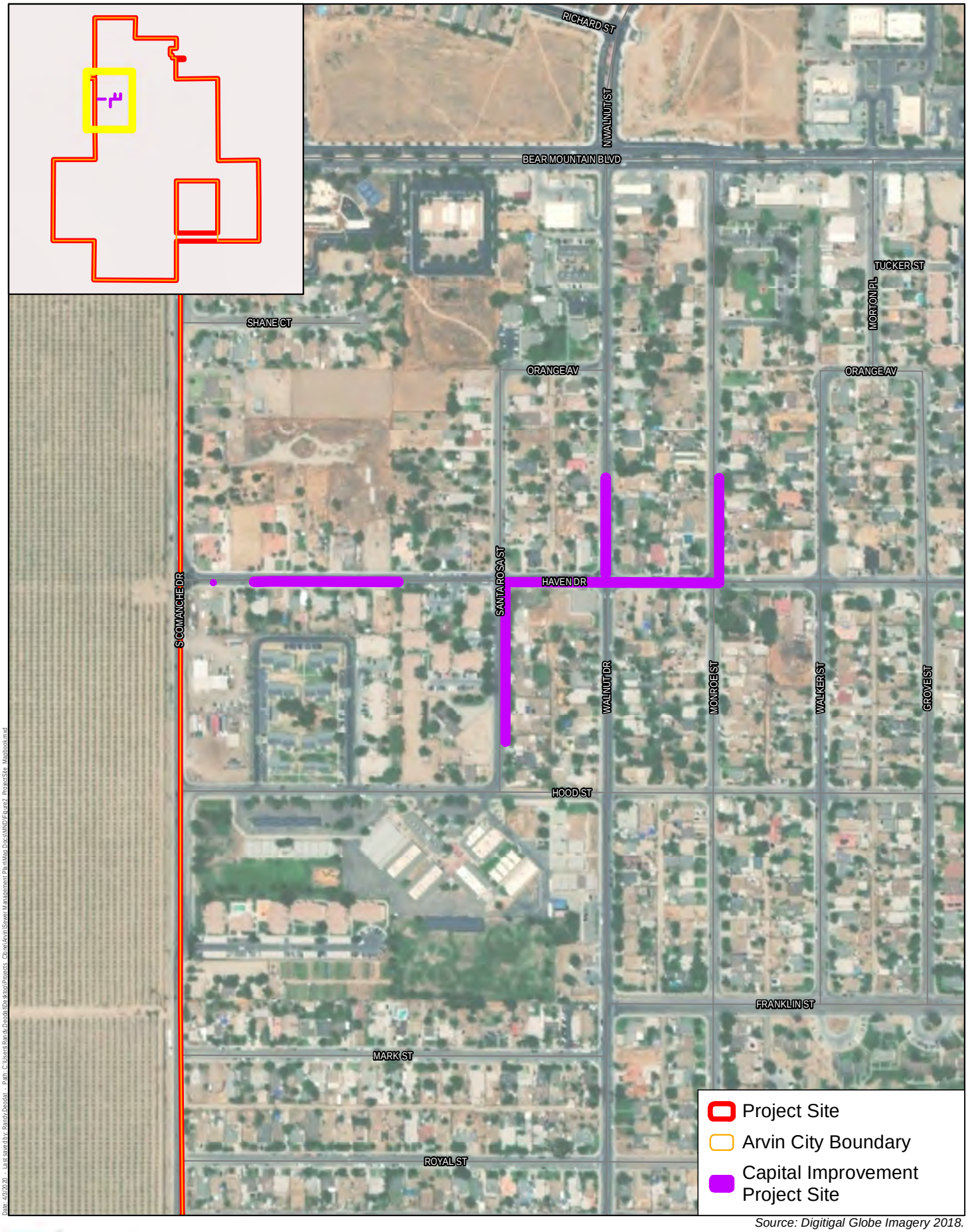

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Figure 2e

Haven Drive CIP

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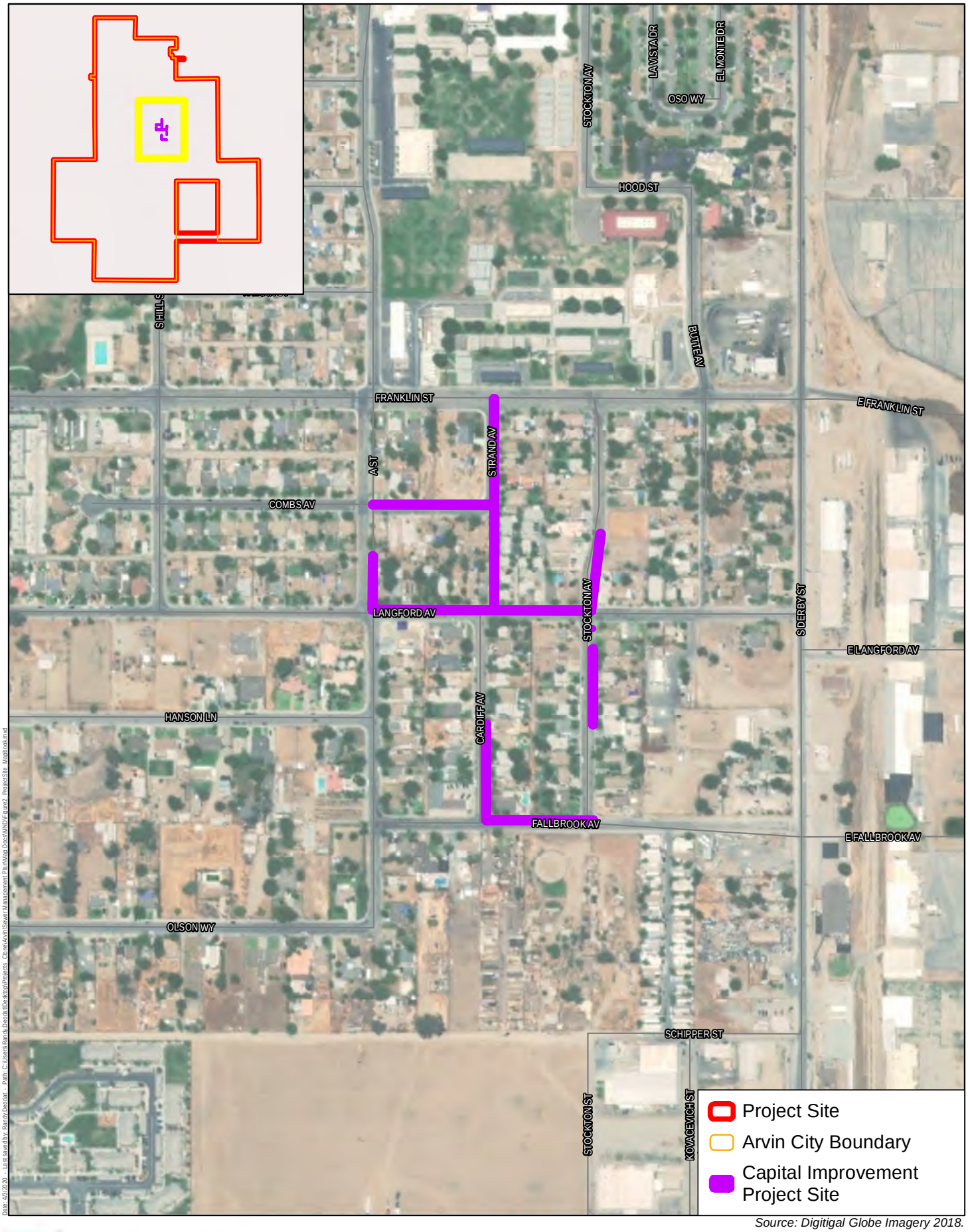

Source: Digitigal Globe Imagery 2018.

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Figure 2f

Langford Avenue CIP

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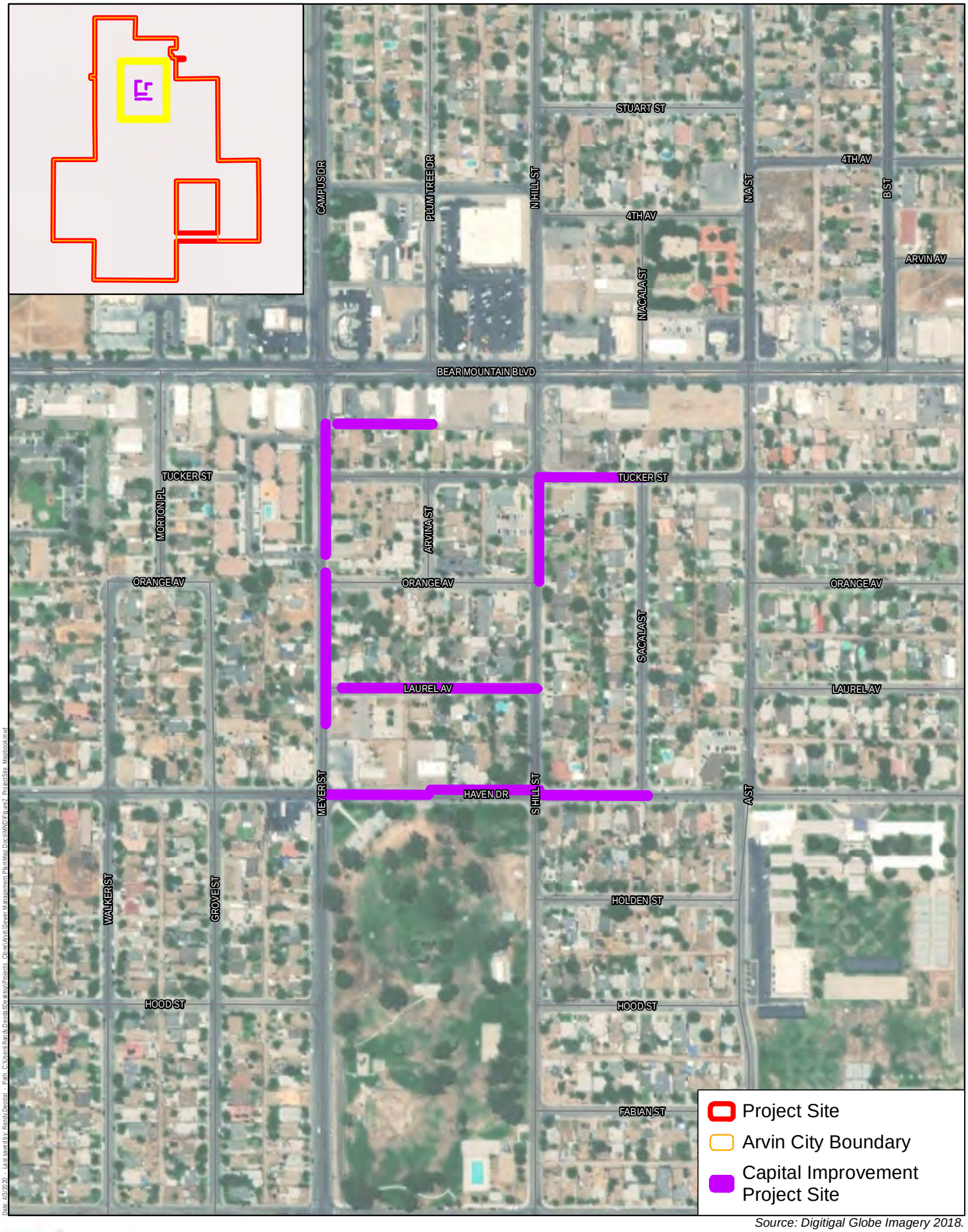

Source: Digitigal Globe Imagery 2018.

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Figure 2g

Meyer Street CIP

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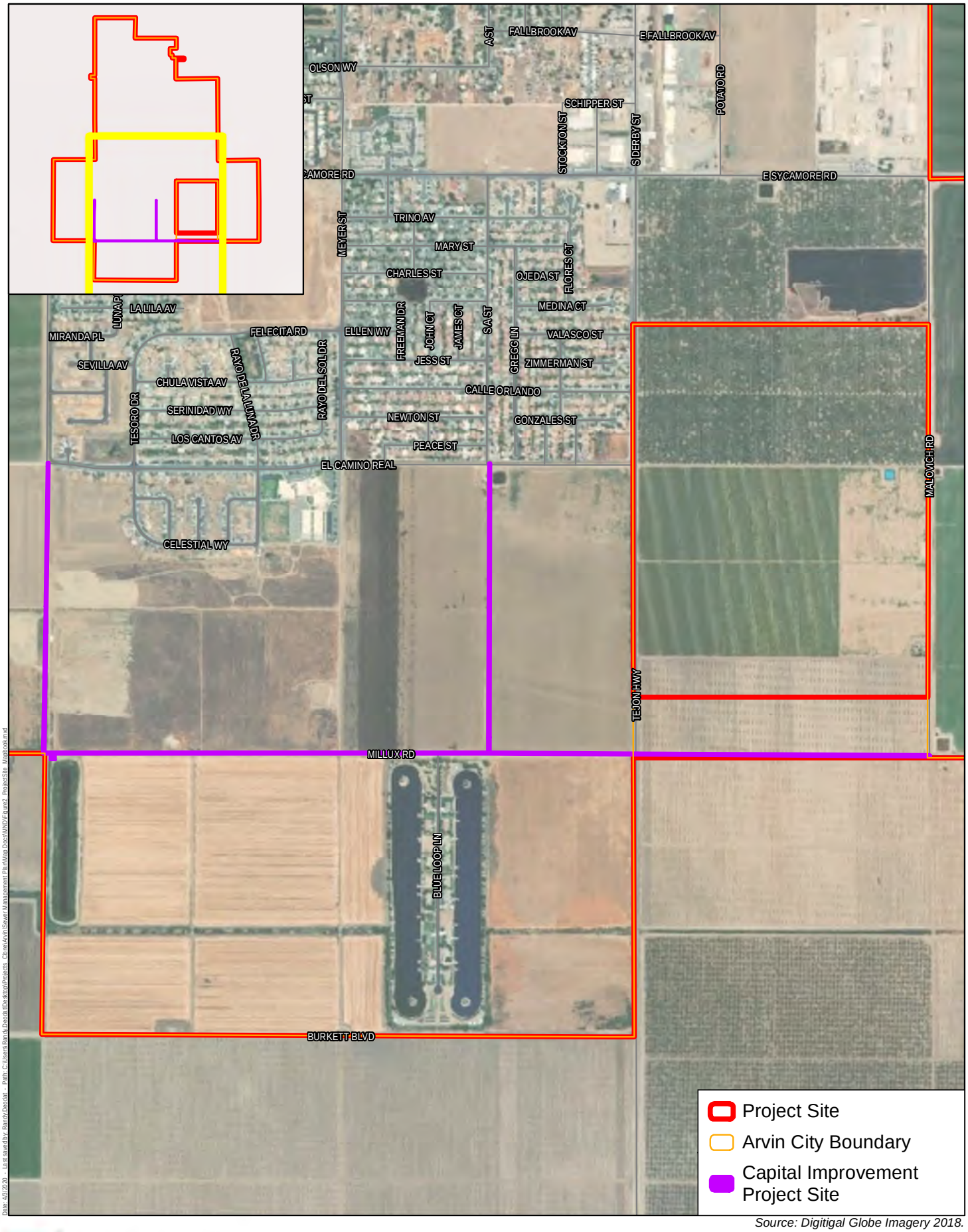

Source: Digitigal Globe Imagery 2018.

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Figure 2h

Millux Road Pipeline and Pump Station CIP

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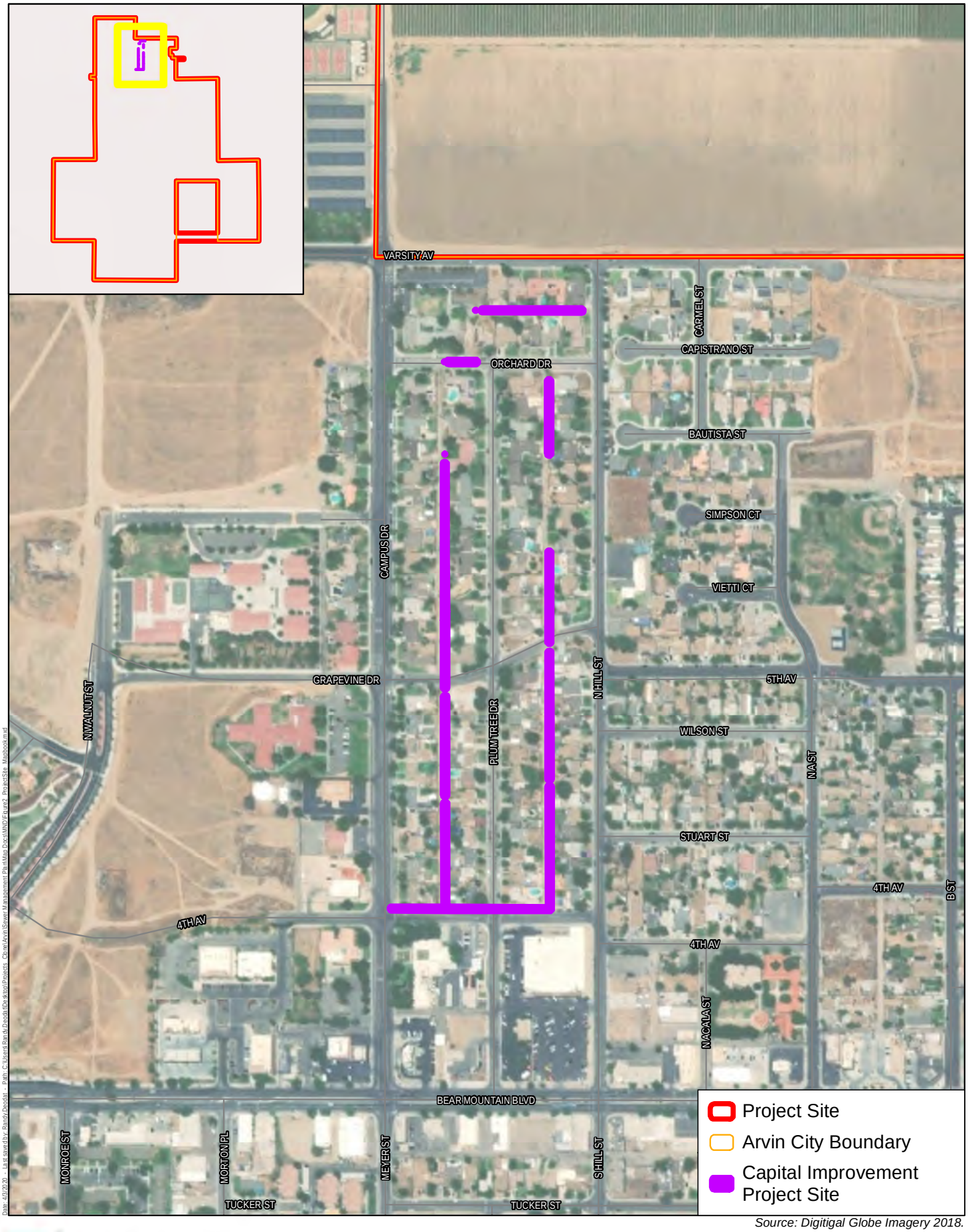

Source: Digitigal Globe Imagery 2018.

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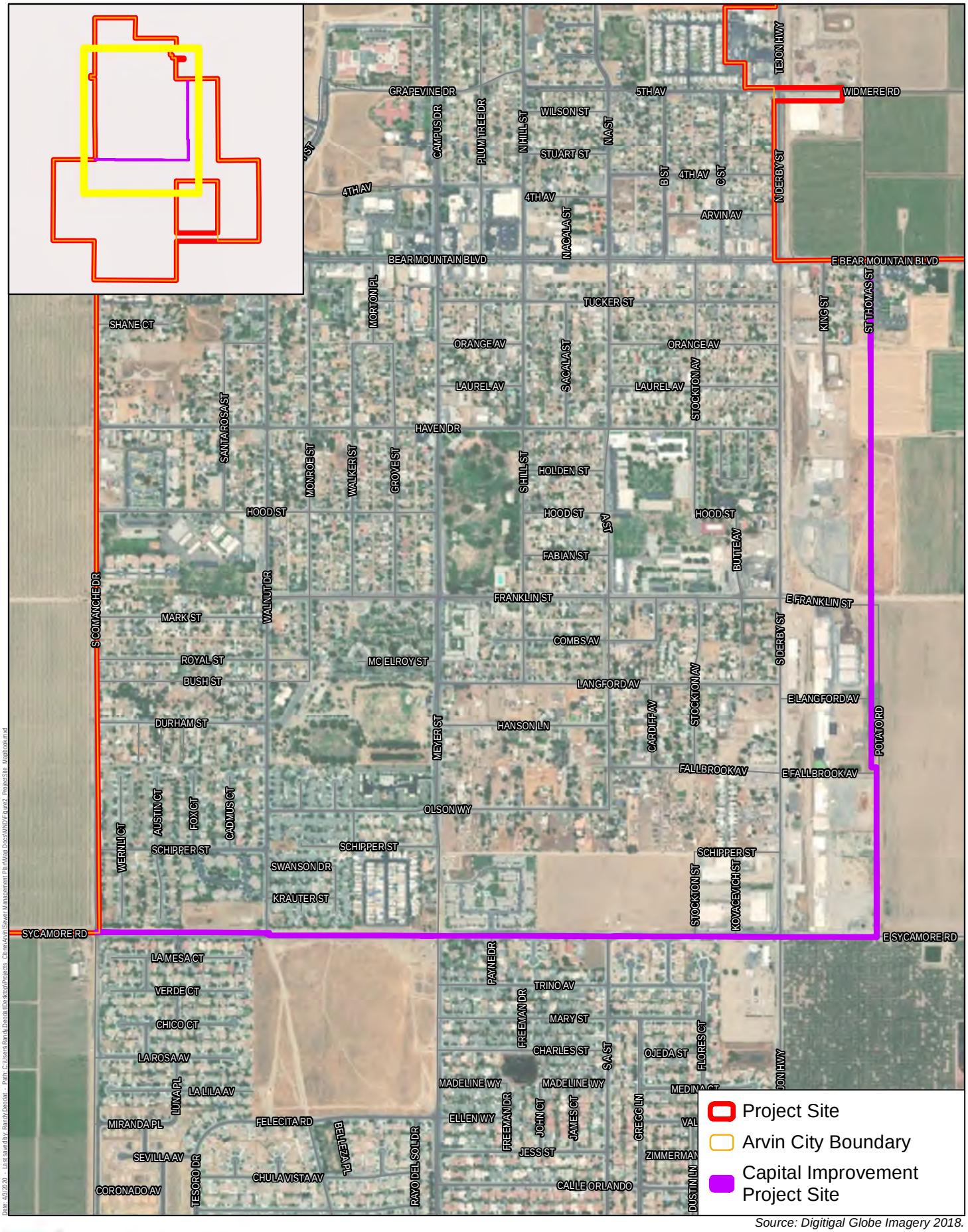
Figure 2i

Plumtree Drive Alleys CIP



Source: Digitigal Globe Imagery 2018.

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Figure 2j

Potato-Sycamore CIP

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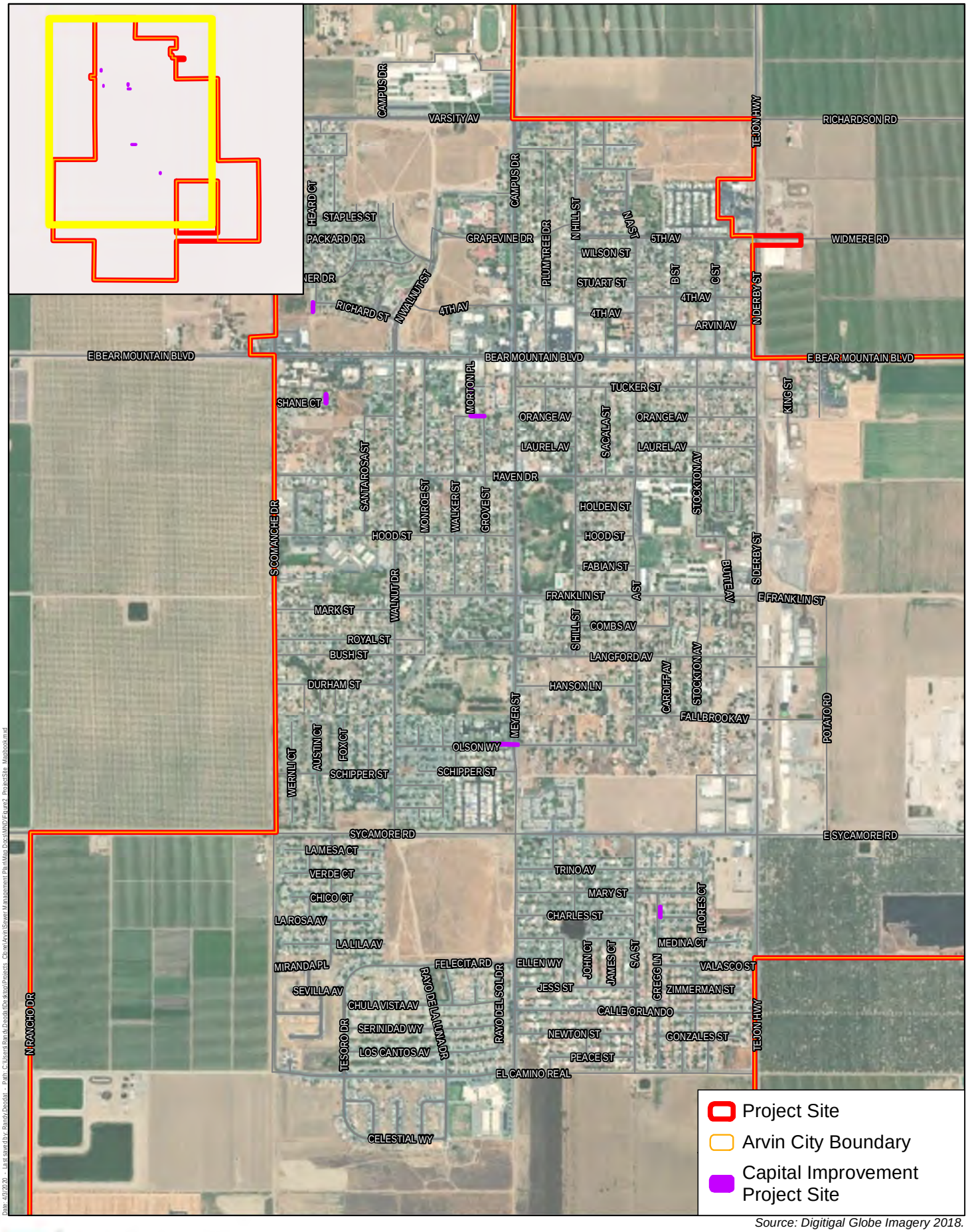

Source: Digitigal Globe Imagery 2018.

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Figure 2k

Small Pipeline Replacement CIP

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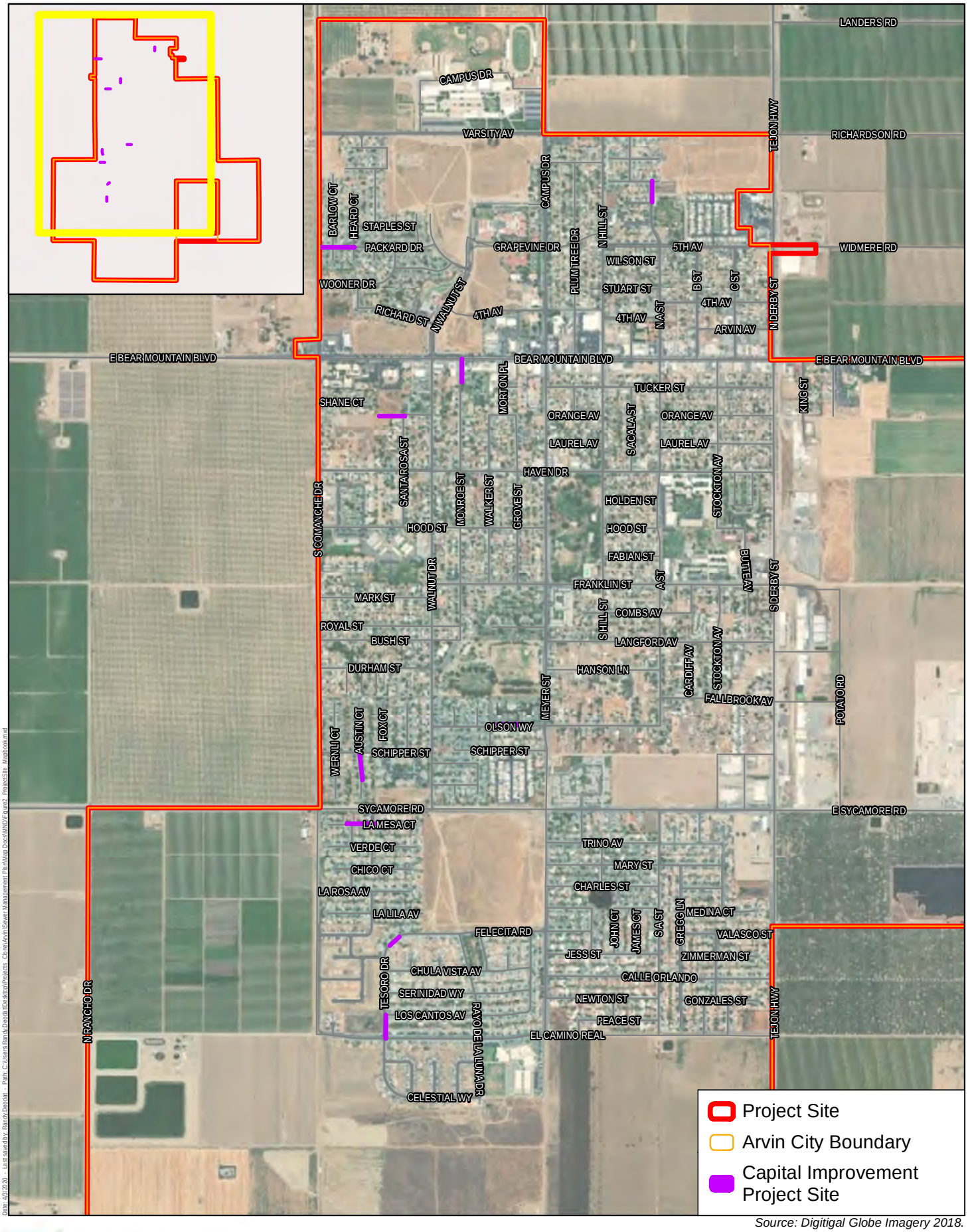

Source: Digitigal Globe Imagery 2018.

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Figure 2I

Small Spot Repair CIP

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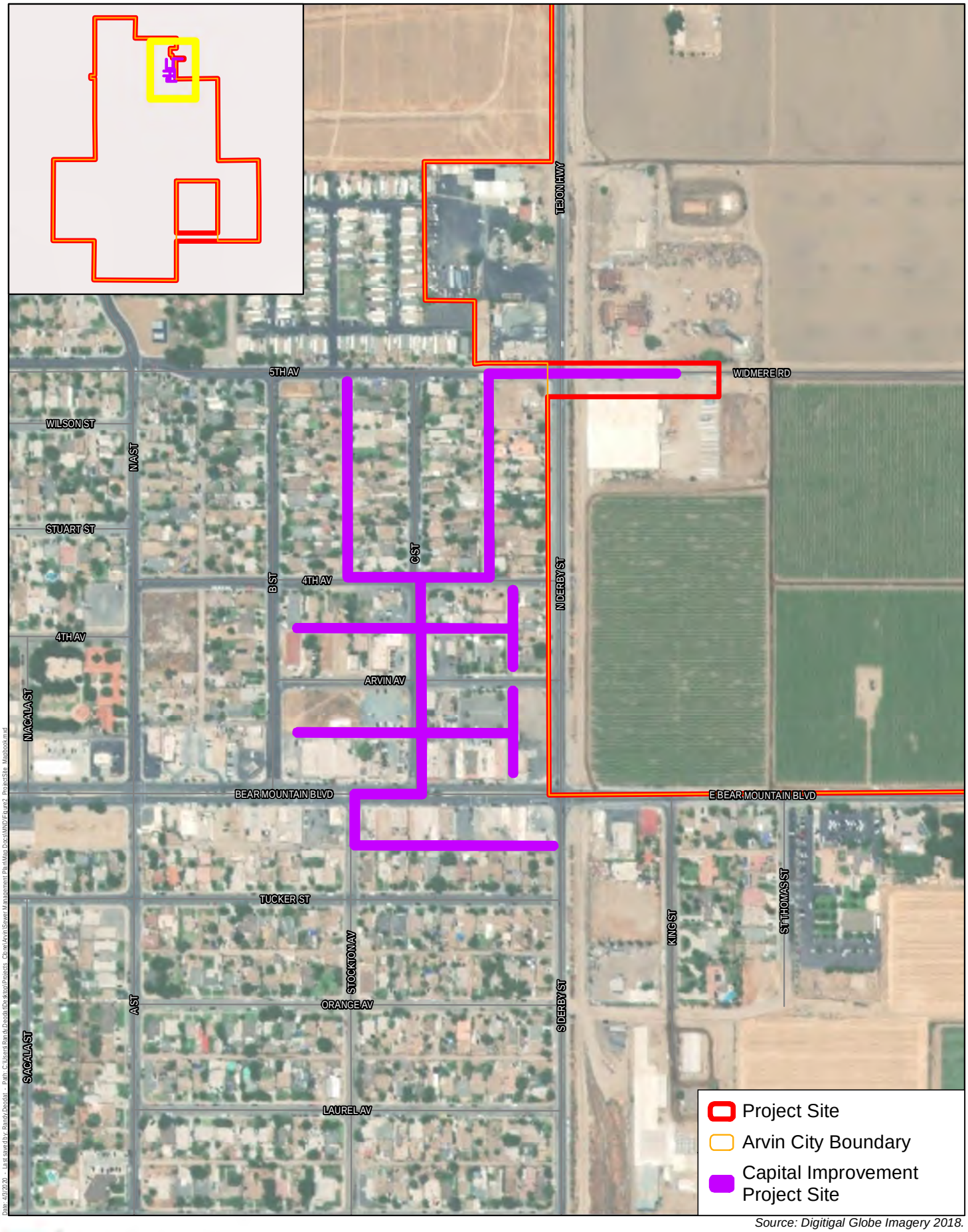

Source: Digitigal Globe Imagery 2018.

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Figure 2m

Southeast Kovacevich Park CIP

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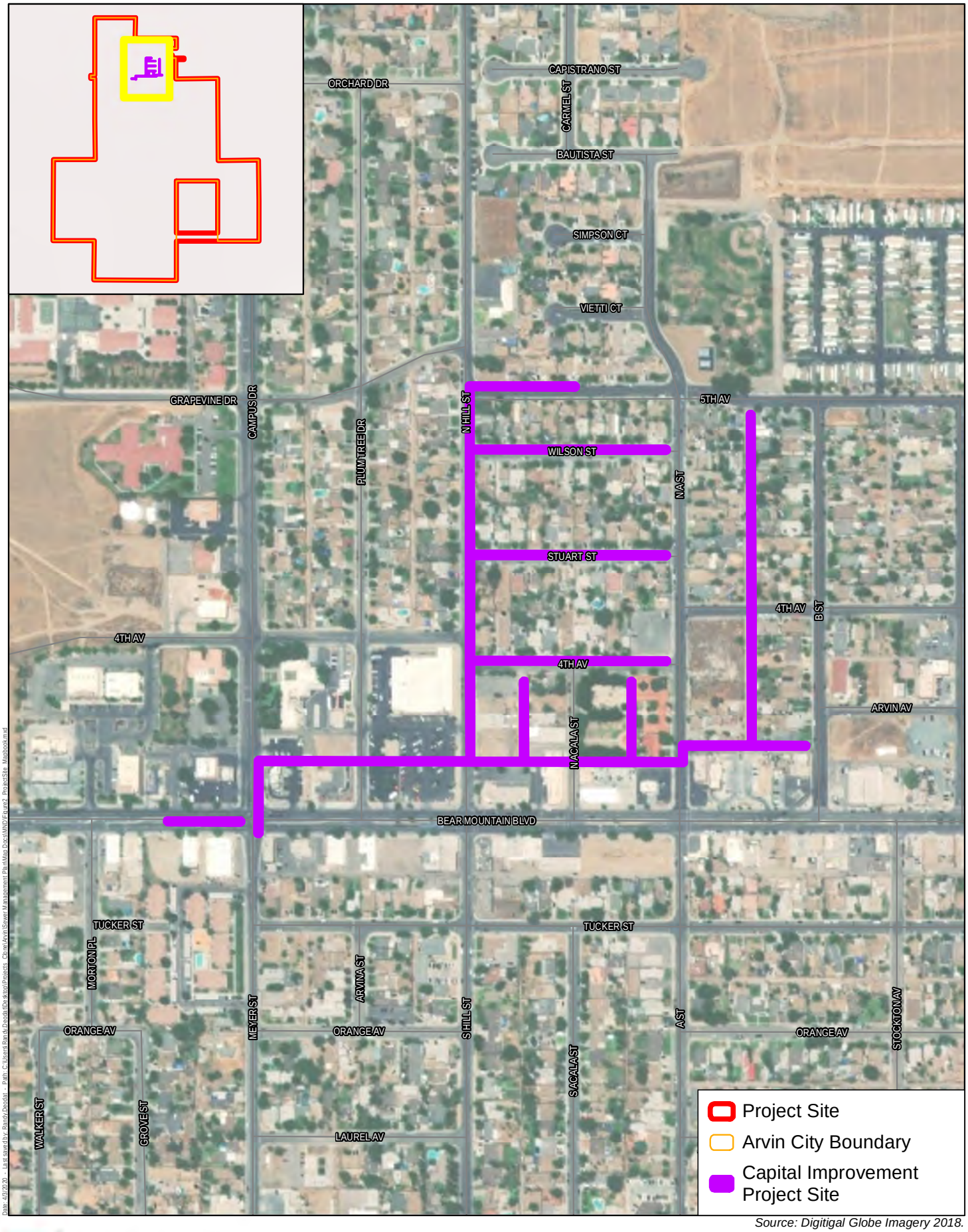

Source: Digitigal Globe Imagery 2018.

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Figure 2n

Southwest Kovacevich Park CIP

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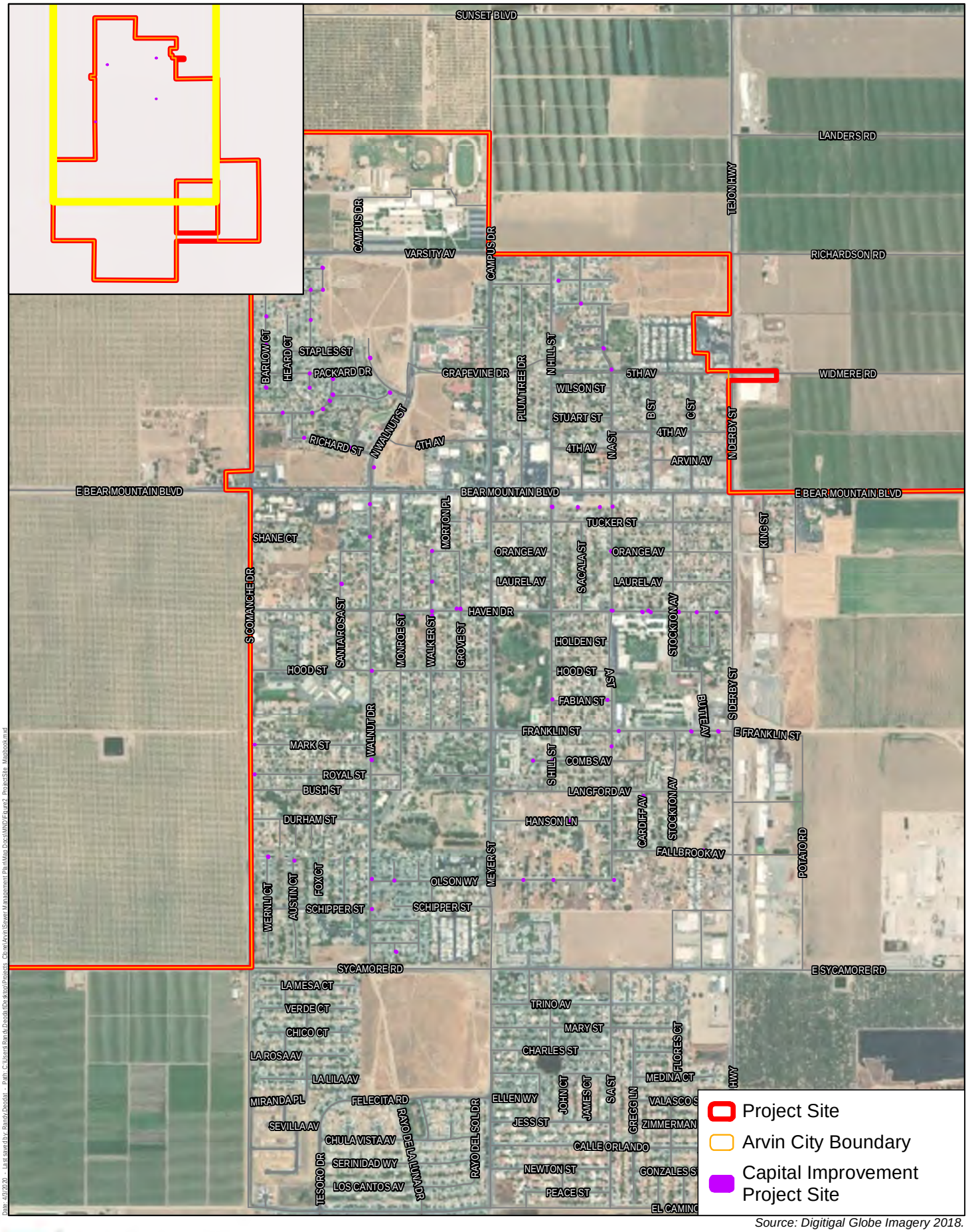

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Figure 2o

Stand-Alone Manhole Repair and Replacement CIP

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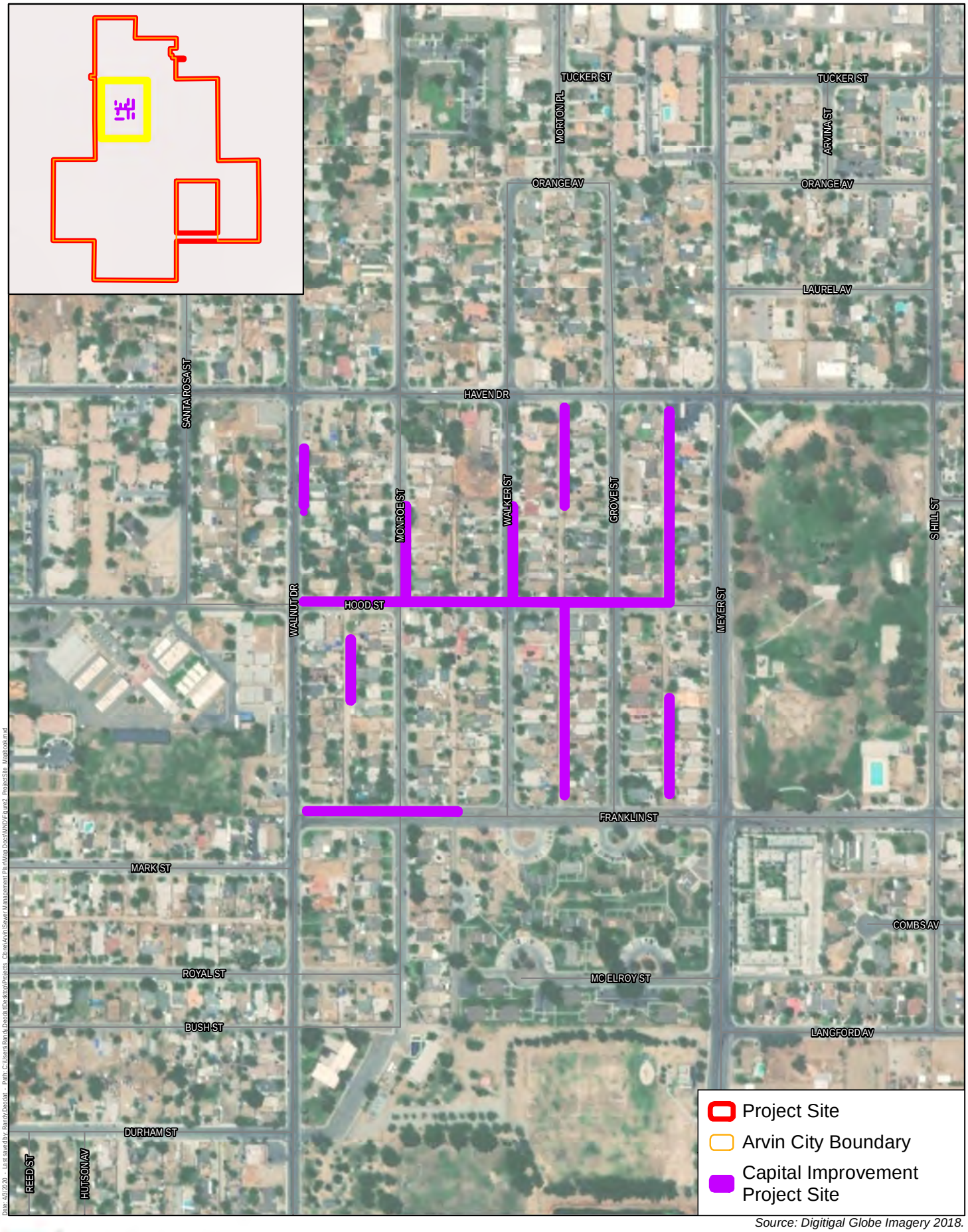

Source: Digitigal Globe Imagery 2018.

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Figure 2p

West Di Giorgio Park CIP

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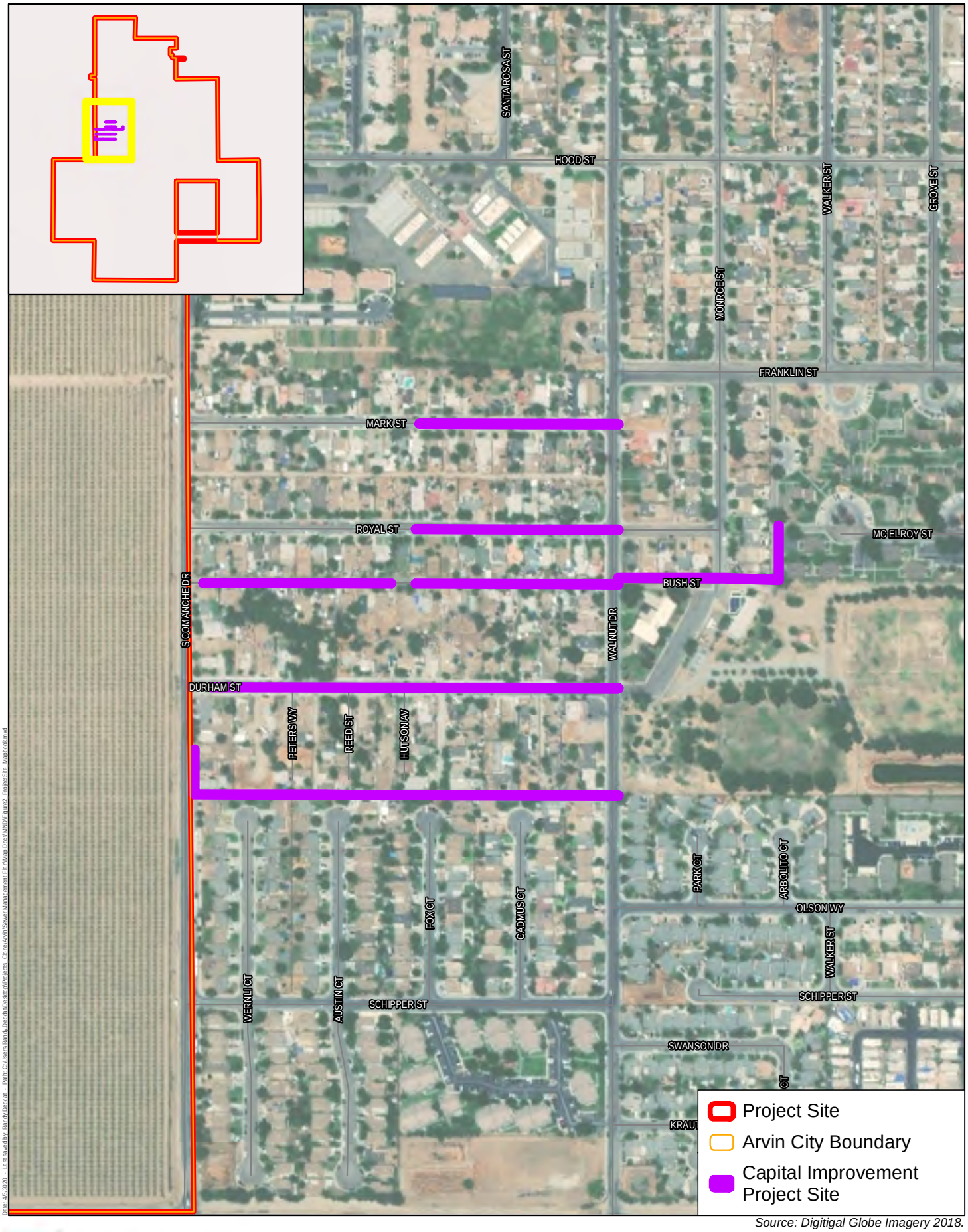

Source: Digitigal Globe Imagery 2018.

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Figure 2q

West Smothermon Park CIP

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Section 2 Initial Study Checklist

The following discussion of potential environmental effects was completed in accordance with Section 15063 of the CEQA Guidelines to determine if the project may have a significant effect on the environment.

2.1 Project Information

1. Project title:	City of Arvin Sanitary Sewer Master Plan
2. Lead agency name and address:	City of Arvin 200 Campus Drive P.O. Box 548 Arvin, California 93203
3. Contact person name, address, and phone number:	Mitzy Cuxum, Senior Planner Community Development Department City of Arvin 141 Plumtree Drive Arvin, California 93203 (661) 606-6066
4. Project location:	City of Arvin
5 Project sponsor's name and address:	Kristin Blackson, Senior Project Manager Harris & Associates 600 B Street, Suite 2000 San Diego, California 92101
6. General Plan designation:	Light Industrial; Heavy Industrial; Low-Density Residential; Medium-Density Residential; High-Density Residential; Estate Residential; Residential Reserve; General Commercial; Agricultural; Public Facilities: Schools; Parks.
7. Zoning:	Light Industrial (LI); Heavy Industrial (HI); Low-Density Residential (LDR); Medium-Density Residential (MDR); High-Density Residential (HDR); Estate Residential (ER); Residential Reserve (RR); General Commercial (GC); Agricultural (AG); Public Facilities (PF); Schools (S); Parks (P).

8. Description of project:	Refer to Section 1, Project Description, of this IS/MND.
9. Surrounding land uses and setting:	Refer to Section 1 of this IS/MND.
10. Other public agencies whose approval is required:	Refer to Section 1.6, Regulatory Requirements, Permits, and Approvals, of this IS/MND
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.?	No consultation has been requested. Refer to Section 2.4.18, Tribal Cultural Resources, of this IS/MND for details.

Summary of Project Design Features

- PDF-AQ-1: PM_{10} Emissions Reduction Best Management Practices
- PDF-NOI-1: Project Construction Activity Schedule

Summary of Required Mitigation Measures

- BIO-1: Weed Control
- BIO-2: Qualified Biologist
- BIO-3: Flagging, Fencing, and Demarcation
- BIO-4: Rare Plant Surveys
- BIO-5: Temporary Impacts to Non-Native Grassland
- BIO-6: Preconstruction Surveys
- BIO-7: U.S. Fish and Wildlife Service and California Department of Fish and Wildlife Permitting
- BIO-8: General Nest Surveys
- CR-1: Discovery of Tribal Cultural Resources
- CR-2: Human Remains
- HAZ-1: Health and Safety Plan
- HYDRO-1: Stormwater Pollution Prevention Plan
- HYDRO-2: Best Management Practices
- NOI-1: Construction Noise

2.2 Environmental Factors Potentially Affected

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

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

2.3 Lead Agency Determination

On the basis of this initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent (state), including implementation of the mitigation measures identified herein. 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 Date

Mitzy Cuxum, Senior Planner, City of Arvin

2.4 Evaluation of Environmental Impacts

This section documents the screening process used to identify and focus on environmental impacts that could result from the project. The checklist portion of the IS begins below and includes explanations of each CEQA issue topic. CEQA requires that an explanation of all answers be provided, including a discussion of ways to mitigate any significant effects identified, along with this checklist. The following terminology is used to describe the potential level of significance of impacts:

- **No Impact.** The analysis concludes that the project would not affect the particular resource in any way.
- **Less than Significant.** The analysis concludes that the project would not cause substantial adverse change to the environment without the incorporation of mitigation.
- **Less than Significant with Mitigation Incorporated**. The analysis concludes that it would not cause substantial adverse change to the environment with the inclusion of mitigation agreed upon by the applicant.
- **Potentially Significant.** The analysis concludes that the project could result a substantial adverse effect or significant effect on the environment, even if mitigation is incorporated. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

2.4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c. 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?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Impact Analysis

a. Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact. A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. In addition, some scenic vistas are officially designated by public agencies or informally designated by tourist guides. A substantial adverse effect to a scenic vista would be to degrade the view from such a designated viewshed. The project site is primarily in urbanized areas of the City. Surrounding land uses are generally industrial, agricultural, commercial, and residential in nature, with State Route 223, a minor east–west highway, running through the northern portion of the project site.

Construction of the project would affect the visual environment during trenching, pipeline removal and installation, and on-site storage of equipment and materials. However, although views may be altered, construction would be short term and temporary. Temporary visual impacts could include views of large construction equipment, storage areas, and any potential signage. Construction equipment would be removed from the project site upon completion of the project, and the proposed pipelines would be placed underground and would not be visible. The only aboveground components of the project are the 257 manholes proposed for repairs and replacements and the 0.06-acre pump station proposed as a part of the Millux Road Pipeline and Pump Station CIP (Figure 2 series). The manhole repairs and replacements would not introduce new visual features to the project site. The pump station proposed at the southwestern corner of Millux Road and Comanche Drive would be

constructed in a previously disturbed area and would replace the existing pump station at the corner of El Camino Real and A Street. The project would not introduce new visual features that would impact a scenic vista or views in the surrounding area. Therefore, the project would not adversely affect a scenic vista, and impacts would be less than significant.

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less than Significant Impact. There are no officially designated or eligible state scenic highways in or surrounding the City (Caltrans 2020). The project would not cause substantial long-term damage to scenic resources or historic buildings because the majority of the sanitary sewer infrastructure being replaced or installed would be placed underground and would not be visible after construction. The pipeline alignments would primarily occur in the developed rights-of-way and urban and disturbed areas throughout the project site. As discussed previously in Section 2.4.1(a), the manhole repairs and replacements would not introduce new visual features to the project site. The pump station proposed at the southwestern corner of Millux Road and Comanche Drive would be constructed in a previously disturbed area and would replace the existing pump station at the corner of El Camino Real and A Street. The project would not introduce new visual features that would impact a scenic resource in the surrounding area. The project, to the extent feasible, would avoid impacts to trees and sensitive biological resources, and impacts to these biological resources would be mitigated to less than significant levels (see Section 2.4.4). Therefore, the project would not adversely affect a scenic resource, including natural or historic structures or a state scenic highway, and impacts would be less than significant.

c. Would the project, 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?

Less than Significant Impact. As discussed in Sections 2.4.1(a) and 2.4.1(b), the project components would be primarily in the developed rights-of-way and urban and disturbed areas throughout the City. After construction, the majority of the sanitary sewer infrastructure would be underground, where it would not be visible or conflict with existing zoning or land uses. As discussed previously in Sections 2.4.1(a) and 2.4.1(b), the manhole repairs and replacements would not introduce new visual features to the project site. The pump station proposed at the southwestern corner of Millux Road and Comanche Drive would be constructed in a previously disturbed area and would replace the existing pump station at the corner of El Camino Real and A Street. The project would not introduce new visual features that would impact the visual character or quality of the surrounding area. Therefore, the project would not conflict with applicable zoning or other regulations governing scenic quality, and impacts would be less than significant.

d. Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

No Impact. As discussed in Sections 2.4.1(a) through 2.4.1(c), the majority of the project components would be underground and not visible once construction is complete. The project does not propose the use or construction of a light source. Temporary construction activities would occur during daytime hours, and no temporary nighttime lighting is anticipated during construction. Therefore, no significant impact related to creation of new sources of light or glare would result with development of the project.

2.4.2 Agriculture and Forestry Resources

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. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
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))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☒	☐

Impact Analysis

a. Would the project 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?

Less than Significant Impact. Based on a review of the California Department of Conservation's Farmland Mapping and Monitoring Program maps, the majority of the project site is classified as Urban and Built-Up Land and Vacant or Disturbed Land. The southern portion of the project site and the lands surrounding the project site are classified as Prime Farmland and Grazing Land.

None of the land on or directly surrounding the project site is classified as Farmland of Statewide Importance. The project would temporarily impact land classified as Prime Farmland or Grazing Land. However, as discussed in Section 1.4, Project Construction, once construction is complete, the areas disturbed by project construction activity would be restored to their previous condition and function and, thus, would not result in the conversion of Prime or Unique Farmland or Farmland of Statewide Importance. Therefore, impacts would be less than significant.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project site is not under a Williamson Act contract, and there are no known properties on the project site under this type of contract (DOC 2017). Therefore, construction of the project would not create conflicts with existing zoning for agricultural use or property under a Williamson Act contract, and no impact would result.

c. Would the project 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))?

No Impact. The project site does not contain any forest lands and is not zoned for forest land, timberland, or timberland zoned Timberland Production (City of Arvin 2012). Therefore, development of the project would not result in the conversion of forest land to non-forest use, and no impact would result.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in Section 2.4.2(c), the project site does not contain any forestland and is not zoned for forest land (City of Arvin 2012). Therefore, implementation of the project would not result in the loss or conversion of forest land to non-forest use, and no impact would result.

e. Would the project 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?

Less than Significant Impact. As discussed in Section 2.4.2(a), although the project would temporarily impact land classified as Prime Farmland or Grazing Land, once construction is complete, the areas disturbed by the construction activity during pipeline or manhole improvements or installations would be restored to their previous condition and function and would not result in the conversion of farmland to non-agricultural use. The project site does not contain forest lands. Therefore, impacts regarding converting farmland or forest land to non-agricultural or non-forest use, respectively, would be less than significant.

2.4.3 Air Quality

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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
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)?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

The following discussion is based on a technical analysis completed by Harris & Associates for the proposed project. Model outputs are included as Appendix B.

Impact Analysis

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The proposed project is in the San Joaquin Valley Air Basin. The San Joaquin Valley Air Pollution Control District (SJVAPCD) is the designated air quality control agency for the San Joaquin Valley Air Basin. California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (USEPA) are responsible for mobile sources (such as locomotives and motor vehicles) and other specified statewide sources (such as consumer products). Air districts adopt and enforce rules and regulations to ensure that emissions comply with national, state, and local emission standards and that emissions will not interfere with the attainment and maintenance of the state and federal ambient air quality standards.

At the federal level, the SJVAPCD is designated as extreme nonattainment for the 8-hour ozone standard, attainment for particulate matter measuring no more than 10 microns in diameter (PM_{10}) and carbon monoxide (CO), and nonattainment for fine particulate matter measuring no more than 2.5 microns in diameter ($PM_{2.5}$). At the state level, the SJVAPCD is designated as nonattainment for the 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards. Although the federal 1-hour ozone standard was revoked in 2005, areas must still attain this standard, and the SJVAPCD requested a California Environmental Protection Agency finding that the San Joaquin Valley has attained the standard based on 2011–2013 data.

The SJVAPCD has developed plans to attain state and federal standards for 1-hour ozone, 8-hour ozone, and $PM_{2.5}$ and PM_{10}. These plans include the 2018 Plan for 1997, 2006, and 2012 $PM_{2.5}$ Standards; 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard; 2015 Plan for the 1997 $PM_{2.5}$ Standard; 2012 $PM_{2.5}$ Plan; 2008 $PM_{2.5}$ Plan; 2007 PM_{10} Maintenance Plan; 2016 Plan for the 2008 8-Hour Ozone Standard; 2014 Reasonably Available Control Technology (RACT) Demonstration for the 8-Hour Ozone State Implementation Plan (SIP); 2013 Plan for the Revoked 1-Hour Ozone Standard; 2009 RACT Demonstration for SIPs; 2007 Ozone Plan; 2004 Extreme Ozone Attainment Demonstration Plan; and the 2004 Revisions to the Carbon Monoxide Maintenance Plan. The SJVAPCD's air quality plans include emissions inventories to identify the sources and quantities of air pollutants, evaluate how well different control methods have worked, and demonstrate how air pollution will be reduced. The plans also use computer modeling to estimate future levels of pollution and ensure that the San Joaquin Valley Air Basin will meet air quality goals. The SJVAPCD's attainment plans are a regional component of the SIP.

The major sources of concern in the SJVAPCD are stationary sources and mobile sources such as those from heavy-duty trucks and passenger vehicles. These sources are subject to some of the toughest regulatory requirements in the nation. Emission reductions achieved through implementation of the SJVAPCD offset requirements are a major component of the SJVAPCD's air quality plans. The SJVAPCD's attainment plans demonstrate that project-specific emissions below the SJVAPCD's offset thresholds will have a less than significant impact on air quality. The SJVAPCD has determined to use offset thresholds as the SJVAPCD thresholds of significance for criteria pollutants for both stationary and mobile emission sources. The SJVAPCD's thresholds of significance for criteria pollutants are applied to evaluate regional impacts of project-specific emissions of air pollutants. Regional impacts of a project can be characterized in terms of total annual emissions of criteria pollutants and their impact on the SJVAPCD's ability to reach attainment. Thus, projects with emissions below the thresholds of significance for criteria pollutants would be determined to not conflict or obstruct implementation of the SJVAPCD's air quality plan. The project proposes replacing and improving existing sewer infrastructure. The proposed new infrastructure would serve but not support growth beyond planned development. The proposed project would not result in a net increase in emissions from any source of concern. Operation of the proposed project would be similar to existing conditions, and no net increase in criteria pollutant emissions is anticipated. Therefore, the project would not conflict with or obstruct implementation of the SJVAPCD's air quality plans and would not result in a significant impact.

b. Would the project 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)?

Less than Significant Impact.

Existing Air Quality Levels

The SJVAPCD operates a network of ambient air quality monitoring stations throughout the San Joaquin Valley. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California Ambient Air Quality Standards and the National Ambient Air Quality Standards. The closest monitoring station to the project site is the Arvin – Di Giorgio Monitoring Station approximately 2.7 miles northeast of the City limits. Because data were not available for PM_{10} and $PM_{2.5}$ for this monitoring station, data were taken from the next closest monitoring station, the Bakersfield-California Monitoring Station, approximately 15.6 miles northwest of the City. Concentrations of pollutants from these stations over the last 3 years (2016–2018) are presented in Table 3.

Table 3. Ambient Background Concentrations at Monitoring Station (ppm unless otherwise indicated)

Pollutant	Averaging Time	2016	2017	2018	CAAQS Threshold	NAAQS Threshold
Ozone (O_3)	1 hour	0.108	0.107	0.111	0.09	n/a
	8 hour	0.091	0.088	0.100	0.070	0.070
PM_{10} (µg/m^3)	State maximum 24-hour concentration	92.2	143.6	142.0	50	n/a
	Federal maximum 24-hour concentration	90.9	138.0	136.1	n/a	150
$PM_{2.5}$ (µg/m^3)	Maximum 24-hour concentration	66.4	101.8	98.5	n/a	35
	Annual average concentration	16.0	15.9	15.7	12	12.0

Source: CARB 2020.

Notes: CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; O_3 = ozone; PM_{10} = particulate matter measuring no more than 10 microns in diameter; $PM_{2.5}$ = fine particulate matter measuring no more than 2.5 microns in diameter; ppm = parts per million; µg/m^3 = micrograms per cubic meter of air

As shown in Table 3, concentrations of 1-hour ozone (O_3), 8-hour O_3, PM_{10}, and $PM_{2.5}$ exceeded both the California Ambient Air Quality Standards and National Ambient Air Quality Standards in 2016, 2017, and 2018.

Criteria Thresholds and Analysis Methodology

CEQA Guidelines, Appendix G, states that significance criteria established by the applicable air quality management or air pollution control district may be relied on to make determinations of impact. By its very nature, air pollution is largely a cumulative impact. Consequently, the SJVAPCD thresholds of significance for criteria pollutants are relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality (SJVAPCD 2015). The City uses the current SJVAPCD-adopted thresholds of significance for criteria pollutant emissions to determine whether project-level emissions would be cumulatively considerable. The relevant screening thresholds are listed in Table 4.

Table 4. Air Quality Thresholds of Significance for Criteria Pollutants During Construction

Pollutant	Emissions (tons/year)
PM_{10}	15
$PM_{2.5}$	15
NO_X	10
SO_X	27
CO	100
ROG	10

Notes: CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter measuring no more than 10 microns in diameter; $PM_{2.5}$ = fine particulate matter measuring no more than 2.5 microns in diameter; ROG = reactive organic gas; SO_X = sulfur oxide

The thresholds listed in Table 4 represent screening-level thresholds that can be used to evaluate whether project-related construction emissions would have the potential to be cumulatively considerable. Emissions below the screening-level thresholds would not cause a significant impact.

Construction and Operation Emission Impacts

Construction of the individual CIPs involved in the project would take place over 20 years. The details and specifications of construction of individual CIPs are unknown at this time. Worst-case estimated criteria pollutant emissions were calculated using California Emissions Estimator Model (CalEEMod), Version 2016.3.2, and represent the anticipated maximum construction to occur in a single construction year. A maximum installation of 8,930 linear feet of pipeline may occur in a single year, including projects to support existing conditions and development-driven projects. This estimate is conservative for the remaining construction years because the worst-case scenario includes approximately 20 percent of all pipeline installation. It is assumed that all pipeline under the worst-case scenario would be installed using trenching. Trenches are anticipated to be approximately 3 feet wide and 8 feet deep, resulting in approximately 7,938 cubic yards of excavated material. The worst-case scenario also includes the replacement of two manholes and the demolition and replacement of the existing pump station. Manhole replacements are anticipated to require approximately 45 cubic yards of excavated material each for a total excavation of 8,027 cubic yards during the worst-case construction year for manhole and pipeline projects (approximately 20 percent of total excavation for all CIPs). It is assumed that approximately 50 percent of excavated material would be exported and the equivalent amount of fill would be imported. Demolition of the existing pump station is assumed to be 5,000 square feet, and the future pump station would be similarly sized. Emissions associated with the construction of the proposed project are shown in Table 5.

Table 5. Worst-Case Maximum Annual Air Pollutant Emissions (tons/year)

Construction Phase	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Pipeline Installation and Manhole Replacement	<1	1	1	<1	<1	<1
Pump Station Demolition and Replacement	<1	1	1	<1	<1	<1
Maximum Annual Emissions	<1	2	2	<1	<1	<1
SJVAPCD Threshold	10	10	100	27	15	15
Significant Impact?	No	No	No	No	No	No

Source: CalEEMod Version 2016.3.2.

Notes: CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter measuring no more than 10 microns in diameter; $PM_{2.5}$ = fine particulate matter measuring no more than 2.5 microns in diameter; ROG = reactive organic gas; SO_X = sulfur oxide

Emission quantities are rounded to the nearest whole number. Exact values are provided in Appendix B. Bold indicates threshold exceedance.

As shown in Table 5, construction of the CIPs would result in emission levels below the SJVAPCD thresholds. In addition, these project emissions are conservative and do not take into account compliance with District Regulation VIII, Fugitive PM_{10} Prohibition. Emissions of PM_{10} would further be reduced through incorporation of PDF-AQ-1, PM_{10} Emissions Reduction Best Management Practices, as follows:

PDF-AQ-1: PM_{10} Emissions Reduction Best Management Practices.

- Apply water to unpaved surfaces and areas
- Use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas
- Limit or reduce vehicle speed on unpaved roads and traffic areas
- Maintain areas in a stabilized condition by restricting vehicle access
- Install wind barriers
- During high winds, cease outdoor activities that disturb soil
- Keep bulk materials sufficiently wet when handling
- Store and handle materials in a three-sided structure
- When storing bulk materials, apply water to the surface or cover the storage pile with a tarp
- Do not overload haul trucks; overloaded trucks are likely to spill bulk materials
- Cover haul trucks with a tarp or other suitable cover, or wet the tops of the load enough to limit visible dust emissions
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site
- Prevent trackout by installing a trackout device
- Clean up trackout at least once per day; if the trackout is along a busy road or highway, clean it up immediately
- Monitor dust-generating activities and implement appropriate measures for maximum dust control

Therefore, with the incorporation of PDF-AQ-1, air emissions associated with construction of the CIPs would be less than significant.

Following construction, no net increase in vehicular emissions is anticipated as a result of the proposed project. No net increase in maintenance trips would be required as a result of CIP implementation. The CIPs do not propose any components that would result in new sources of criteria pollutant emissions. Therefore, no increase in criteria pollutant emissions would occur during operation. Operational impacts would be less than significant.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Some people are considered more sensitive to air pollutants than others, including those with pre-existing health problems, those who are close to an emissions source, and those who are exposed to air pollutants for long periods of time. The SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts defines "sensitive receptors" as those that are more susceptible to the effects of air pollution than the population at large and include "facilities that house or attract children, the elderly, and people with illnesses, hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors" (SJVAPCD 2015). Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be the most sensitive because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are also considered sensitive to poor air quality because people in residential areas are often at home for extended periods.

Impacts to sensitive receptors are typically analyzed for operational-period CO hotspots and exposure to toxic air contaminants (TACs). An analysis of the project's potential to expose sensitive receptors to these pollutants is provided.

Carbon Monoxide Hotspots

A CO hotspot is an area of localized CO pollution caused by high vehicle intensity, such as congested intersections and parking garages. If a project increases average delay at signalized intersections operating at LOS E or F or causes an intersection that would operate at LOS D or better without the project to operate at LOS E or F with the project, a quantitative screening is required (SJVAPCD 2015).

The project consists of individual CIPs that include improvements to the existing sanitary sewer infrastructure, including replacement, upgrade, and installation of pipeline segments throughout the City. As stated previously, the details and specification of construction of these individual CIPs is unknown at this time. However, due to the anticipated short-term duration of each CIP, construction trips are not anticipated to add a significant amount of trips to the existing circulation system. Following construction, no net increase in vehicular emissions is anticipated as a result of

the proposed project, and no net increase in maintenance trips would be required as a result of CIP implementation. Therefore, there would be no potential for a CO hotspot or exposure of sensitive receptors to substantial, project-generated, local CO emissions. Impacts related to CO hotspots would be less than significant.

Toxic Air Contaminants

A TAC is defined by California law as an air pollutant that may cause or contribute to an increase in mortality or in serious illness or that may pose a present or potential hazard to human health. High-volume TAC generators listed as potential health risk sources include the operation of commercial diesel engines and truck stops, landfills and incinerators, and chemical manufacturers (CARB 2005). Construction activities would result in short-term project-generated emissions of diesel particulate matter from the exhaust of off-road, heavy-duty diesel equipment. CARB identified diesel particulate matter as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer time period. According to the California Environmental Protection Agency Office of Environmental Health Hazard Assessment, Health Risk Assessments (CalEPA 2001), which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period or duration of activities associated with the project.

Relatively few pieces of off-road, heavy-duty diesel equipment would be used during construction of the CIPs, and each individual CIP construction period would be short term in duration. As shown in Table 5, maximum particulate matter emissions during construction would be below the SJVAPCD threshold. Diesel particulate matter would disperse beyond the construction area, and CIPs would be throughout the City so that individual receptors would only be exposed to limited emissions for a short duration. Combined with additional reductions in exhaust emissions from improved equipment, construction-related emissions would not expose sensitive receptors to substantial emissions of TACs. Impacts from construction emissions would be less than significant. In addition, following construction, no net increase in vehicle trips beyond existing maintenance trips would occur. As such, the proposed project would not have the potential to expose sensitive receptors to TACs from mobile sources to an extent that health risks could result. Impacts related to TACs would be less than significant.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. During construction of the proposed project, diesel equipment operating at the site and asphalt during repaving of the roadways could generate nuisance odors at

adjacent properties. Though overall construction would last approximately 20 years, the individual CIPs would not occur simultaneously and would be developed over time. Each CIP construction period would be temporary and short term. During pipe and manhole replacements, there may be a very temporary exposure to sewage odors. Due to the temporary and short-term nature of construction for each CIP, odors associated with project construction would be less than significant.

According to the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (2015), common types of facilities that are known to produce odors include wastewater treatment facilities, sanitary landfills transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, painting/coating operations, food processing facilities, feed lots/dairies, and rendering plants. The project proposes improvements to and replacement of the existing sanitary sewer infrastructure. The proposed improvements would require an increase in capacity through an upgrade of the current sanitary sewer system, which may result in new odors. However, these new pipelines would be enclosed and situated underground; therefore, new odors from operation of the sewer system would not be expected. Future operations would be similar to existing conditions without any anticipated new sources of objectionable odors that would affect a substantial number of people. Therefore, odor impacts associated with project operation would be less than significant.

2.4.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
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?	☐	☒	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any applicable policies protecting biological resources?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?	☐	☐	☐	☒

As discussed in Appendix A, a survey of the project site was conducted by City-approved biologists on October 14 and 15, 2019. The area surveyed included the 17 CIP sites plus a 500-foot buffer (survey area). Vegetation communities and land cover types were mapped in the survey area. The survey was conducted on CIP sites that were in or adjacent to undeveloped areas by walking meandering transects throughout the survey area and documenting plant and wildlife species and evaluating the potential for occurrence of special-status plant and wildlife species. The City-approved biologists identified the vegetation communities in the survey area by documenting visually observed habitat features present along the meandering transects, including existing plant species, structural characteristics, and general habitat quality (Figure 3 series). Refer to Appendix A for detailed results of the biological resources survey. As discussed in Section 1, the project site is defined by the limits of the 25-foot-wide construction activity zone. While the surveys and vegetation mapping documented the existing conditions within the 500-foot wide survey area,

potential impacts would be limited to the project site. Potential impacts to biological resources resulting from implementation of the project are discussed below.

Impact Analysis

a. Would the project 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?

Less than Significant Impact with Mitigation Incorporated.

Special-Status Plant Species

The project has the potential to result in direct and indirect impacts to special-status plant species, including the federally endangered and California Rare Plant Rank listed 1B.1 species San Joaquin woollythreads (*Monolopia congdonii*) (CDFW 2020; CNPS 2020). In total, 0.98 acre of suitable grassland habitat for San Joaquin woollythreads exists on the Campus Drive Alley and Potato-Sycamore CIP sites. However, the non-native grasslands on the Campus Drive Alley and Potato-Sycamore CIP sites are dominated by non-native grasses and forbs like bromes and wild oat, potentially reducing the likelihood of the presence of this native sensitive species. Because the survey was not conducted during the blooming period for this and other special-status plant species, the presence of this sensitive plant species may not have been identified if it were dormant or difficult to identify. Therefore, if this species was present but went undetected before construction activities commenced, significant direct and indirect impacts would result.

In addition, potential indirect impacts to San Joaquin woollythreads could result from the introduction of invasive weed species and soil erosion and sedimentation during construction in the 0.98 acre of suitable non-native grassland habitat on the Campus Drive Alley and Potato-Sycamore CIP sites.

Potential direct and indirect impacts to 0.98 acre of non-native grassland habitat during construction of the Campus Drive Alley and Potato-Sycamore CIPs could represent a significant impact to special-status plant species, and avoidance, minimization, or mitigation measures would be required. Implementation of standard erosion-control measures and stormwater-quality BMPs (required through the construction permit process) during construction would reduce potential indirect impacts to special-status plant species from soil erosion and sedimentation to less than significant. As a condition of approval, implementation of Mitigation Measures BIO-1 through BIO-5 for the 0.28 acre of non-native grassland habitat impacted during construction of the Campus Drive Alley CIP and 0.70 acre of non-native grassland habitat impacted by the Potato-Sycamore CIP would reduce direct and indirect impacts to special-status plant species to less than significant.

Special-Status Wildlife Species

The project has the potential to result in direct and indirect impacts to special-status wildlife species, including the state species of special concern burrowing owl (*Athene cunicularia*), the state species of special concern northern harrier (*Circus hudsonius*), the state critically threatened Swainson's hawk (*Buteo swainsoni*), the federally endangered and state threatened San Joaquin kit fox (*Vulpes macrotis mutica*), and the federally endangered and state endangered blunt-nosed leopard lizard (*Gambelia sila*) (CDFW 2020; USFWS 2020). Approximately 0.98 acre of non-native grassland and 6.40 acres of disturbed areas with patches of bare ground and numerous mammal burrows that burrowing owl could use for nesting exist on the project sites for the Campus Drive Alley, Comanche Drive, Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs. These habitats are also suitable for San Joaquin kit fox and blunt-nosed leopard lizard to use for burrowing and foraging. Large, mature trees adjacent to non-native grassland, disturbed areas, and agricultural lands occur throughout the survey area and are suitable for nesting by northern harrier and Swainson's hawk. The Campus Drive Alley, Comanche Drive, Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIP sites include 0.98 acre of non-native grassland, 2.35 acres of agricultural fields, and 6.40 acres of disturbed areas for burrowing owl, northern harrier, and Swainson's hawk to use for foraging. Construction activities associated with these CIPs occurring in the habitats that could support northern harrier, burrowing owl, San Joaquin kit fox, Swainson's hawk, and blunt-nosed leopard lizard could result in significant direct and indirect impacts to these special-status wildlife species.

The potential impacts to 0.98 acre of non-native grassland, 2.35 acres of agricultural fields, and 6.40 acres of disturbed land resulting from construction of the Campus Drive Alley, Comanche Drive, Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs could represent a significant impact to special-status wildlife species, and avoidance, minimization, or mitigation measures would be required. Table 6**,** Direct and Indirect Impacts to Special-Status Wildlife Species, summarizes the CIPs that have the potential to result in direct or indirect impacts to special-status wildlife species.

Table 6. Direct and Indirect Impacts to Special-Status Wildlife Species

Species	Campus Drive Alley CIP	Comanche Drive CIP	Millux Road Pipeline and Pump Station CIP	Potato-Sycamore CIP	Stand-Alone Manhole Replacement CIP
Northern harrier	Direct and indirect	Indirect only	Direct and indirect	Direct and indirect	Indirect only
Blunt-nosed leopard lizard	Direct and indirect	Indirect only	Direct and indirect	Direct and indirect	Indirect only
Burrowing owl	Direct and indirect	Indirect only	Direct and indirect	Direct and indirect	Indirect only
San Joaquin kit fox	Direct and indirect	No impacts	Direct and indirect	Direct and indirect	No impacts
Swainson's hawk	Direct and indirect	Indirect only	Direct and indirect	Direct and indirect	Indirect only

Note: Only CIPs that may result in direct or indirect impacts to special-status wildlife species are listed. All other CIPs would not likely result in direct or indirect impacts to special-status wildlife species.

As a condition of approval, implementation of Mitigation Measures BIO-2, BIO-3, and BIO-6 through BIO-8 for the 0.28 acre of non-native grassland habitat on the Campus Drive Alley CIP site, 0.02 acre of agricultural land and 0.32 acre of disturbed land on the Comanche Drive CIP site, 1.73 acres of agricultural land and 6 acres of disturbed land on the Millux Road Pipeline and Pump Station CIP site, 0.70 acre of non-native grassland on the Potato-Sycamore CIP site, and 0.08 acre of agricultural land on the Small Spot Repair CIP site would reduce direct and indirect impacts to special-status wildlife species to less than significant.

Implementation of the 17 CIPs has the potential to impact bird species that are protected under the Migratory Bird Treaty Act and California Fish and Game Code, Section 3504. If construction is conducted during the bird-breeding season (January 1 through August 31), temporary direct impacts from disturbance and displacement of nesting birds during vegetation removal could result in significant direct impacts to bird species protected under the Migratory Bird Treaty Act. Indirect impacts from construction noise and vibration during clearing, grubbing, and trenching activities, if conducted during the bird-breeding season, could result in significant indirect impacts to bird species protected under the Migratory Bird Treaty Act. As a condition of approval, implementation of Mitigation Measure BIO-8 for the 17 CIPs would reduce potential direct and indirect impacts to nesting birds to less than significant.

b. Would the project 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?

Less than Significant Impact with Mitigation Incorporated. While no southern willow scrub riparian habitat would be directly impacted during project construction, potential indirect impacts could result from the introduction of invasive weed species and soil erosion and sedimentation during

construction of the Millux Road Pipeline and Pump Station CIP adjacent to the southern willow scrub habitat (Figure 4 series, Impacts to Vegetation Communities). Construction activities associated with the Campus Drive Alley and Potato-Sycamore CIPs would result in temporary direct impacts to approximately 0.98 acre of non-native grassland on these CIP sites (Figure 4 series). In addition, potential indirect impacts to non-native grassland could result from the introduction of invasive weed species and soil erosion and sedimentation during construction in the 0.98 acre of non-native grassland on the Campus Drive Alley and Potato-Sycamore CIP sites. The temporary direct and indirect impacts to non-native grassland during construction of the Campus Drive Alley and Potato-Sycamore CIPs would be significant and would require mitigation.

Upon completion of the Campus Drive Alley and Potato-Sycamore CIPs, the 0.98 acre of non-native grassland disturbed during construction would be restored to its previous condition and function. Implementation of standard erosion-control measures and stormwater-quality BMPs (required through the construction permit process) during construction of the Millux Road Pipeline and Pump Station CIP would reduce potential indirect impacts to southern willow scrub and non-native grassland from soil erosion and sedimentation to less than significant. As a condition of approval, implementation of Mitigation Measures BIO-1 and BIO-5 for the 0.28 acre of non-native grassland habitat impacted during construction of the Campus Drive Alley CIP and the 0.70 acre of non-native grassland habitat impacted by the Potato-Sycamore CIP would reduce direct and indirect impacts to non-native grassland habitat to less than significant.

c. Would the project 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?

Less than Significant Impacts with Mitigation Incorporated. Two disturbed potential aquatic resources with associated riparian vegetation were documented in the survey area during the survey conducted on October 14 and 15, 2019 (Figure 5 series, Aquatic Resources). Three open water ponds, one in the southwestern portion of the survey area and two in the eastern portion, were documented. The open water pond in the southwestern portion of the survey area is surrounded by southern willow scrub. The two open water ponds in the eastern portion of the survey area have no associated vegetation surrounding them. All three of these open water ponds appear to be used as stock or irrigation ponds by the surrounding agricultural industry. Two additional open water ponds were mapped in the southeastern portion of the survey area. However, these ponds were artificially created for a residential development and are surrounded by associated ornamental vegetation. None of the aquatic resources documented in the survey area are on the project site and are not expected to be impacted by project construction activity.

An aquatic resources delineation was not completed for the 0.80 acre of disturbed potential aquatic resources or 5.77 acres of open water. However, standing water and hydrophytic vegetation were observed in and around the aquatic areas and one of the open water ponds in the southwestern

portion of the survey area. The vegetation observed included narrowleaf cattail (*Typha angustifolia*), saltcedar (*Tamarix ramosissima*), California mugwort (*Artemisia douglasiana*), and sedges (*Carex* spp.).

While impacts to aquatic resources are not expected from implementation of the project, indirect impacts could result from the introduction of invasive weed species and soil erosion and sedimentation during construction of the Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs adjacent to the aquatic resources. Implementation of Mitigation Measure BIO-1 and standard erosion-control measures and stormwater-quality BMPs (required through the construction permit process) during construction of the Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs would reduce potential indirect impacts to aquatic resources from invasive plant species and soil erosion and sedimentation to less than significant. As discussed previously, direct impacts to potential state or federal jurisdictional aquatic resources adjacent to the project site are not anticipated to occur as a result of project construction. Therefore, impacts to state or federally protected aquatic resources would be less than significant.

d. Would the project 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?

Less than Significant Impact. The County's Draft Valley Floor Habitat Conservation Plan (VFHCP) includes the City (Kern County 2006). The Draft VFHCP Program Area encompasses 3,110 square miles (approximately 1,990,400 acres) and generally includes most of the San Joaquin Valley Floor portion of the County up to an elevation of 2,000 feet. The Draft VFHCP covered species include plants and wildlife with both state- and federally listed status as threatened or endangered and California species of special concern status. Fourteen plant species and 11 wildlife species known to occur in the Draft VFHCP Program Area are addressed by the Draft VFHCP. The Draft VFHCP is intended to provide adequate conservation of sensitive vegetation communities, including non-native grassland, valley sink saltbrush, and valley sink scrub, in the Draft VFHCP Program Area. Because the Draft VFHCP has not yet been approved, the City is not a signatory for the plan. However, the City complies with policies protecting biological resources identified in the Conservation and Open Space Element of the City's General Plan Update and the County's General Plan Land Use, Open Space, and Conservation Element, which include similar goals and policies outlined in the Draft VFHCP (Appendix A).

The Draft VFHCP does not identify any areas in or surrounding the survey area as functioning as official or potential wildlife migration corridors or habitat linkages. Due to the agricultural and urban land uses present throughout most of the County, potential wildlife corridors and habitat connectors in the Draft VFHCP can include cultivated lands, such as canals, ditches, roads, and utility rights-of-way, and culverts under roadways. The County is within the major bird migration

corridor of the western United States, the Pacific Flyway. Wildlife refuges in the County, such as the Kern National Wildlife Refuge, have been designated to provide rest stops along the annual migration routes for migratory bird species. Because the survey area is within the Pacific Flyway migratory corridor, the survey area has the potential to provide habitat for migratory birds traveling between their nesting and wintering areas.

The survey area is not likely to be used as a wildlife movement corridor or nursery site because it lacks native vegetation communities; is surrounded by agricultural and urban land uses, including State Route 223; and is not connected to any other open space areas. Furthermore, no critical habitat is present in the survey area. Therefore, impacts related to wildlife corridors or nursery sites resulting from project implementation would be less than significant.

e. Would the project conflict with any applicable policies protecting biological resources?

No Impact. As discussed previously in Section 2.4.4(d), projects within the City comply with policies protecting biological resources identified in the Conservation and Open Space Element of the City's General Plan Update and the County's General Plan Land Use, Open Space, and Conservation Element (Appendix A). Therefore, no impacts related to conflicts with applicable policies or ordinances protecting biological resources would result from implementation of the project.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?

No Impact. As discussed previously in Section 2.4.4(e), the City complies with the conservation policies identified in the City's and County's General Plans. Therefore, no impacts to local conservation plans would result from the implementation of the project.

Mitigation Measures

The following mitigation is required as part of the project to ensure that potential impacts to biological resources are mitigated to levels that are less than significant:

BIO-1: **Weed Control.** The project proponent(s) shall implement the following weed control methods to minimize the establishment and spread of non-native and invasive weed species on the project site during construction activities:

1. Seeds and plant materials used for revegetation shall be certified weed free.
2. Straw materials such as those used for erosion control shall be certified weed free.
3. Temporarily disturbed non-native grassland areas shall be revegetated with local native plant species as soon as construction is complete to reduce erosion and to inhibit the establishment of non-native and invasive weeds.

BIO-2: **Qualified Biologist.** Prior to the start of construction, the project proponent(s) shall submit written documentation to the City of Arvin Community Development Department Senior

Planner for approval, stating that a qualified biologist(s) has been retained to implement the project mitigation measures in areas designated as biologically sensitive in the Biological Resources Letter Report. The qualified biologist(s) shall be responsible for implementing project mitigation measures, coordinating and communicating requirements to the project proponent(s) and the City of Arvin Community Development Department Senior Planner, and facilitating consultation with the wildlife and resource agencies as required.

BIO-3: **Flagging, Fencing, and Demarcation.** The project proponent(s), in consultation with the qualified biologist(s), shall designate the limits of the construction area, where accessible, within the City of Arvin rights-of-way using fencing, signage, or stakes in the field and shall review the placement of fencing, signage, or stakes with the contractor in accordance with the construction plans. Aquatic resources and riparian areas within 50 feet of the construction area, where accessible and feasible, shall also be demarcated in the field and avoided by construction personnel and activity.

Rare Plants

BIO-4: **Rare Plant Surveys.** During the spring (April 1 through June 30) and prior to construction, the qualified biologist shall conduct a preconstruction rare plant survey in the 0.98-acre non-native grassland potential impact area.

In the event a rare or listed plant species is observed, the project proponent(s) shall consult with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to establish avoidance, minimization, and mitigation measures. If the wildlife agencies require the measures, species-specific protocol surveys shall be conducted by the qualified biologist pursuant to the agreed-upon terms.

Upland Habitat

BIO-5: **Temporary Impacts to Non-Native Grassland.** Temporary impacts to 0.98 acre of non-native grassland shall be mitigated by the project proponent(s) through revegetation of the areas impacted during project construction using a weed-free native plant seed palette.

Special-Status Wildlife Species

BIO-6 **Preconstruction Surveys.** Prior to the start of construction, a preconstruction survey shall be completed by the qualified biologist(s) checking suitable non-native grassland and disturbed land on the project site for presence or sign of burrowing owl (*Athene cunicularia*), San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), blunt-nosed leopard lizard (*Gambelia sila*), and any other sensitive wildlife species. If sensitive wildlife species are observed during the preconstruction survey or

during construction activities, the qualified biologist(s), in coordination with the City of Arvin Community Development Department Senior Planner, shall designate the limits (including appropriate buffers) of the occupied habitat using fencing, signage, or stakes for avoidance by construction personnel and activity.

BIO-7: U.S. Fish and Wildlife Service and California Department of Fish and Wildlife Permitting. If impacts to the special-status species including burrowing owl (*Athene cunicularia*), San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), and blunt-nosed leopard lizard (*Gambelia sila*) cannot be avoided, the qualified biologist(s), on behalf of the project proponent(s), shall consult with the U.S. Fish and Wildlife and California Department of Fish and Wildlife for authorization through the context of an incidental take permit.

Nesting Birds

BIO-8: General Nest Surveys. No grubbing, trimming, or clearing of vegetation, primarily non-native grassland species and a few shrubs, from the project site shall occur during the general bird-breeding season (January 1 through August 31). If grubbing, trimming, or clearing of vegetation cannot feasibly occur outside of the general bird-breeding season, the qualified biologist(s) shall perform a preconstruction nesting bird survey no more than 72 hours prior to the start of vegetation grubbing, trimming, or clearing to determine if active bird nests are present in the affected areas. Should an active migratory bird nest be located, the qualified biologist(s) shall direct vegetation clearing away from the nest until the project biologist has determined that the young have fledged or the nest has failed. If there are no nesting birds (including nest building or other breeding or nesting behavior) on the project site, grubbing, trimming, or clearing shall proceed.

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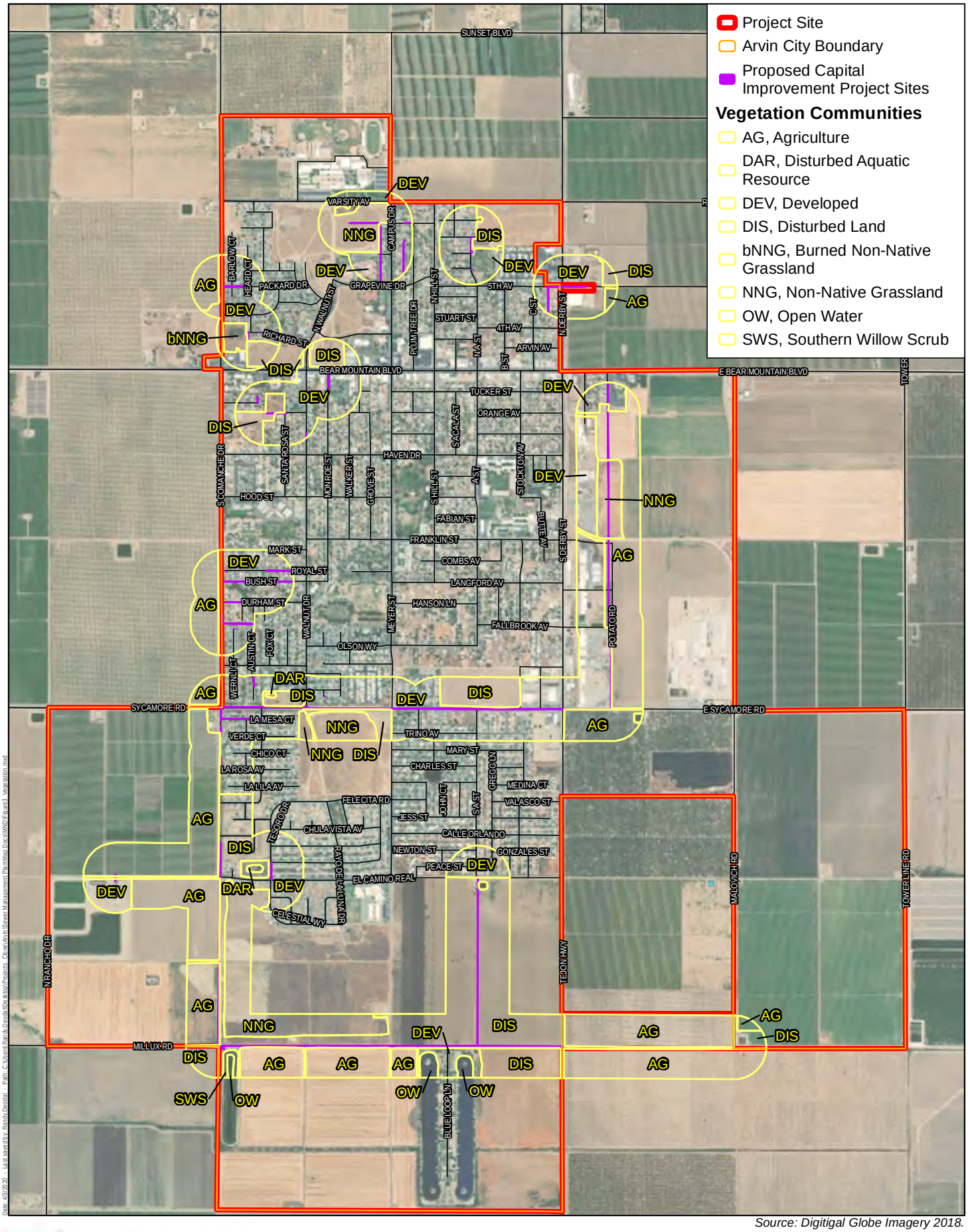

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Figure 3

Vegetation Communities Overview

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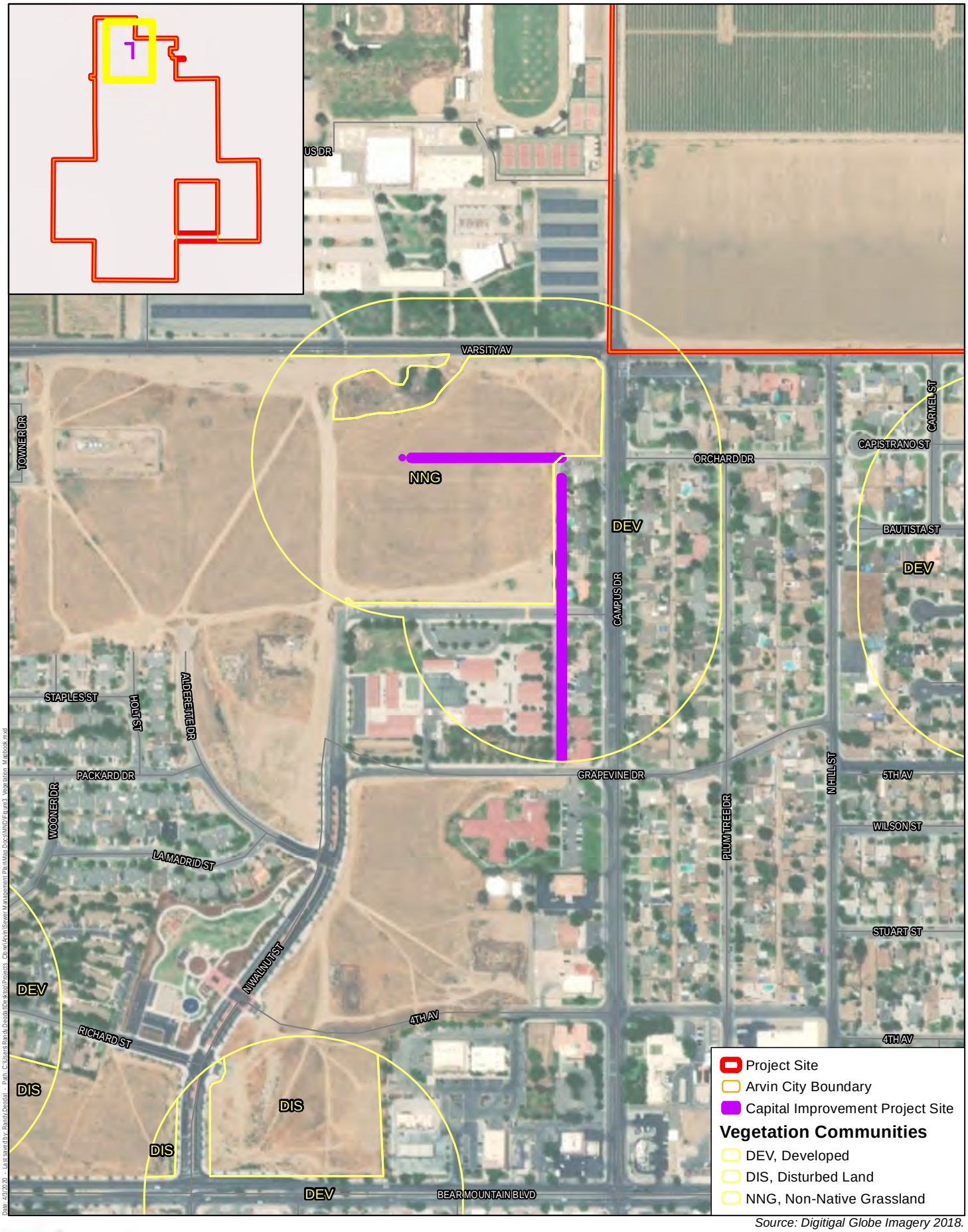

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Figure 3a

Campus Drive Alley CIP

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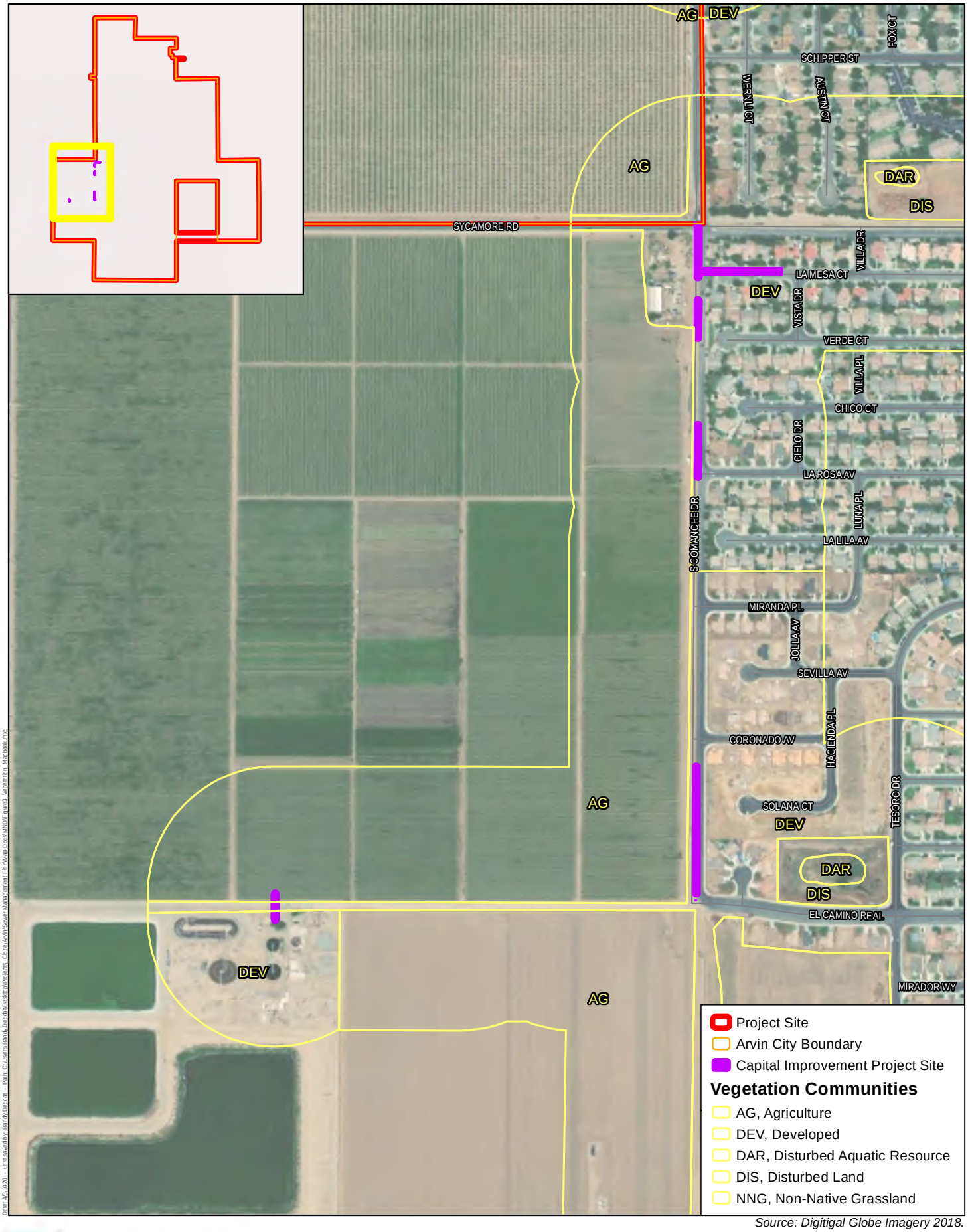

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Figure 3b

Comanche Drive CIP

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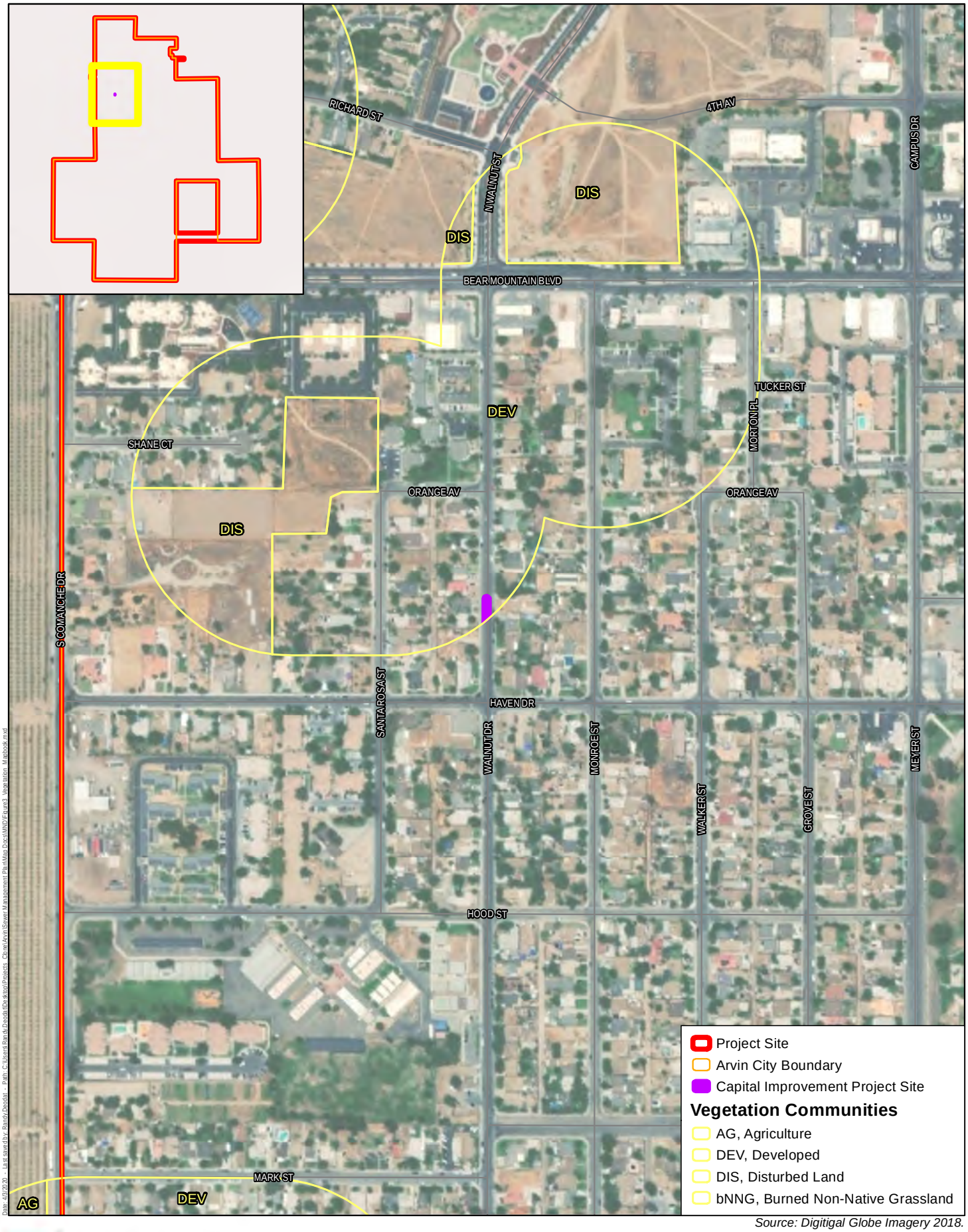

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Figure 3c

Haven Drive CIP

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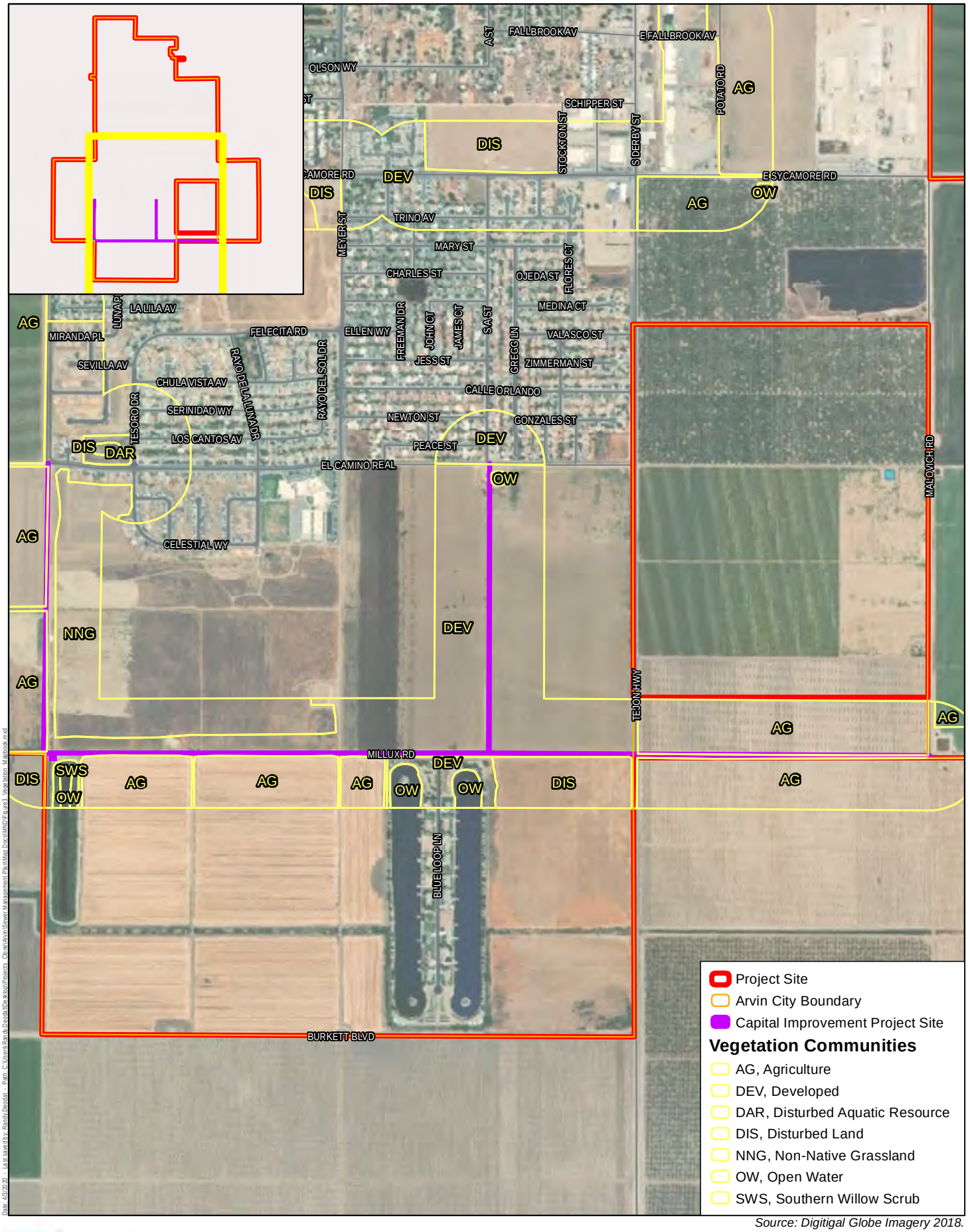

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Figure 3d

Millux Road Pipeline and Pump Station CIP

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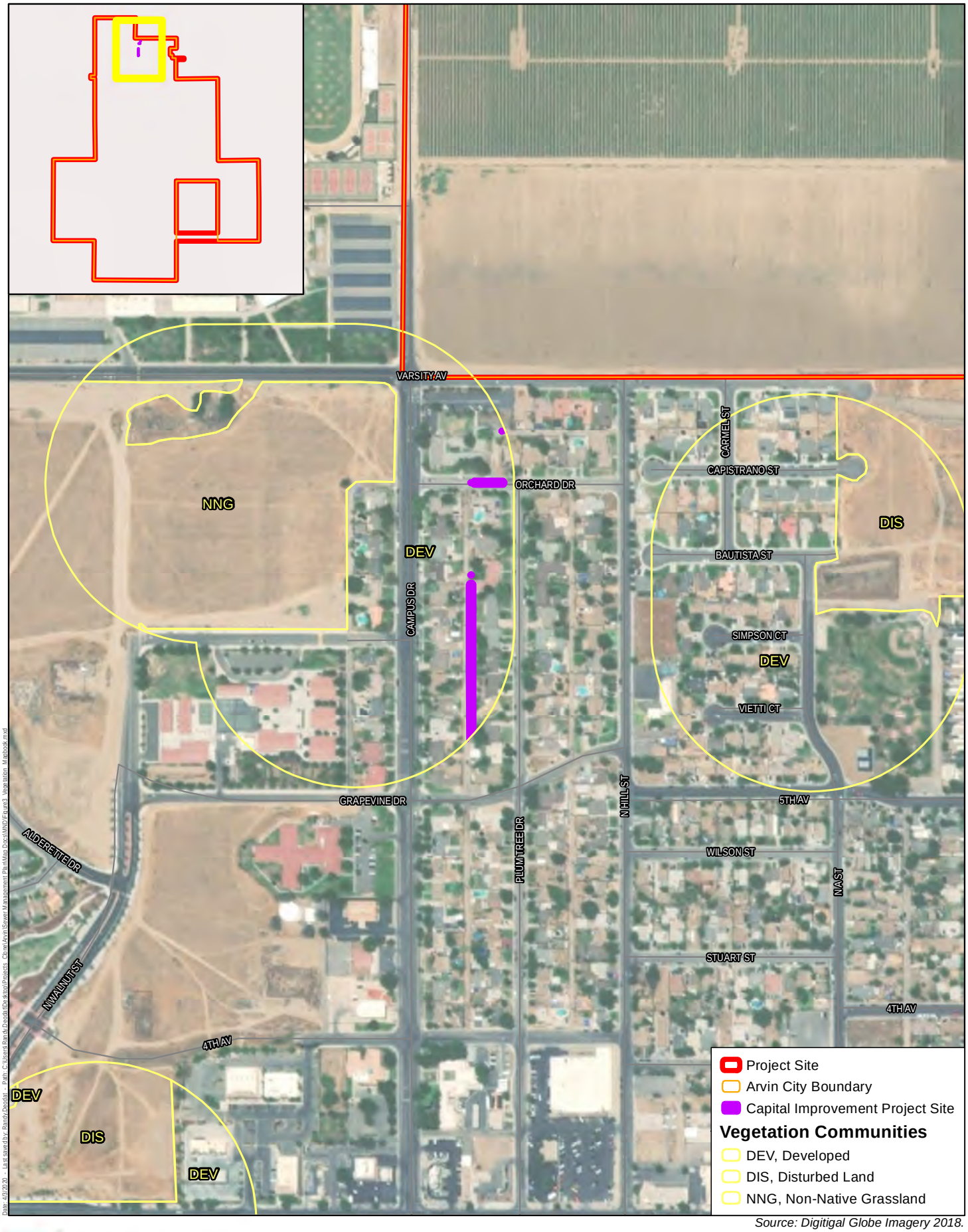

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Figure 3e

Plumtree Drive Alleys CIP

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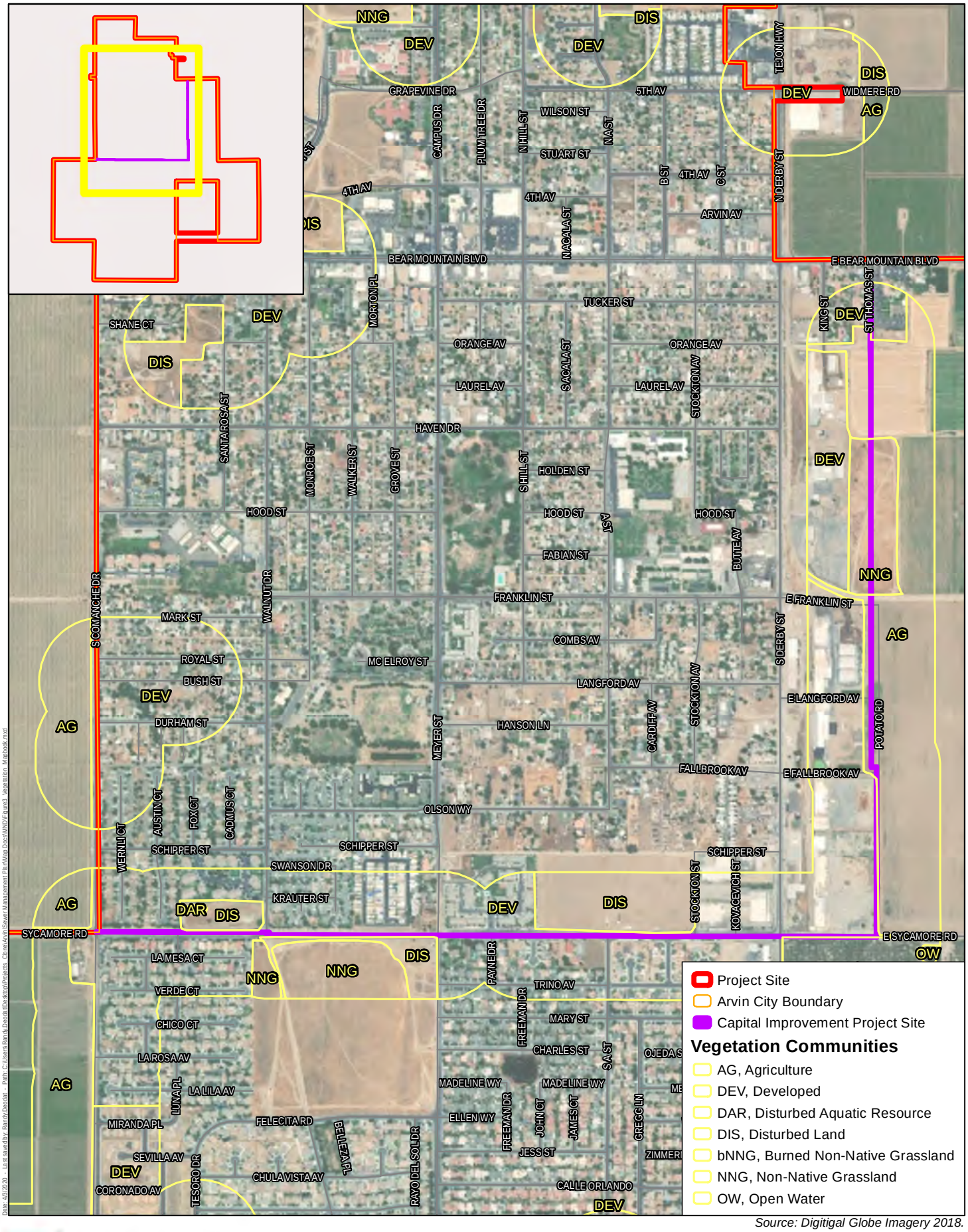

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Figure 3f

Potato-Sycamore CIP

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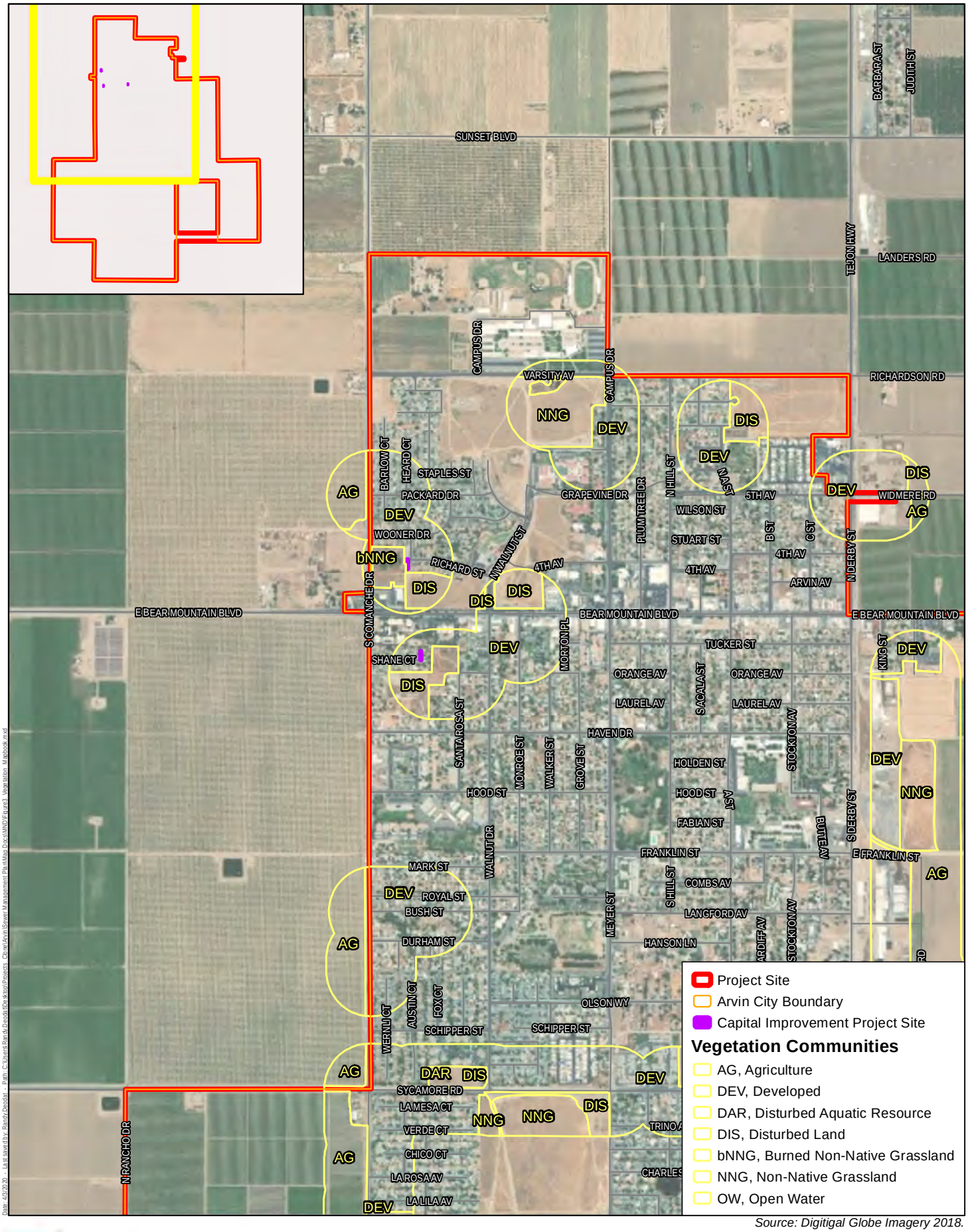

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Figure 3g

Small Pipeline Replacement CIP

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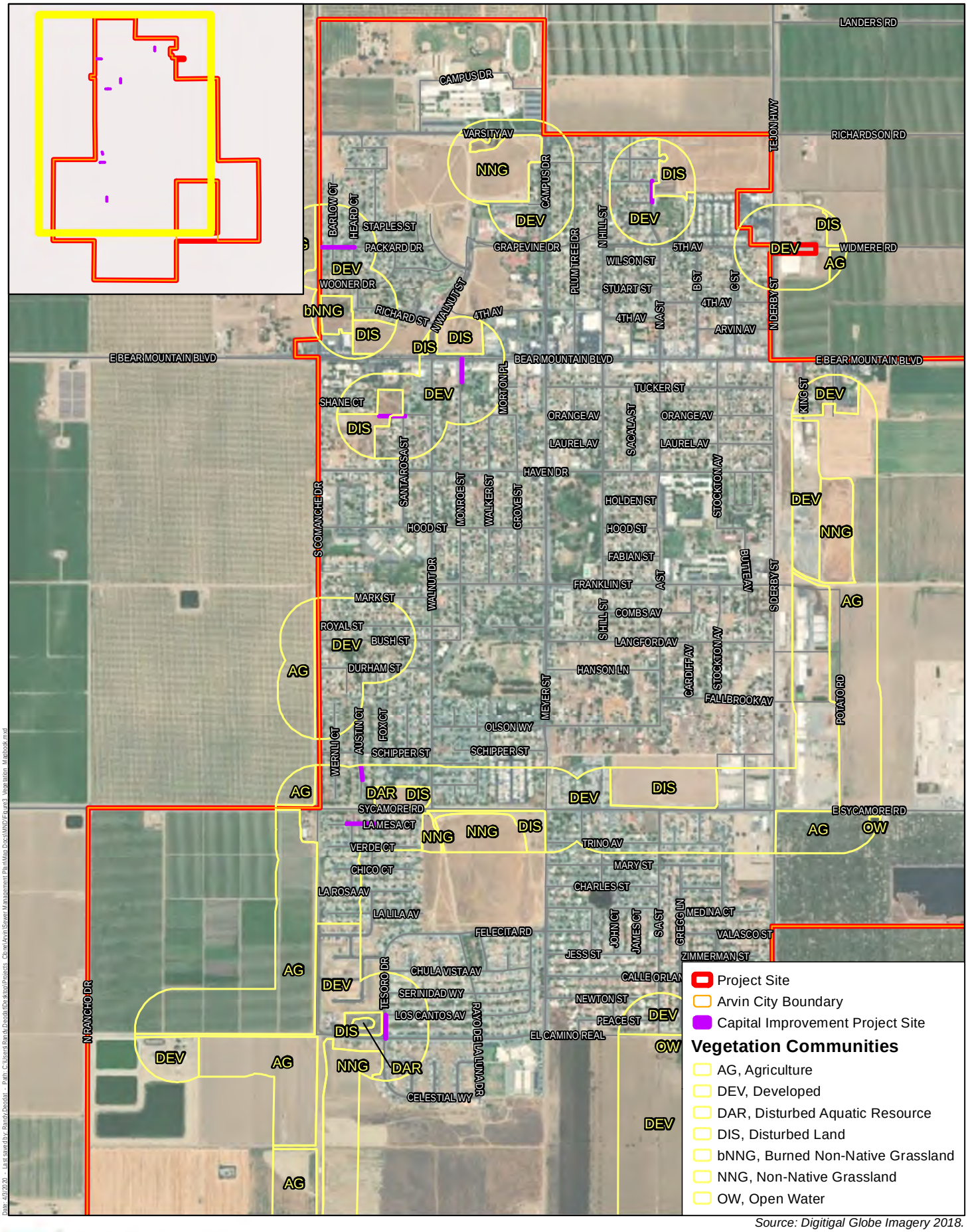

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Figure 3h

Small Spot Repair CIP

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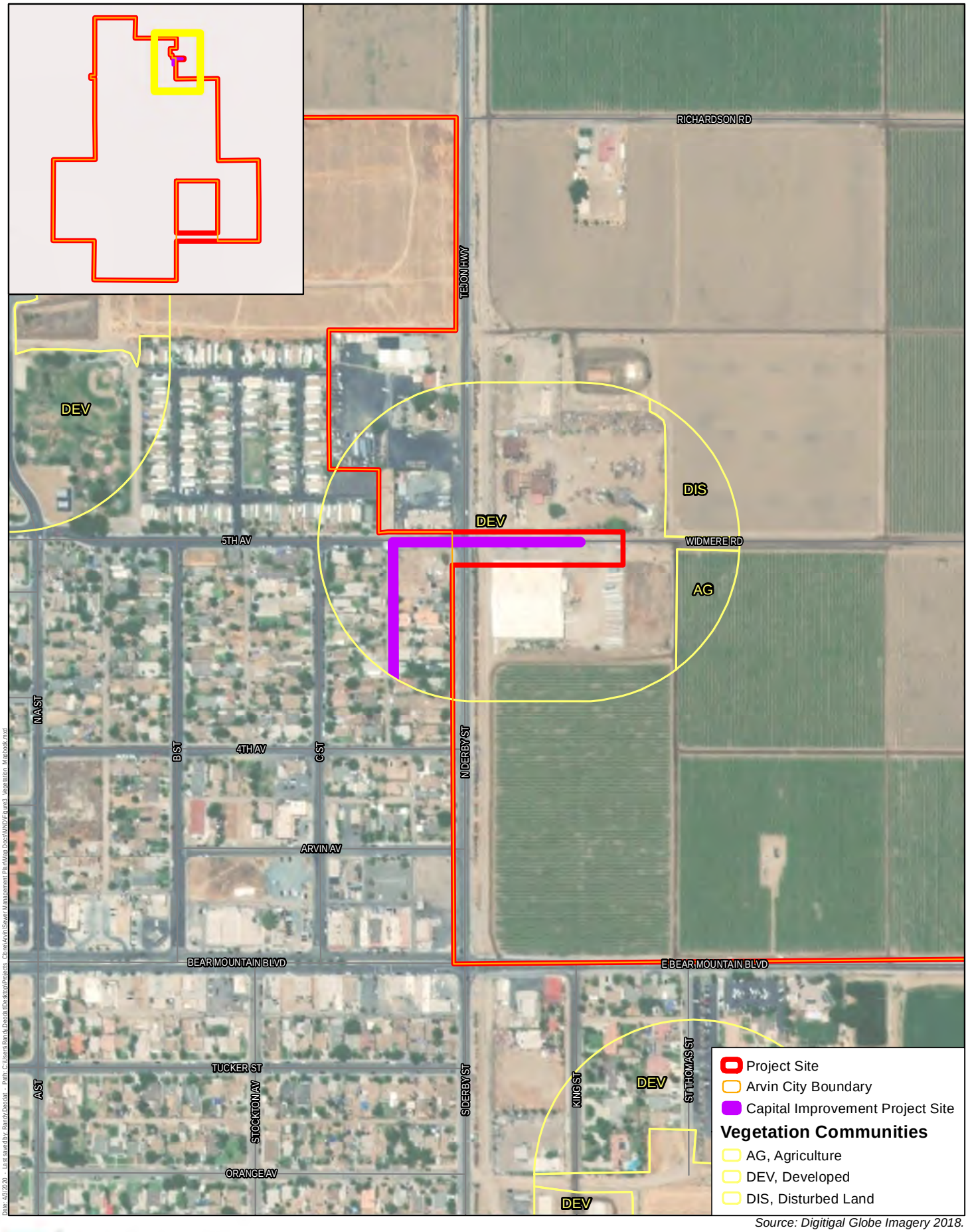

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Figure 3i

Southeast Kovacevich Park CIP

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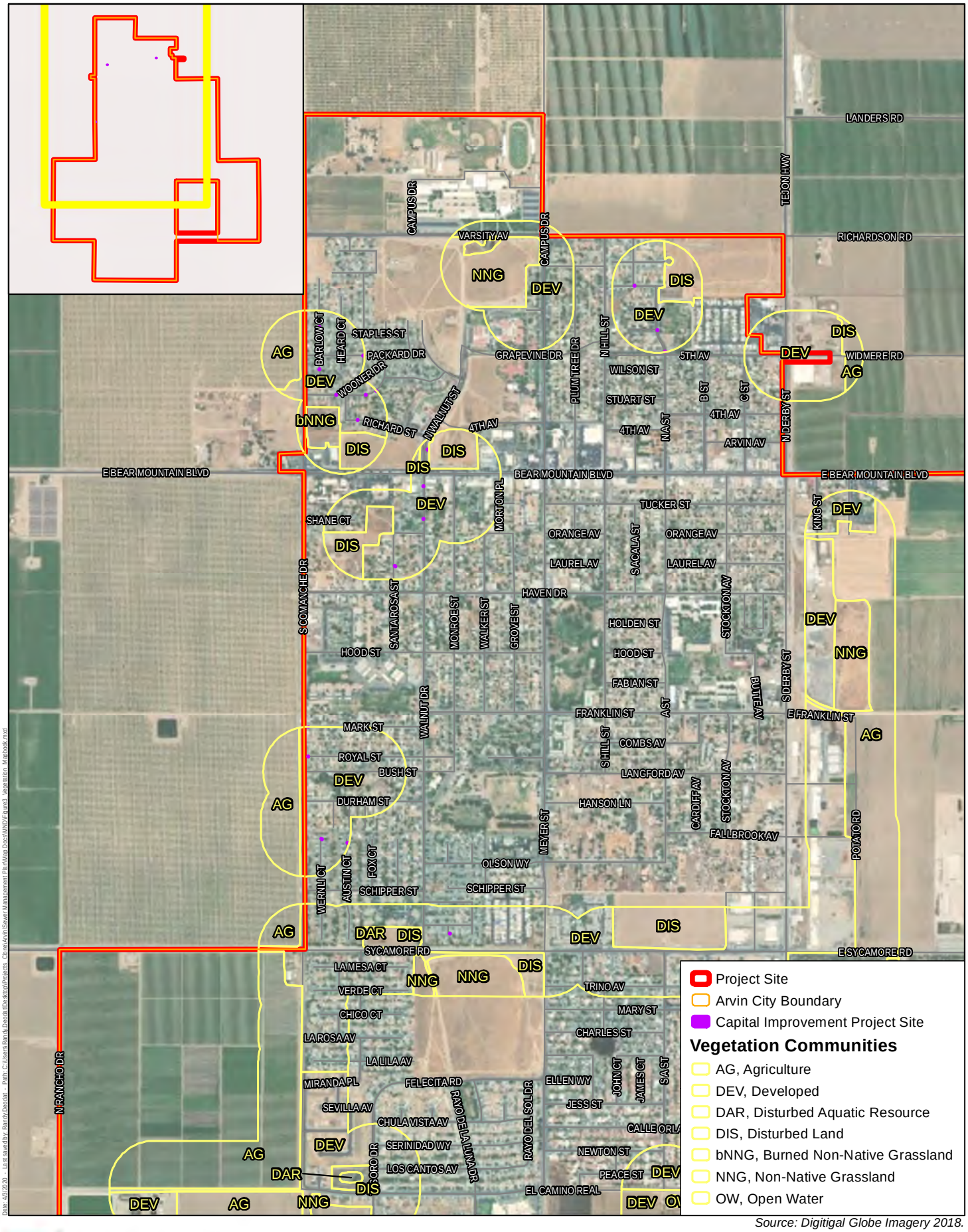

Source: Digitigal Globe Imagery 2018.

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Figure 3j

Stand-Alone Manhole Repair and Replacement CIP

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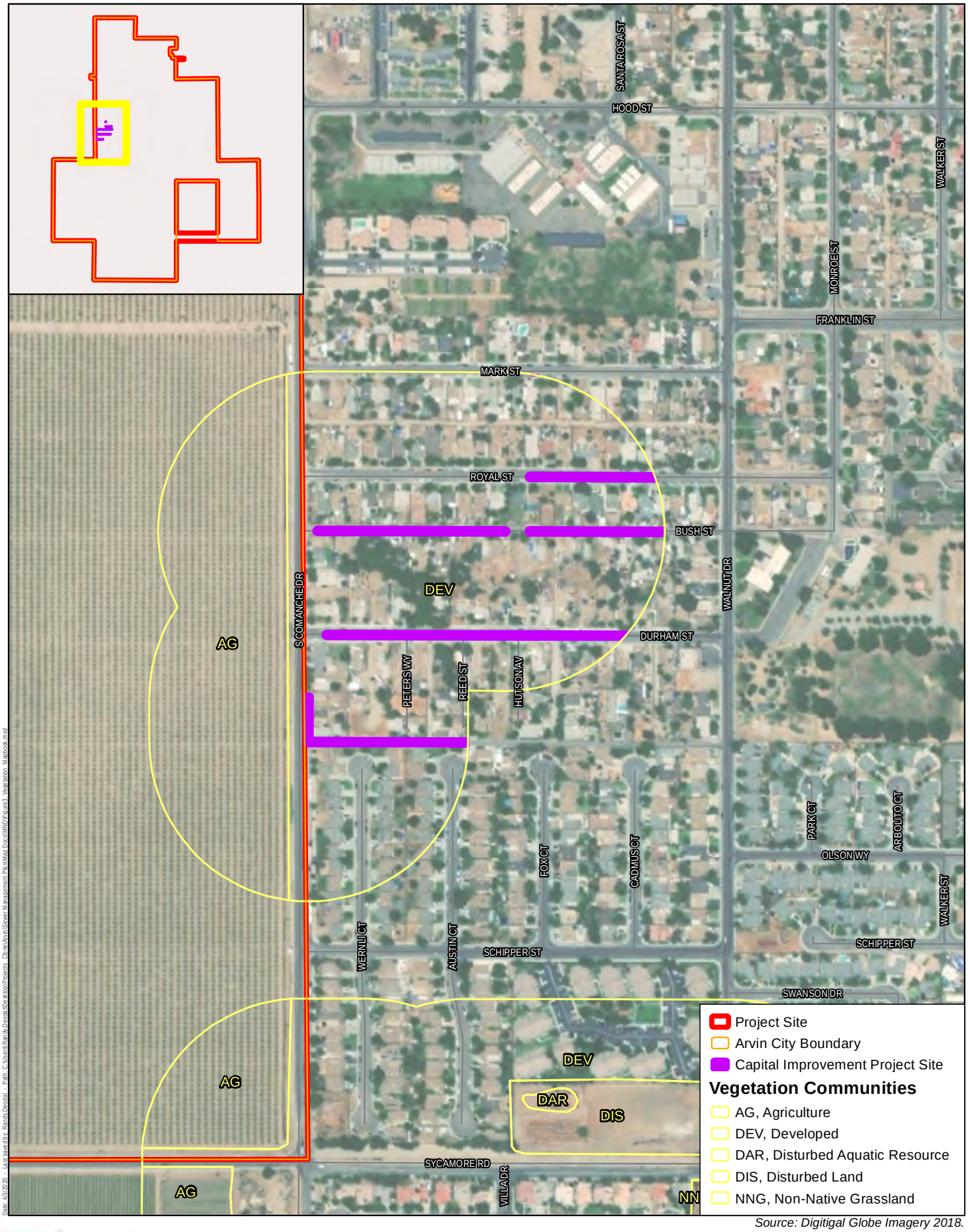

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Figure 3k

West Smothermon Park CIP

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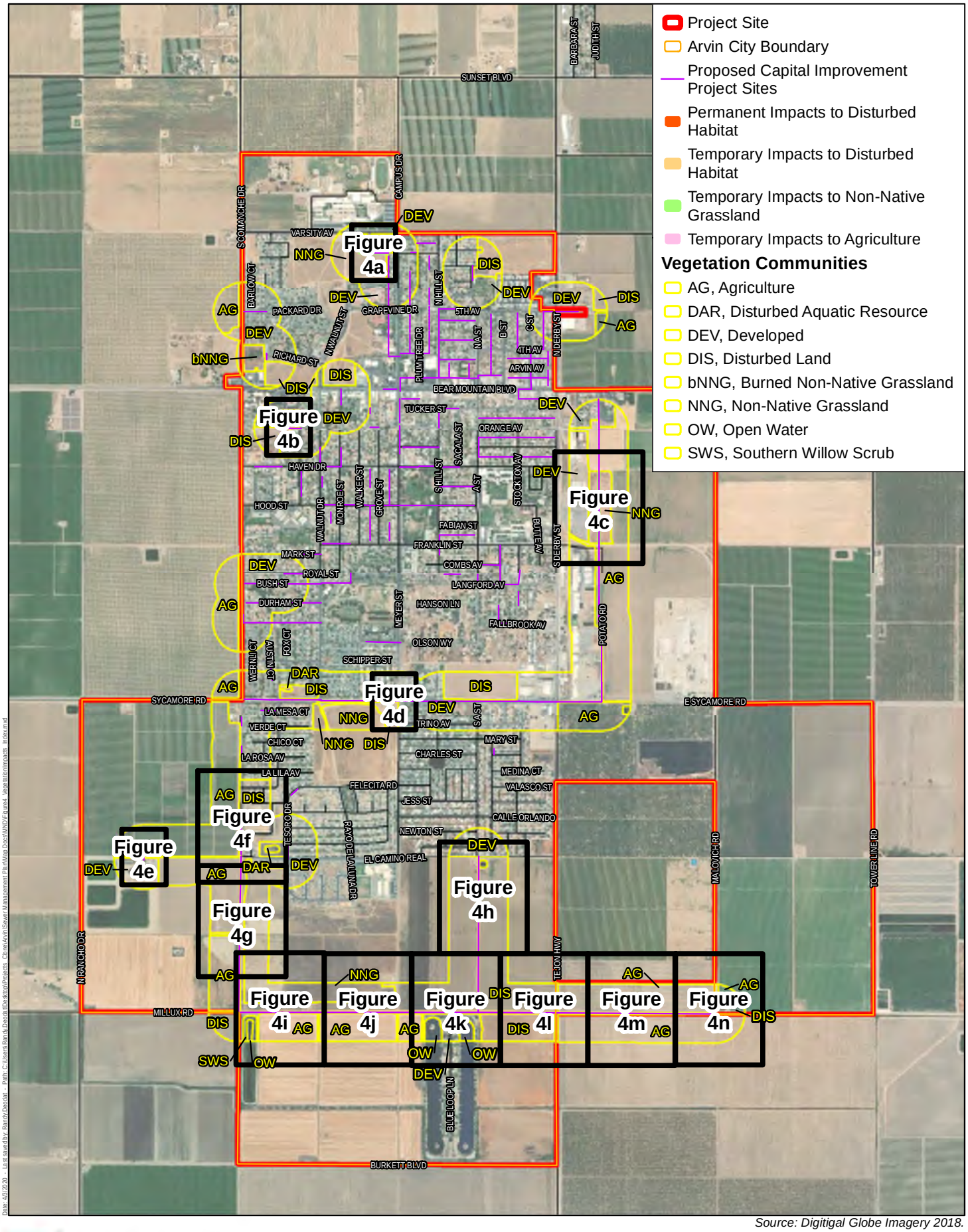

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Figure 4

Impacts to Vegetation Communities - Index

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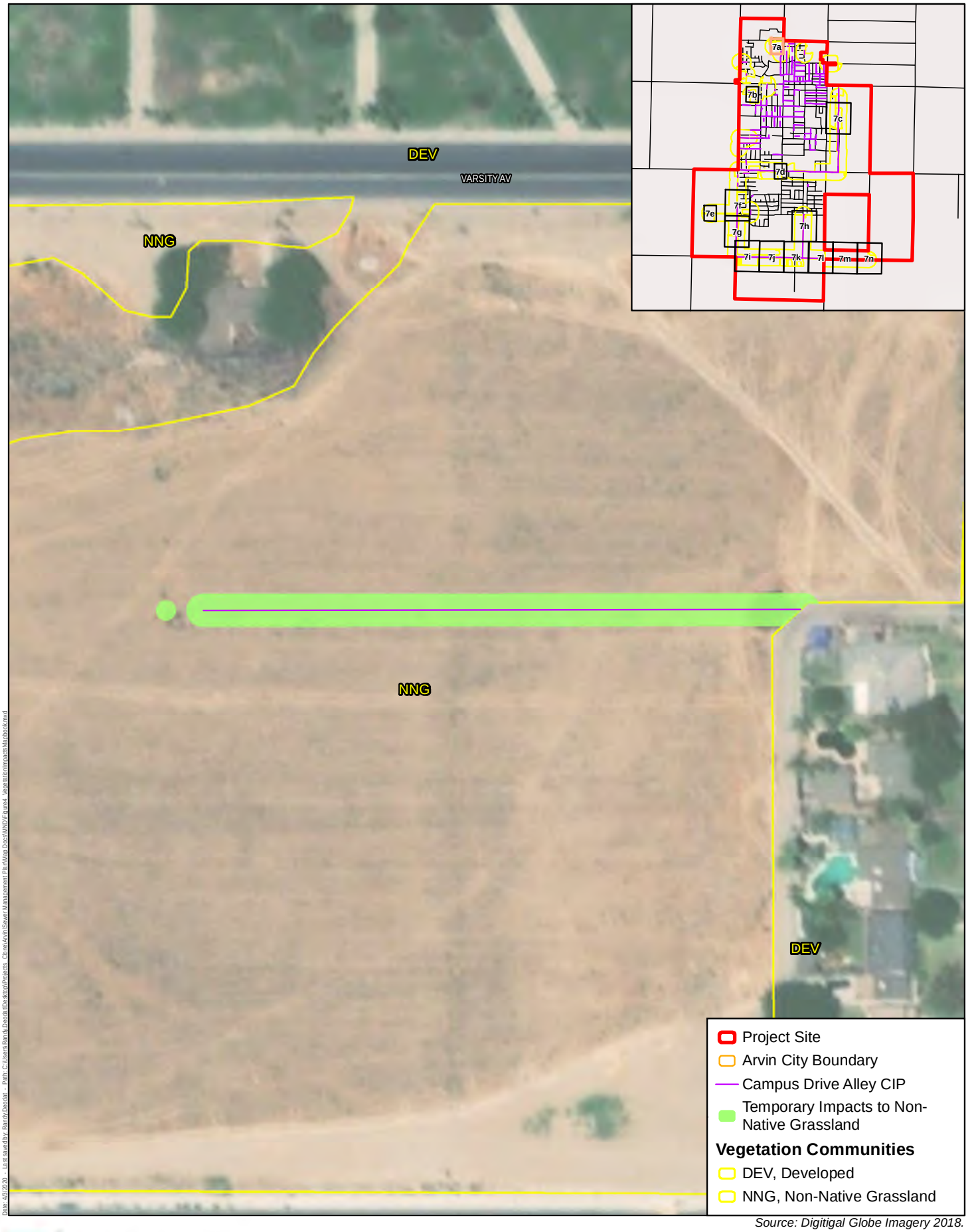

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Figure 4a

Impacts to Vegetation Communities
Campus Drive Alley

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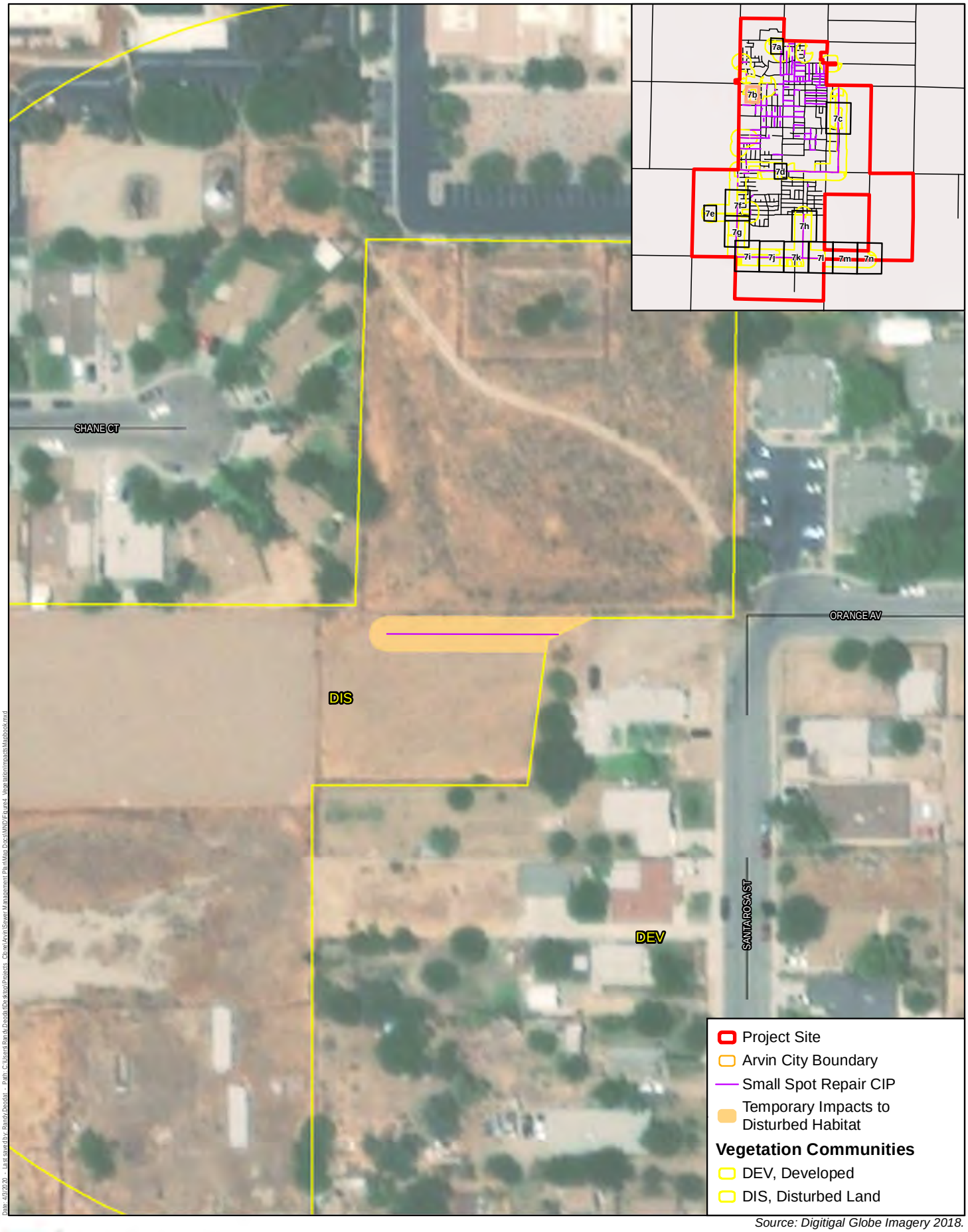

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Figure 4b

Impacts to Vegetation Communities
Small Spot Repair

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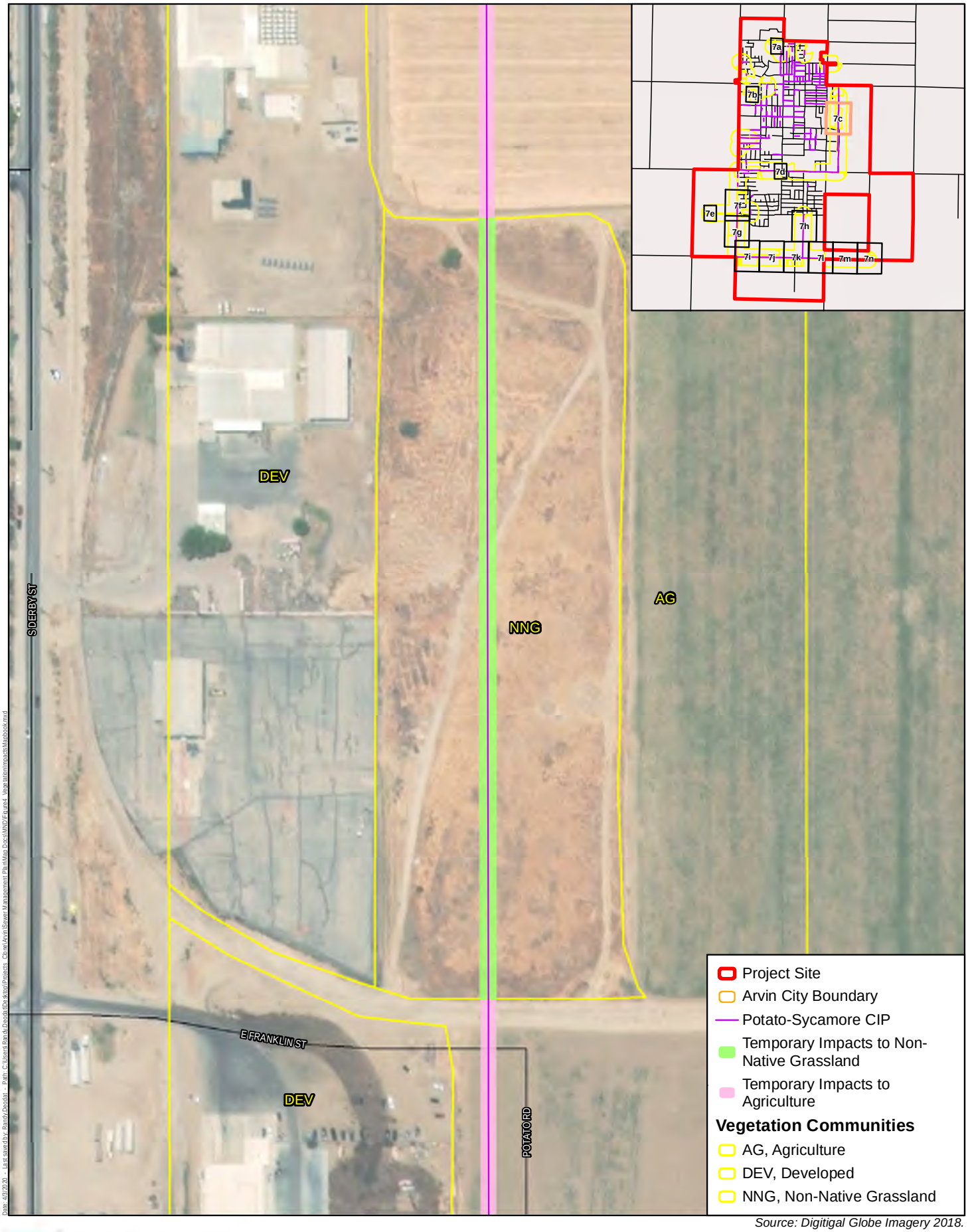

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Figure 4c

Impacts to Vegetation Communities
Potato-Sycamore

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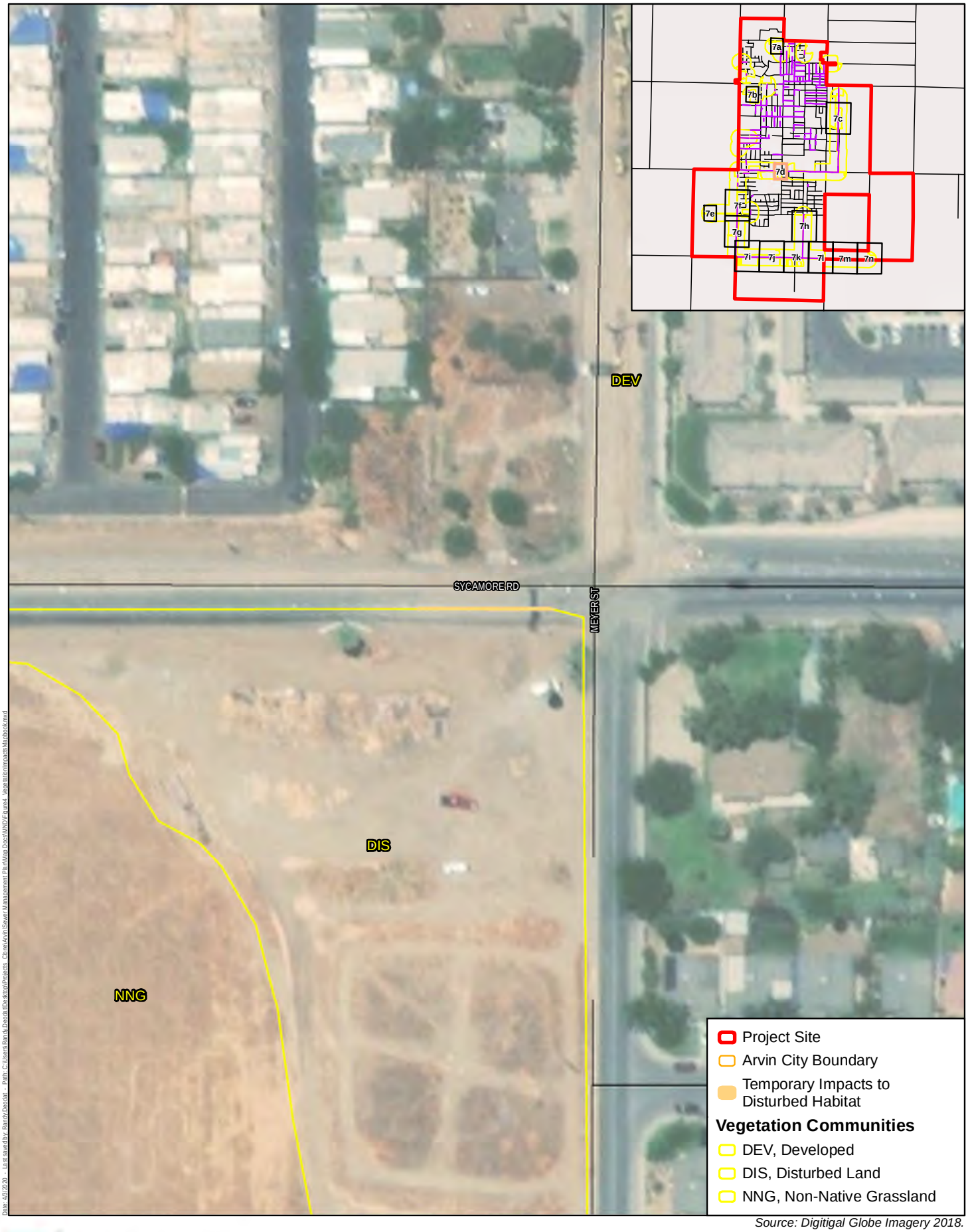

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Figure 4d

Impacts to Vegetation Communities
Potato-Sycamore

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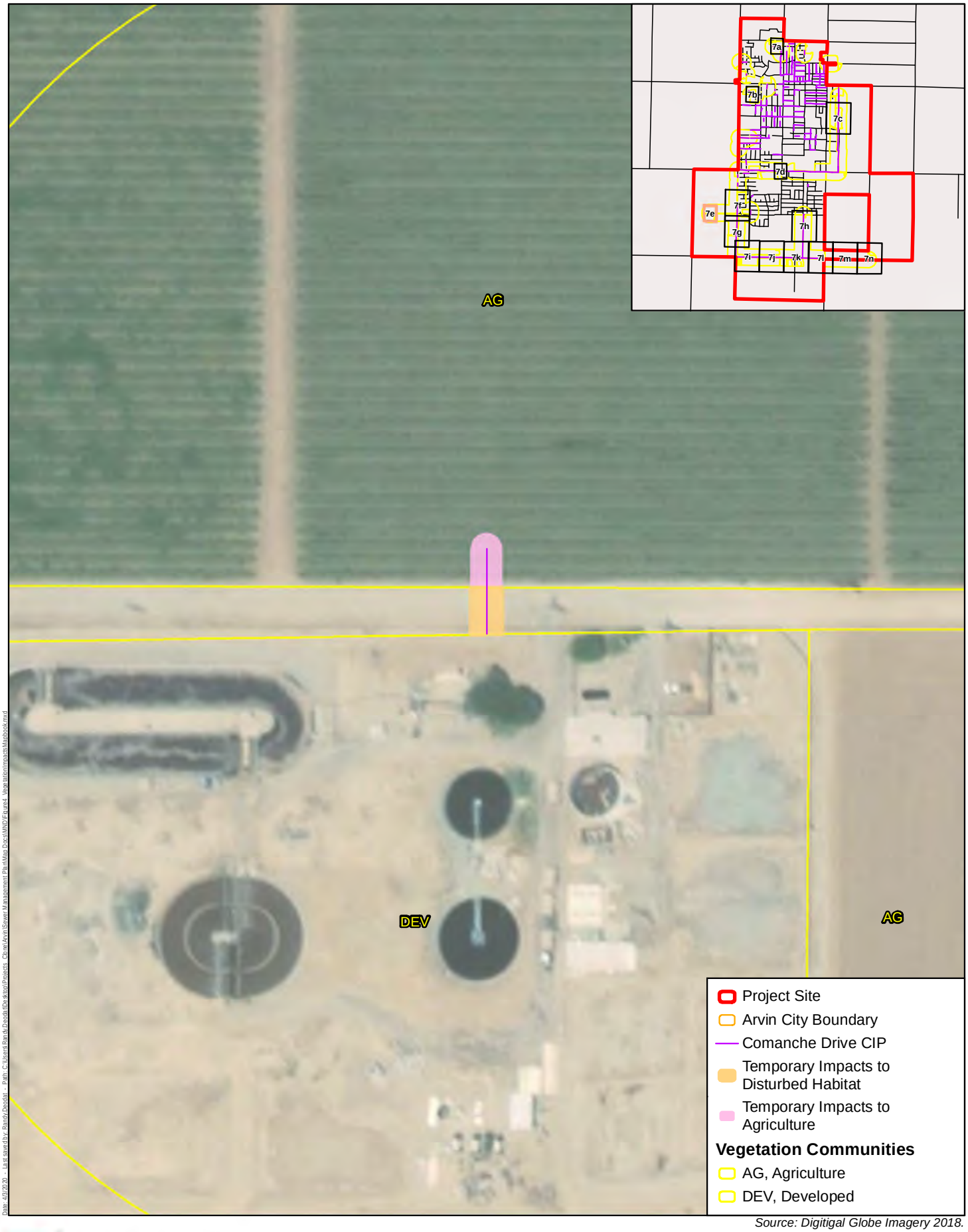

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Figure 4e

Impacts to Vegetation Communities
Comanche Drive

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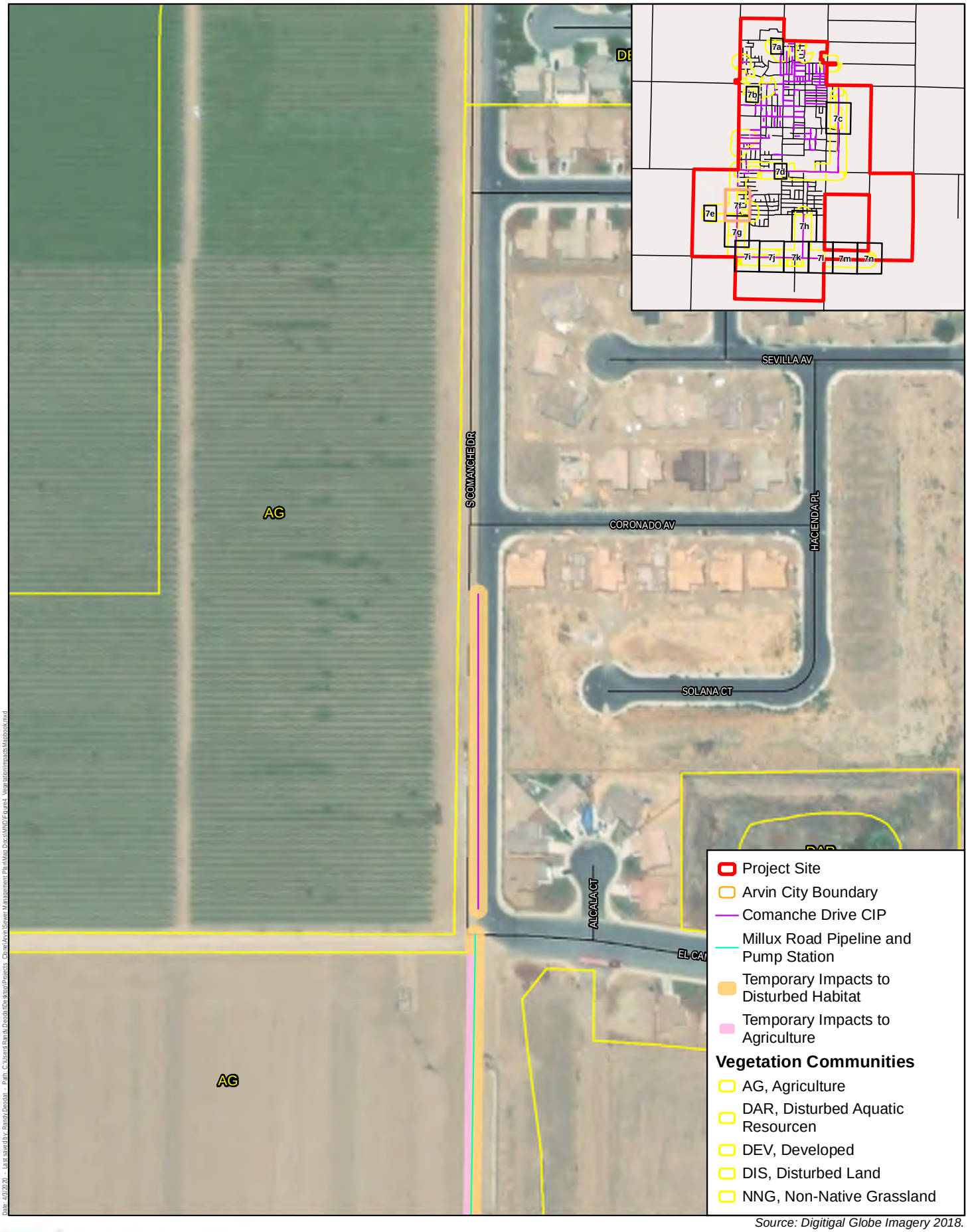

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Figure 4f

Impacts to Vegetation Communities
Comanche Drive and Millux Road Pipeline and Pump Station

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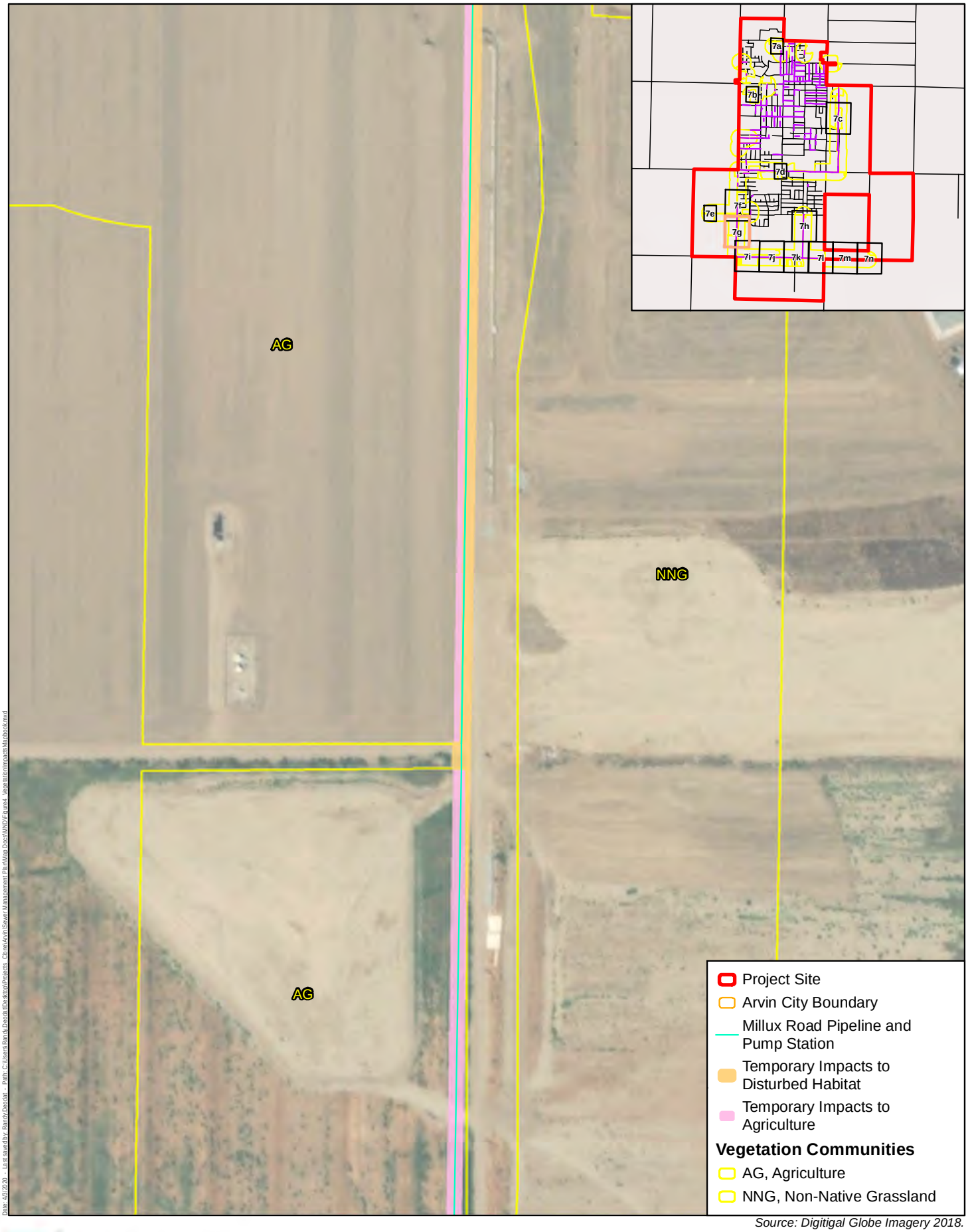

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Figure 4g

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station

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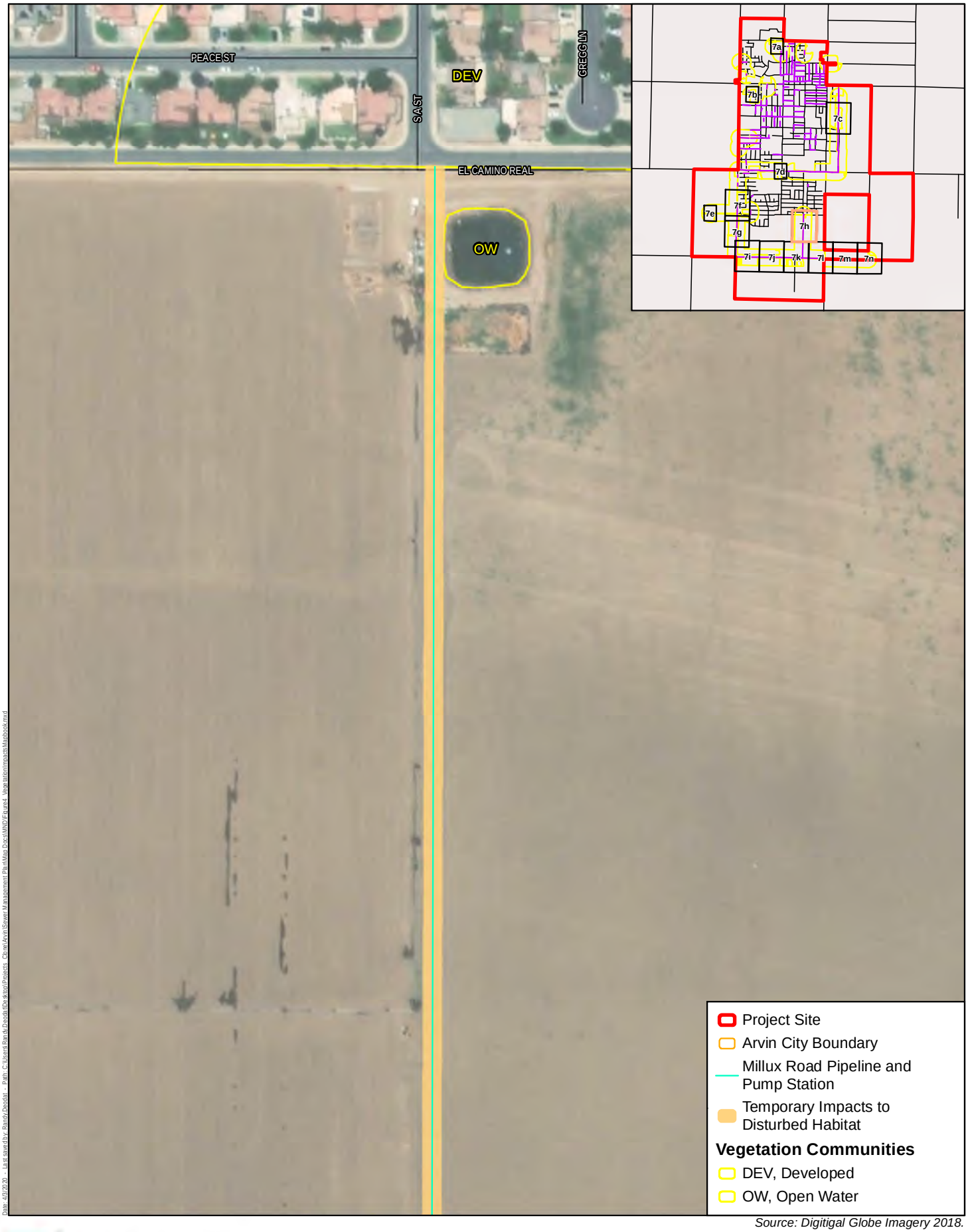

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Figure 4h

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station

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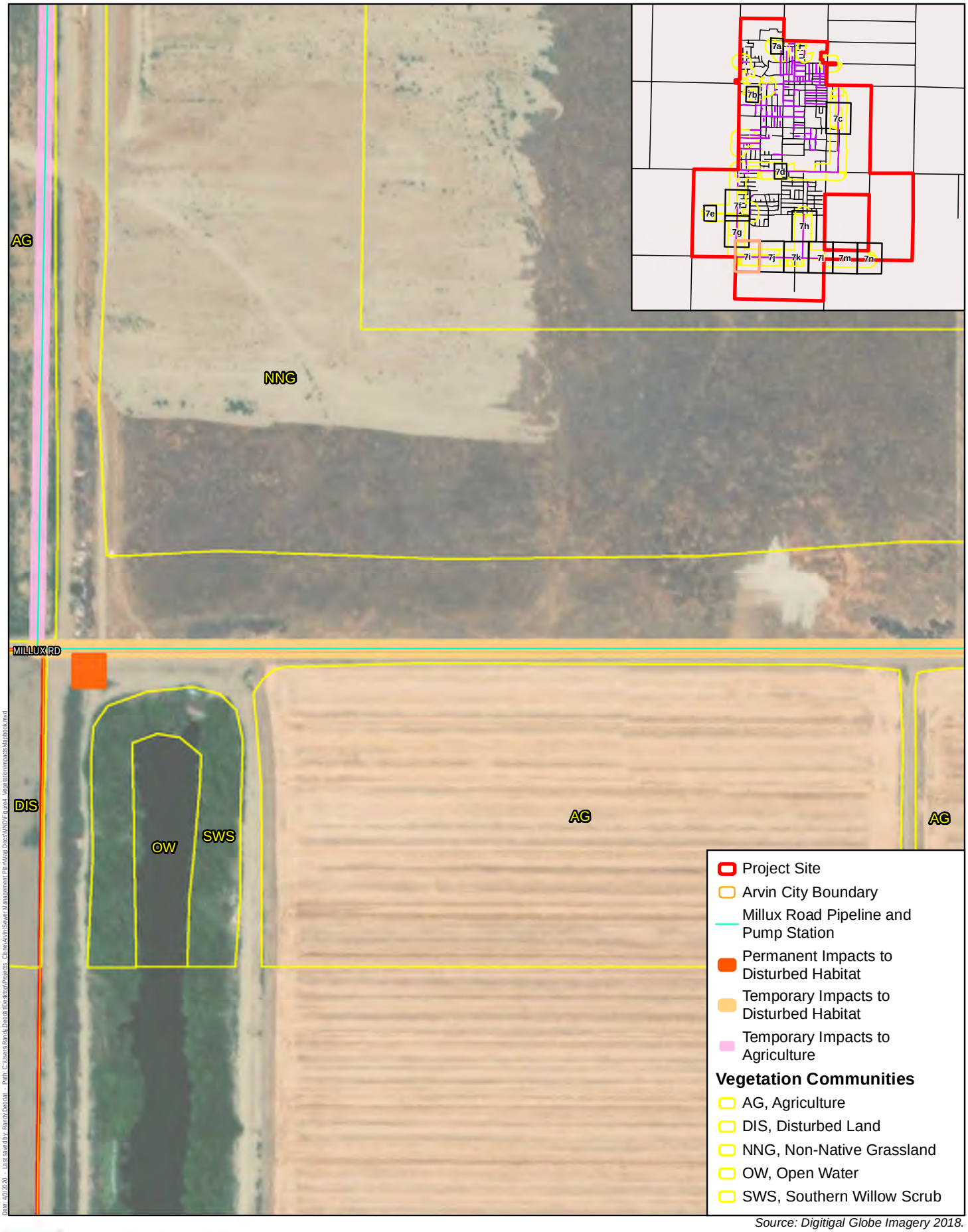

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Figure 4i

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station

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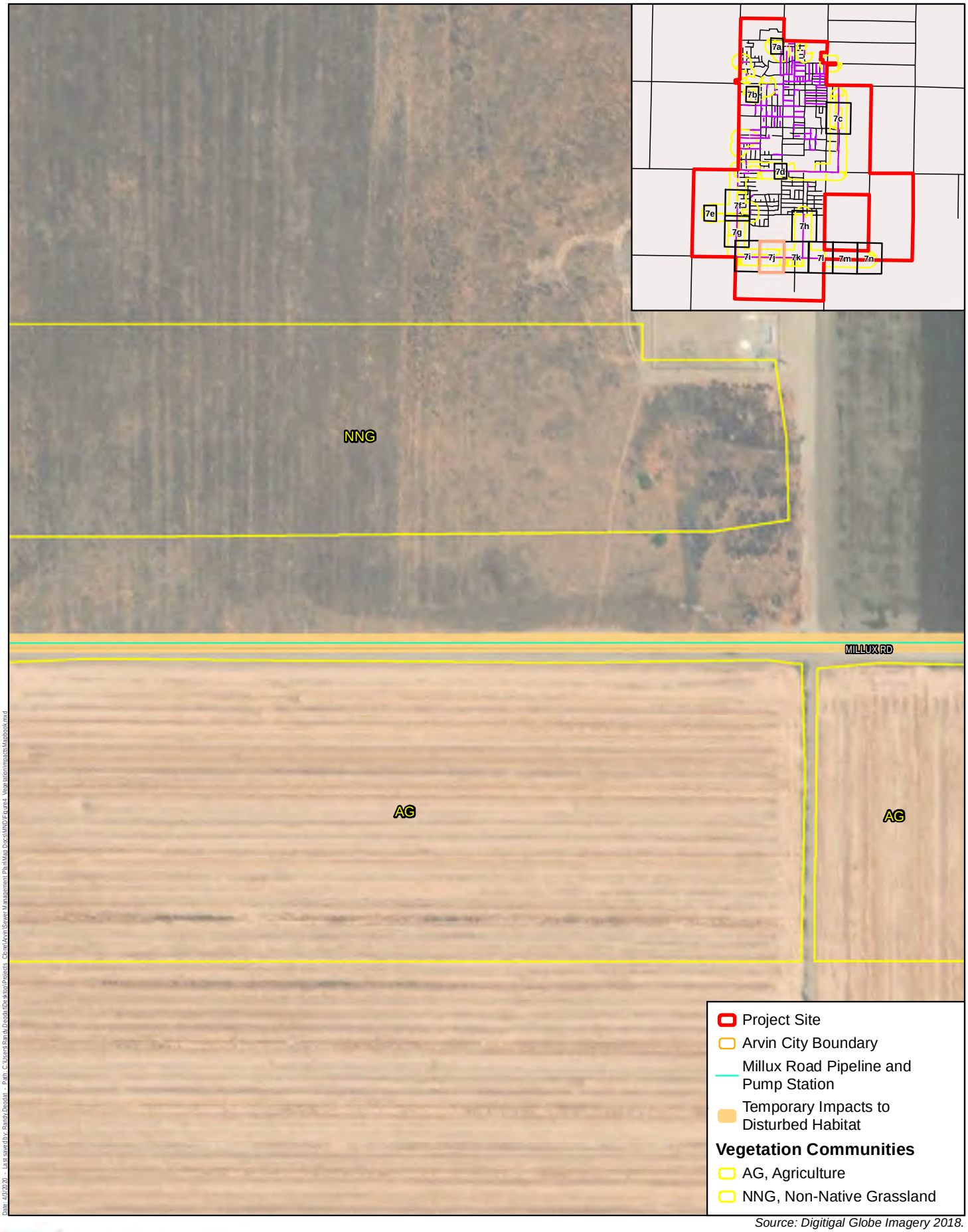

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Figure 4j

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station

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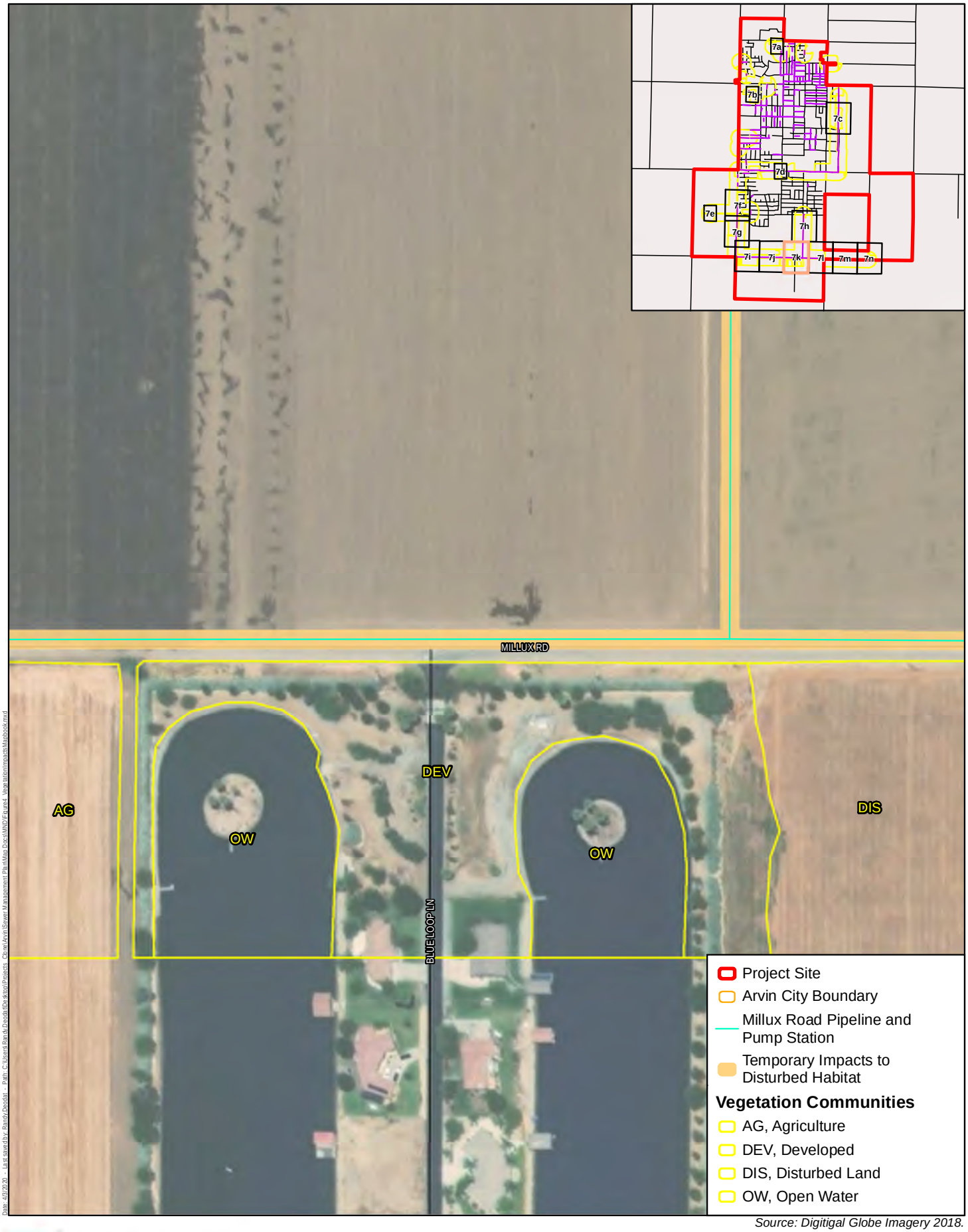

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Figure 4k

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station

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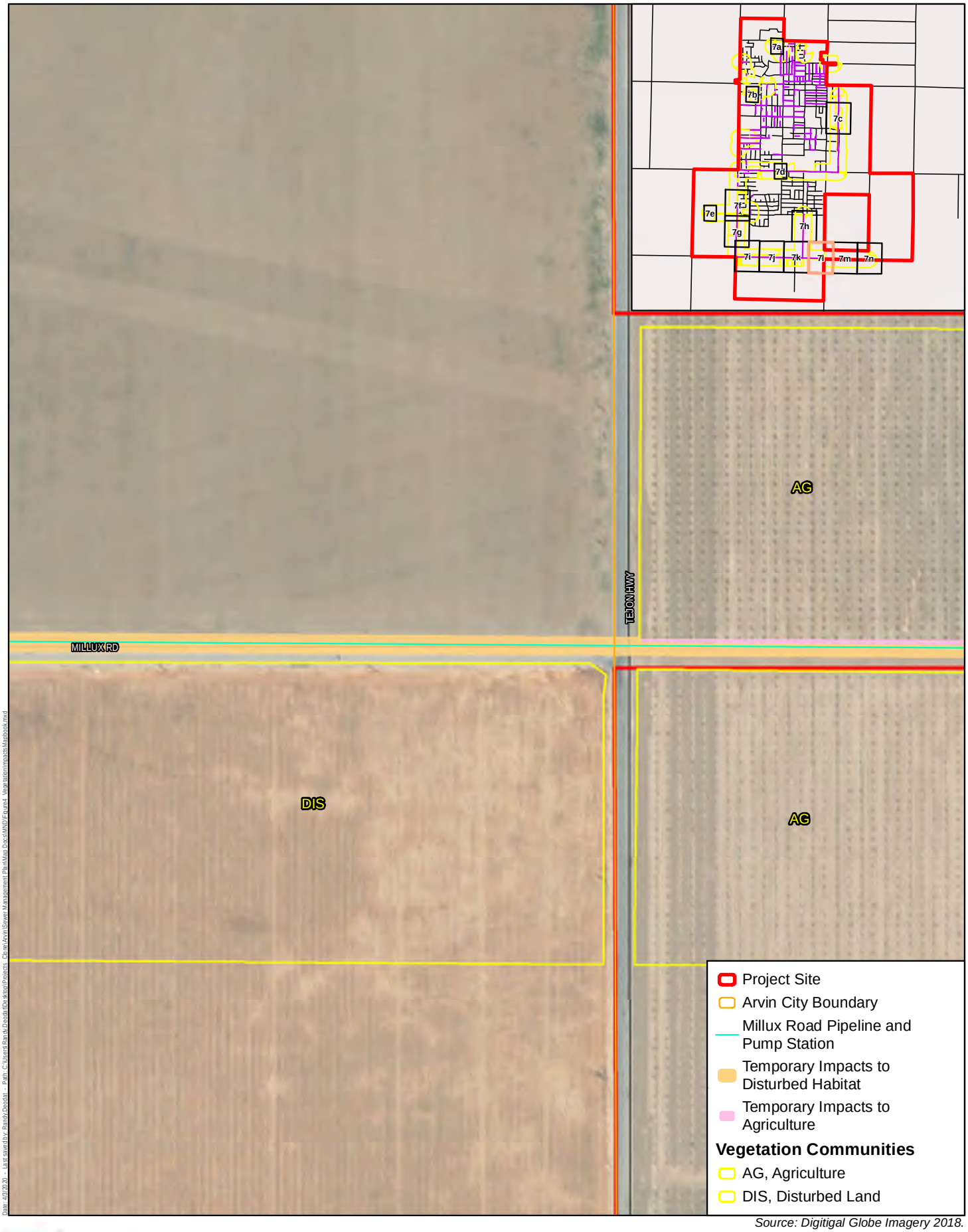

Source: Digitigal Globe Imagery 2018.

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Figure 4l

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station

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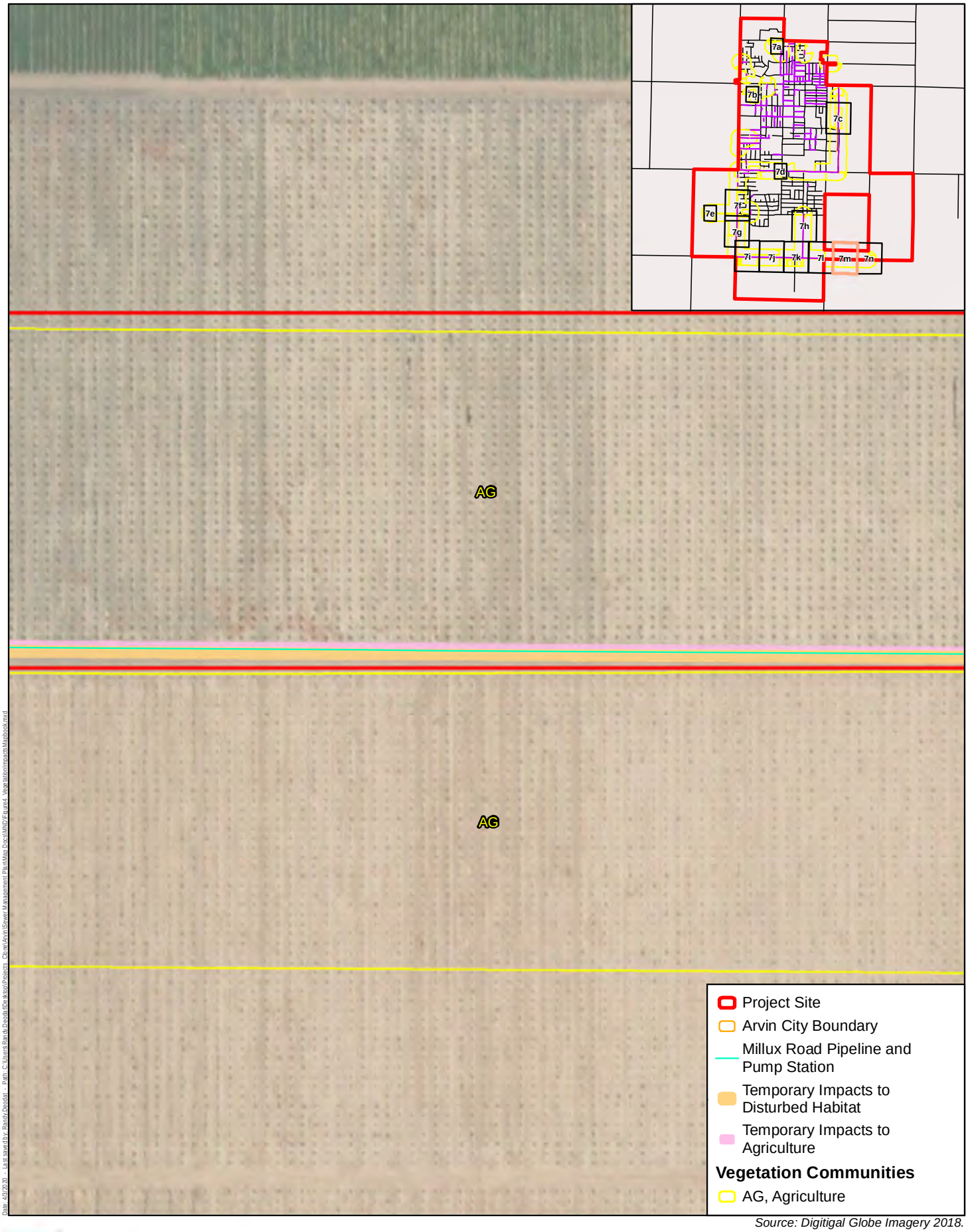

Source: Digitigal Globe Imagery 2018.

Harris & Associates

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Figure 4m

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station

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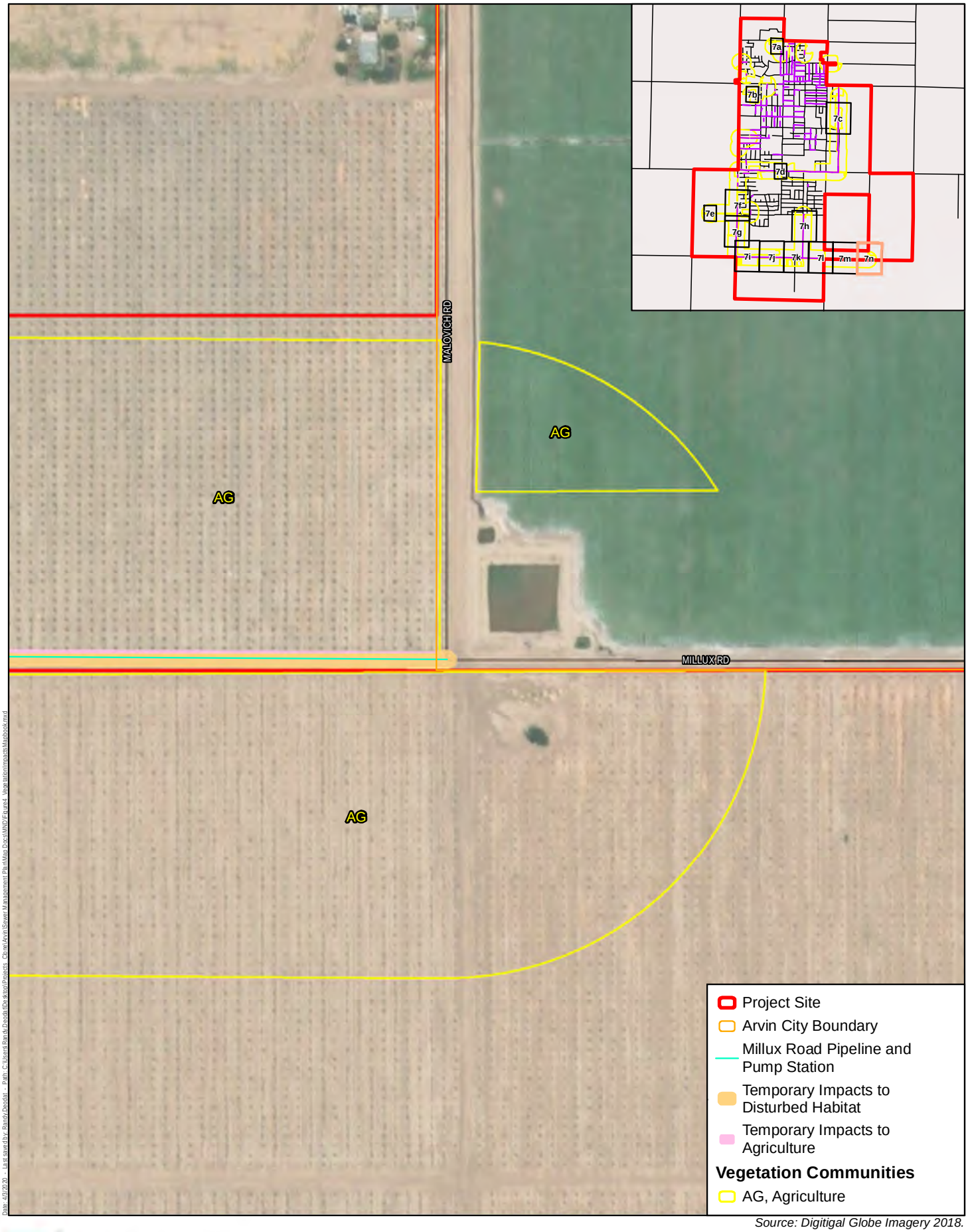

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Figure 4n

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station

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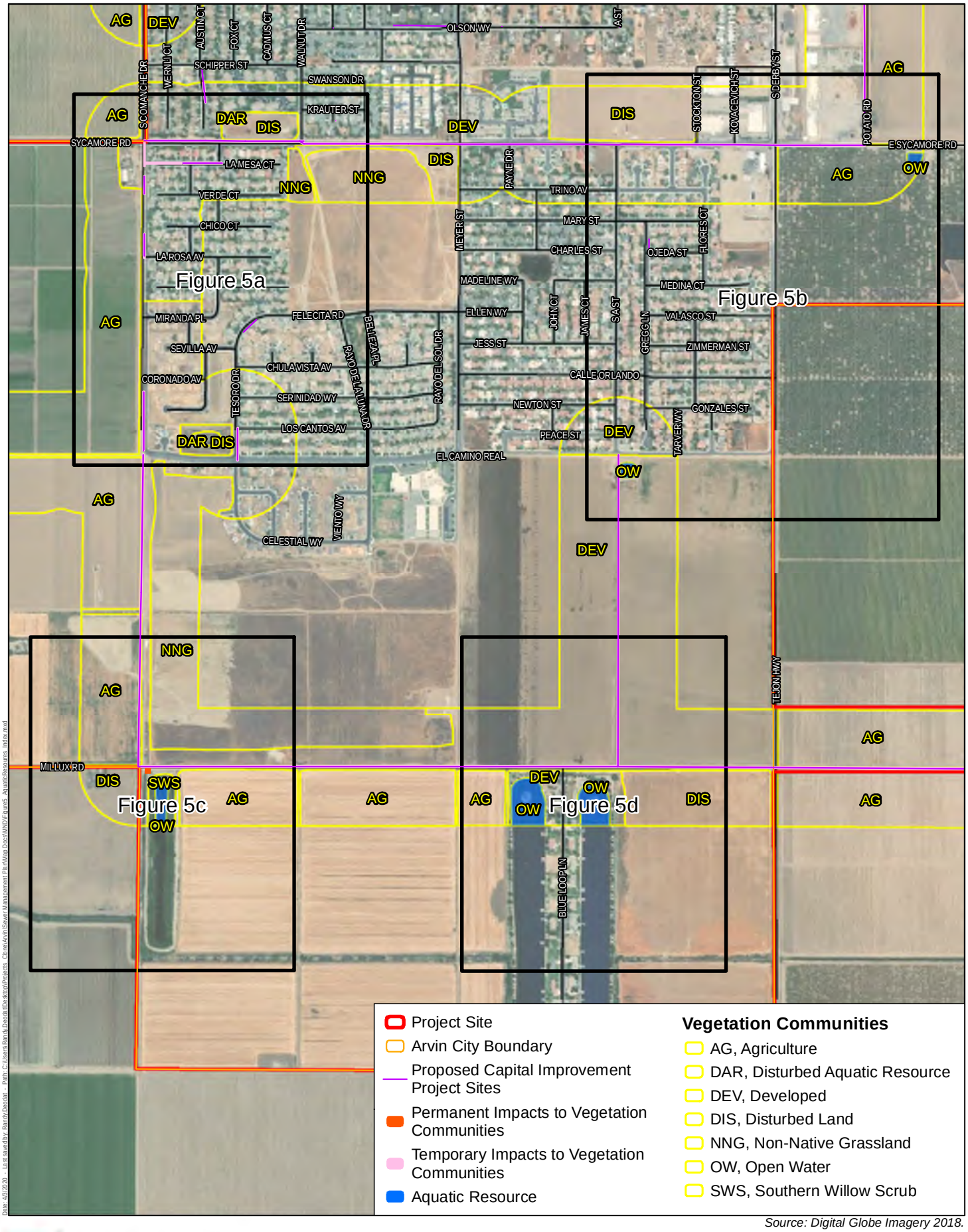

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Figure 5

Aquatic Resources - Index

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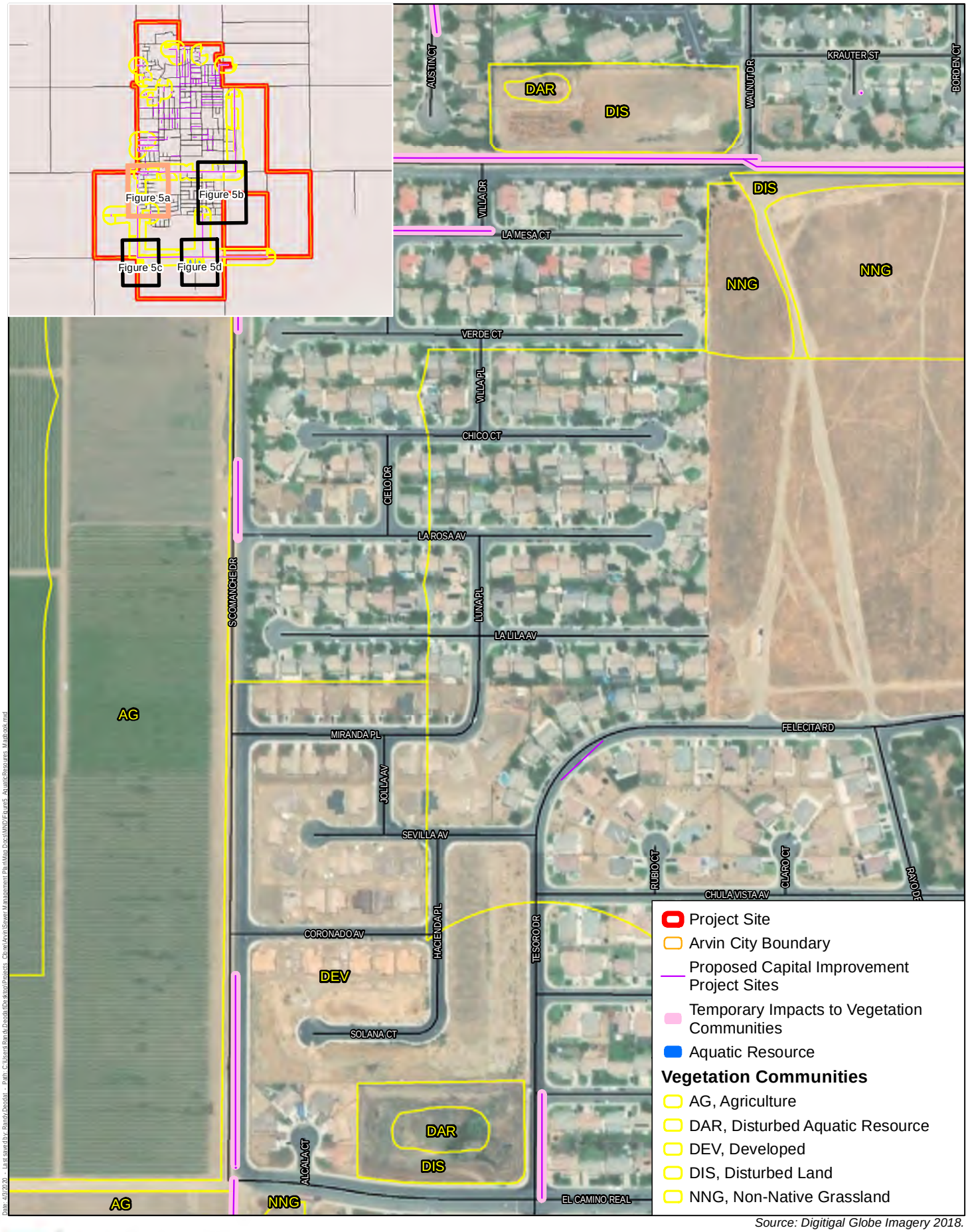

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Figure 5a

Aquatic Resources

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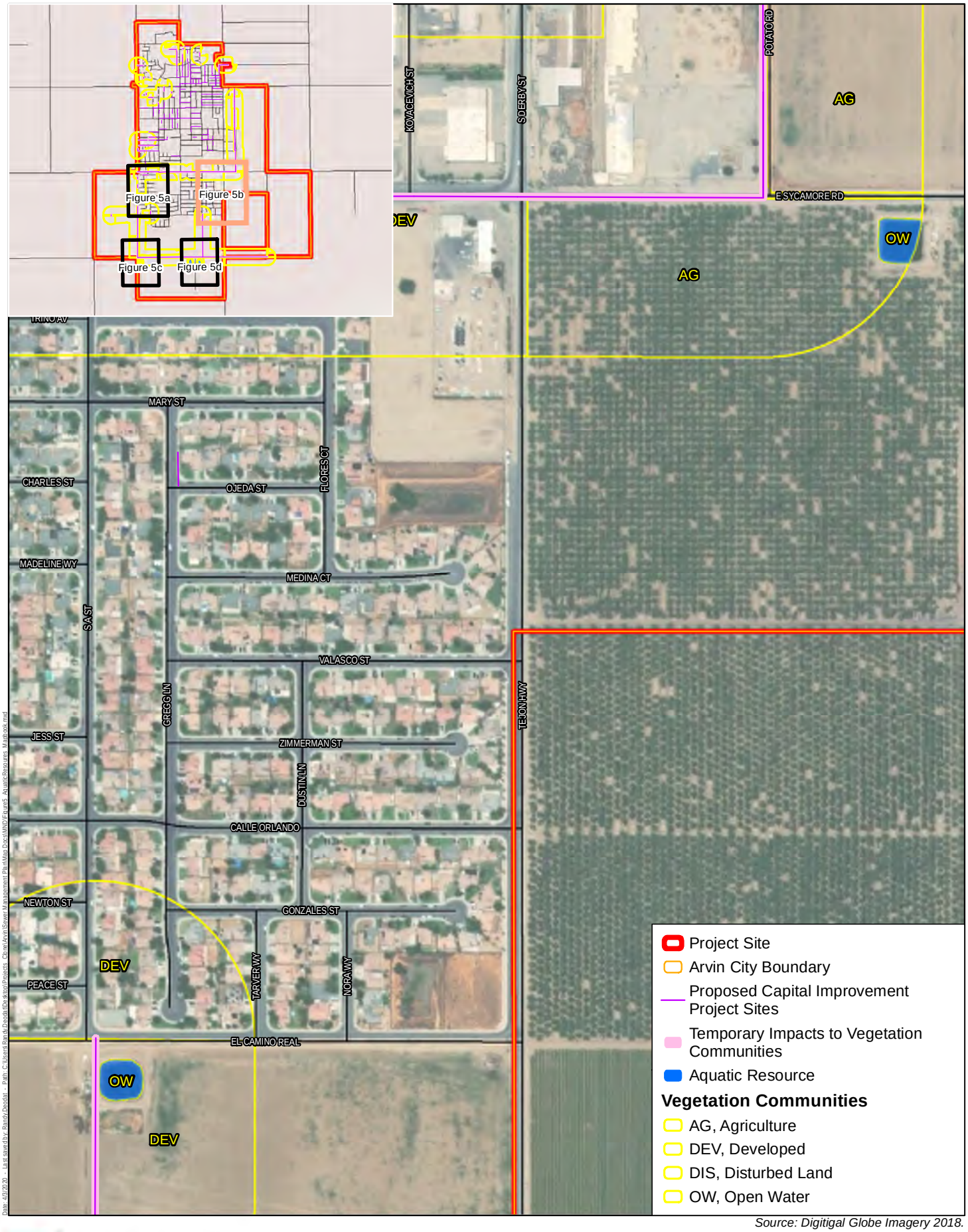

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Figure 5b

Aquatic Resources

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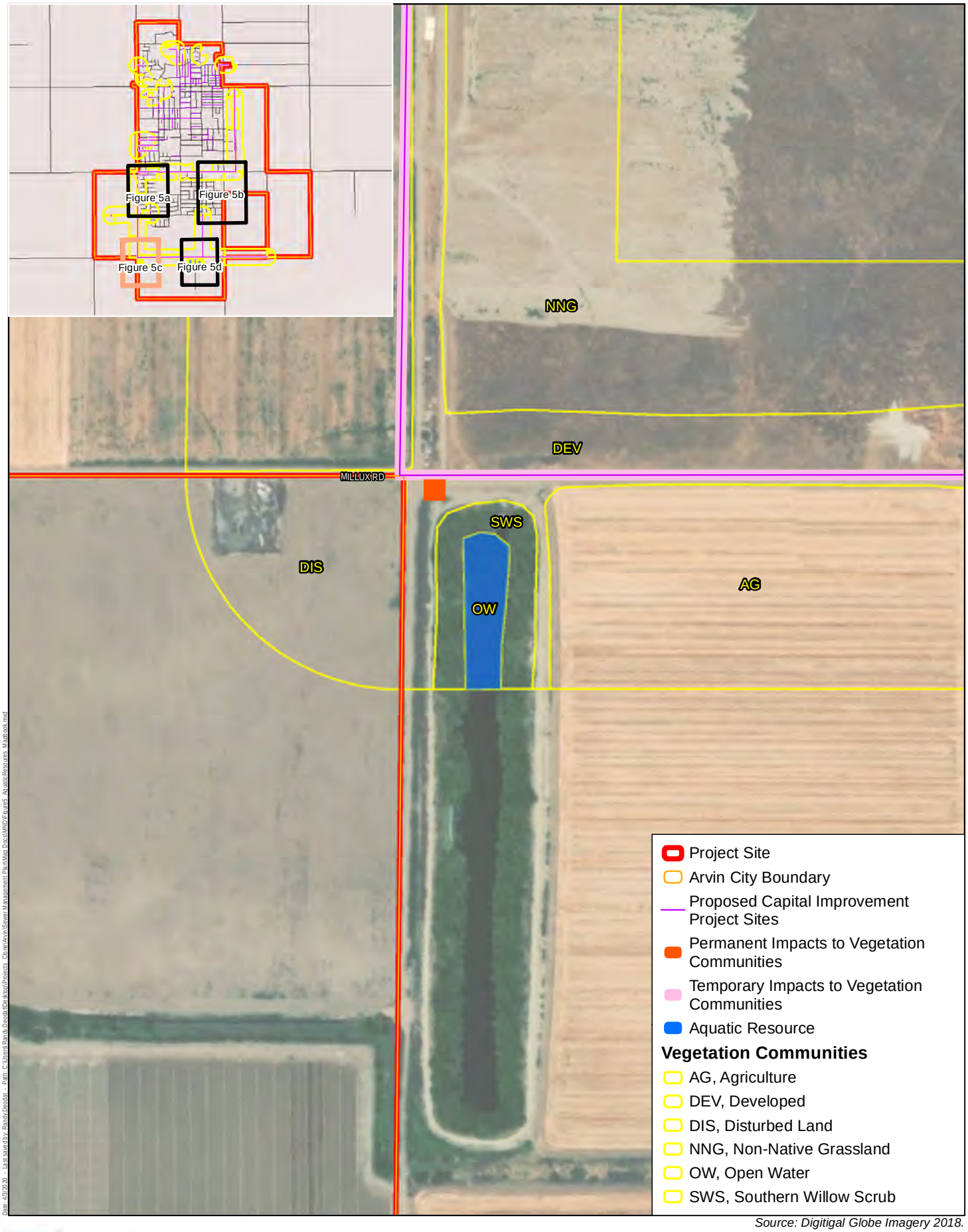

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Figure 5c

Aquatic Resources

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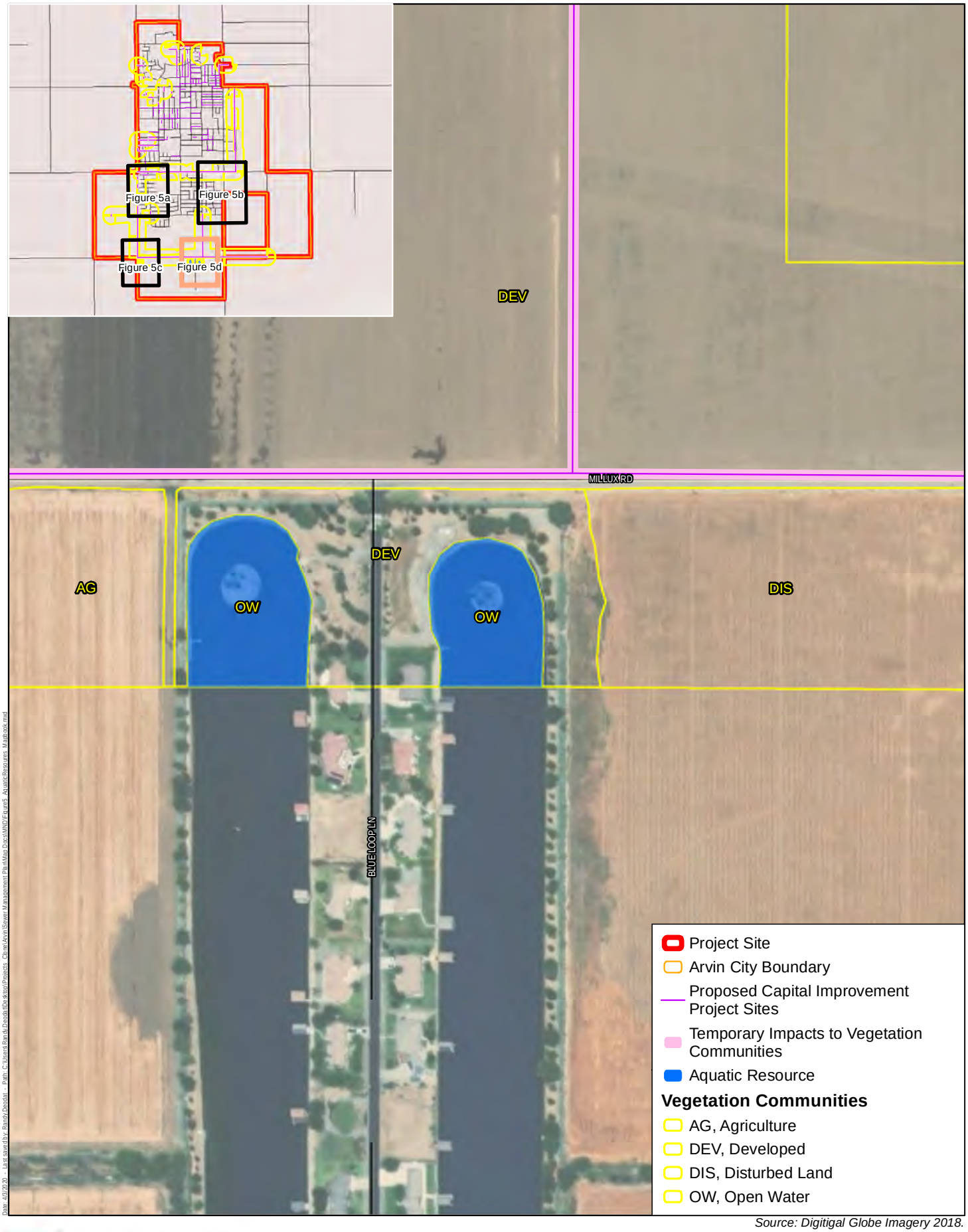

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Figure 5d

Aquatic Resources

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2.4.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Appendix C, Cultural Resources Survey Report, details the results of the cultural resources study conducted for the project. The study consisted of the following tasks: a review of relevant site records and reports on file with the South San Joaquin Valley Information Center of the California Historical Resources Information System held at California State University, Bakersfield, within a half-mile search radius; a pedestrian survey of the proposed sewer pipeline alignments and manholes identified as requiring replacement and the proposed route for new sanitary sewer infrastructure in the project site conducted by an archaeologist on October 22 and 23, 2019; a review of the Sacred Lands File held by the Native American Heritage Commission (NAHC); and historical research including examination of historical maps and aerial imagery. Refer to Appendix C for detailed results of the cultural resources survey. Potential impacts to cultural resources resulting from implementation of the project are discussed below.

Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less than Significant Impact. The records search at the South San Joaquin Valley Information Center resulted in six previously recorded historic resources being identified within a half-mile radius of the project site. Two previously recorded cultural resources were identified on the project site. One consists of a former wagon road currently in use as a segment of Tejon Highway along the eastern boundary of the project site, and the other is a historic-era multiple-family residence at the intersection of Haven Drive and Stockton Avenue. The historic-era multiple-family residence was determined to be ineligible for inclusion in the National Register of Historic Places, in the California Register of Historical Resources, and for local designation.

The pedestrian survey did not identify any previously unrecorded historic resources on the project site. In addition, the probability of intact subsurface resources in the proposed alignment was determined to be low. Tejon Highway, on the project site only, was revisited during the survey

effort to determine its significance as a historic resource. Tejon Highway is in use as a paved road and experiences moderate traffic from commercial and agricultural equipment. This portion of Tejon Highway was recommended by the archaeologist as not eligible for listing in the California Register of Historical Resources and as not significant under CEQA. The cultural resources study did not identify any historic resources with the potential to be adversely impacted by the project, and no further archaeological work was recommended. Therefore, impacts related to a substantial adverse change in the significance of a historic resource pursuant to Section 15064.5 of the CEQA Guidelines as a result of project implementation would be less than significant.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than Significant Impact with Mitigation Incorporated. The review of the Sacred Lands File by the NAHC was negative. As discussed in Section 2.4.5(a), the results of the records search and pedestrian survey did not identify any previously unrecorded historic or archaeological resources on the project site. In addition, the project archaeologist determined that the probability of intact subsurface resources on the project site is low. Information request letters were sent to 16 Native American contacts provided by the NAHC. To date, two responses have been received from the San Manuel Band of Mission Indians and Tejon Indian Tribe. The San Manuel Band of Mission Indians reported that the project site is outside of the Serrano ancestral territory and that they will not be requesting consultation. The Tejon Indian Tribe noted that previously disturbed agricultural fields may contain extant subsurface tribal cultural resources or ancestral human remains that are occasionally inadvertently discovered during project implementation. The Tejon Indian Tribe requested that the City contact their tribal representative upon inadvertent discovery of tribal cultural resources or human remains. Implementation of Mitigation Measures CR-1 and CR-2 would ensure notification and communication with the Tejon Indian Tribe upon inadvertent discovery of tribal cultural resources or human remains and would reduce significant adverse impacts to an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines to less than significant levels.

c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact with Mitigation Incorporated. There are no records indicating that the project site has been used as a formal cemetery; therefore, it is unlikely to contain any known human remains. Due to the previous construction and disturbance throughout the project site, it is unlikely that unknown human remains would be discovered during project construction. However, it is possible that construction activity could unearth previously unknown vestiges, which would be considered a potentially significant impact. Implementation of Mitigation Measure CR-2 would ensure that human remains are treated with dignity and as specified by law and would reduce significant adverse impacts to less than significant levels.

Mitigation Measures

The following mitigation is required as part of the project to ensure that potential cultural resources impacts are mitigated to levels that are less than significant:

CR-1: **Discovery of Tribal Cultural Resources.** In the event of the discovery of archaeological or tribal cultural resources during ground-disturbing activities, the project proponent(s) shall divert, direct, or temporarily halt ground-disturbing activities in the area of discovery and contact a City of Arvin Community Development Department Senior Planner-approved archaeologist and the Tejon Indian Tribe representative (Colin Rambo, colin.rambo@tehonindiantribe-nsn.gov, (661) 834-8566) to allow for preliminary evaluation of potentially significant archaeological and tribal cultural resources. The significance of the discovered resources shall be determined by the approved archaeologist and Tejon Indian Tribe representative as appropriate. The project proponent(s) must be notified with the results of the evaluation and additional mitigation measures as required and determined by the approved archaeologist and Tejon Indian Tribe representative before ground-disturbing activities can resume.

CR-2: **Human Remains.** As specified by the California Health and Safety Code, Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or their authorized representative, shall immediately notify the Kern County Coroner's office by telephone. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains (as determined by the qualified archaeologist and the Native American monitor) shall occur until the Kern County Coroner has made the necessary findings as to origin and disposition pursuant to California Public Resources Code, Section 5097.98. If such a discovery occurs, a temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. By law, the Kern County Coroner shall determine if the remains are subject to their authority within 2 working days of being notified. If the Kern County Coroner recognizes the remains to be Native American, they shall contact the Native American Heritage Commission and notify the Tejon Indian Tribe representative (Colin Rambo, colin.rambo@tehonindiantribe-nsn.gov, (661) 834-8566) within 24 hours. The Native American Heritage Commission shall make a determination as to the most likely descendent. If Native American remains are discovered, the remains shall be kept in situ, or in a secure location in proximity to where they were found, and the analysis of the remains shall only occur on site in the presence of a Native American monitor.

2.4.6 Energy

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Impact Analysis

a. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact.

Construction Energy Use

During construction, the project would result in a short-term, temporary increase in energy consumption through the combustion of fossil fuels in construction vehicles, worker commute vehicles, and construction equipment and the use of electricity for temporary buildings, lighting, and other sources. Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site clearing, grading, trenching, pipe removal and replacement, and site restoration. The types of equipment could include gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, front-end loaders, and excavation equipment. Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment, such as pumps and other tools.

Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. California regulations (13 CCR 2449[d][3], 2485) limit idling from both on-road and off-road diesel-powered equipment and are enforced by CARB. Also, given the high cost of fuel, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. Therefore, construction of the project would not result in a significant impact associated with the wasteful, inefficient, and unnecessary consumption of energy.

Operational Energy Use

Operation of the project sewer pipelines would not require the use of energy greater than the existing conditions for City infrastructure operation. Future maintenance operations would be similar to construction energy use discussed previously and would not result in the need for

additional maintenance. Operation of the project would not result in wasteful, inefficient, or unnecessary use of energy resources and would be less than significant.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. As discussed in Section 2.4.6(a), energy consumption during construction of the project would result in a short-term, temporary increase in consumption of fossil fuels from construction-related equipment. The project sewer pipelines would not require the use of energy greater than the existing conditions for City infrastructure operation, with the only operational emissions related to ongoing maintenance that would be similar to existing conditions in the area. Adherence to reductions of fossil-fuel use and energy efficiency regulations during both construction and operation, as noted previously, would ensure that the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the project would not result in a policy conflict that would result in a significant impact on the environment.

2.4.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, 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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Impact Analysis

a. Would the project 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.

No Impact. The purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to mitigate the hazard of surface faulting by preventing the construction of buildings used for human occupancy over an area with known faults. Unlike damage from ground shaking, which can occur at great distances from the fault, impacts from fault rupture are limited to the immediate area of the fault zone where the fault breaks along the ground's surface. The project site neither contains nor is directly adjacent to an Alquist-Priolo earthquake fault zone (DOC 2000). Additionally, no residential development is proposed, and impacts to people or structures would not result. Therefore, impacts from fault rupture are not expected to occur on the project site, and no impacts would result from project implementation.

ii. Strong seismic ground shaking?

Less than Significant Impact. The project site, like most of central California, is subject to strong ground shaking from seismic events. Consequently, the project site may expose people and structures to potential impacts associated with seismic ground shaking. The ground motion characteristics of any future earthquakes in the region would depend on the characteristics of the generating fault, distance to the epicenter, magnitude of the earthquake, and site-specific geologic conditions. Major faults in the region could be a source of a strong seismic-related movement at the project site. The nearest known active fault is the White Wolf fault zone, approximately 3 miles southeast of the project site (DOC 2000). As discussed in the City's General Plan Master EIR (Kern Council of Governments 1988), any residential, commercial, or industrial structures on the project site and in the surrounding area would most likely be affected by ground shaking in a seismic event. In addition, the project site is mapped as an earthquake fault zone by the California Geologic Atlas (DOC 2020a). While the project site could be subjected to severe ground shaking in the event of an earthquake, the site does not have a greater risk than that of surrounding properties. To reduce the risk of potential adverse effects from the accidental release of hazardous materials during a seismic event, the City requires that projects comply with the adopted operations and maintenance standards set forth in the 2014 Sewer System Management Plan and the 2016 California Building Code and the City-specific amendments to the code (City of Arvin 2014, 2019a). The project would comply with these City standards and requirements to avoid potential adverse effects from the accidental release of hazardous materials during construction and operation in the event of seismic ground shaking. Additionally, no residential or commercial development is proposed. Therefore, impacts to people or structures would not result. Impacts resulting from strong seismic ground shaking would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction is a phenomenon in which a saturated cohesionless soil causes a temporary transformation of the soil to a fluid mass, resulting in a loss of support. Ground failure associated with liquefaction can result in severe damage to structures. The geologic conditions for increased susceptibility to liquefaction are shallow groundwater (less than 50 feet in depth), the presence of unconsolidated sandy alluvium, and strong ground shaking. All three of

these conditions must be present for liquefaction to occur. As discussed in the City's General Plan Master EIR (Kern Council of Governments 1988), the project site and surrounding area are not subject to seismic hazards such as ground failure or liquefaction because the local water table averages approximately 210 feet below the soil surface. Further, the project site is not mapped as a liquefaction zone (DOC 2020a). Additionally, no residential or commercial development is proposed. Therefore, impacts to people or structures involving ground failure or liquefaction would not result. Impacts resulting from seismic-related ground failure or liquefaction would be less than significant.

iv. Landslides?

Less than Significant Impact. A landslide is defined as the movement of a mass of rock, debris, or earth down a slope (USGS 2020). Landslides are a type of "mass wasting," which denotes any downslope movement of soil and rock under the direct influence of gravity. The term "landslide" encompasses five modes of slope movement: falls, topples, slides, spreads, and flows. These are further subdivided by the type of geologic material (bedrock, debris, or earth). Debris flows (commonly referred to as "mudflows" or "mudslides") and rock falls are examples of common landslide types (USGS 2020). As discussed in the City's General Plan Master EIR (Kern Council of Governments 1988), the project site and surrounding area are not subject to seismic hazards such as landslides because of its overall gently sloping topography. Further, the project site is not mapped as a landslide zone (DOC 2020a). Additionally, no residential or commercial development is proposed by the project. Therefore, impacts to people or structures involving landslides would not result. Impacts resulting from landslides would be less than significant.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. Construction of the project would not cause substantial on-site or off-site soil erosion. Before construction begins, the project applicant or contractor would be required to implement standard erosion-control measures and stormwater construction BMPs (through the construction permit process), which would reduce impacts from soil erosion during construction to below a level of significance. Refer to Section 2.4.10, Hydrology and Water Quality, for an additional discussion of potential impacts from erosion. Upon completion of project construction, the operation of the underground sanitary sewer pipelines would be passive and not result in soil erosion or loss of topsoil.

c. Would the project 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?

Less than Significant Impact. Refer to Sections 2.4.7(a) and 2.4.7(b). As previously discussed, no active earthquake faults are identified as occurring on or directly adjacent to the project site. The nearest known active fault is the White Wolf fault zone, approximately 3 miles southeast of the

project site. Additionally, the project does not propose the development of buildings or structures and, therefore, would not expose people or structures to impacts related to seismic ground shaking or be on an unstable geologic unit. Additionally, as discussed in the City's General Plan Master EIR (Kern Council of Governments 1988), the project site is not in an area of high liquefaction potential or a landslide hazard area. Impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse would be less than significant.

d. Would the project 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?

Less than Significant Impact. As indicated in Table 18-1-B of the Uniform Building Code, soils with an expansion potential of 50 or less represent low expansion potential (International Conference of Building Officials 1994). The project site contains soils with little or no swelling clay and, therefore, has a low expansion potential (USGS 1989). The project would not be on expansive soils that would create a substantial risk to life or property (USDA 2020). Therefore, impacts related to expansive soil creating substantial direct or indirect risks to life or property would be less than significant.

e. Would the project 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?

No Impact. The project involves improvements to existing underground sanitary sewer pipeline infrastructure within the project site. The project does not propose the use of septic tanks or alternative wastewater disposal systems. Therefore, impacts related to soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems would not result from implementation of the project.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact. Paleontological resources are the evidence of once-living organisms as preserved in the rock record. They include both the fossilized remains of ancient plants and wildlife and the traces thereof (trackways, imprints, burrows). In general, fossils are considered to be greater than 5,000 years old (older than Middle Holocene) and are typically preserved in sedimentary rocks. The probability of discovering paleontological resources depends on the geologic formation being excavated and the depth and volume of the excavation. Sedimentary rocks, such as those found in coastal areas, usually contain fossils. Granite rocks, such as those found in inland areas, usually would not contain fossils.

According to published geologic maps, the project site is underlain by Quaternary alluvial fan deposits (DOC 1975). Quaternary alluvial fan deposits are characteristic of unconsolidated boulders, cobbles, gravel, sand, and silt deposited where a river or stream has emerged from a

confined valley or canyon where sediment is typically deposited in a fan-shaped cone (DOC 2010). Gravelly sediment is generally more dominant than sandy sediment in Quaternary alluvial fan deposits. The Quaternary alluvium fan deposits mapped on the project site have a low potential to contain intact paleontological resources because they are typically too young (forming in the last 11,700 years, the epoch known as the "late Holocene") to contain fossilized remains (Society of Vertebrate Paleontology 2010). However, the project involves the improvements to existing sanitary sewer pipeline infrastructure within the City rights-of-way, the majority of which have been previously disturbed by the construction of the original pipelines or related underground municipal infrastructure. During implementation of the trenching construction methods used to access existing pipelines and install new pipelines, there would be little potential for disturbance of previously undiscovered paleontological or geological resources. Therefore, impacts related to the destruction of paleontological or geological resources would be less than significant.

2.4.8 Greenhouse Gas Emissions

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

The discussion below is based on a greenhouse gas (GHG) technical analysis completed by Harris & Associates for the proposed project. Model outputs are included as Appendix B.

Impact Analysis

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant.

Significance Threshold

In December 2017, in response to Senate Bill (SB) 32, CARB adopted an updated 2017 Scoping Plan (CARB 2017), which identifies GHG reductions by emissions sector to achieve a statewide emissions level consistent with SB 32. SB 32 extends the statewide emissions reductions goals of AB 32 by requiring the state to further reduce GHGs to 40 percent below 1990 levels by 2030. The 2017 Scoping Plan (CARB 2017) recognizes that achieving no net increase in ongoing operational GHG emissions compared to existing conditions would demonstrate that a project is not contributing to climate change impacts and is a recommended objective for land use development projects that are able to feasibly achieve this goal. Therefore, the project would not result in a significant impact on the environment if GHG emissions would result in zero net additional GHG emissions compared to the existing conditions baseline. The project site does not currently generate GHG emissions beyond occasional maintenance trips. An impact would result if the project would generate new ongoing sources of GHG emissions.

The SJVAPCD has adopted guidance documents for assessing and mitigating GHG impacts on global climate change, including the Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009). Rather than establishing specific numeric thresholds of significance (as in the case of criteria pollutant emissions), the SJVAPCD guidance uses a tiered approach to assess cumulative impacts on global climate change. First, a project can demonstrate compliance with an approved GHG emissions reduction program

(such as CARB's statewide GHG Cap-and-Trade Program). Second, a project can demonstrate implementation of BMPs to reduce GHG emissions. Finally, a project can demonstrate achievement of a 29 percent reduction in GHG emissions from business-as-usual. However, available measures to reduce GHG emissions would generally not apply to the project because the project would be limited to construction of the sewer infrastructure.

Neither the City nor County has developed a quantitative threshold of significance for GHG emissions, but a project found to contribute to no net increase in GHG emissions and found to be consistent with the implementation of the CARB 2017 Scoping Plan is presumed to have a less than significant GHG emissions impact. Therefore, the significance of the proposed project's construction GHG emissions is based on consistency with the 2017 Scoping Plan goals and would result in zero net additional GHG emissions compared to the existing conditions baseline.

Analysis

As described in Section 2.4.3, Air Quality, estimated construction emissions represent the worst-case single-year emissions. Table 7 summarizes the worst-case annual GHG emissions from project construction. The maximum emissions that would occur in a single year of project implementation would be approximately 457 metric tons of carbon dioxide equivalent (MT CO_2e). The worst-case scenario represents approximately 20 percent of total pipeline and manhole construction that would occur over a 20-year period. Therefore, estimated GHG emissions for the worst-case scenario represent approximately 20 percent of total pipeline and manhole-related GHG emissions that would occur with project implementation. Total GHG emissions from pipeline and manhole projects over the 20-year period would be approximately 1,380 MT CO_2e. With the addition of one-time emissions of 181 MT CO_2e from pump station demolition and replacement, total GHG emissions over the 20-year plan implementation would be approximately 1,561 MT CO_2e. Actual total GHG emissions would likely be less because this estimate does not account for trenchless pipeline installation, which would result in fewer haul trips.

Table 7. Worst-Case Annual Construction Greenhouse Gas Emissions

Construction Phase	Emissions (MT CO_2e)
Pipeline Installation and Manhole Replacement	276
Pump Station Demolition and Replacement	181
Total	**457**

Source: CalEEMod Version 2016.3.2. Emission quantities are rounded to the nearest whole number. Exact values are provided in Appendix B.

For comparison, in 2012, the SJVAPCD prepared a Countywide GHG inventory and estimated GHG emissions at approximately 27 million MT CO_2e for a calendar year (Kern County 2017). Proposed project construction would result in a total of approximately 1,561 MT CO_2e over 20 years, which equates to an approximate one-time contribution of 0.006 percent of annual regional

GHG emissions. As such, construction of the CIPs would result in a nominal one-time contribution to regional GHG emissions.

Following construction, no net increase in vehicle or utility use is anticipated as a result of the project. The Millux Road Pipeline and Pump Station CIP would include two 15-horsepower pumps to replace the existing pump station with two 10-horsepower pumps. However, an increase in energy use is not anticipated to result because the location of the proposed new pump station would be sited at an elevation where more gravity may be used for flow than that at the existing pump station. Therefore, no net increase in GHG emissions would result following construction, and impacts would be less than significant.

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant. The plan, policy, or regulation adopted to reduce GHG emissions that is applicable to the proposed project is the 2017 Scoping Plan. As stated previously, SB 32 extended the statewide emissions reductions goals of AB 32 by requiring the state to further reduce GHGs to 40 percent below 1990 levels by 2030. According to the most recent data included in the 2017 Scoping Plan, the state is on track to achieve the 2030 target (CARB 2017). As discussed In Section 2.4.8(a), the proposed project would result in nominal construction emissions and would not result in an increase in ongoing annual GHG emissions, which is consistent with the recommendations in the 2017 Scoping Plan.

Following construction, the proposed project sewer infrastructure would not generate new operational GHG emissions. The proposed sewer infrastructure would serve but would not support growth beyond planned development. The proposed project does not propose changes to the existing land uses. As a result, the proposed project would not exceed growth projections in the City's General Plan Update (2012) and would not result in annual GHG emissions that would interfere with the City's ability to achieve GHG reduction targets. Additional consistency analysis is not applicable to the proposed CIPs because no new commercial or residential structures that would be subject to recommended GHG reduction measures or ongoing sources of GHG emissions are proposed. The proposed new pump station is not anticipated to require additional energy than the existing pump station. Therefore, the project would be consistent with the 2017 Scoping Plan, and the impact would be less than significant.

2.4.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☒	☐	☐
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, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Impact Analysis

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. The project involves improvements to the existing underground sanitary sewer infrastructure on the project site. The project would not routinely use or dispose of hazardous substances. However, the project would involve the routine transport of potentially hazardous sewage materials in its operation as a component of the sanitary sewer system for the City. As discussed in Section 2.4.7, Geology and Soils, the City requires that projects comply with the adopted operations and maintenance standards set forth in the 2014 Sewer System Management Plan and the 2016 California Building Code and the City-specific amendments to the code to reduce the risk of hazard to the public from projects that routinely transport hazardous materials (City of Arvin 2014; Arvin, California, Ordinance 437). The project would comply with these City

standards and requirements to avoid potential hazard to the public from the routine transport of hazardous materials during construction and operation in the event of seismic ground shaking. Therefore, implementation of the project would not expose the public or environment in the surrounding community to any health hazards from the routine transport, use, or disposal of hazardous materials, and no impacts would result.

b. Would the project 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?

Less than Significant Impact. As discussed in Sections 2.4.7 and 2.4.9(a), the project would not involve the generation, storage, or disposal of hazardous materials. Potential impacts from the routine transport of hazardous sewer materials during operation of the project would be reduced through compliance with the City operations and maintenance standards.

Equipment that would be used during construction has the potential to release oils, greases, solvents, and other finishing materials through accidental spills. Spill or upset of these materials could have the potential to impact surrounding land uses; however, federal, state, and local regulations are in place to reduce the effects of such potential hazardous materials spills. The Kern County Fire Department provides the City with emergency services and enforces city, state, and federal hazardous materials regulations (City of Arvin 2020). City regulations include securing of hazardous materials containers to prevent spills and spill containment and mitigation. In addition, the state fire marshal enforces oil and gas pipeline safety regulations, and the federal government enforces hazardous materials transport pursuant to its interstate commerce regulation authority (State Fire Marshal 2020). As standard permitting conditions, compliance with these requirements is mandatory and would minimize the potential for the accidental release or upset of hazardous materials, ensuring public safety. Therefore, the project would comply with the previously referenced requirements and would not result in the creation of significant hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Therefore, impacts would be less than significant.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The project is within one-quarter mile from several schools operating in the City, including Arvin High School, Haven Drive Middle School, Bear Mountain Elementary School, El Camino Real Elementary School, Sierra Vista Elementary School, Grimmway Academy, and Bear Mountain School. As discussed in Section 2.4.9(a) and 2.4.9(b), while the project is within one-quarter mile of these schools, the project would not generate, store, dispose of, or transport hazardous substances. Therefore, no impacts to an existing or proposed school would result from implementation of the project.

d. Would the project 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?

Less than Significant with Mitigation Incorporated. California Government Code, Section 65962.5, details the requirements of the California Department of Toxic Substances Control to compile and maintain a list of hazardous waste facilities, lands designated as hazardous, underground storage tanks, and others subject to corrective action pursuant to the California Health and Safety Code (CalEPA 2020). This list, referred to as the "Cortese List," is found in the California Department of Toxic Substances Control's Envirostor database (DTSC 2020). The Envirostor database search resulted in four listed sites on the project site: one USEPA Superfund cleanup site, one voluntary cleanup site, and two school investigation sites. The two school investigation sites are determined closed with no further action as of October 2005.

The USEPA Superfund cleanup site is an approximately 4.7-acre industrial facility northeast of the intersection at Tejon Highway and Franklin Street. The facility was owned by Brown and Bryant starting in 1960 for the storage and sale of liquid fertilizer, insecticides, herbicides, fumigants, and defoliants. This site was listed by the USEPA in 1988 due to waste disposal practices, operational spillage, and poor housekeeping of pesticides, herbicides, fumigants, and defoliant that contributed to the contamination. The site has since been closed and fenced, and public access is restricted. Cleanup activities are underway and include the installation of a cap and monitoring wells (DTSC 2020).

The voluntary cleanup site is approximately 300 acres of vacant land extending southwest from the corner of Varsity Avenue and Campus Drive, south to Nectarine Court and Alderete Drive, and is bounded by the residential neighborhood to the west. The site was referred to the State Water Resources Control Board for agency oversight after a Phase 1 Environmental Site Assessment was performed in July 2018 for future proposed Kern Community College District development. The Phase 1 Environmental Site Assessment found agricultural chemical residue, petroleum hydrocarbons, and metals in the soils. The report also details the existing oil wells, pump jacks, petroleum pipeline, and aboveground storage tanks. There are also records for a potential underground storage tank of unknown capacity and leaded paint and asbestos-containing building materials present at the location (DTSC 2020).

Other databases were searched through the State Water Resources Control Board's GeoTracker website, and the only active remediation site listed on the project site is the USEPA Superfund cleanup site that was also listed in the Envirostor database and described previously (SWRCB 2020).

The project has the potential to encounter hazardous materials during construction that would result in a significant hazard to the public or the environment if released. If any hazardous materials from the two hazardous materials sites described previously or any unknown sites are discovered

during project construction, implementation of Mitigation Measure HAZ-1 would ensure that handling or discovery of hazardous materials during construction activities would not create a hazard to the public or the environment. Therefore, impacts would be less than significant with mitigation incorporated.

e. Would the project, if 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, result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The project site is covered by the County's Airport Land Use Compatibility Plan (Kern County 2012). The project site is not within 2 miles of a public airport or public use airport or included in any public airport influence areas identified in the County's Airport Land Use Compatibility Plan (Kern County 2012). Therefore, the project would not result in a safety hazard or excessive noise for people residing or working on the project site, and no impact would result.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The Kern County Fire Department provides the project site with emergency services and maintains an emergency operations plan for the County (Kern County Fire Department 2020). Construction-related activities may require temporary partial lane or road closures or detours during construction. However, it is unlikely construction of multiple CIPs would happen concurrently and interfere with an emergency response plan or emergency evacuation plan. Therefore, the project would not impair or physically impact any adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact. The project site is outside of the Fire Hazard Severity Zones designated by California Department of Forestry and Fire Protection Office of the state fire marshal (CAL FIRE 2007). Further, the project site is surrounded primarily by urban developed, agricultural, and industrial land uses and is not likely to be at risk of wildland fires. The project includes improvements to the existing underground sanitary sewer infrastructure and does not propose to alter existing buildings or construct new buildings or roads. Therefore, the project would not expose people or structures to a significantly greater risk of loss, injury, or death involving wildland fires, and impacts would be less than significant.

Mitigation Measures

The following mitigation is required as part of the project to ensure that potential hazards and hazardous materials impacts are mitigated to levels that are less than significant:

HAZ-1: Health and Safety Plan. The project proponent(s), in consultation with the City of Arvin, shall develop a health and safety plan to address potential hazardous materials associated with agricultural and petroleum industry activities on and surrounding the project site. The project health and safety plan shall include emergency procedures for responding to hazardous materials releases for materials that would be brought onto or discovered on the site as part of construction activities. If evidence of contaminated soils or groundwater is discovered during construction, work in the vicinity of the contaminated area shall cease until the wastes are characterized or remediated. Remediation of the site shall be coordinated with appropriate regulatory authorities to ensure that applicable remediation standards are met. The emergency procedures for hazardous materials releases shall include the necessary personal protective equipment, spill containment procedures, and training of workers to respond to accidental spills or releases. The project proponents shall be required to have on hand at all times during construction the adequate absorbent materials and containment booms to handle a spill equivalent to the largest container of fuels or oil in use.

2.4.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
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?	☐	☒	☐	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☒	☐	☐
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?	☐	☒	☐	☐
iv. Impede or redirect flood flows?	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

Impact Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant with Mitigation Incorporated. A number of federal and state laws have been established to ensure adequate planning, implementation, management, and enforcement of water quality control efforts. Federal water quality legislation includes the Clean Water Act and the National Environmental Policy Act. California statutes and administrative laws that are applicable to water quality include but are not limited to the California Water Code, CEQA, California Code of Regulations, and other codes such as the California Health and Safety Code, California Fish and Game Code, and California Public Resources Code. The USACE and the RWQCB implements

federal and state laws pertaining to water quality in the area. The primary issues addressed by the RWQCB include leaking fuel storage tanks, illegal discharges of human or wildlife waste, and the dumping of waste oils and other hazardous liquids into ground- and surface water.

The City is required to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES). NPDES is a part of the federal Clean Water Act amendments of 1992 and requires local government agencies and major private industries to take practical measures to reduce pollution discharges into water bodies. Compliance with the requirements of the NPDES would ensure that water quality would not be degraded by the project.

The project includes improvements to the City's underground sanitary sewer infrastructure. As discussed in Section 1.4, the extent of construction activities associated with the sanitary sewer pipeline improvements and installations would remain within a 25-foot-wide construction activity zone. In the construction activity zone, 5-foot-wide trenches would be excavated in the roadway or ground surface directly over the pipelines to provide access to the pipelines. For manhole improvements, construction would remain within a 15-foot-wide construction activity zone. Construction staging areas would be in developed areas in the City's rights-of-way. Upon completion of the project, the roadway and ground surface areas disturbed during construction would be restored to their previous condition and function.

Construction activities associated with the project are not expected to violate any water quality standards or waste discharge requirements. During construction, gasoline, diesel fuel, lubricating soil, grease, and solvents may be used on the project site. Although only small amounts necessary to maintain the construction equipment would be on site at any one time, accidental spills of these materials during construction could potentially result in surface water and groundwater quality impacts. In addition, soil loosened during trenching or miscellaneous construction materials or debris could also degrade water quality if mobilized and transported off site by water flow. Because construction activities may occur during the rainy season or during a storm event, construction of the project could result in impacts to water quality without implementation of appropriate BMPs. Due to the potential for impacts to water quality during construction, Mitigation Measures HYDRO-1 and HYDRO-2 would be implemented to reduce impacts related to construction activities to less than significant levels.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact. Construction activities associated with the project would not require dewatering or use well or groundwater sources. Therefore, construction activities are not expected to affect groundwater supplies. Additionally, the project is not expected to encounter groundwater during trenching activities and would not involve permanent pumping of groundwater because no

construction or operational phase of the project would require the direct use of groundwater supplies. Therefore, the project would not substantially deplete groundwater supplies or directly result in a net deficit in aquifer volume. Should groundwater be encountered during grading operations, further environmental review would be required to assess potential impacts. Impacts to groundwater supplies as a result of project implementation would be less than significant.

c. Would the project 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?

Less than Significant Impact with Mitigation Incorporated. The project includes improvements to the City's underground sanitary sewer infrastructure. As discussed previously in Section 1.4, the extent of construction activities associated with the sanitary sewer pipeline improvements and installations would remain within a 25-foot-wide construction activity zone. Upon completion of the project, the roadway and ground surface areas disturbed during construction would be restored to their previous condition and function. There are no streams or rivers that occur on the project site, and no alterations to water bodies would result with implementation of the project. Furthermore, there would be no change in the on-site drainage patterns following construction. Short-term erosion impacts during construction of the project would be prevented through implementation of Mitigation Measures HYDRO-1 and HYDRO-2. Fill material would be used to backfill trenched areas. The soils in the non-native grassland areas would then be hydro-seeded with a native plant seed mix, as required in Mitigation Measure BIO-5 (see Section 2.4.4), to further prevent erosion or siltation post-construction. Therefore, the project would result in less than significant impacts related to on- or off-site erosion or siltation.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less than Significant Impact with Mitigation Incorporated. As discussed in Section 2.4.10(c)(i), implementation of Mitigation Measure HYDRO-1 would prevent erosion and surface runoff during construction. Once project construction is complete, roadway and ground surface areas disturbed during construction would be restored to their previous condition and function, avoiding any increases in surface runoff that may result in on- or off-site flooding. Additionally, non-native grassland areas temporarily disturbed during construction would be reseeded with native plant seeds to avoid increases in surface runoff, as outlined in Mitigation Measure BIO-5. Therefore, project impacts related to increases in surface runoff and on- and off-site flooding risk would be less than significant.

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?

Less than Significant Impact with Mitigation Incorporated. As discussed in Sections 2.4.10(a) and 2.4.10(c)(ii), the project would not result in significant impacts related to runoff or the discharge of polluted runoff with implementation of Mitigation Measures HYDRO-1, HYDRO-2, and BIO-5. Therefore, impacts related to runoff exceeding the stormwater drainage capacity or discharging polluted runoff as a result of project implementation would be less than significant.

iv. Impede or redirect flood flows?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure and does not propose the construction of any aboveground structures that would impede or redirect flood flows. Therefore, no impact related to impeding or redirecting flood flows would result from implementation of the project.

d. Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than Significant Impact. The project site is mapped in the Federal Emergency Management Agency 100-year floodplain as a regulatory floodway (FEMA 2020). The project includes improvements to the City's underground sanitary sewer infrastructure and does not propose the construction of any aboveground structures that would release pollutants due to inundation from flood, tsunami, or seiche. Furthermore, the project site is approximately 100 miles west of the Pacific Ocean and approximately 37 miles southwest from the nearest body of water, Lake Isabella and, thus, is unlikely to be impacted from tsunami or seiche events. Therefore, project impacts related to the release of pollutants due to project inundation during flood, tsunami, or seiche would be less than significant.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact with Mitigation Incorporated. As discussed previously in Section 2.4.10(a), implementation of Mitigation Measures HYDRO-1 and HYDRO-2 would reduce any potential impacts related to water quality from project construction activities to less than significant levels and, therefore, would not conflict with or obstruct implementation of a water quality control plan. As discussed in Section 2.4.10(b), the project would not result in significant impacts to groundwater or groundwater recharge, and therefore, the project would not conflict or obstruct with a sustainable groundwater management plan. Impacts related to conflict or obstruction with a water quality control plan or sustainable groundwater management plan as a result of project implementation would be less than significant.

Mitigation Measures

The following mitigation is required as part of the project to ensure that potential hydrology and water quality impacts are mitigated to levels that are less than significant:

HYDRO-1: **Stormwater Pollution Prevention Plan.** In conformance with the Clean Water Act, project proponents, in consultation with the City of Arvin, shall prepare a stormwater pollution prevention plan. The stormwater pollution prevention plan shall address the potential sources and locations of stormwater contamination, characteristics and impacts of specific contaminants, and temporary and permanent erosion-control practices and include water sampling data, construction practices that minimize stormwater contamination, coordination of best management practices with planned construction activities, and compliance with the City of Arvin, Kern County, state, and federal regulations.

HYDRO-2: **Best Management Practices.** Best management practices shall be incorporated into the final construction and design plans and shall include but not be limited to the following:

- Construction vehicles shall be adequately maintained and equipped to minimize/eliminate fuel spillage. Equipment maintenance work shall occur off site or in the designated construction staging areas.
- Any construction materials that need to be temporarily stockpiled or equipment and supplies that need to be stored on site shall be kept in the construction staging areas and shall be covered when not in use.

2.4.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Impact Analysis

a. Would the project physically divide an established community?

No Impact. The project includes improvements to the underground sanitary sewer infrastructure throughout the City, primarily in rights-of-way and vacant, undeveloped lands. The project would not introduce new permanent aboveground structures or roadways that would act as barriers to an established community. Temporary work areas would be restored to preconstruction conditions. The majority of the underground sanitary sewer infrastructure would not be visible following construction. As previously discussed in Section 2.4.1(a), the only aboveground components of the project are the 257 manholes proposed for repairs and replacements, as well as the 0.06-acre pump station proposed as a part of the Millux Road Pipeline and Pump Station CIP (Figure 2 series). The manhole repairs and replacements would not introduce new aboveground features to the project site. The pump station proposed at the southwestern corner of Millux Road and Comanche Drive would be constructed in a previously disturbed area and would replace the existing pump station at the corner of El Camino Real and A Street. The project would not introduce aboveground features that are not already present on the project site. As a result, construction of the project would not physically divide an established community, and no impacts would result.

b. Would the project 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?

No Impact. As discussed in Section 2.4.11(a), the project includes improvements to the City's underground sanitary sewer infrastructure and would not introduce permanent aboveground structures that would change or conflict with the current land use or zoning designation. Additionally, the project would not conflict with the intended use of the properties or surrounding land uses. The project would comply with the City's General Plan Update Land Use Element and the County's General Plan Land Use, Open Space, and Conservation Element. As discussed in Section 2.4.4, the project complies with policies protecting biological resources identified in the City's General Plan Update Conservation and Open Space Element and the County's General Plan Land Use, Open Space, and Conservation Element. Therefore, the project would not conflict with any land use plan, policy, or regulation of an agency with jurisdiction over the project site, and no impact would result.

2.4.12 Mineral Resources

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

Impact Analysis

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?

No Impact. The California Department of Conservation's Division of Mine Reclamation and the California Geological Survey do not identify the project site as an area with high potential for aggregate or mineral resources (DOC 2020b; CGS 2018). In addition, the project site is primarily within and in proximity to residential and commercial land uses in the City and would not likely be mined for mineral resources. Therefore, the project would not result in the loss of availability of a known mineral resource valuable to the region and the state, and no impact would result.

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?

No Impact. The County's General Plan Land Use, Open Space, and Conservation Element identifies areas north and south of the project site as containing productive or potentially productive petroleum fields, natural gas, geothermal resources, and mineral deposits of regional and statewide significance. However, the City's General Plan Update Land Use Element does not identify the project site as a locally important mineral resource recovery site (City of Arvin 2012). The City's General Plan Update zones the northern portion of the City for schools and residential development and the southern portion of the City for residential and commercial development (City of Arvin 2012). Although the County's General Plan identifies areas north and south of the City as potentially containing mineral resources, extraction of mineral resources in these areas would conflict with the adopted City's General Plan and pose potential public health and safety impacts (Kern County 2009). Thus, it would be unlikely to result. Therefore, the project would not result in the loss of availability of a locally important mineral resource recovery site, and no impact would result.

2.4.13 Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
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, expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Impact Analysis

a. Would the project result in 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?

Less than Significant with Mitigation Incorporated. Noise associated with the project would include short-term construction noise and may temporarily impact nearby sensitive receptors. During construction, noise generated by construction equipment would occur with varying intensities and durations. Construction activity would comply with the City's allowable hours for construction between the hours of 7:00 a.m. and 9:00 p.m., Monday through Friday, and between the hours of 8:00 a.m. and 10:00 p.m., Saturday and Sunday (City of Arvin 2019b). To minimize potential nighttime and weekend noise impacts to the surrounding land uses, PDF-NOI-1 would be incorporated as follows:

PDF-NOI-1: Project Construction Activity Schedule. Project construction activities would be limited to standard working hours of 8:00 a.m. to 5:00 p.m., Monday through Friday.

The temporary increase in ambient noise levels in the project vicinity would have the potential to exceed the maximum acceptable noise threshold of 65 decibels for outdoor activity areas set by the County's General Plan Noise Element (Kern County 2009). To ensure impacts from a temporary increase in ambient noise levels would be less than significant, Mitigation Measure NOI-1 shall be implemented.

The existing noise environment at the project site is typical of a city with residential, commercial, agricultural, and industrial land uses, with sources of noise including roadway noise and periodic noise increases from heavy agricultural and industrial machinery and vehicles when they are in use. Noise-sensitive receptors (i.e., land uses associated with indoor and outdoor activities that may be subject to stress or significant interference from noise) in and around the project site include residential uses and educational and municipal facilities. Project construction activities would be short term in nature, and with the implementation of Mitigation Measure NOI-1, noise levels during construction would comply with the noise thresholds in the City's Noise Ordinance or County's General Plan Noise Element. Moreover, upon completion of construction activities, no new sources of noise would result because no operational component of the project would generate new sources of noise. Therefore, project impacts related to the generation of a temporary increase in noise levels would be less than significant with mitigation incorporated.

The project would not introduce a noise-sensitive land use into an area with excessive ambient noise levels. Further, the project would not generate new, permanent sources of operational noise as the underground sanitary sewer infrastructure improvements would be passive and not generate noise. The project is not anticipated to cause a significant permanent increase in ambient noise levels because operation of the project would be identical to existing conditions and would not generate new sources of operational or vehicular noise. Therefore, project impacts related to the generation of a permanent increase in noise levels would be less than significant.

b. Would the project result in the generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact with Mitigation Incorporated. Groundborne vibration is typically attenuated over short distances. Various types of heavy equipment would be used during the construction of the project. Trenching and excavation could result in perceptible groundborne vibrations or groundborne noise. Neither the City's nor the County's General Plan includes thresholds for vibration levels. However, potential vibration impacts from the project would be temporary during construction activities, and the project would comply with the City's Noise Ordinance for acceptable hours for construction activity, as discussed in Section 2.4.13(a). Implementation of Mitigation Measure NOI-1 would also reduce potential impacts from groundborne vibration and associated noise levels. Therefore, project impacts related to the generation of groundborne vibration would be less than significant.

Operation of the project would not involve activities that generally generate groundborne vibrations because operation of the underground sanitary sewer infrastructure would be passive. As such, the project would not generate an excessive, significant level of operational groundborne vibration or noise.

c. Would the project, 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, expose people residing or working in the project area to excessive noise levels?

No Impact. As discussed in Section 2.4.9(e), the project site is not within 2 miles of a public airport or public use airport or included in any public airport influence areas identified in the County's Airport Land Use Compatibility Plan (Kern County 2012). Therefore, the project would not expose people residing or working on the project site to excessive noise levels, and no impact would result.

Mitigation Measures

The following mitigation is required as part of the project to ensure that potential noise impacts are mitigated to levels that are less than significant:

NOI-1: Construction Noise. Prior to grading activities, the City shall ensure the following:

- Construction equipment, fixed or mobile, shall be outfitted with properly operating and maintained mufflers.
- Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and using electric air compressors and similar power tools rather than diesel equipment shall be used where feasible.
- During construction, stationary construction equipment shall be located so that emitted noise is directed away from or shielded from sensitive noise receivers.
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise-sensitive receptors.
- Construction shall not occur outside the hours of 7:00 a.m. and 9:00 p.m., Monday through Friday, or outside the hours of 8:00 a.m. and 10:00 p.m., Saturday and Sunday. Construction is prohibited on federal holidays.

2.4.14 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	☐	☐	☒	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact Analysis

a. Would the project 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)?

Less than Significant Impact. The project includes improvements to the City's underground sanitary sewer infrastructure. The purpose of the project is to increase capacity of the City's sanitary sewer system to support both existing and planned population and development growth as set out in the City's General Plan Update Land Use Element (City of Arvin 2012). Therefore, the project would not directly or indirectly induce substantial unplanned population growth in the City, and impacts would be less than significant.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure and would not displace existing housing or people, demolish any existing housing, or necessitate the need for the construction of replacement housing. Therefore, no impacts related to displacing existing people or housing or the construction of replacement housing would result.

2.4.15 Public Services

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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 public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Impact Analysis

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 public services:

Fire protection?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure. Operation of the project would be passive and would not place increasing demands on the local fire protection services. The project does not involve the construction of new homes or buildings or require new or physically altered government facilities. Therefore, no impacts to fire protection services would result from implementation of the project.

Police protection?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure. Operation of the project would be passive and would not place increasing demands on the local police protection services. The project does not involve the construction of new homes or buildings or require new or physically altered government facilities. Therefore, no impacts to police protection services would result from implementation of the project.

Schools?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure. Operation of the project would be passive and would not place increasing demands on the local schools or educational facilities. The project does not involve the construction of new homes or buildings or require new or physically altered government facilities. Therefore, no impacts to schools would result from implementation of the project.

Parks?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure. Operation of the project would be passive and would not place increasing demands on the local parks or recreation facilities. The project does not involve the construction of new homes or buildings or require new or physically altered government facilities. Therefore, no impacts to parks would result from implementation of the project.

Other public facilities?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure. Operation of the project would be passive and would not place increasing demands on the local public facilities. The project does not involve the construction of new homes or buildings or require new or physically altered government facilities. Therefore, no impacts to public facilities would result from implementation of the project.

2.4.16 Recreation

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

Impact Analysis

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?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure. As discussed in Section 2.4.15, Public Services, operation of the project would be passive and would not place increasing demands on the existing neighborhood and regional parks or other recreational facilities. The project does not involve the construction of new homes or buildings that would introduce additional park and recreational facilities users. Therefore, no impacts to existing neighborhood and regional parks or other recreational facilities would result from implementation of the project.

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?

No Impact. As discussed in Section 2.4.16(a), the project would not result in an increase in population that would result in increased use of or need to expand existing recreational facilities. Furthermore, the project does not include construction or expansion of recreational facilities. Therefore, no impacts related to the use or construction of recreational facilities would result from implementation of the project.

2.4.17 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☒	☐

Impact Analysis

a. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The construction and operation of the project would not conflict with any programs, plans, ordinances, or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Construction-related activities may require temporary partial lane or road closures or detours during construction that may disrupt circulation systems including transit, roadway, bicycle, and pedestrian facilities. As discussed in Section 2.4.9(f), a traffic control plan would be implemented to avoid significant impacts to the circulation system during construction. Impacts during project construction would be less than significant. Operation of the project's underground sanitary sewer infrastructure would be passive and would not conflict with circulation ordinances or policies set out by the City or County.

b. Would the project or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure. Construction and operation of the project would not result in a permanent increase to the vehicle miles traveled in the area and, therefore, would be consistent with CEQA Guidelines, Section 15064.3(b). No impacts related to an increase in vehicle miles traveled or inconsistency with CEQA Guidelines, Section 15064.3(b), would result from implementation of the project.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure and would not introduce geometric design features or incompatible uses that would

increase or create traffic hazards. Therefore, no impacts related to increases in hazards due to a geometric design feature or incompatible uses would result from implementation of the project.

d. Would the project result in inadequate emergency access?

Less than Significant Impact. As discussed in Section 2.4.9(f), project construction-related activities may require temporary partial lane or road closures or detours during construction that would interfere with emergency access. As discussed in Section 2.4.9(f), PDF-HAZ-1 would be incorporated into the project design to avoid impaired emergency access during construction. Therefore, the project would not result in inadequate emergency access, and impacts would be less than significant.

2.4.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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	☐	☒	☐	☐
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?	☐	☒	☐	☐

Impact Analysis

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

Less than Significant Impact with Mitigation Incorporated. As discussed in Sections 2.4.5(a) and 2.4.5(b), the review of the Sacred Lands File by the NAHC was negative. Further, the results of the records search and pedestrian survey did not identify any historic, archaeological, or tribal cultural resources on the project site. The project archaeologist determined the probability of intact subsurface resources on the project site to be low due to previous disturbance and current activity on the project site. Information request letters were sent to 16 Native American contacts provided by the NAHC. The San Manuel Band of Mission Indians and Tejon Indian Tribe responded to the NAHC outreach letters. The San Manuel Band of Mission Indians reported that the project site is outside of the Serrano ancestral territory and that no consultation would be requested. The Tejon Indian Tribe requested notification upon inadvertent discovery of tribal cultural resources or

human remains during project implementation. Implementation of Mitigation Measures CR-1 and CR-2 would ensure notification and communication with the Tejon Indian Tribe upon inadvertent discovery of tribal cultural resources or human remains and would reduce significant adverse impacts related to a tribal cultural resource listed or eligible for listing in the California or local register to less than significant levels.

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.

Less than Significant Impact with Mitigation Incorporated. As discussed in Sections 2.4.5, Cultural Resources, and 2.4.18(a), there were no historic, archaeological, or tribal cultural resources recorded or observed in the project site, and the probability for unknown resources to occur on the project site is low. The NAHC tribal outreach did not result in claims of cultural significance of any resources on the project site by California Native American tribes. However, as discussed in Section 2.4.5(c), it is possible that construction activity could unearth previously unknown tribal cultural resources or human remains, which would be considered a potentially significant impact. Implementation of Mitigation Measures CR-1 and CR-2 would ensure that previously unknown tribal cultural resources or human remains are treated with dignity and as specified by law and would reduce potentially significant impacts to less than significant levels. Therefore, impacts related to a substantial adverse change in the significance of a tribal cultural resource determined to be significant to a California Native American tribe as a result of project implementation would be less than significant with mitigation incorporated.

Mitigation Measures

Mitigation Measures CR-1 and CR-2, as described in Section 2.4.5, are required as part of the project to ensure that potential tribal cultural resources impacts are mitigated to levels that are less than significant.

2.4.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Impact Analysis

a. Would the project 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?

Less than Significant Impact with Mitigation Incorporated. The project includes improvements to the City's underground sanitary sewer infrastructure. As discussed in Section 2.4.14(a), the purpose of the project is to increase capacity of the City's sanitary sewer system to support both existing and planned population and development as set in the City's General Plan Update Land Use Element (City of Arvin 2012). As discussed throughout this IS/MND, temporary construction impacts related to biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and tribal cultural resources have been mitigated below a level of significance by implementing Mitigation Measures BIO-1 through BIO-8, CR-1, CR-2, HAZ-1, HYDRO-1, HYDRO-2, and NOI-1. Therefore, impacts related to construction of new or expanded wastewater infrastructure as a result of project implementation would be less than significant with mitigation incorporated.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure and would not require water supplies greater than what is currently being used by the existing system. Therefore, no impacts to available water supplies would result from implementation of the project.

c. Would the project 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?

No Impact. The project includes improvements to the City's underground sanitary sewer infrastructure. As discussed previously in Section 2.4.14(a) and Section 2.4.19(a), the purpose of the project is to increase capacity of the City's sanitary sewer system to support both existing and planned population and development as set out in the City's General Plan Update Land Use Element (City of Arvin 2012). Therefore, the project would not result in the wastewater treatment provider having inadequate capacity for the project, and no impact would result.

d. Would the project 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?

Less than Significant Impact. The project includes improvements to the City's underground sanitary sewer infrastructure and would not generate solid waste in excess of typical construction and pipeline replacement projects. The solid waste generated by project construction would be recycled to the extent feasible and disposed of in accordance with City and County construction and demolition waste ordinances and requirements (City of Arvin 2015; Kern County 2020). Conformance with City and County solid waste generation requirements would ensure that the project would not impair the attainment of solid waste reduction goals. Operation of the project would not result in the generation of solid waste. Therefore, impacts from generation of solid waste in excess of state or local standards as a result of project implementation would be less than significant.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. As discussed in Section 2.4.19(d), the project would not generate solid waste in excess of typical construction and pipeline replacement projects. The project would comply with applicable federal, state, and local construction and demolition waste management and reduction regulations by recycling to the extent feasible and disposing of construction solid waste in approved landfills (USEPA 2020; CalRecycle 2020; City of Arvin 2015; Kern County 2020). Therefore, the project would comply with federal, state, and local solid waste generation and reduction requirements, and impacts would be less than significant.

Mitigation Measures

Mitigation Measures BIO-1 through BIO-8, CR-1, CR-2, HAZ-1, HYDRO-1, HYDRO-2, and NOI-1, as previously described in Sections 2.4.4, 2.4.5, 2.4.9, 2.4.10, and 2.4.13, are required as part of the project to ensure that potential impacts to biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, noise, and tribal cultural resources are mitigated to levels that are less than significant.

2.4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Impact Analysis

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. As discussed in Section 2.4.9(f), the project would implement a traffic control plan to avoid impacts to the County's emergency response and emergency evacuation plans during project construction. Operation of the project's underground sanitary sewer infrastructure would be passive and would not impair an adopted emergency response plan or emergency evacuation plan. Therefore, the project would not impair an adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant.

b. Would the project, 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?

Less than Significant Impact. As discussed in Section 2.4.9(g), the project site is outside of the Fire Hazard Severity Zones designated by the California Department of Forestry and Fire Protection, Office of the state fire marshal (CAL FIRE 2007). Further, the project site is surrounded primarily by urban developed, agricultural, and industrial land uses and is not likely to be at risk of wildfire. The project includes improvements to the existing underground sanitary sewer infrastructure and does not propose to alter existing buildings or construct new buildings that would expose occupants to pollutant concentrations from a wildfire or spread of wildfire. Therefore, impacts

related to exacerbating wildfire risks or exposure of project occupants to wildfire risk as a result of project implementation would be less than significant.

c. Would the project 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?

Less than Significant Impact. As discussed throughout this document, the project includes improvements to the City's underground sanitary sewer infrastructure and would not require the installation or maintenance of associated infrastructure that would exacerbate fire risk or environmental impacts. Temporary impacts to the environment related to construction of the project have been analyzed throughout this document and determined to be less than significant or mitigated below a level of significance. Therefore, impacts related to increased fire risk or environmental impacts from installation or maintenance of associated infrastructure as a result of project implementation would be less than significant.

d. Would the project 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?

Less than Significant Impact. As discussed in Section 2.4.10, the project would not alter existing drainage patterns or contribute to increased runoff or flooding downstream, including those in post-fire conditions. Therefore, impacts related to exposure of people or structures to significant risks from runoff, post-fire slope instability, and drainage changes as a result of project implementation would be less than significant.

2.4.21 Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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?	☐	☒	☐	☐
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino,(1988) 202 Cal.App.3d 296; Leonoff v. Monterey Board of Supervisors, (1990) 222 Cal.App.3d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal.App.4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656.

Impact Analysis

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?

Less than Significant with Mitigation Incorporated. As discussed in Section 2.4.4, the project has the potential to result in significant impacts to special-status plant and wildlife species, migratory bird species, a sensitive vegetation community, and aquatic resources. However, with implementation of Mitigation Measures BIO-1 through BIO-8, these impacts would be reduced to less than significant levels. Therefore, impacts from the degradation of the quality of the environment related to the reduction of habitat and range of plants and wildlife species resulting from project implementation would be less than significant.

As discussed in Sections 2.4.5 and 2.4.18, there were no historic, archaeological, or tribal cultural resources recorded or observed on the project site, and the probability for unknown resources to occur on the project site is low. However, implementation of Mitigation Measures CR-1 and CR-2 would avoid potential impacts to previously undocumented cultural or tribal cultural resources or human remains from being disturbed during construction. Further, the NAHC tribal outreach did not result in claims by California Native American tribes of cultural significance of any resources on the project site. Therefore, impacts related to impacts from the degradation of the quality of the environment related to the elimination of important examples of California history or prehistory resulting from project implementation would be less than significant.

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)?

Less than Significant Impact. Implementation of the project would not result in individually limited but cumulatively considerable significant impacts. Resource topics associated with implementation of the project have been analyzed in accordance with CEQA and the CEQA Guidelines and were found to pose no impacts, less than significant impacts, or less than significant impacts with mitigation incorporated. In addition, taken in sum with other current or future projects in the area, the scale of the project is relatively minor, and impacts to any environmental resource or issue areas would be temporary and would not be cumulatively considerable.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant with Mitigation Incorporated. Implementation of Mitigation Measure NOI-1 would reduce temporary construction noise impacts to nearby residences to less than significant levels. Operation of the project would be passive and not consist of any uses or activities that would negatively affect any human beings in the vicinity, such as the nearby residences. Therefore, with the incorporation of mitigation measures, the project would result in less than significant environmental effects that could cause substantial adverse effects on human beings directly or indirectly.

Mitigation Measures

Mitigation Measures BIO-1 through BIO-8, CR-1, CR-2, and NOI-1 (previously discussed in Sections 2.4.4, 2.4.5, and 2.4.13) are required as part of the project to ensure that potential biological resources, cultural and tribal cultural resources, and noise impacts are mitigated to levels that are less than significant.

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Appendix A. Biological Resources Letter Report

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Harris & Associates

April 14, 2020

Mitzy Cuxum
Senior Planner
City of Arvin, Community Development Department
141 Plumtree Drive
Arvin, California 93203

Subject: Biological Resources Letter Report for the City of Arvin Sanitary Sewer Master Plan

Dear Ms. Cuxum:

This letter report documents the results of the habitat assessment and biological resources survey (together referred to as "survey") for the proposed City of Arvin Sanitary Sewer Master Plan (project), in the City of Arvin (City), Kern County (County), California (Attachment 1, Figures; Figure 1, Regional Location, and Figure 2 series, Project Site).

Project Description and Location

The project site is within the City's jurisdiction (Figure 1). The majority of the project site is developed. The project includes improvements to approximately 54,771 linear feet of sanitary sewer pipeline and 257 manholes throughout the City and comprises 17 individual capital improvement projects (CIPs). The 17 CIP sites make up the project site (collectively referred to as the "project site" throughout this letter report). The 17 CIPs are outlined in Table 1, Capital Improvement Projects Details, and described further in the sections below.

Table 1. Capital Improvement Projects Details

CIP	Linear Feet of Sanitary Sewer Pipeline	Number of Manholes
A Street	4,306	14
Campus Drive Alley	1,967	7
Comanche Drive	1,110	8
East Di Giorgio Park	3,303	9
Haven Drive	2,797	12
Langford Avenue	2,007	10
Meyer Street	3,706	14
Millux Road Pipeline and Pump Station	6,700	0
Plumtree Drive Alleys	3,878	14
Potato-Sycamore	1,320	5
Small Pipeline Replacement	1,080	13
Small Spot Repair	303	3
Southeast Kovacevich Park	5,669	16
Southwest Kovacevich Park	6,961	21
Stand-Alone Manhole Repair and Replacement	0	86
West Di Giorgio Park	3,651	7
West Smothermon Park	6,013	18
Total	**54,771**	**257**

Notes: CIP = capital improvement project

The improvements to the existing sanitary sewer infrastructure, including replacement, upgrading, and installation of pipeline segments proposed by the City, are located primarily within existing City rights-of-way but also in undeveloped and vacant parcels throughout the City.

The extent of construction activities associated with the project would remain within a 25-foot-wide construction activity zone. Within the construction activity zone, 5-foot-wide trenches would be excavated in the roadway or ground surface directly over the pipelines to provide construction access to the pipelines. For the manhole improvement component of the project, construction would remain within a 15-foot-wide construction activity zone. Construction staging areas would be in developed areas within the City's right-of-way. Upon completion of each CIP, the roadway and ground surface areas disturbed during construction would be restored to their previous condition and function. Vegetation on the project site is dominated by agriculture, non-native grassland, and disturbed land. Extensive agricultural activity, homeless encampments, and abandoned industrial properties exist around the periphery of the project site and include areas of disturbed or bare ground with accumulated trash and human-made debris.

Descriptions of Capital Improvement Projects

A Street

The A Street CIP is in three alleys east of A Street generally bounded by Tucker Street to the north, Derby Street to the east, A Street to the west, and Haven Drive to the south (Figure 2 series). This CIP includes replacing 2,611 feet of existing 8-inch pipe with new 8-inch pipe, replacing 321 feet of existing 10-inch pipe with new 10-inch pipe, lining 1,268 feet of existing pipe, performing spot repair on 106 feet of existing pipe, and replacing 14 manholes.

Campus Drive Alley

The Campus Drive Alley CIP is in the alley west of Campus Drive between Varsity Avenue and Bear Mountain Boulevard (Figure 2 series). The CIP includes replacing 1,634 feet of existing 8-inch pipe with new 8-inch pipe, lining 198 feet of existing pipe, performing spot repair on 135 feet of existing pipe, and replacing seven manholes.

Comanche Drive

The Comanche Drive CIP is generally located in Comanche Drive between Sycamore Road and El Camino Real and includes replacing 1,110 feet of existing 18-inch pipe with new 18-inch pipe and replacing eight manholes (Figure 2 series).

East Di Giorgio Park

The East Di Giorgio Park CIP is east of Di Giorgio Park and is generally bounded by Holden Street to the north, A Street to the east, Hill Street to the west, and Langford Avenue to the south and includes a pipeline that crosses Di Giorgio Park (Figure 2 series). This CIP includes replacing 2,059 feet of existing 6-inch pipe with new 8-inch pipe, replacing 899 feet of existing 8-inch pipe with new 8-inch pipe, lining 345 feet of existing pipe, and replacing nine manholes.

Haven Drive

The Haven Drive CIP is within Haven Drive, Monroe Street, Santa Rosa Street, and Walnut Drive (Figure 2 series). The CIP includes replacing 563 feet of existing 6-inch pipe with new 8-inch pipe, replacing 1,899 feet of existing 8-inch pipe with new 8-inch pipe, replacing 335 feet of existing 15-inch pipe with new 15-inch pipe, and replacing 12 manholes.

Langford Avenue

The Langford Avenue CIP is in Langford Avenue between Stockton Avenue and A Street and is generally bounded by Franklin Street to the north, Stockton Avenue to the east, A Street to the west, and Fallbrook Avenue to the

south (Figure 2 series). This CIP includes replacing 945 feet of existing 8-inch pipe with new 8-inch pipe, lining 977 feet of existing pipe, performing spot repair on 85 feet of existing pipe, replacing seven manholes, and repairing three manholes.

Meyer Street

The Meyer Street CIP is generally bounded by Bear Mountain Boulevard to the north, Acala Street to the east, Meyer Street to the west, and Haven Drive to the south (Figure 2 series). This CIP includes replacing 1,952 feet of existing 6-inch pipe with new 8-inch pipe, replacing 1,808 feet of existing 12-inch pipe with new 12-inch pipe, and replacing 14 manholes.

Millux Road Pipeline and Pump Station

The Millux Road Pipeline and Pump Station CIP is generally located in Millux Road between Malovich Road and Comanche Road (Figure 2 series). The CIP includes installing 6,700 feet of new 15-inch pipe between the intersection of A street and El Camino Real and the intersection of Millux Road and Comanche Drive. In addition, the CIP includes constructing a 0.06-acre fenced pump station in the vicinity of the intersection of Millux Road and Comanche Drive. A 6-inch force main would be installed in Comanche Drive between Millux Road and El Camino Real.

Plumtree Drive Alleys

The Plumtree Drive Alleys CIP is generally located in the alleys east and west of Plumtree Drive between Orchard Drive and 4th Avenue (Figure 2 series). The CIP includes replacing 641 feet of existing 8-inch pipe with new 8-inch pipe, lining 2,987 feet of existing pipe, performing spot repair on 250 feet of existing pipe, replacing nine manholes, and repairing five manholes.

Potato-Sycamore

The Potato-Sycamore CIP is in Sycamore Road between Walnut Drive and Comanche Drive (Figure 2 series). The CIP includes replacing approximately 1,320 feet of existing 15-inch sewer in Sycamore Road between Walnut Drive and Comanche Drive with new 24-inch pipe and installing five new manholes in the alignment. This CIP also includes the future development of industrial land uses northeast of the intersection of Derby Street and Sycamore Road.

Small Pipeline Replacement

The Small Pipeline Replacement CIP includes six small replacement projects throughout the City (Figure 2 series). This CIP includes replacing 1,080 feet of existing 8-inch pipe with new 8-inch pipe and replacing 13 manholes.

Small Spot Repair

The Small Spot Repair CIP includes 10 small spot repair projects throughout the City (Figure 2 series). This CIP includes repairing 303 feet of existing pipe and repairing three manholes.

Southeast Kovacevich Park

The Southeast Kovacevich Park CIP is southeast of Kovacevich Park; generally bounded by 5th Avenue to the north, Derby Street to the east, B Street to the west, and the alley south of Bear Mountain Boulevard to the south; and includes an additional pipe in 5th Avenue east of Derby Street (Figure 2 series). This CIP includes replacing 2,438 feet of existing 8-inch pipe with new 8-inch pipe, lining 3,070 feet of existing pipe, performing spot repair on 161 feet of existing pipe, replacing 13 manholes, and repairing 3 manholes.

Southwest Kovacevich Park

The South Kovacevich Park CIP is southwest of Kovacevich Park and generally bounded by 5th Avenue to the north, B Street to the east, Hill Street to the west, and Bear Mountain Boulevard to the south, with some additional pipes in and around Bear Mountain Boulevard west of Hill Street (Figure 2 series). The CIP includes replacing 227 feet of existing 6-inch pipe with new 8-inch pipe, replacing 4,361 feet of existing 8-inch pipe with new 8-inch pipe, replacing 335 feet of existing 10-inch pipe with new 10-inch pipe, lining 226 feet of existing 12-inch pipe, lining 1,729 feet of existing 8-inch pipe, performing spot repair on 83 feet of existing pipe, and replacing 21 manholes.

Stand-Alone Manhole Repair and Replacement

The Stand-Alone Manhole Repair and Replacement CIP includes repairing 62 manholes and replacing 24 manholes throughout the City (Figure 2 series).

West Di Giorgio Park

The West Di Giorgio Park CIP is west of Di Giorgio Park and generally bounded by Haven Drive to the north, Meyer Street to the east, Walnut Drive to the west, and Franklin Street to the south (Figure 2 series). This CIP includes replacing 938 feet of existing 8-inch pipe with new 8-inch pipe, lining 2,656 feet of existing pipe, performing spot repair on 57 feet of existing pipe, and replacing seven manholes.

West Smothermon Park

The West Smothermon Park CIP is west of Smothermon Park and generally bounded by Mark Street to the north, Walnut Drive to the east, Comanche Drive to the west, and the alley parallel to and south of Durham Street to the south, with some additional pipelines in and around Bush Street east of Walnut Drive (Figure 2 series). This CIP includes replacing 4,004 feet of existing 6-inch pipe with new 8-inch pipe, replacing 1,976 feet of existing 8-inch pipe with new 8-inch pipe, performing spot repair on 33 feet of existing pipe, replacing 17 manholes, and repairing 1 manhole.

Environmental Setting

Following is a description of the existing conditions on the project site.

Land Use

The project is in the City of Arvin, a rural city in Kern County. The majority of the project site is within the City-owned rights-of-way but includes some developed and disturbed lands. Surrounding land uses include rural low-, medium-, and high-density residential, commercial, light and heavy industrial, and agricultural. The land uses surrounding the City are primarily agricultural, including orchards, vineyards, and row crops.

Topography and Soils

The project site is relatively level topographically and ranges in elevation from 384 to 465 feet above mean sea level (Figure 3, USGS Topographic Map). The U.S. Department of Agriculture Natural Resources Conservation Service soil series identifies the soils on the project site as dominated by Hesperia sandy loam, Di Giorgio sandy clay loam, and Hesperia loamy sand (USDA 2019) (Figure 4, Soils). Hesperia sandy loam is across the majority of the project site, with DiGiorgio sandy clay loam in the southern portion of the project site and Hesperia loamy sand along the western edge of the project site (Figure 4). A small area of Cerini loam is in the southwestern corner of the project site.

Hydrology

The project site is in the Tulare-Buena Vista Lakes Watershed (Hydrologic Unit 180300) (USGS 2019). The Tulare-Buena Vista Lakes Watershed encompasses the majority of the County and is bordered to the north by the San Joaquin River watershed, to the west by the Central Coast Watershed, and to the south and east by the North and South Lohontan Watersheds, respectively. Historically, the Tulare-Buena Vista Lakes Watershed has been influenced by shifts in the Kings River and its division of flows between the Tulare Lake Basin and the San Joaquin Basin (USGS 2019).

The Tulare-Buena Vista Lakes Watershed is composed of 12 hydrologic areas, Hydrologic Areas 18030001 through 18030012, which have been delineated by the U.S. Geological Survey based on drainage patterns. The project site is within Hydrologic Area 18030012, also named Tulare-Buena Vista Lakes Watershed. The majority of the land in the watershed is used for agricultural production or is undeveloped. The next largest land uses in the watershed are residential and industrial. The highest concentration of the County's population is in the central and western portions of the watershed, particularly around urban centers like the Cities of Bakersfield and Fresno (USGS 2019).

Climate

Meteorological data for the project site are gathered at the San Joaquin Valley weather forecast office, northwest of the project site (NOAA 2019). On the project site, the normal daily maximum temperature is 99 degrees Fahrenheit (°F) in August, and the normal daily minimum temperature is 41°F in December. The average annual temperature is approximately 69°F, with days frequently exceeding 100°F and very few dropping below freezing (NOAA 2019). Due to the temperate climate, the growing season is typically year-round.

The average precipitation on the project site is approximately 4.7 inches annually, primarily occurring from September through April. Based on data from the San Joaquin Valley weather forecast office, the vicinity of the project site receives the greatest amount of rain, an average of approximately 2.5 inches, in March (NOAA 2019).

Regulatory Setting

Federal

Federal Clean Water Act (U.S. Code, Title 33, Sections 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 project operator to obtain 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 Regional Water Quality Control Board (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 the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. The USACE implementing regulations are found at the Code of Federal Regulations, Title 33, Parts 320 and 330. Guidelines for implementation are referred to as the "Section 404(b)(1) Guidelines," which were developed by the U.S. Environmental Protection Agency in conjunction with the USACE (40 CFR 230). These 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.

Federal Endangered Species Act (U.S. Code, Title 16, Sections 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 on which they depend. In addition, FESA defines species as threatened or endangered and provides regulatory protection for listed species. FESA also provides a

program for the conservation and recovery of threatened and endangered species and the conservation of designated critical habitat that the U.S. Fish and Wildlife Service (USFWS) determines to be required for the survival and recovery of these listed species.

Section 7 of FESA requires federal agencies, in consultation with and with assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions the federal agencies 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 share responsibilities for administering FESA. Regulations governing interagency cooperation under Section 7 are found in California Code of Regulations, Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing "take" (e.g., to harass, harm, pursue, hunt, wound, kill) that may occur incidentally to an otherwise legal activity.

Section 9 lists those actions that are prohibited under 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 significantly disrupting normal behavioral patterns related to breeding, feeding, and shelter.

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 in the Code of Federal Regulations, Title 50, Parts 13 and 17, for species under the jurisdiction of the USFWS and Code of Federal Regulations, Title 50, Parts 217, 220, and 222, for species under the jurisdiction of the National Marine Fisheries Service.

Migratory Bird Treaty Act (U.S. Code, Title 16, Sections 703 through 711)

The Migratory Bird Treaty Act (MBTA) is the domestic law that affirms or implements a commitment by the United States to four international conventions (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.

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. The USACE exerts jurisdiction over waters of the United States, including 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 previously mentioned features. The extent of waters of the United States is generally defined as the portion that falls within the limits of the ordinary high water mark. Typically, the ordinary high water mark corresponds to the 5- to 7-year flood event.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by the 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), determined by field investigation, must be present for a site to be classified as a wetland by the USACE (USACE 1987).

State

California Endangered Species Act (California Fish and Game Code, Sections 2050 et seq.)

The California Endangered Species Act (CESA) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitat. 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 that would avoid jeopardy are available. There are no state agency consultation procedures under CESA. For projects that would affect a listed species under both CESA and FESA, compliance with FESA would satisfy CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with CESA under California Fish and Game Code, Section 2080.1. For projects that would result in take of a species only listed under CESA, the project operator would have to apply for a take permit under Section 2081(b).

California Environmental Quality Act Guidelines, Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, California Environmental Quality Act (CEQA) Guidelines, Section 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 Sections 2050 through 2059.26 of the California Fish and Game Code dealing with rare or endangered plants or wildlife. 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 the 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 currently 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 as sensitive by the California Natural Diversity Database (CNDDB) are considered by the CDFW to be significant resources and fall under the CEQA Guidelines to address impacts. Local planning documents, such as general plans, often identify these resources as well.

California Fish and Game Code, Section 1602

Under this section of the California Fish and Game Code, the project operator is required to notify the CDFW prior to the start of 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 that has banks and supports 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 valuable to fish and wildlife are subject to CDFW jurisdiction. The CDFW also has jurisdiction over dry washes that carry water during storm events.

Preliminary notification and project review generally occur during the environmental analysis process. When an existing fish or wildlife resource may be substantially adversely affected, the 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 Fish and Game Code, Sections 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 [California 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, the 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 the CDFW. The CDFW makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

California Fish and Game Code, Sections 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 raptor (i.e., species in the orders *Falconiformes* and *Strigiformes*), including nests or eggs. Typical violations of this code 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 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.

Section 3800 of the California Fish and Game Code affords protection to nongame birds, which are birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds.

California Fish and Game Code, Sections 3511, 4700, 5050, and 5515

California fully protected species are 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. The CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

California Wetland Definition

Unlike the federal government, California has adopted the Cowardin et al. (1992) definition of "wetlands." For 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 non-soil 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 et al. (1992) 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.

Native Plant Protection Act (California Fish and Game Code, Sections 1900 through 1913)

California's Native Plant Protection Act requires state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the act prohibit the take of listed plants from the wild and require notification to the CDFW at least 10 days in advance of any change in land use. This notification allows the CDFW to salvage listed plant species that would otherwise be destroyed. The project operator is required to

conduct botanical inventories and consult with the CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

Porter-Cologne Water Quality Control Act

The State Water Resources Control Board works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region and may approve, with or without conditions, or deny projects that could affect waters of the state. Their authority comes from the CWA and the state's Porter-Cologne Water Quality Control Act. The act broadly defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because the act applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of waters of the United States. For example, Water Quality Order No. 2004-0004-DWQ states that "shallow" waters of the state include headwaters, wetlands, and riparian areas. Moreover, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, which may be the case in headwaters, jurisdiction is taken to the top of bank.

Under the act, the State Water Resources Control Board and the nine RWQCBs also have the responsibility of granting CWA National Pollutant Discharge Elimination System permits and waste discharge requirements for certain point-source and nonpoint-source discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

Local

City of Arvin General Plan Update

The Conservation and Open Space Element of the City's General Plan Update (City of Arvin 2012) provides the following goals and policies that apply to vegetation and wildlife habitat:

> **Goal 6:** Preserve wildlife, endangered and/or rare species and natural habitats and eco-systems in the Arvin Planning area.
>
> **Policy CO-6.1**: Protect sensitive and significant ecological areas of unique vegetation and wildlife.
>
> **Policy CO-6.2**: Protect from extinction the identified endangered species which recognize the Arvin area as part of their natural range.
>
> **Policy CO-6.3**: Consider the establishment of protected open space areas, planted with native valley vegetation, to serve as wildlife habitat and natural laboratory for public education purposes.
>
> **Policy CO-6.4**: Implement a relocation program for any rare and/or endangered animal species found in urbanized areas.

Kern County General Plan

The Land Use, Open Space, and Conservation Element of the County's General Plan (Kern County 2009) provides the following policies and implementation measures that apply to threatened and endangered species and oak tree conservation:

Policies

1. Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.
2. County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.

3. The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.
4. The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and federal programs concerning endangered species conservation issues.
5. Under the provisions of the California Environmental Quality Act (CEQA), the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.
6. Riparian areas will be managed in accordance with United States Army Corps of Engineers, and the California Department of Fish and Game rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.
7. Oak woodlands and large oak trees shall be protected where possible and incorporated into project developments.
8. Promote the conservation of oak tree woodlands for their environmental value and scenic beauty.

Implementation Measures

a. Discretionary projects shall consider effects to biological resources as required by the California Environmental Quality Act.
b. Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to the California Environmental Quality Act.
c. Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.
d. The following applies to discretionary development projects (General Plan Amendment, zone change, conditional use permit, tract maps, parcel maps, precise development plan) that contains oak woodlands, which are defined as development parcels having canopy cover by oak trees of at least ten percent (10%), as determined from base line aerial photography or by site survey performed by a licensed or certified arborist or botanist. If this study is used in an Environmental Impact Report, then a Registered Professional Forester (RPF) shall perform the necessary analysis.
    i. Development parcels containing oak woodlands are subject to a minimum canopy coverage retention standard of thirty percent (30%). The consultant shall include recommendations regarding thinning and diseased tree removal in conjunction with the discretionary project.
    ii. Use of aerial photography and a dot grid system shall be considered adequate in determining the required canopy coverage standard.
    iii. Adjustments below thirty percent (30%) minimum canopy standard may be made based on a report to assess the management of oak woodlands.
    iv. Discretionary development, within areas designated as meeting the minimum canopy standard, shall avoid the area beneath and within the trees unaltered drip line unless approved by a licensed or certified arborist or botanist.
e. The following applies to development of parcels having oak tree canopy cover of less than ten percent (10%), but containing individual oak trees equal to or greater than a 12-inch diameter trunk at 4.5 feet breast height.
    i. Such trees shall be identified on plot plans.
    ii. Discretionary development shall avoid the area beneath and within the trees unaltered drip line unless approved by a licensed or certified arborist or botanist.
    iii. Specified tree removal related to the discretionary action may be granted by the decision making body upon showing that a hardship exists based on substantial evidence in the record.

Draft Kern County Valley Floor Habitat Conservation Plan

The Draft Kern County Valley Floor Habitat Conservation Plan (VFHCP) includes the City (Kern County 2006). The development of the VFHCP Program began in 1989 with a Memorandum of Understanding among the USFWS; CDFW; Bureau of Land Management; California Energy Commission; California Division of Oil, Gas, and Geothermal Resources; and Kern County. The Draft VFHCP Program Area encompasses 3,110 square miles (approximately 1,990,400 acres) and generally includes most of the San Joaquin Valley Floor portion of the County up to an elevation of 2,000 feet. The Draft VFHCP-proposed covered species include plants and wildlife with both state- and federally listed status of threatened or endangered and California species of special concern status. Upon approval, the Draft VFHCP is designed to result in issuance of a Section 10(a) Incidental Take Permit from the USFWS and a Section 2081 Incidental Take Permit from the CDFW (Kern County 2006). In total, 14 plant species and 11 wildlife species known to occur in the VFHCP Program Area are addressed by the VFHCP. The VFHCP is intended to provide adequate conservation of sensitive vegetation communities, including non-native grassland, valley sink saltbrush, and valley sink scrub, in the VFHCP Program Area. Because the Draft VFHCP has not yet been approved, the City is not a signatory for the plan. However, the City complies with the Conservation and Open Space Element of the City's General Plan Update and the Land Use, Open Space, and Conservation Element of the County's General Plan, which include similar goals and policies outlined in the Draft VFHCP (City of Arvin 2012; Kern County 2009).

Methods

This biological resources analysis includes a database review and survey to document the existing biological conditions of the CIP sites. The results of this review provide information on the potential constraints to project development due to the presence of special-status biological resources.

Environmental Document Review

The County's General Plan, VFHCP, and City's General Plan Update were reviewed to gather biological resources data pertinent to the project.

Database Review

Review of online databases including the CNDDB, USFWS National Wetlands Inventory (NWI) Wetlands Mapper, USFWS Information for Planning and Consultation (IPaC), Consortium of California Herbaria database, Calflora database, and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California was conducted for the project. The VFHCP was also reviewed.

California Department of Fish and Wildlife California Native Diversity Database

The CNDDB searches were conducted for 0.25-, 1-, and 3-mile radii of the project site to identify previously mapped resources within these areas (CDFW 2018). The results of the searches are presented in the Results section of this letter report.

U.S. Fish and Wildlife Service Information for Planning and Consultation

The USFWS IPaC report was created by drawing a perimeter around the project site. The results of the location search are provided in the Results section of this letter report.

U.S. Fish and Wildlife Service National Wetland Inventory

USFWS NWI maps were reviewed to identify any wetlands and waters that were mapped on the CIP sites (USFWS 2019a). The USFWS NWI search was conducted by drawing a perimeter around the project within the web map

that identified the location of any USACE jurisdictional wetlands and waters surrounding the project. The results of the NWI search are provided in the Results section of this letter report.

California Native Plant Society Inventory of Rare and Endangered Plants of California

The CNPS Inventory of Rare and Endangered Plants of California (online version) assists in the determination of special-status plant species potentially present within a given area (CNPS 2019). CNPS status codes are defined by the CNPS California Rare Plant Rank (CRPR) system described as follows (CNPS 2019): CRPR 1A plants are presumed extirpated in California and either rare or extinct elsewhere; CRPR 1B plants are rare, threatened, or endangered in California and elsewhere; CRPR 2A plants are presumed extirpated in California but common elsewhere; CRPR 2B plants are rare, threatened, or endangered in California but more common elsewhere; CRPR 3 plants lack the necessary information needed to assign them to one of the other ranks or to reject them; and CRPR 4 plants are of limited distribution or infrequent throughout a broader area in California, and their status requires more regular monitoring.

The CNPS CRPR at each level also includes a threat rank defined as follows: 0.1, seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat); 0.2, moderately threatened in California (20–80 percent occurrences threatened/moderate degree and immediacy of threat); and 0.3, not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Consortium of California Herbaria and Calflora Databases

The California Herbaria database, a gateway to information for California vascular plant specimens housed in participant herbaria (CCH 2019), and the Calflora database, a database for currently recognized vascular plants in California (Calflora 2019), were reviewed.

Special-Status Plants

After generating a list of potentially occurring special-status plant species, species were categorized based on the likelihood of observance using literature and database searches and the survey. The special-status plant species categories are as follows:

- **No Potential**: No suitable habitat exists or a species is not known to occur in the area surrounding the project site (i.e., generally more than 15 miles outside of the project site). The definition of habitat includes the major vegetation communities (e.g., non-native grassland), as well as microhabitat conditions such as specific soil type requirements. In addition, the elevation range where the species occurs may be more than 300 feet above or below the elevation range on the project site, or the species is known to be extirpated from the project site.
- **Low Potential**: Habitat for the species is present, but the geographic or elevation ranges on the project site differ from those documented for the species. Specifically, the species occurs between 5 and 15 miles of the project site, if all occurrences within 5 miles are more than 30 years old, or the elevation range where the species occurs is between 100 and 300 feet above or below the elevation range on the project site.
- **Moderate Potential**: Habitat for the species is present, the geographic and elevation ranges on the project site are consistent with those documented for the species, and the species has been documented within 1 to 5 miles of the project site within the last 10 years.
- **High Potential**: Habitat for the species is present, the geographic and elevation ranges on the project site are consistent with those documented for the species, and the species has been documented within 1 mile of the project site within the last 3 years.

Special-Status Wildlife

The potential for special-status wildlife species to occur on or near the project site was determined using information from the literature and database searches and the survey. The following criteria were used to determine the potential for special-status wildlife species to occur on the project site:

- **No Potential**: The project site is outside of the range of this species, no habitat for the species exists on the project site, and the species has been sporadically observed on the project site based on literature, or no recent occurrences for this species have been recorded within 5 miles of the project site. Alternatively, any occurrences within 5 miles of the project site are now documented as extirpated.
- **Low Potential**: No habitat exists on the project site, but it cannot be ruled out that a species could potentially move through, perch, or be on the project site for a short duration; that some habitat exists on or near the project site but is extremely limited, fragmented, or isolated with no connectivity to other habitat for the species; or that occurrences for the species have been recorded on or near the project site, but the land use has since changed in a way that has eliminated all former habitat.
- **Moderate Potential**: Habitat for the species is present on or near the project site, and historical (i.e., over 30 years old) occurrences for the species have been recorded, or some habitat exists on or near the project site that is limited, fragmented, or isolated, but recent (i.e., less than 10 years old) occurrences for the species have been recorded.
- **High Potential**: Habitat for the species is present, and recent (i.e., less than 10 years old) occurrences for the species have been recorded on or near the project site (i.e., within 5 miles of the project site).
- **Present**: The species or its sign (e.g., scat, tracks, or feathers) was observed on the project site during the field survey.

Field Reconnaissance Survey

A survey of the project site was conducted by Harris & Associates biologist Katie Laybourn on October 14 and 15, 2019. The area surveyed included the 17 CIP sites plus a 500-foot buffer (survey area). Vegetation communities and land cover types were mapped in the survey area. The survey was conducted on CIP sites that were in or adjacent to undeveloped areas by walking meandering transects throughout the survey area and documenting plant and wildlife species and evaluating the potential for occurrence of special-status plant and wildlife species. The biologist identified the vegetation communities in the survey area by documenting visually observed habitat features present along the meandering transects, including existing plant species, structural characteristics, and general habitat quality.

Results

The results presented in this section provide data from the survey conducted in the survey area.

Vegetation Communities and Land Cover Types

The survey area is in the central California region of the California Floristic Province (Jepson 2019). Specifically, the survey area includes the rural community of the City.

Six CIP sites were identified as being completely surrounded by urban development and not bordering other vegetation communities or land cover types and were mapped as developed. The six CIPs include A Street, East Di Giorgio Park, Langford Avenue, Meyer Street, Southwest Kovacevich Park, and West Di Giorgio Park (Figure 2 series). The remaining 11 CIPs were identified as being within or adjacent to undeveloped areas and included in the survey area. The 11 CIPs include Campus Drive Alley, Comanche Drive, Haven Drive, Millux Road Pipeline and Pump Station, Plumtree Drive Alleys, Potato-Sycamore, Small Pipeline Replacement, Small Spot Repair, Southeast Kovacevich Park, Stand-Alone Manhole Repair and Replacement, and West Smothermon Park. These 11 CIPs were surveyed and mapped for vegetation communities and land cover types as described in the Methods section of this letter report.

Vegetation communities and land cover types identified in the survey area include open water, disturbed potential aquatic resource, non-native grassland, southern willow scrub, agriculture, developed land, and disturbed land (Kern County 2006) (Figure 5 series, Vegetation Communities) (Table 2, Vegetation Communities in the Survey Area and Project Site). The vegetation communities and land cover types on the project site include non-native grassland, agriculture, developed land, and disturbed land.

Table 2. Vegetation Communities in the Survey Area and Project Site

Vegetation Community and Land Cover Type	Survey Area (acres)	Project Site (acres)
Aquatic		
Open Water	5.77	0
Subtotal	**5.77**	**0**
Riparian		
Southern Willow Scrub	1.51	0
Subtotal	**1.51**	**0**
Upland		
Non-Native Grassland (and Burned)	82.24	0.98
Subtotal	**82.24**	**0.98**
Developed/Disturbed		
Disturbed Potential Aquatic Resource	0.80	0
Agriculture	272.75	2.35
Developed Land	476.92	9.40
Disturbed Land	63.66	6.40
Subtotal	**814.13**	**18.15**
Total	**903.65**	**19.13**

Source: Kern County 2006; Holland 1986.

Aquatic Vegetation Communities

Open Water

Open water habitat is composed of year-round bodies of water in the form of lakes, streams, ponds, or rivers. This includes portions of water bodies that are usually covered by water and contain less than 10 percent vegetative cover.

Approximately 5.77 acres of open water occurs in the southern and eastern portions of the survey area. Although no open water habitat occurs on the project site, the Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs are adjacent to the open water areas (Figure 5 series). The five open water areas appear to be artificial freshwater ponds associated with the surrounding agricultural industry and residential development. The southwestern open water pond, approximately 100 feet south of Millux Road and 100 feet east of South Comanche Road, is surrounded by a narrow strip of southern willow scrub habitat. The two southeastern open water ponds, approximately 100 feet south of Millux Road and 150 feet on either side of Blue Loop Lane, are surrounded by ornamental vegetation associated with the residential development between the ponds. One of the two ponds in the eastern portion of the survey area is approximately 80 feet south of El Camino Real between Tejon Highway and Malovich Road. The other pond in the eastern portion of the survey area is approximately 70 feet south of Sycamore Road between Mayer Street and Tejon Highway. These two eastern ponds have no associated vegetation and appear to be irrigation ponds used by the surrounding agricultural industry.

Riparian Vegetation Communities

Southern Willow Scrub

Southern willow scrub (and disturbed) consists of dense, broad-leafed, winter-deciduous riparian thickets dominated by several willow species, with scattered emergent Fremont cottonwood (*Populus fremontii*) and California sycamore (*Platanus racemosa*). Most stands are too dense to allow much understory development. Common plant species observed in southern willow scrub include cottonwood species, Goodding's black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*).

Approximately 1.51 acres of southern willow scrub occurs in the southwestern corner of the survey area on the banks of an artificial pond appearing to be associated with the surrounding agricultural industry. Although no southern willow scrub habitat occurs on the project site, the Millux Road Pipeline and Pump Station CIP is adjacent to this habitat (Figure 5 series). The southern willow scrub is dominated by arroyo willow and red willow.

Upland Vegetation Communities

Non-Native Grassland (and Burned)

Non-native grassland is the most widespread vegetation type in the region surrounding the survey area (Kern County 2006). The original composition of the vast Central Valley native grasslands was dominated by perennial bunchgrass known as purple needlegrass (*Stipa* [=*Nassella*] *pulchra*). Perennial broad-leaved herbs, especially plants with bulbs, and a large diversity of annuals were also significant components of the grassland ecosystem. The introduction and spread of exotic and invasive annual grasses (non-native grasses) and forbs contributed significantly to the decline of native vegetation types in the Central Valley. Much of the land dominated by non-native grassland has been managed by the agricultural industry for livestock grazing for a substantial length of time, often in excess of 100 years. Non-native grasses make a dense to sparse ground cover and are often associated with numerous species of native annual wildflowers, especially in years of favorable rainfall. Many special-status wildlife species use large, contiguous areas of non-native grassland for habitat and movement corridors between more suitable habitats. Dominant non-native grasses and forbs include wild oats (*Avena barbata* and *A. fatua*), filaree (*Erodium botrys* and *E. cicutarium*), bromes (*Bromus hordeaceus*, *B. diandrus*, and *B. rubens [=B. madritensis]*), and Italian ryegrass (*Festuca perennis*). Common native grasses and forbs include alkali peppergrass (*Lepidium dictyotum*), fescue (*Vulpia microstachys*), California poppy (*Eschscholzia californica*), baby blue eyes (*Nemophila menziesii*), lupines (*Lupinus* spp.), gilias (*Gilia* spp.), and tarweeds (*Deinandra* spp.).

Approximately 82.24 acres of non-native grassland (including burned) occurs in the survey area, with the largest areas in the southern and eastern portions of the survey area. Approximately 0.98 acre of non-native grassland habitat occurs on the project site (Figure 5 series). Approximately 0.28 acre of non-native grassland occurs on the Campus Drive Alley CIP site, and approximately 0.70 acre of non-native grassland occurs on the Potato-Sycamore CIP site. In the survey area and project site, non-native grassland is dominated by wild oat, bromes, western ragweed (*Ambrosia psilostachya*), prickly lettuce (*Lactuca serriola*), Russian thistle (*Salsola tragus*), and black mustard (*Brassica nigra*). The non-native grassland is characterized by high structural diversity and a variety of non-native grasses. The dominant wild oat and bromes appear in thick, thatched arrangements throughout this vegetation community. An approximately 3.69-acre area of burned non-native grassland occurs in the northwestern portion of the survey area and appears to have been burned shortly before the October 14 and 15, 2019, survey dates.

Developed and Disturbed Land Cover Types

Disturbed Aquatic Resource

Disturbed aquatic resources are areas that are permanently or periodically inundated by water and have been significantly modified by human activity.

Approximately 0.80 acre of disturbed potential aquatic resources occurs in two locations in the southwestern portion of the survey area. Although no disturbed aquatic resources occur on the project site, the Small Spot Repair CIP is adjacent to the two disturbed potential aquatic resources (Figure 5 series). The disturbed potential aquatic resources in the survey area contained ponded water during the survey on October 14 and 15, 2019. Both disturbed potential aquatic resources are human-made water detention basins enclosed by a gated fence created to collect runoff from surrounding developed areas. The disturbed potential aquatic resources were dominated by narrowleaf cattail (*Typha angustifolia*), saltcedar (*Tamarix ramosissima*), California mugwort (*Artemisia douglasiana*), and sedges (*Carex* spp.).

Agriculture

Agricultural lands support an active agricultural operation and can include orchards, vineyards, planted fields, livestock pastures, or row crops.

Approximately 272.75 acres of agricultural lands occur throughout the survey area, primarily where the survey area occurs at the perimeter of the City. Approximately 2.35 acres of agriculture occurs on the project site (Figure 5 series). Of the agriculture area on the project site, approximately 0.02 acre occurs on the Comanche Drive CIP site, approximately 1.73 acres occurs on the Millux Road Pipeline and Pump Station CIP site, and 0.60 acre occurs on the Potato-Sycamore CIP site. The primary crops being produced on the agricultural lands appeared to be orchards of almonds and apples, vineyards, and row fields of alfalfa (*Medicago sativa*).

Developed Land

Developed land consists of areas that have been constructed on or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident due to a large amount of debris or other materials being placed on it may also be considered developed (e.g., recycling plant, quarry).

Approximately 476.92 acres of developed land occurs throughout the survey area, including residential, commercial, and industrial areas and portions of the paved rights-of-way that make up the center of the majority of the survey area. Approximately 9.40 acres of developed land occurs on the project site (Figure 5 series). Of the developed land on the project site, approximately 0.52 acre occurs on the Campus Drive Alley CIP site, 0.55 acre occurs on the Comanche Drive CIP site, 0.04 acre occurs on the Haven Drive CIP site, 0.01 acre occurs on the Millux Road Pipeline and Pump Station CIP site, 0.35 acre occurs on the Plumtree Drive Alleys CIP site, 4.21 acres occurs on the Potato-Sycamore CIP site, 0.16 acre occurs on the Small Pipeline Replacement CIP site, 1.12 acres occurs on the Small Spot Repair CIP site, 0.60 acre occurs on the Southeast Kovacevich Park CIP site, 0.09 acre occurs on the Stand-Alone Manhole Repair and Replacement CIP site, and 1.75 acres occurs on the West Smothermon Park CIP site. The residential areas include ornamental plant species including oleander (*Nerium oleander*), Mexican fan palm (*Washingtonia robusta*), and bird of paradise (*Strelitzia reginae*).

Disturbed Land

Disturbed land consists of previously disturbed areas that either are devoid of vegetation (dirt roads/trails) or support scattered non-native species such as mustard, ragweed, sweet fennel (*Foeniculum vulgare*), Russian

thistle, and thistle (*Centaurea* spp.). These species are non-native and are typically found along the borders between native and naturalized vegetation communities and disturbed areas.

Approximately 63.66 acres of disturbed land is throughout the survey area, primarily where the survey area occurs at the perimeter of the City. Approximately 6.40 acres of disturbed land occurs on the project site (Figure 5 series). Of this disturbed land, approximately 0.32 acre occurs on the Campus Drive Alley CIP site, 6 acres occurs on the Millux Road Pipeline and Pump Station CIP site, less than 0.01 acre occurs on the Potato-Sycamore CIP site, and 0.08 acre occurs on the Small Spot Repairs CIP site. As a component of the Millux Road Pipeline and Pump Station CIP, a 0.06-acre fenced pump station would be in the disturbed land at the southwestern corner of Millux Road and Comanche Drive (Figure 5 series). These disturbed areas consist primarily of bare ground, dirt roads, and undeveloped dirt lots and include patchy, non-native vegetation dominated by mustard, ragweed, Russian thistle, telegraph weed (*Heterotheca grandiflora*), and bromes. The disturbed areas throughout the survey area are characterized by open, sparse vegetation and are littered with debris and signs of human disturbance such as tire tread, trash, and makeshift structures.

Aquatic Resources

The USFWS NWI report conducted for the survey area identified two small freshwater ponds in the survey area. These ponds are in an industrial facility in the eastern portion of the City and are likely human-made and associated with the existing agricultural and industrial activity in and surrounding the survey area.

Two disturbed potential aquatic resources with associated riparian vegetation were documented in the survey area during the survey conducted on October 14 and 15, 2019 (Figure 6 series, Aquatic Resources). Three open water ponds, one in the southwestern portion of the survey area and two in the eastern portion, were documented. Although no open water habitat occurs on the project site, the Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs are adjacent to these aquatic resource areas (Figure 6 series). The open water pond in the southwestern portion of the survey area is surrounded by southern willow scrub. The two open water ponds in the eastern portion of the survey area have no associated vegetation surrounding them. All three of these open water ponds appear to be used as stock or irrigation ponds by the surrounding agricultural industry. Two additional open water ponds were mapped in the southeastern portion of the survey area. However, these ponds were artificially created for a residential development and are surrounded by associated ornamental vegetation.

An aquatic resources delineation was not completed for the 0.80 acre of disturbed potential aquatic resources or 5.77 acres of open water. However, standing water and hydrophytic vegetation were observed in and around the aquatic areas and one of the open water ponds in the southwestern portion of the survey area. The vegetation observed included narrowleaf cattails, saltcedar, California mugwort, and sedges. The 6.57 acres of aquatic area is detailed in Table 3, Aquatic Resources in the Survey Area.

Table 3. Aquatic Resources in the Survey Area

Feature	USACE (acres)	Central Valley RWQCB (acres)	CDFW (acres)
Aquatic Resources			
Open Water	5.77	5.77	5.77
Disturbed Potential Aquatic Resource	0.80	0.80	0.80
Total	**6.57**	**6.57**	**6.57**

Notes: CDFW = California Department of Fish and Wildlife; **Central Valley** RWQCB = **Central Valley** Regional Water Quality Control Board; USACE = U.S. Army Corps of Engineers

Plant Species

A total of 21 plant species were observed in the survey area during the survey, 8 (38 percent) of which were native and 13 were non-native (62 percent). Attachment 2, Plant and Wildlife Species Observed, presents the list of plant species observed. Dominant plant species include bromes, black mustard, Russian thistle, wild oats, and willow species. Additional dominant species are listed previously under Vegetation Communities and Land Use Types. Dominant ornamental and landscape species observed in the disturbed and developed lands include oleander and bird of paradise.

Wildlife Species

A total of 26 wildlife species were observed in the survey area during the survey, 23 of which were native and 3 were non-native (1 amphibian species, 22 bird species, 2 mammal species, and 1 reptile species). Attachment 2 presents the list of wildlife species observed. Within the riparian habitat, the dominant species were American coot (*Fulica americana*), American crow *(Corvus brachyrhynchos*), and song sparrow (*Melospiza melodia*). Dominant species in the upland habitat included American crow, white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Haemorhous mexicanus*), and California ground squirrel (*Spermophilus beecheyi*). Within the developed and disturbed lands, dominant species included American crow, Brewer's blackbird (*Euphagus cyanocephalus*), common raven (*Corvus corax*), rock pigeon (*Columba livia*), song sparrow, and California ground squirrel.

Sensitive Species

Based on a list compiled using the CNDDB (CDFW 2018), CNPS (CNPS 2019) and USFWS IPaC (USFWS 2019b), 11 special-status plant species and 17 special-status wildlife species have been documented within 3 miles of the survey area (Attachment 3). The results of the USFWS IPaC report provide a list of potential endangered and threatened federal species known to be present in the survey area.

Plant Species

Based on the literature and database review, 11 special-status plant species were considered for potential to occur in the survey area (Attachment 3). No species were determined to have a high potential to occur in the survey area. Bakersfield cactus (*Opuntia basilaris* var. *treleasei*), a perennial succulent shrub, would have been observed if present. Bakersfield cactus was not observed in the survey area during the survey and, therefore, was determined not to be present.

The following determinations were made for the other 10 special-status plant species:

- One species was determined to have a moderate potential to occur: San Joaquin woollythreads (*Monolopia congdonii*).
- Nine species were determined to have a low potential to occur: alkali mariposa lily (*Calochortus striatus*), California jewelflower (*Caulanthus californicus*), Comanche point layia (*Layia leucopappa*), Kern mallow (*Eremalche parryi* ssp. *kernensis*), Horn's milk vetch (*Astragalus hornii* var. *hornii*), Munz's tidy-tips (*Layia munzii*), Palmer's mariposa lily (*Calochortus palmeri* var. *palmeri*), Piute Mountains Navarretia (*Navarretia setiloba*), and Tejon poppy (*Eschscholzia lemmonii* ssp. *kernensis*).

No special-status plant species were observed in the survey area during the survey.

Wildlife Species

Based on the literature and database review and field observations, 17 special-status wildlife species were considered for potential to occur within the survey area (Attachment 3). Delta smelt (*Hypomesus transpacicus*) populations have historically been found in the San Joaquin River watershed, tributaries of which cross into Kern County and areas in close proximity to the survey area. However, as a result of water diversions and drought, this species has been recently documented exclusively in the Sacramento-San Joaquin delta, more than 300 miles

northwest of the survey area. Furthermore, no suitable riverine habitat exists for the delta smelt within the survey area and this species was considered to have no potential to occur.

The following determinations were made for the remaining 16 special-status wildlife species:

- Northern harrier (*Circus hudsonius*) was observed within the survey area.
- Three species were determined to have a high potential to occur: burrowing owl (*Athene cunicularia*), San Joaquin kit fox (*Vulpes macrotis mutica*), and Swainson's hawk (*Buteo swainsoni*).
- Five species were determined to have a moderate potential to occur: Crotch bumble bee (*Bombus crotchii*), tricolored blackbird (*Agelaius tricolor*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides),* American badger (*Taxidea taxus),* and blunt-nosed leopard lizard (*Gambelia sila*).
- Seven species were determined to have a low potential to occur: California red-legged frog (*Rana draytonii*), long-eared owl (*Asio otus*), California condor (*Gymnogyps californianus*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), giant garter snake (*Thamnophis gigas*), and vernal pool fairy shrimp (*Branchinecta lynchi*).

Wildlife species that were observed or have a high potential to occur in the survey area are described in detail below.

Wildlife Species Observed

Northern Harrier

Northern harrier, a state species of special concern, is a medium-sized raptor that inhabits grasslands, open rangelands, and salt and freshwater wetlands throughout California. Northern harrier is found at elevations from sea level to 5,700 feet above mean sea level. Individuals may migrate to breeding grounds in northeastern and coastal California, although the species is widespread and common in suitable habitat throughout California during the winter. Northern harrier hunts on the wing, making low quartering flights as low as 3 feet from the ground in open habitat. Individuals feed mainly on rodents and ground-dwelling songbirds but may also take fish, small reptiles, and amphibians. Northern harrier relies heavily on hearing to capture prey. Nests are constructed on the ground by both the males and females on large platforms in wetland or dry upland habitats in shrubby vegetation including willows, grasses, sedges, grains, or sagebrush. Due to the nest position, eggs and nestlings are vulnerable to predation and trampling, although adults vigorously protect the nest. Agricultural practices may often prove beneficial for northern harrier by creating open hunting grounds, provided shrubby habitat for nesting is preserved.

One northern harrier was observed foraging in the fallow agricultural fields west of Tejon Highway, near the intersection of Millux Road, during the field survey on October 14, 2019. No nests or nesting behavior were observed, although the field survey occurred outside of the typical breeding season for northern harrier. The abundance of small mammal burrows and small lizards observed in the non-native grassland, disturbed land, and agricultural land suggests ample prey availability for northern harrier on and directly adjacent the following CIP sites:

- On and adjacent to the Millux Road Pipeline and Pump Station CIP site
- On and adjacent to the portions of the Potato-Sycamore CIP site east of Tejon Highway and between Walnut Drive and Meyer Street
- West of the manhole replacements along South Comanche Road on the Stand-Alone Manhole Replacement CIP site
- On the portion of the Campus Drive Alley Pipeline CIP site north of Nectarine Court
- West of the Comanche Drive CIP site

In addition, the dense non-native grassland on and surrounding the Millux Road Pipeline and Pump Station CIP site and the Potato-Sycamore CIP site may provide nesting habitat for northern harrier.

Wildlife Species with a High Potential to Occur

Burrowing Owl

Burrowing owl, a state species of special concern, is a small owl that occurs in open, treeless areas with low, sparse vegetation, usually on gently sloping terrain. Its range includes most portions of California, with the exception of the northwestern forests and mountain tops. This species can be found year-round in grasslands, deserts, and steppe environments, as well as agricultural areas, vacant lots, and disturbed edges of urban areas at elevations from sea level to 5,300 feet above mean sea level. Burrowing owl forages day or night on insects, small mammals, reptiles, and amphibians and typically occupies burrows with openings at least 4 inches wide created by ground squirrels, prairie dogs, badgers, tortoises, and skunks. However, the species has also been observed in culverts, pipes, and nest boxes. Resident burrowing owls will use burrows year-round for nesting and wintering. Burrowing owls in California do not excavate their own burrows and, therefore, are generally associated with high densities of burrowing wildlife, especially ground squirrels. Burrowing owl typically prefers slightly elevated burrows in more open vegetation with small perches nearby for hunting. Perches may include fence posts, taller shrubs, or roadside signs. Burrowing owl typically decorates burrow openings with trash, excrement, feathers, and grass. Because the species nests in the ground, eggs and nestlings are vulnerable to predation by ground predators including foxes, coyotes, and domestic dogs and cats. In addition, burrowing owl populations in California have declined due to vehicle collisions and habitat loss, including the extermination of ground squirrels and other burrowing mammals.

No burrowing owl individuals or sign were observed in the survey area during the survey. Suitable nesting and foraging habitat is present in the tracts of non-native grassland and disturbed land on the following CIP sites:

- On and surrounding the Millux Road Pipeline and Pump Station Replacement CIP site
- West of the manhole replacements along South Comanche Road on the Stand-Alone Manhole Replacement CIP site
- West of the Comanche Drive CIP site
- On and surrounding the portions of the Potato-Sycamore CIP site east of Tejon Highway
- On the portion of the Campus Drive Alley Pipeline CIP site north of Nectarine Court

Numerous suitable burrows wider than 4 inches were observed in these stands. In addition, ground squirrels were extremely abundant in these tracts. Several fence posts and agricultural equipment in these stands offered short perches for foraging as well. In addition, the undeveloped foothills of the Tehachapi Mountains are approximately 3 miles east of the survey area, and the area between these hills and the survey area consists mainly of agricultural land. This land may offer a dispersal route for burrowing owl that avoids urban development. Two burrowing owls were observed near the intersection of Tesoro Drive and El Camino Real on January 4, 2016, in the vicinity of the Millux Road Pipeline and Pump Station Replacement CIP site (eBird 2019). In addition, several recent burrowing owl occurrences have been recorded within 3 miles of the survey area.

San Joaquin Kit Fox

San Joaquin kit fox, a federally endangered and state threatened species, occurs in San Joaquin scrub and grasslands with loose, textured soils suitable for burrowing, but modification of the burrows of other wildlife facilitates denning in other soil types. The entrances of San Joaquin kit fox burrows are typically 5 to 8 inches wide, and vacant kit fox burrows are often used by other ground-dwelling wildlife. San Joaquin kit fox can use small remnants of suitable habitat interspersed with development, provided there is minimal disturbance, dispersal corridors, and a sufficient prey base. However, San Joaquin kit fox has suffered from habitat conversion to urban and agricultural uses. San Joaquin kit fox hunts mostly at night for black-tailed jackrabbit (*Lepus californicus*) and desert cottontail (Sylvilagus audubonii), rodents, insects, reptiles, bird eggs, and some birds.

No San Joaquin kit fox was observed during the survey. Suitable burrowing and foraging habitat for San Joaquin kit fox exists in non-native grassland and disturbed land on and around the following CIP sites:

- On and surrounding the Millux Road Pipeline and Pump Station Replacement CIP site
- On and surrounding the portions of the Potato-Sycamore CIP site east of Tejon Highway
- On the portion of the Campus Drive Alley Pipeline CIP site north of Nectarine Court

Numerous suitable burrows wider than 5 inches were observed in these CIPs. In addition, ground squirrels were extremely abundant in these areas. The undeveloped foothills of the Tehachapi Mountains, which are known to support San Joaquin kit fox, are approximately 3 miles east of the survey area, and the area between these hills and the survey area consists mainly of agricultural land. This land may offer a movement corridor that avoids urban development for San Joaquin kit fox. San Joaquin kit fox was documented in 2012 in the foothills of the Tehachapi Mountains approximately 3.4 miles southeast of the survey area (CDFW 2018).

Swainson's Hawk

Swainson's hawk, a state threatened species, is a large hawk that breeds throughout open habitat in California and western North America. This species migrates from North America as far south as central South America. Swainson's hawk inhabits open grasslands, agricultural land, and rangeland with nearby tall trees. Swainson's hawk forages primarily on rodents and lagomorphs found in open habitats and may soar, fly low, or even walk along the ground to hunt. Males choose nest sites, generally in trees up to 100 feet tall, along streams or next to open grasslands or agricultural areas for foraging. In the Central Valley, these sites often include windbreak or shelterbelt trees along row crops, fallow fields, or rangeland. Nests are built by both male and female adults and may reach 2 feet in width and 1 foot in height. Swainson's hawk may reuse previous year's nests or refurbish crow or raven nests. Consolidation of small farms into industrial farming operations has reduced nesting sites for Swainson's hawk.

No Swainson's hawk individuals or sign were observed during the 2019 survey. Suitable nesting and foraging habitat for Swainson's hawk exists in the survey area in the large mature trees near the non-native grassland, disturbed land, and agricultural lands on and near the following CIP sites:

- On and adjacent to the Millux Road Pipeline and Pump Station CIP site
- On and adjacent to the portions of the Potato-Sycamore CIP site east of Tejon Highway and between Walnut Drive and Meyer Street
- West of the manhole replacements along South Comanche Drive on the Stand-Alone Manhole Replacement CIP site
- On the portion of the Campus Drive Alley Pipeline CIP site north of Nectarine Court
- West of the Comanche Drive CIP site

Swainson's hawk had been documented near the intersection of SR-223 and Tejon Highway on September 16, 2007. In addition, several active Swainson's hawk nests were documented in 2016 within 5 miles of the survey area, including at the Kern County Waste Management facility, approximately 5 miles west of the survey area, and near the intersection of Sycamore Road and South Edison Road, approximately 1.7 miles west of the survey area (eBird 2019).

Nesting Birds

The survey area provides potential nesting habitat for several bird species, including raptors, which are protected under the California Fish and Game Code and MBTA. Several potentially active and inactive nests, including northern mockingbird (*Mimus polyglottos*) nests, were observed during the survey at the 17 CIP sites.

Critical Habitat

No critical habitat occurs in the survey area (USFWS 2019b, 2019c).

Wildlife Corridors

Prior to the field survey, the VFHCP was reviewed to confirm the presence of designated habitat linkages and dispersal corridors in the survey area. The VFHCP does not identify any areas in or surrounding the survey area as functioning as official or potential wildlife migration corridors or habitat linkages. Due to the agricultural and urban land uses present throughout most of the County, potential wildlife corridors and habitat connectors in the VFHCP can include cultivated lands, such as canals, ditches, roads, and utility rights-of-way, and culverts under roadways.

During the field survey, the biologist assessed the areas identified in the VFHCP in the survey area for potential wildlife corridor functions. Habitat characteristics considered included topography, habitat quality, and adjacent land uses. In addition to evaluating the survey area for the presence of continuous corridors, the biologist also inspected it for potential migration corridors for sensitive migratory species based on habitat type and quality, size of habitat patches, and distance separating habitat patches.

The County is within the major bird migration corridor of the western United States, the Pacific Flyway. Wildlife refuges in the County, such as the Kern National Wildlife Refuge, have been designated to provide rest stops along the annual migration routes for migratory bird species. Because the survey area is within the Pacific Flyway migratory corridor, the survey area has the potential to provide habitat for migratory birds traveling between their nesting and wintering areas.

The survey area is not likely to be used as a wildlife movement corridor because it lacks native vegetation communities; is surrounded by agricultural and urban land uses, including SR-223; and is not connected to any other open space areas.

Significance of Project Impacts and Proposed Mitigation

Significance Criteria

Direct impacts occur when biological resources are altered or destroyed during the course of or as a result of project implementation. Examples of such impacts include removing or grading vegetation, filling wetland habitat, or severing or physically restricting the width of wildlife corridors. Other direct impacts may include loss of foraging or nesting habitat and loss of individual species as a result of habitat clearing. Indirect impacts may include elevated levels of noise or lighting, change in surface water hydrology within a floodplain, and increased erosion or sedimentation. These types of indirect impacts can affect vegetation communities or their potential use by sensitive species. Permanent impacts may result in irreversible damage to biological resources. Temporary impacts are interim changes in the local environment due to construction and would not extend beyond project-associated construction, including revegetation of temporarily disturbed areas adjacent to native habitat.

Appendix G of the CEQA Guidelines (CEQA Guidelines, Section 15000 et seq.) defines “significant effect on the environment” as a “substantial, or potentially substantial adverse change in the environment.” Appendix G of the CEQA Guidelines further indicates that there may be a significant effect on biological resources if the project would:

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 Wildlife or U.S. Fish and Wildlife Service.
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
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, hydrologic interruption, or other means.
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Threshold A

Potential impacts to special-status plant and wildlife species are discussed in the following subsections.

Special-Status Plant Species

The project has the potential to result in direct and indirect impacts to special-status plant species, including the federally endangered and California Rare Plant Rank listed 1B.1 species San Joaquin woollythreads (*Monolopia congdonii*) (CDFW 2019, CNPS 2019). In total, 0.98 acre of suitable grassland habitat for San Joaquin woollythreads exists on the Campus Drive Alley and Potato-Sycamore CIP sites. However, the non-native grasslands on the Campus Drive Alley and Potato-Sycamore CIP sites are dominated by non-native grasses and forbs like bromes and wild oat, potentially reducing the likelihood of the presence of this native sensitive species. Because the survey was not conducted during the blooming period for this and other special-status plant species, the presence of this sensitive plant species may not have been identified if it were dormant or difficult to identify. Therefore, if this species was present but went undetected before construction activities commenced, significant direct and indirect impacts would result.

In addition, potential indirect impacts to San Joaquin woollythreads could result from the introduction of invasive weed species and soil erosion and sedimentation during construction in the 0.98 acre of suitable non-native grassland habitat on the Campus Drive Alley and Potato-Sycamore CIP sites.

Potential direct and indirect impacts to 0.98 acre of non-native grassland habitat during construction of the Campus Drive Alley and Potato-Sycamore CIPs could represent a significant impact to special-status plant species, and avoidance, minimization, or mitigation measures would be required. Implementation of standard erosion-control measures and stormwater-quality best management practices (BMPs) (required through the construction permit process) during construction would reduce potential indirect impacts to special-status plant species from soil erosion and sedimentation to less than significant. As a condition of approval, implementation of Mitigation Measures BIO-1 through BIO-5 for the 0.28 acre of non-native grassland habitat impacted during construction of the Campus Drive Alley CIP and 0.70 acre of non-native grassland habitat impacted by the Potato-Sycamore CIP would reduce direct and indirect impacts to special-status plant species to less than significant.

Special-Status Wildlife Species

The project has the potential to result in direct and indirect impacts to special-status wildlife species, including the state species of special concern burrowing owl (*Athene cunicularia*), the state species of special concern northern harrier (*Circus hudsonius*), the state critically threatened Swainson's hawk (*Buteo swainsoni*), the federally endangered and state threatened San Joaquin kit fox (*Vulpes macrotis mutica*), and the federally endangered and state endangered blunt-nosed leopard lizard (CDFW 2019, USFWS 2019). Approximately 0.98 acre of non-native grassland and 6.40 acres of disturbed areas with patches of bare ground and numerous mammal burrows that burrowing owl could use for nesting exist on the project sites for the Campus Drive Alley, Comanche Drive, Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs. These habitats are also suitable for San Joaquin kit fox and blunt-nosed leopard lizard to use for burrowing and foraging. Large, mature trees adjacent to non-native grassland, disturbed areas, and agricultural lands occur throughout the survey area and are suitable for nesting by northern harrier and Swainson's hawk. The Campus Drive Alley, Comanche Drive, Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIP sites include 0.98 acre of non-native grassland, 2.35 acres of agricultural fields, and 6.40 acres of disturbed areas for burrowing owl, northern harrier, and Swainson's hawk to use for foraging. Construction activities associated with these CIPs occurring in the habitats that could

support northern harrier, burrowing owl, San Joaquin kit fox, Swainson's hawk, and blunt-nosed leopard lizard could result in significant direct and indirect impacts to these special-status wildlife species.

The potential impacts to 0.98 acre of non-native grassland, 2.35 acres of agricultural fields, and 6.40 acres of disturbed land resulting from construction of the Campus Drive Alley, Comanche Drive, Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs could represent a significant impact to special-status wildlife species, and avoidance, minimization, or mitigation measures would be required. Table 4**,** Direct and Indirect Impacts to Special-Status Wildlife Species, summarizes the CIPs that have the potential to result in direct or indirect impacts to special-status wildlife species.

Table 4. Direct and Indirect Impacts to Special-Status Wildlife Species

Species	Campus Drive Alley CIP	Comanche Drive CIP	Millux Road Pipeline and Pump Station CIP	Potato-Sycamore CIP	Stand-Alone Manhole Replacement CIP
Northern harrier	Direct and indirect	Indirect only	Direct and indirect	Direct and indirect	Indirect only
Blunt-nosed leopard lizard	Direct and indirect	Indirect only	Direct and indirect	Direct and indirect	Indirect only
Burrowing owl	Direct and indirect	Indirect only	Direct and indirect	Direct and indirect	Indirect only
San Joaquin kit fox	Direct and indirect	No impacts	Direct and indirect	Direct and indirect	No impacts
Swainson's hawk	Direct and indirect	Indirect only	Direct and indirect	Direct and indirect	Indirect only

Note: Only CIPs that may result in direct or indirect impacts to special-status wildlife species are listed. All other CIPs would not likely result in direct or indirect impacts to special-status wildlife species.

As a condition of approval, implementation of Mitigation Measures BIO-2, BIO-3, and BIO-6 through BIO-8 for the 0.28 acre of non-native grassland habitat on the Campus Drive Alley CIP site, 0.02 acre of agricultural land and 0.32 acre of disturbed land on the Comanche Drive CIP site, 1.73 acres of agricultural land and 6 acres of disturbed land on the Millux Road Pipeline and Pump Station CIP site, 0.70 acre of non-native grassland on the Potato-Sycamore CIP site, and 0.08 acre of agricultural land on the Small Spot Repair CIP site would reduce direct and indirect impacts to special-status wildlife species to less than significant.

Implementation of the 17 CIPs has the potential to impact bird species that are protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code, Section 3504. If construction is conducted during the bird-breeding season (January 1 through August 31), temporary direct impacts from disturbance and displacement of nesting birds during vegetation removal could result in significant direct impacts to bird species protected under the MBTA. Indirect impacts from construction noise and vibration during clearing, grubbing, and trenching activities, if conducted during the bird-breeding season, could result in significant indirect impacts to bird species protected under the MBTA. As a condition of approval, implementation of Mitigation Measure BIO-8 for the 17 CIPs would reduce potential direct and indirect impacts to nesting birds to less than significant.

Threshold B

While no southern willow scrub riparian habitat would be directly impacted during project construction, potential indirect impacts could result from the introduction of invasive weed species and soil erosion and sedimentation during construction of the Millux Road Pipeline and Pump Station CIP adjacent to the southern willow scrub habitat (Figure 7 series, Impacts to Vegetation Communities). Construction activities associated with the Campus Drive Alley and Potato-Sycamore CIPs would result in temporary direct impacts to approximately 0.98 acre of non-native grassland on these CIP sites (Figure 7 series). In addition, potential indirect impacts to non-native grassland

could result from the introduction of invasive weed species and soil erosion and sedimentation during construction in the 0.98 acre of non-native grassland on the Campus Drive Alley and Potato-Sycamore CIP sites. The temporary direct and indirect impacts to non-native grassland during construction of the Campus Drive Alley and Potato-Sycamore CIPs would be significant and would require mitigation.

Upon completion of the Campus Drive Alley and Potato-Sycamore CIPs, the 0.98 acre of non-native grassland disturbed during construction would be restored to its previous condition and function. Implementation of standard erosion-control measures and stormwater-quality BMPs (required through the construction permit process) during construction of the Millux Road Pipeline and Pump Station CIP would reduce potential indirect impacts to southern willow scrub and non-native grassland from soil erosion and sedimentation to less than significant. As a condition of approval, implementation of Mitigation Measures BIO-1 and BIO-5 for the 0.28 acre of non-native grassland habitat impacted during construction of the Campus Drive Alley CIP and the 0.70 acre of non-native grassland habitat impacted by the Potato-Sycamore CIP would reduce direct and indirect impacts to non-native grassland habitat to less than significant.

Threshold C

While impacts to aquatic resources are not expected from implementation of the project, indirect impacts could result from the introduction of invasive weed species and soil erosion and sedimentation during construction of the Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs adjacent to the aquatic resources. Implementation of Mitigation Measure BIO-1 and standard erosion-control measures and stormwater-quality BMPs (required through the construction permit process) during construction of the Millux Road Pipeline and Pump Station, Potato-Sycamore, and Small Spot Repair CIPs would reduce potential indirect impacts to aquatic resources from invasive plant species and soil erosion and sedimentation to less than significant. As discussed previously, direct impacts to potential state or federal jurisdictional aquatic resources adjacent to the project site are not anticipated to occur as a result of project construction. Therefore, impacts to state or federally protected aquatic resources would not occur.

Threshold D

The CIP sites are not likely to be used as wildlife movement corridors or nursery sites because the sites lack native vegetation communities; are surrounded by agricultural and urban land uses, including State Route 223; and are not connected to any other open space areas. Furthermore, no critical habitat is present in or around the CIP sites. Therefore, no impacts to wildlife corridors or nursery sites would occur from implementation of the project.

Threshold E

Projects in the City are required to comply with policies protecting biological resources identified in the Conservation and Open Space Element of the City's General Plan Update and the County's General Plan Land Use, Open Space, and Conservation Element (City of Arvin 2012; Kern County 2009). Therefore, no impacts related to conflicts with applicable policies or ordinances protecting biological resources would occur from implementation of the project.

Threshold F

Since the City requires compliance with the conservation policies identified in the City's and County's General Plans, no impacts to local conservation plans would occur from the implementation of the project.

Proposed Mitigation

The following biological resources mitigation measures would be implemented during construction:

General Measures

BIO-1: **Weed Control**. The project proponent(s) shall implement the following weed control methods to minimize the establishment and spread of non-native and invasive weed species on the project site during construction activities:

1. Seeds and plant materials used for revegetation shall be certified weed free.
2. Straw materials such as those used for erosion control shall be certified weed free.
3. Temporarily disturbed non-native grassland areas shall be revegetated with local native plant species as soon as construction is complete to reduce erosion and to inhibit the establishment of non-native and invasive weeds.

BIO-2: **Qualified Biologist**. Prior to the start of construction, the project proponent(s) shall submit written documentation to the City of Arvin Community Development Department Senior Planner for approval, stating that a qualified biologist(s) has been retained to implement the project mitigation measures in areas designated as biologically sensitive in the Biological Resources Letter Report. The qualified biologist(s) shall be responsible for implementing project mitigation measures, coordinating and communicating requirements to the project proponent(s) and the City of Arvin Community Development Department Senior Planner, and facilitating consultation with the wildlife and resource agencies as required.

BIO-3: **Flagging, Fencing, and Demarcation**. The project proponent(s), in consultation with the qualified biologist(s), shall designate the limits of the construction area, where accessible, within the City of Arvin rights-of-way using fencing, signage, or stakes in the field and shall review the placement of fencing, signage, or stakes with the contractor in accordance with the construction plans. Aquatic resources and riparian areas within 50 feet of the construction area, where accessible and feasible, shall also be demarcated in the field and avoided by construction personnel and activity.

Rare Plants

BIO-4: **Rare Plant Surveys.** During the spring (April 1 through June 30) and prior to construction, the qualified biologist shall conduct a preconstruction rare plant survey in the 0.98-acre non-native grassland potential impact area.

In the event a rare or listed plant species is observed, the project proponent(s) shall consult with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife to establish avoidance, minimization, and mitigation measures. If the wildlife agencies require the measures, species-specific protocol surveys shall be conducted by the qualified biologist pursuant to the agreed-upon terms.

Upland Habitat

BIO-5: **Temporary Impacts to Non-Native Grassland.** Temporary impacts to 0.98 acre of non-native grassland shall be mitigated by the project proponent(s) through revegetation of the areas impacted during project construction using a weed-free native plant seed palette.

Special-Status Wildlife Species

BIO-6: **Preconstruction Surveys.** Prior to the start of construction, a preconstruction survey shall be completed by the qualified biologist(s) checking suitable non-native grassland and disturbed land on the project site for presence or sign of burrowing owl (*Athene cunicularia*), San Joaquin kit fox (*Vulpes macrotis mutica*),

Swainson's hawk (*Buteo swainsoni*), blunt-nosed leopard lizard (*Gambelia sila*), and any other sensitive wildlife species. If sensitive wildlife species are observed during the preconstruction survey or during construction activities, the qualified biologist(s), in coordination with the City of Arvin Community Development Department Senior Planner, shall designate the limits (including appropriate buffers) of the occupied habitat using fencing, signage, or stakes for avoidance by construction personnel and activity.

BIO-7: **U.S. Fish and Wildlife Service and California Department of Fish and Wildlife Permitting.** If impacts to the special-status species including burrowing owl (*Athene cunicularia*), San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), and blunt-nosed leopard lizard (*Gambelia sila*) cannot be avoided, the qualified biologist(s), on behalf of the project proponent(s), shall consult with the U.S. Fish and Wildlife and California Department of Fish and Wildlife for authorization through the context of an incidental take permit.

Nesting Birds

BIO-8: **General Nest Surveys.** No grubbing, trimming, or clearing of vegetation, primarily non-native grassland species and a few shrubs, from the project site shall occur during the general bird-breeding season (January 1 through August 31). If grubbing, trimming, or clearing of vegetation cannot feasibly occur outside of the general bird-breeding season, the qualified biologist(s) shall perform a preconstruction nesting bird survey no more than 72 hours prior to the start of vegetation grubbing, trimming, or clearing to determine if active bird nests are present in the affected areas. Should an active migratory bird nest be located, the qualified biologist(s) shall direct vegetation clearing away from the nest until the project biologist has determined that the young have fledged or the nest has failed. If there are no nesting birds (including nest building or other breeding or nesting behavior) on the project site, grubbing, trimming, or clearing shall proceed.

Significance After Mitigation

The project would not result in significant impacts to wildlife corridors and linkages, conflicts with local policies and ordinances, or regional conservation planning. Project implementation may result in potentially significant impacts to sensitive non-native grassland habitat, special-status plant and wildlife species, nesting birds, and aquatic resources. With implementation of the Mitigation Measures BIO-1 through BIO-8, impacts to sensitive biological resources from implementation of the project would be reduced to less than significant.

Preparers

Harris & Associates

Melissa Tu, Senior Biologist
Katie Laybourn, Biologist

If you have any questions about this letter report, please contact Melissa Tu at (619) 814-9514 or Melissa.Tu@WeAreHarris.com and Katie Laybourn at (619) 643-0808 or Katie.Laybourn@WeAreHarris.com.

Sincerely,

Melissa Tu	Katie Laybourn
Senior Biologist	Biologist

Attachments

1, Figures
2, Plant and Wildlife Species Observed
3, Special-Status Plant and Wildlife Species Potential to Occur Tables

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Attachment 1. Figures

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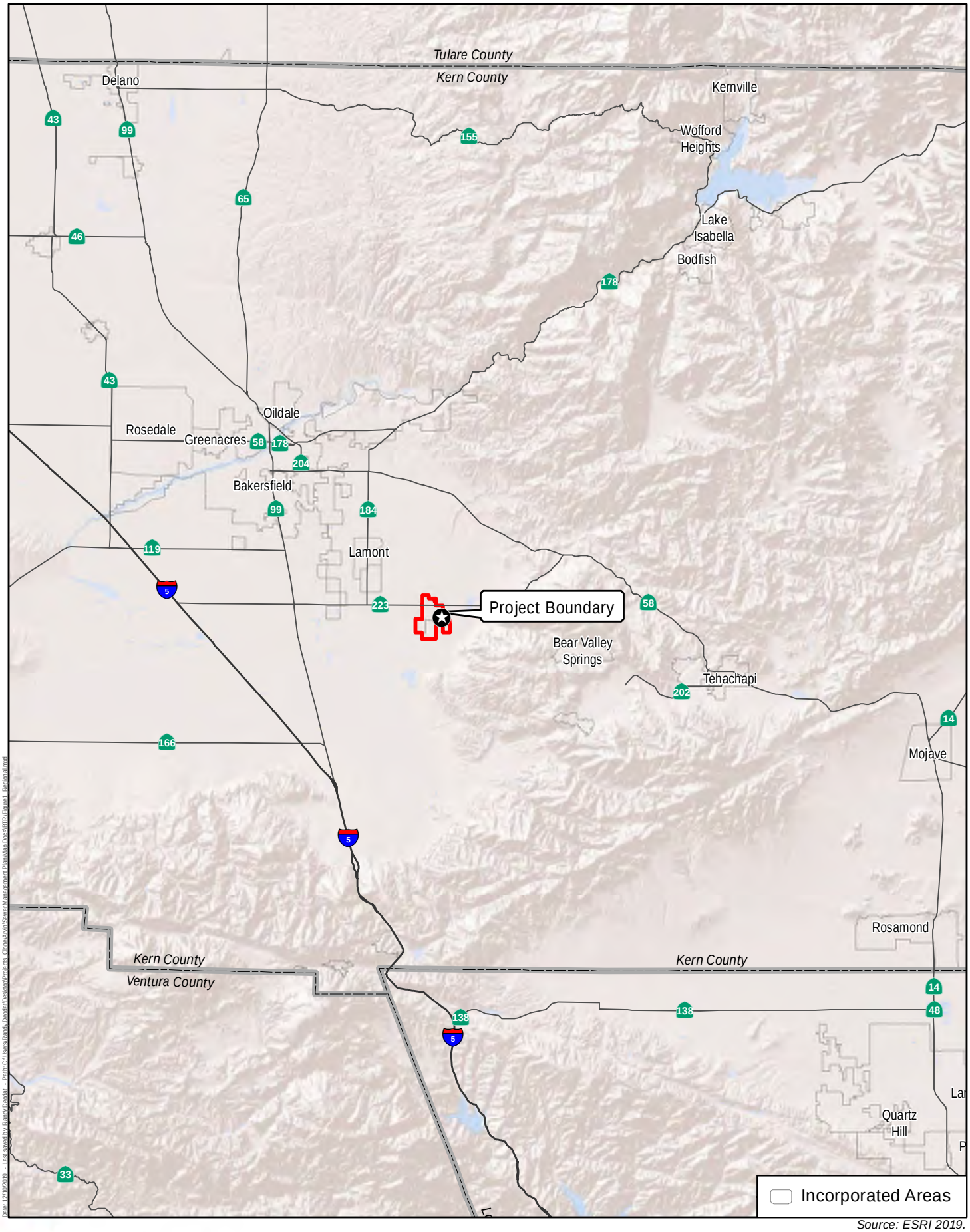

Source: ESRI 2019.

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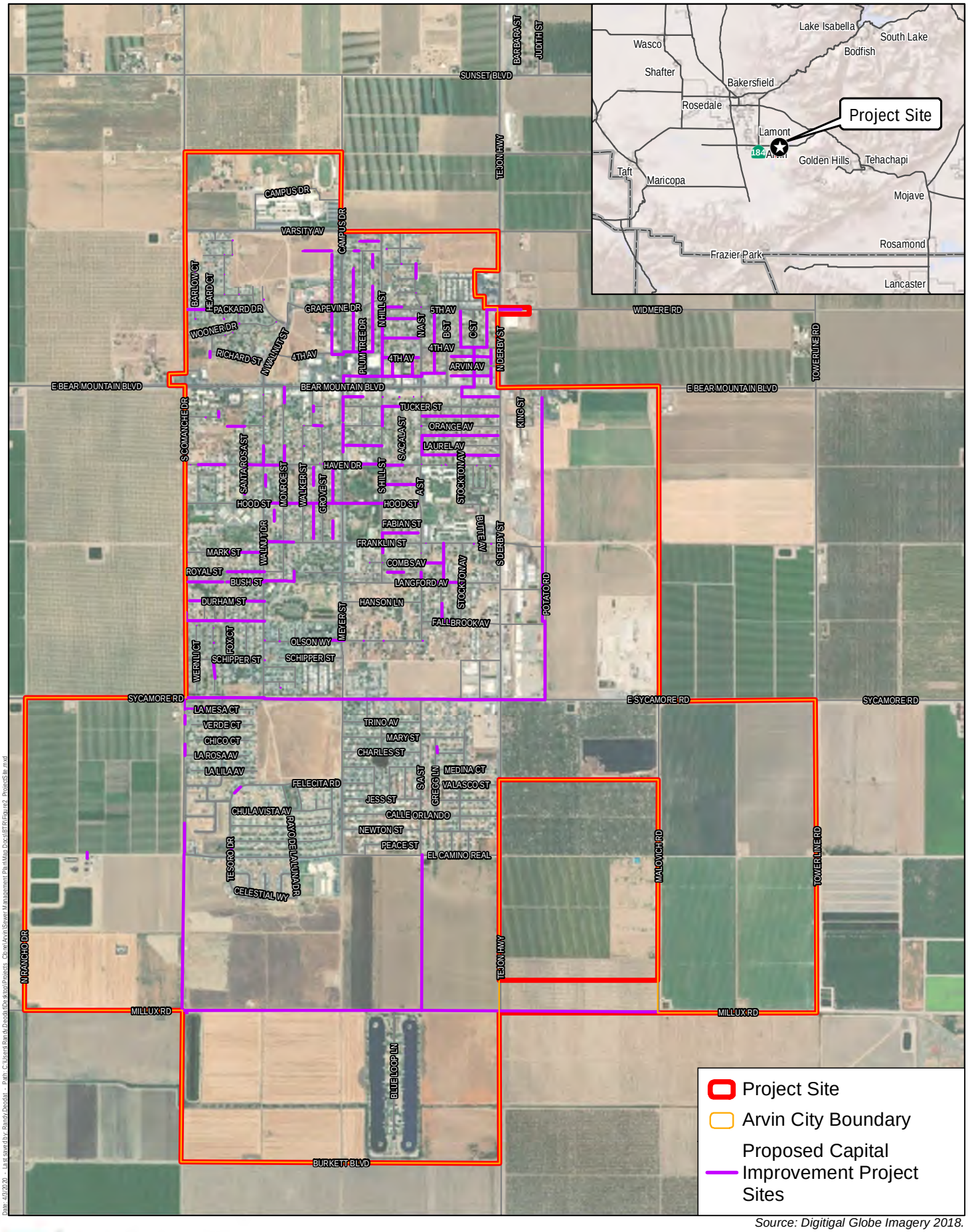
Figure 1

Regional Location



Source: Digitigal Globe Imagery 2018.

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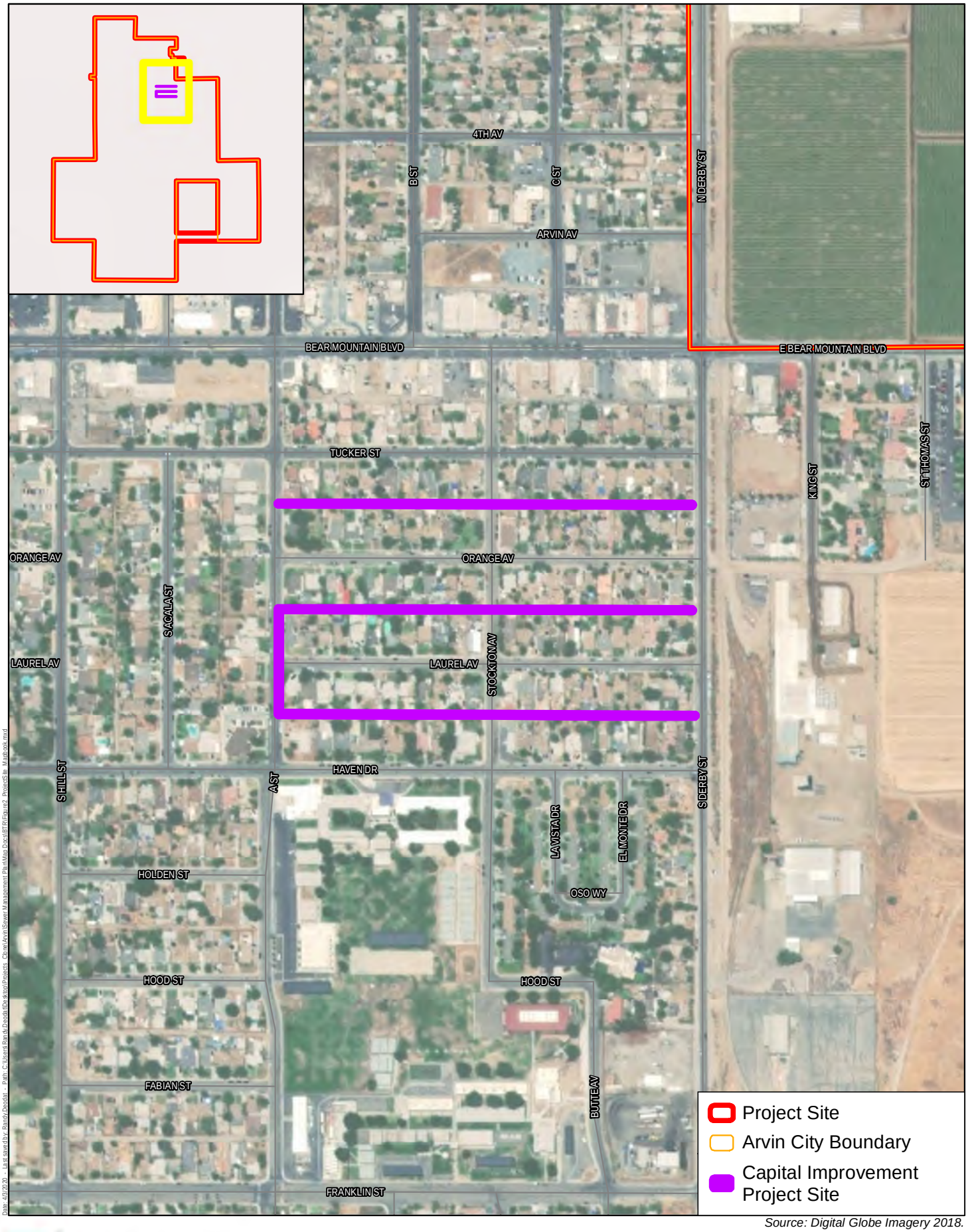
Figure 2

Project Site Overview



Source: Digital Globe Imagery 2018.

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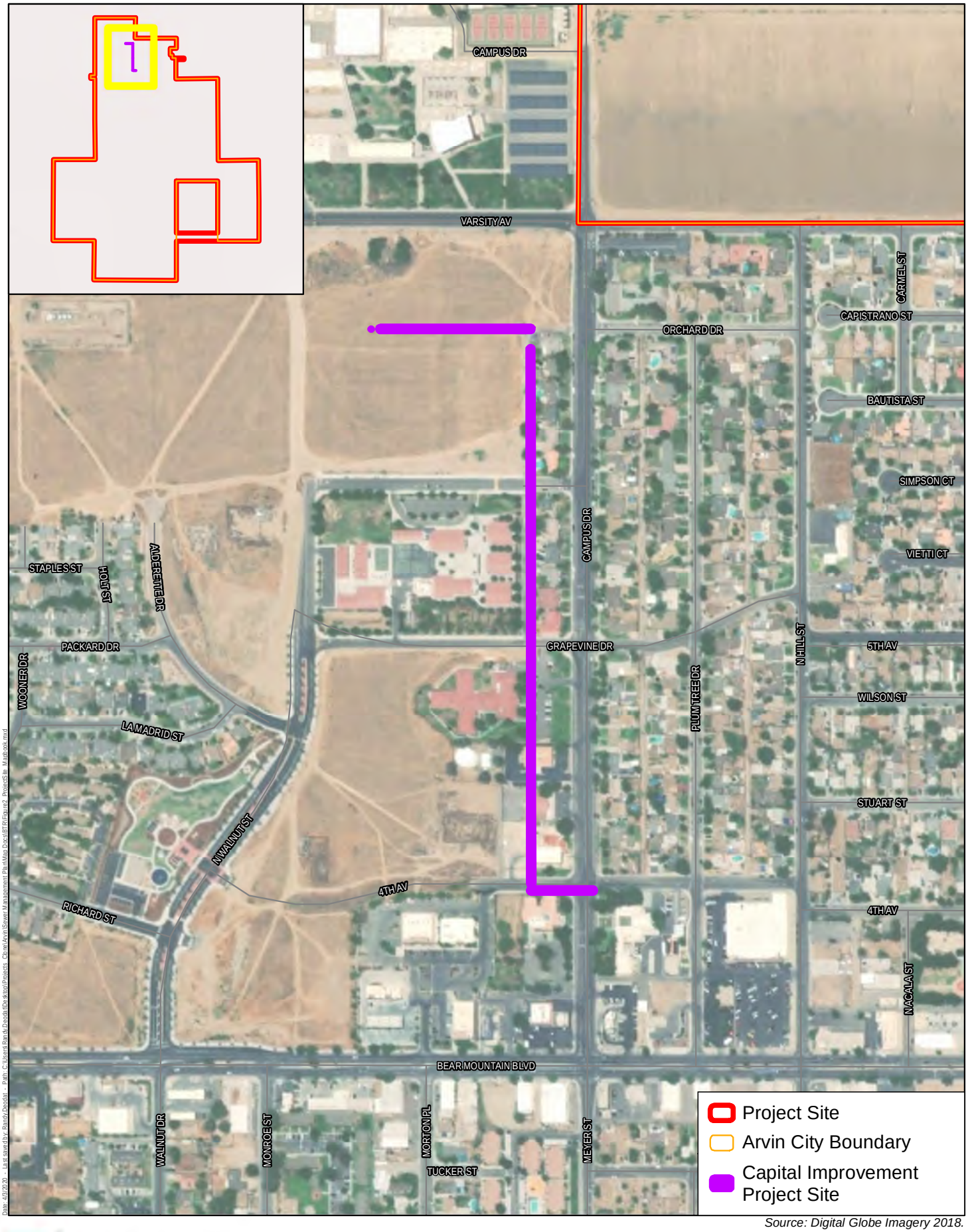
Figure 2a

A Street CIP



Source: Digital Globe Imagery 2018.

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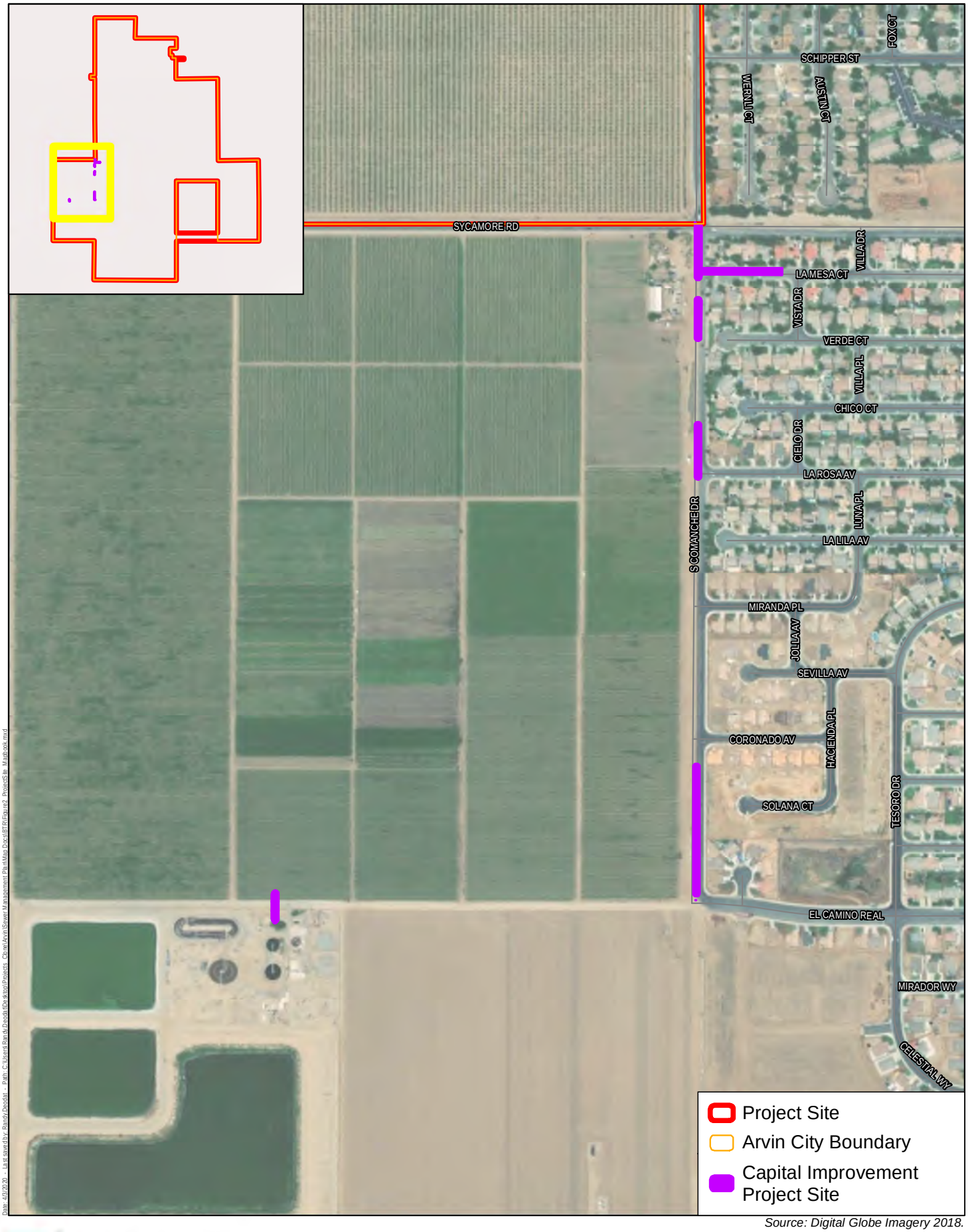
Figure 2b

Campus Drive Alley CIP



Source: Digital Globe Imagery 2018.

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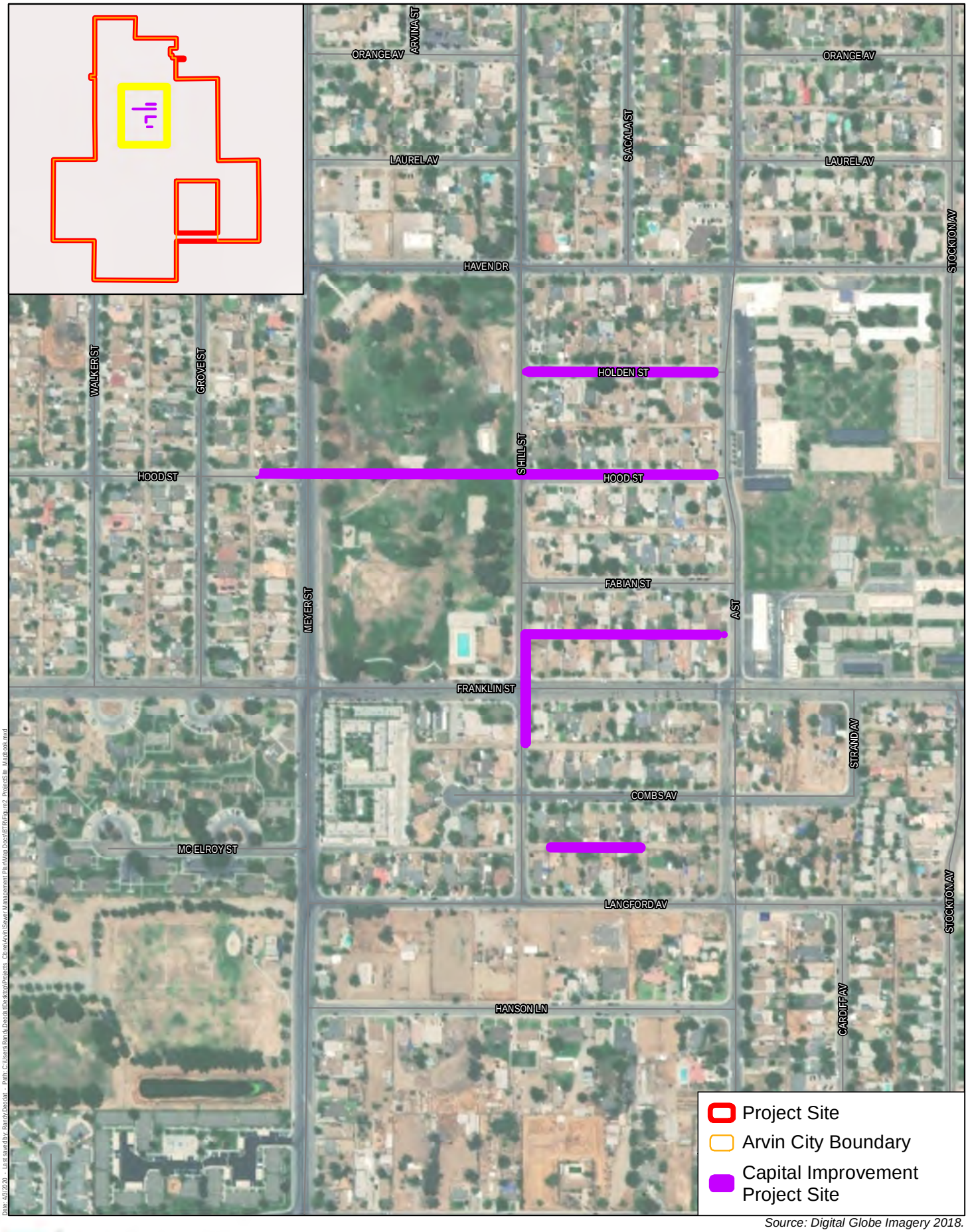
Figure 2c

Comanche Drive CIP



Source: Digital Globe Imagery 2018.

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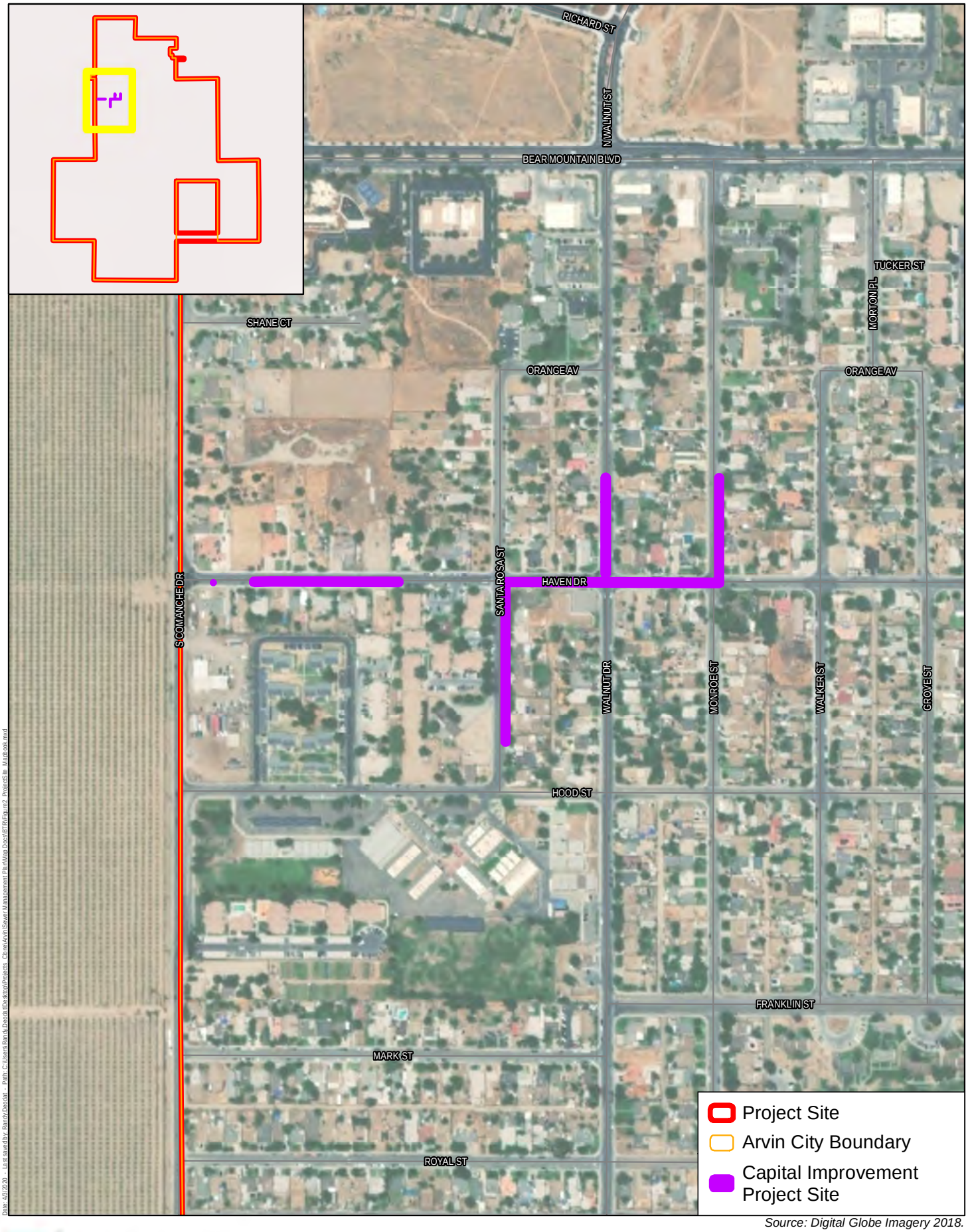
Figure 2d

East Di Giorgio Park CIP



Source: Digital Globe Imagery 2018.

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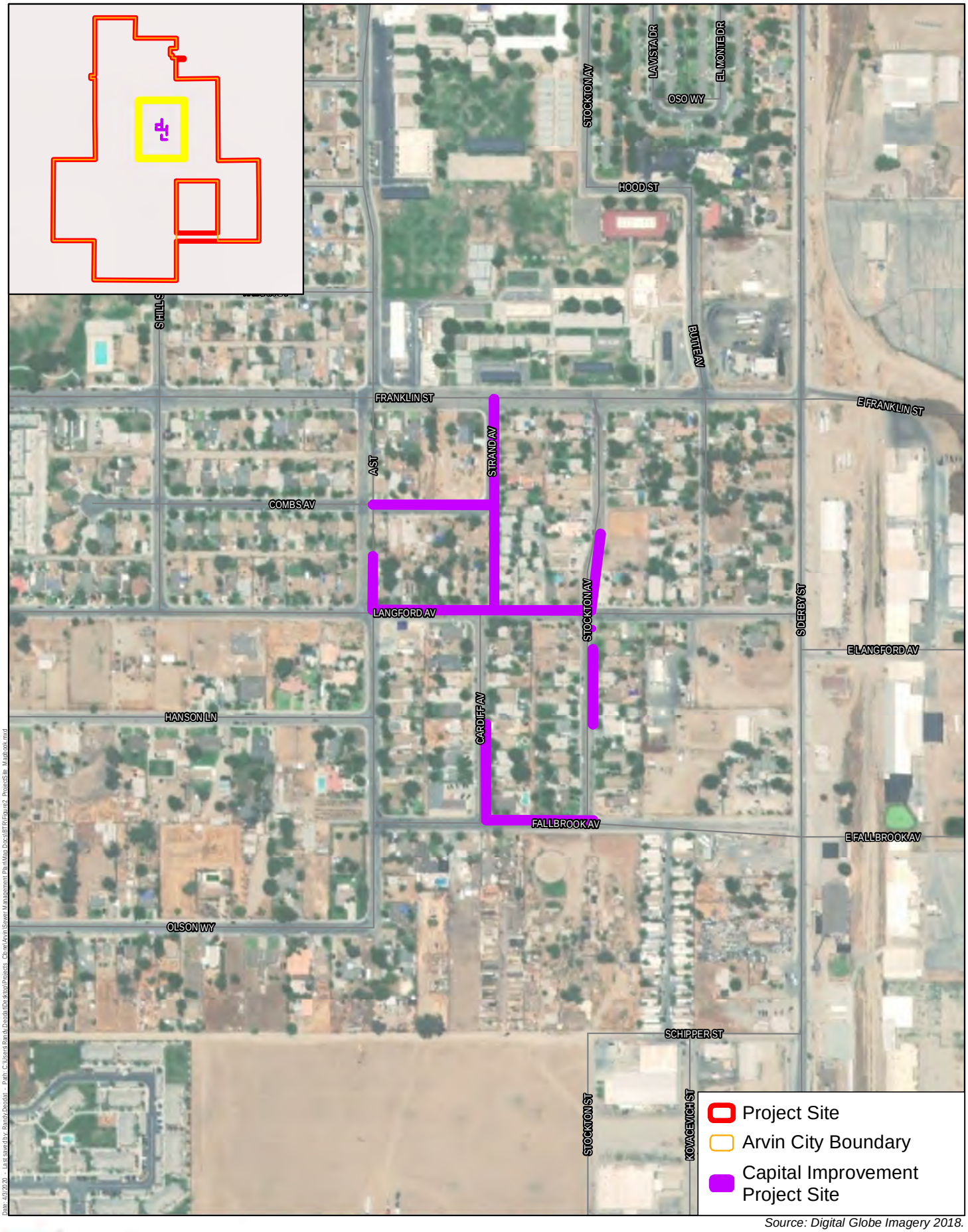
Figure 2e

Haven Drive CIP



Source: Digital Globe Imagery 2018.

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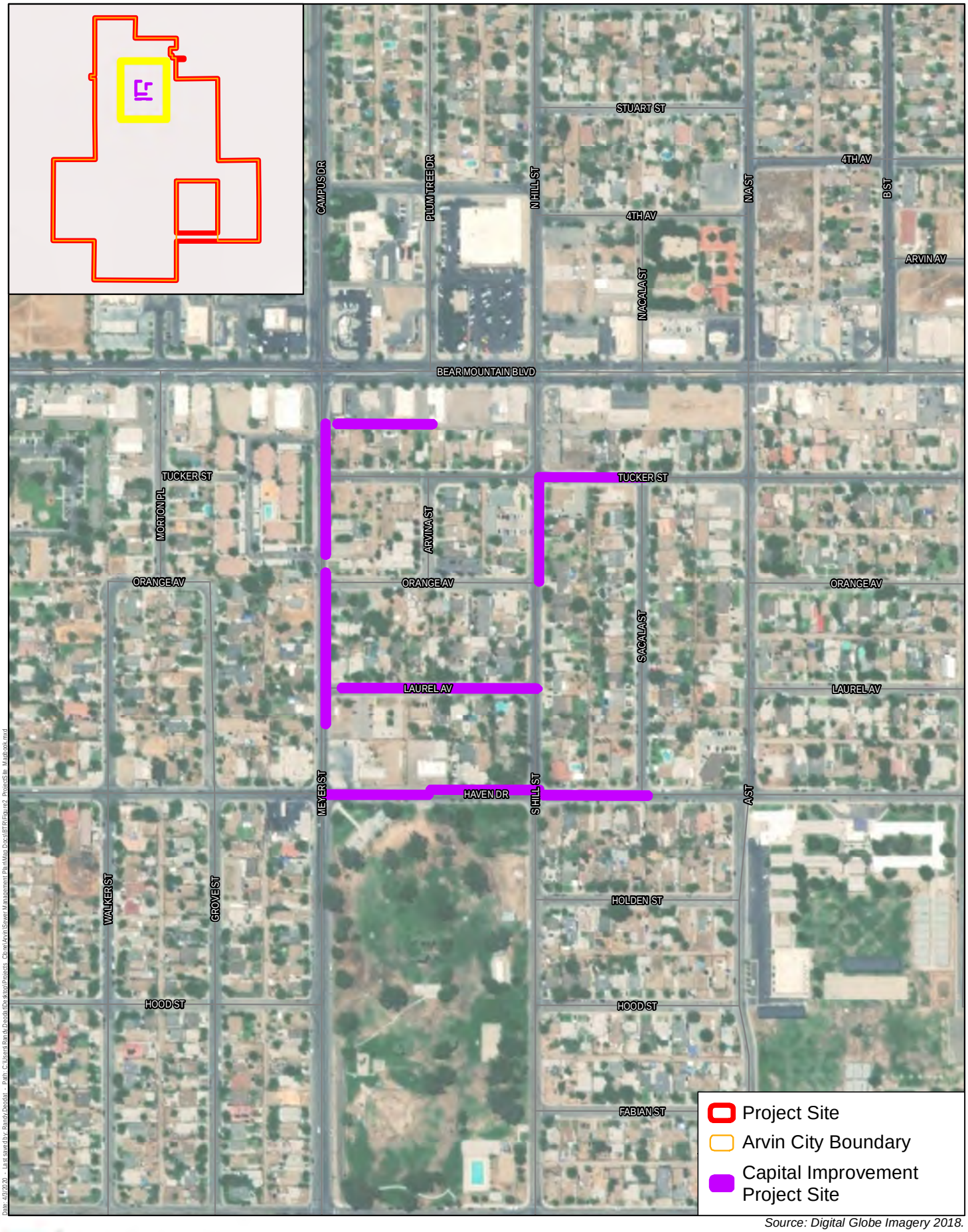
Figure 2f

Langford Avenue CIP



Source: Digital Globe Imagery 2018.

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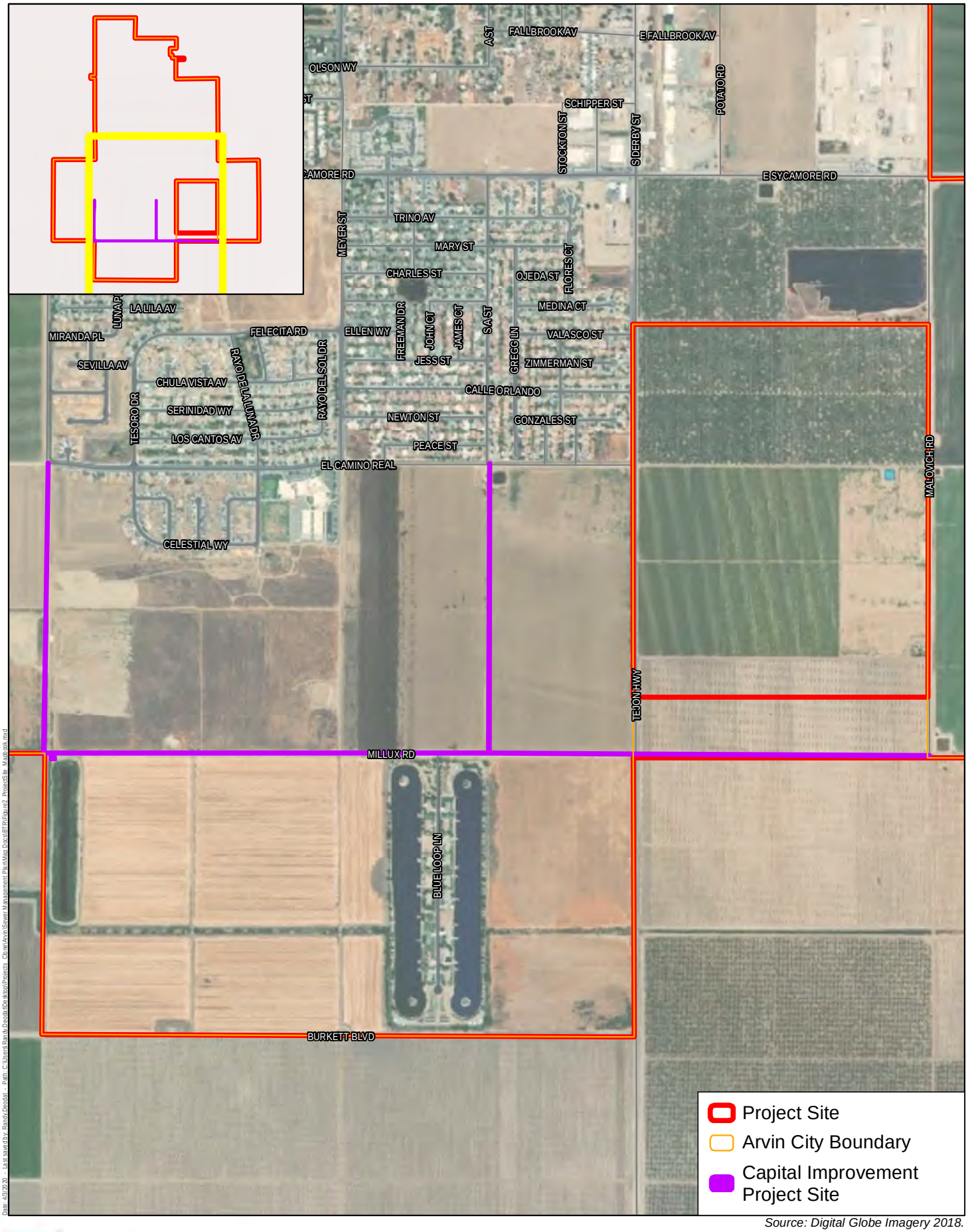
Figure 2g

Meyer Street CIP



Source: Digital Globe Imagery 2018.

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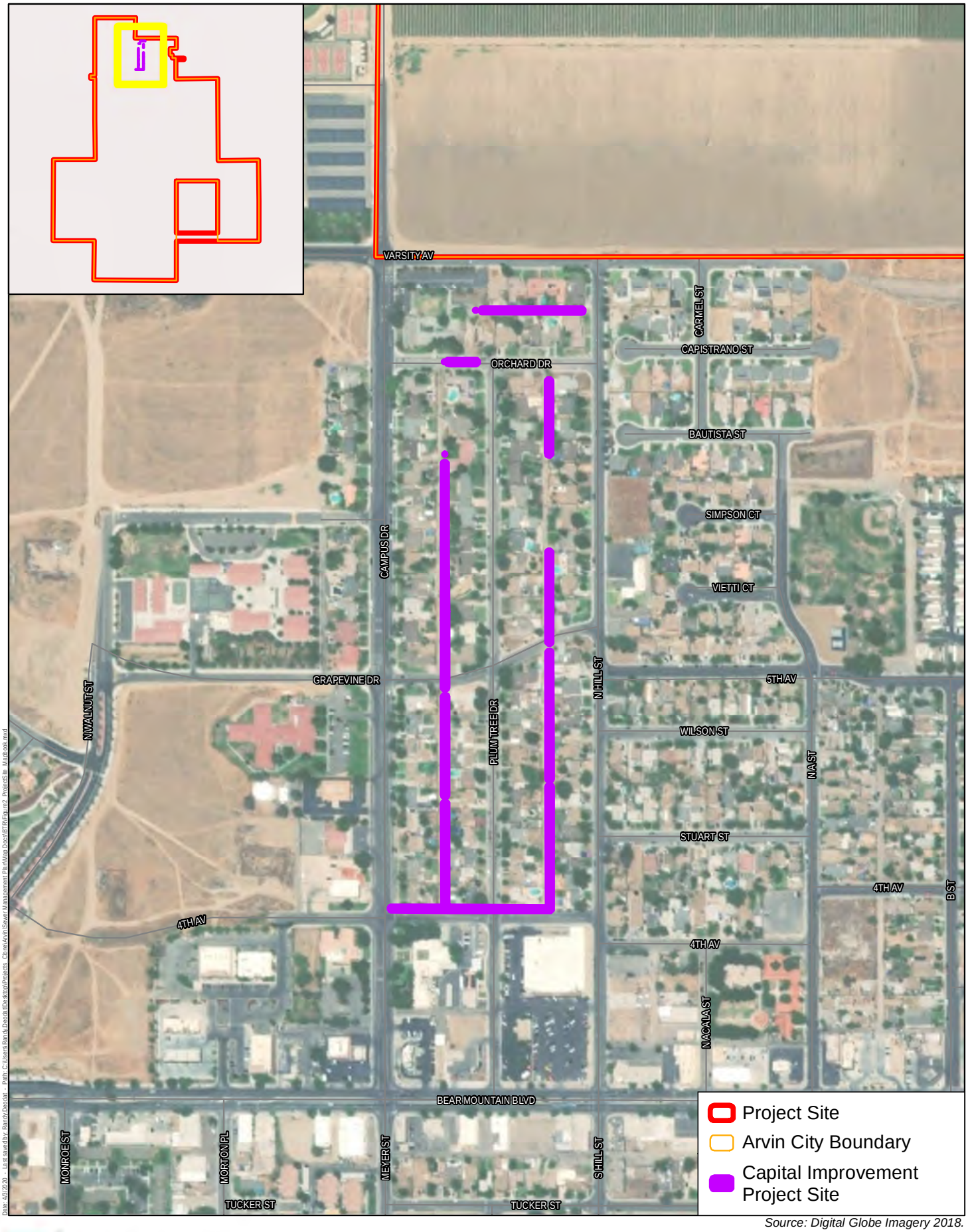
Figure 2h

Millux Road Pipeline and Pump Station CIP



Source: Digital Globe Imagery 2018.

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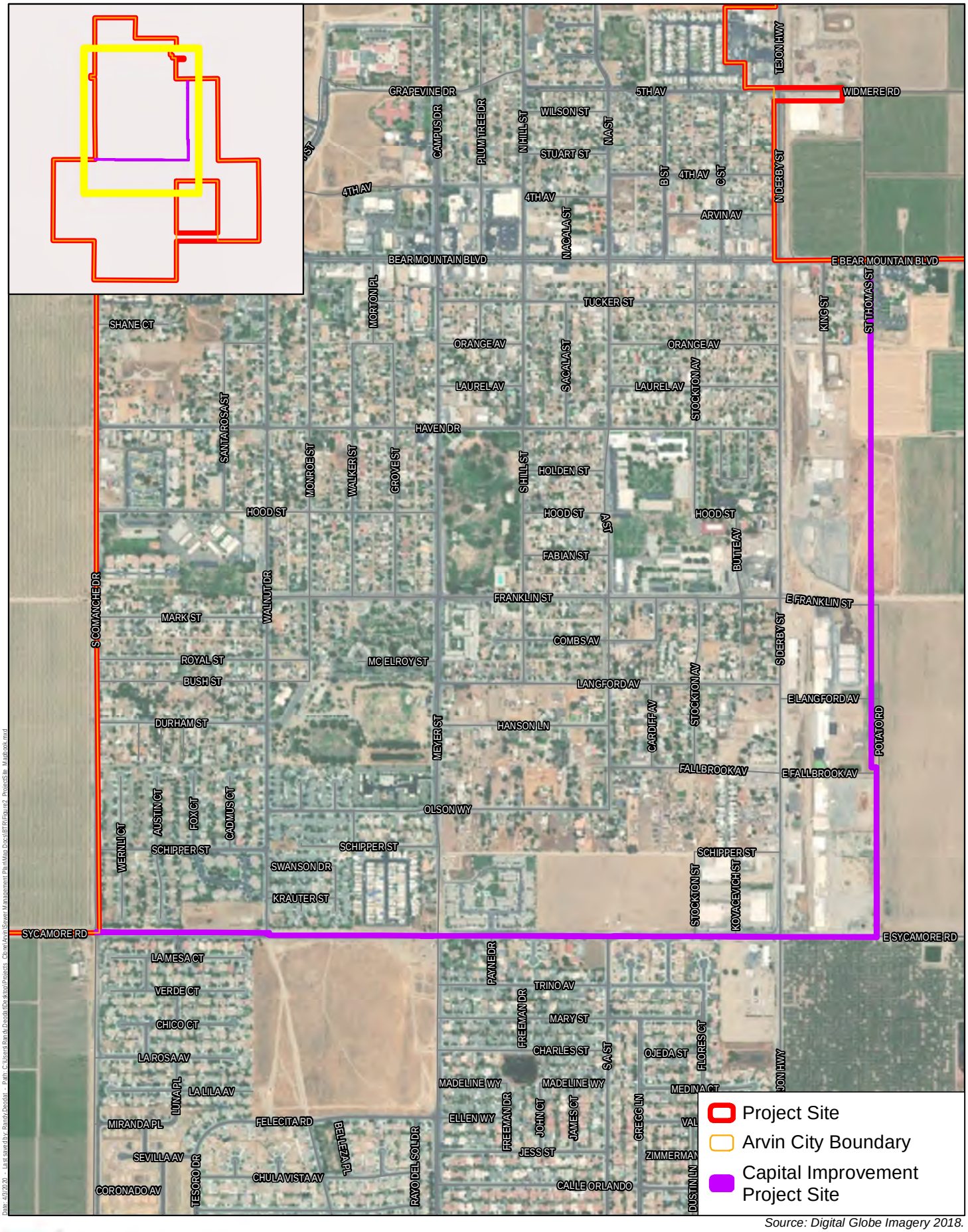
Figure 2i

Plumtree Drive Alleys CIP



Source: Digital Globe Imagery 2018.

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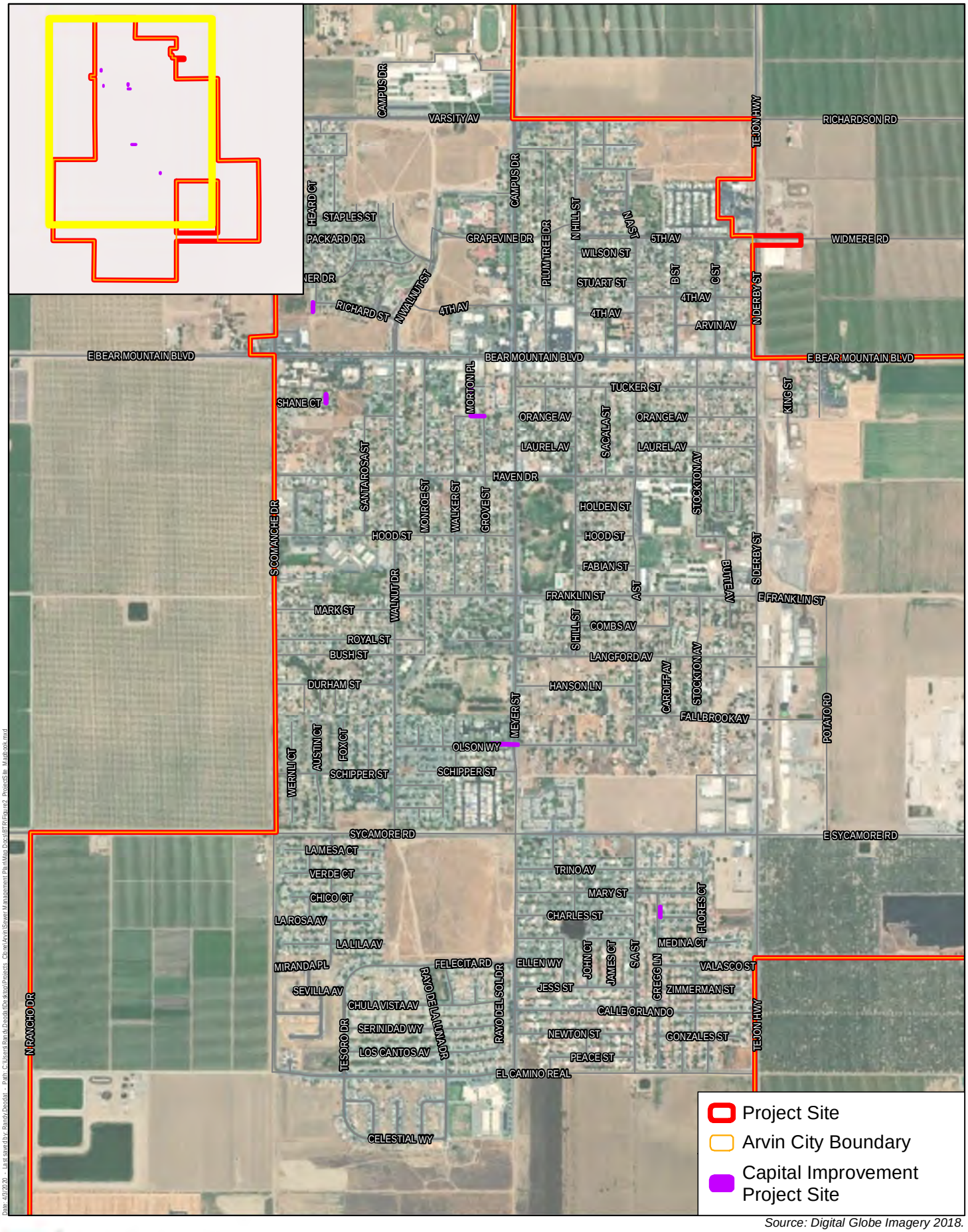
Figure 2j

Potato-Sycamore CIP



Source: Digital Globe Imagery 2018.

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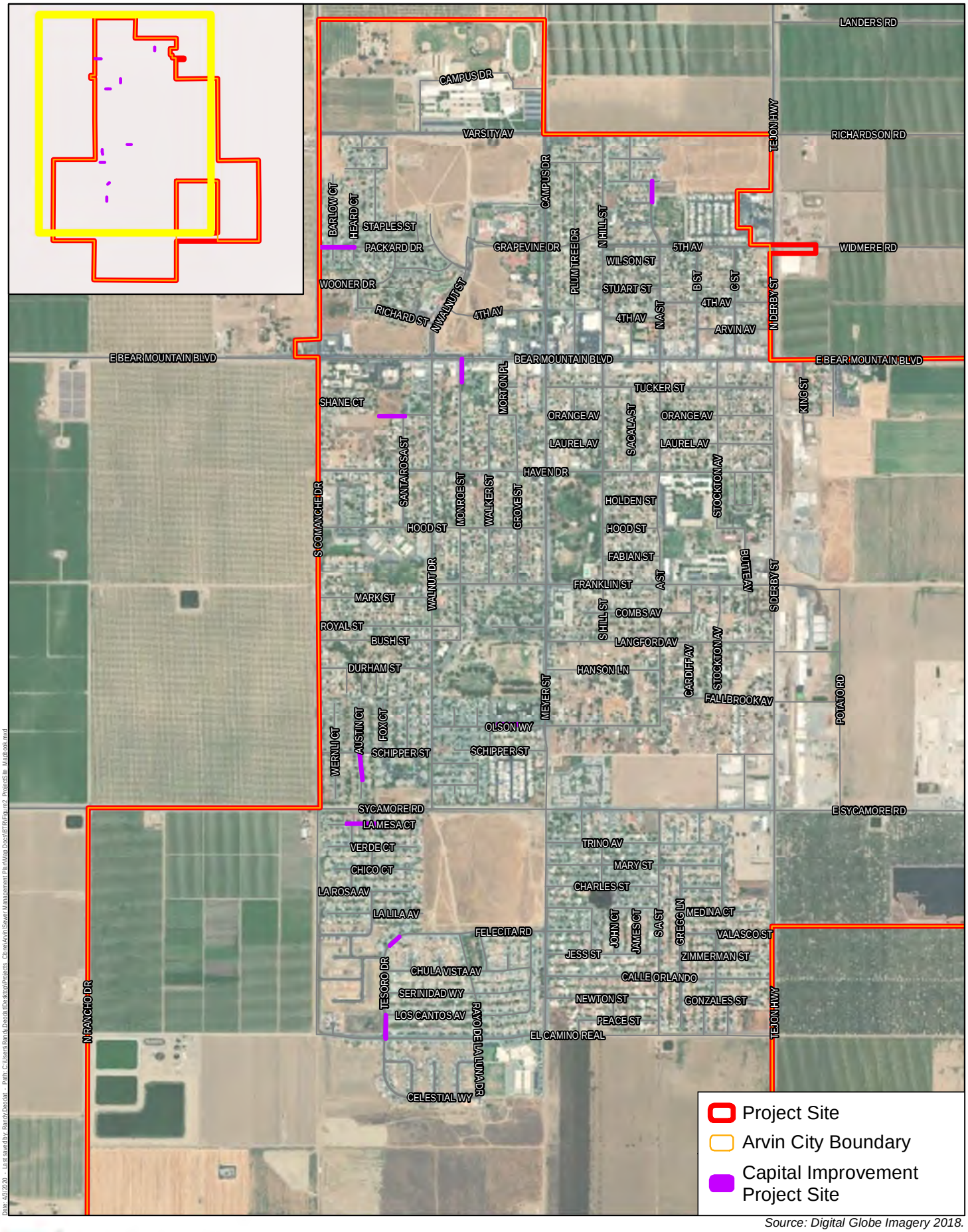
Figure 2k

Small Pipeline Replacement CIP



Source: Digital Globe Imagery 2018.

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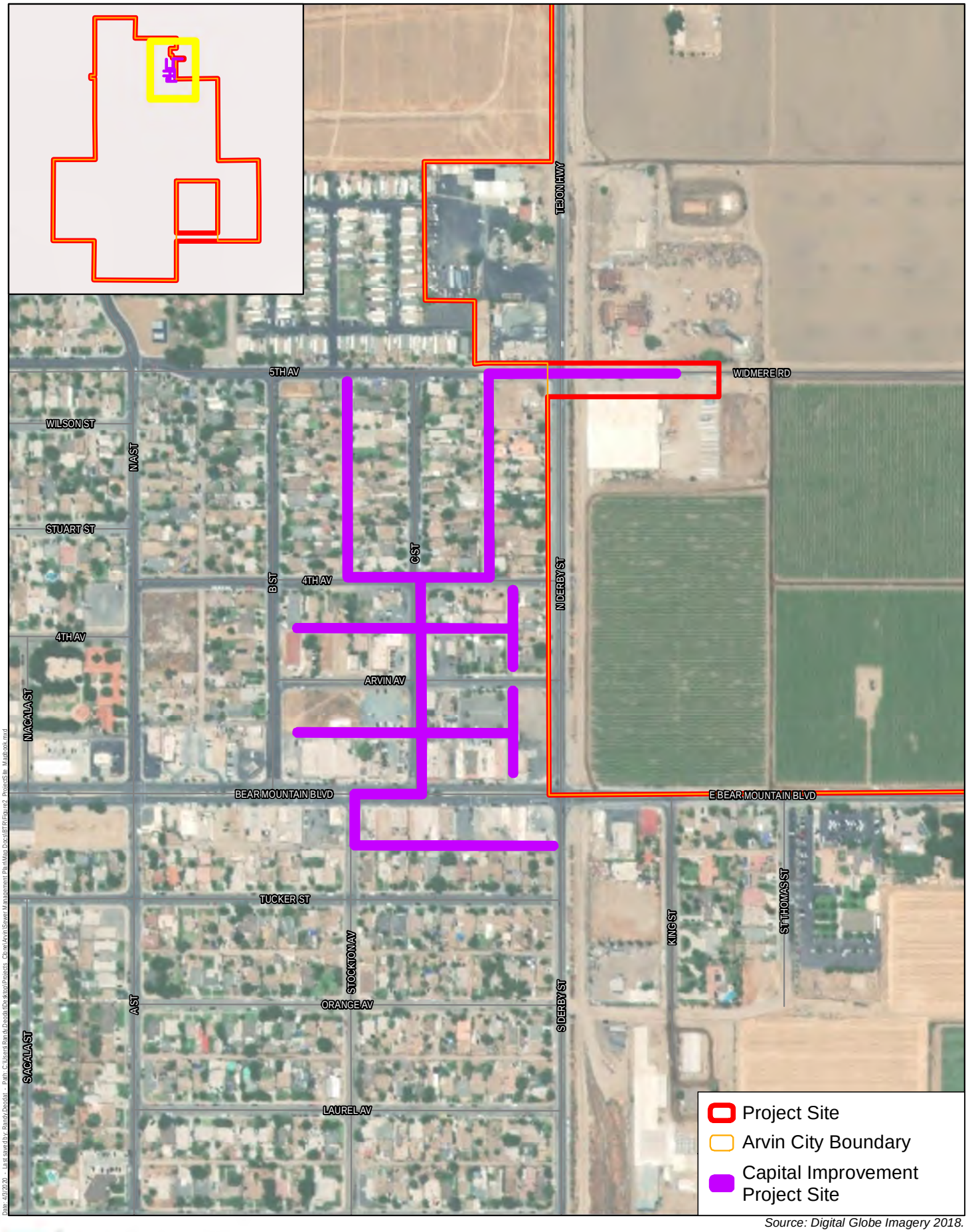
Figure 2I

Small Spot Repair CIP



Source: Digital Globe Imagery 2018.

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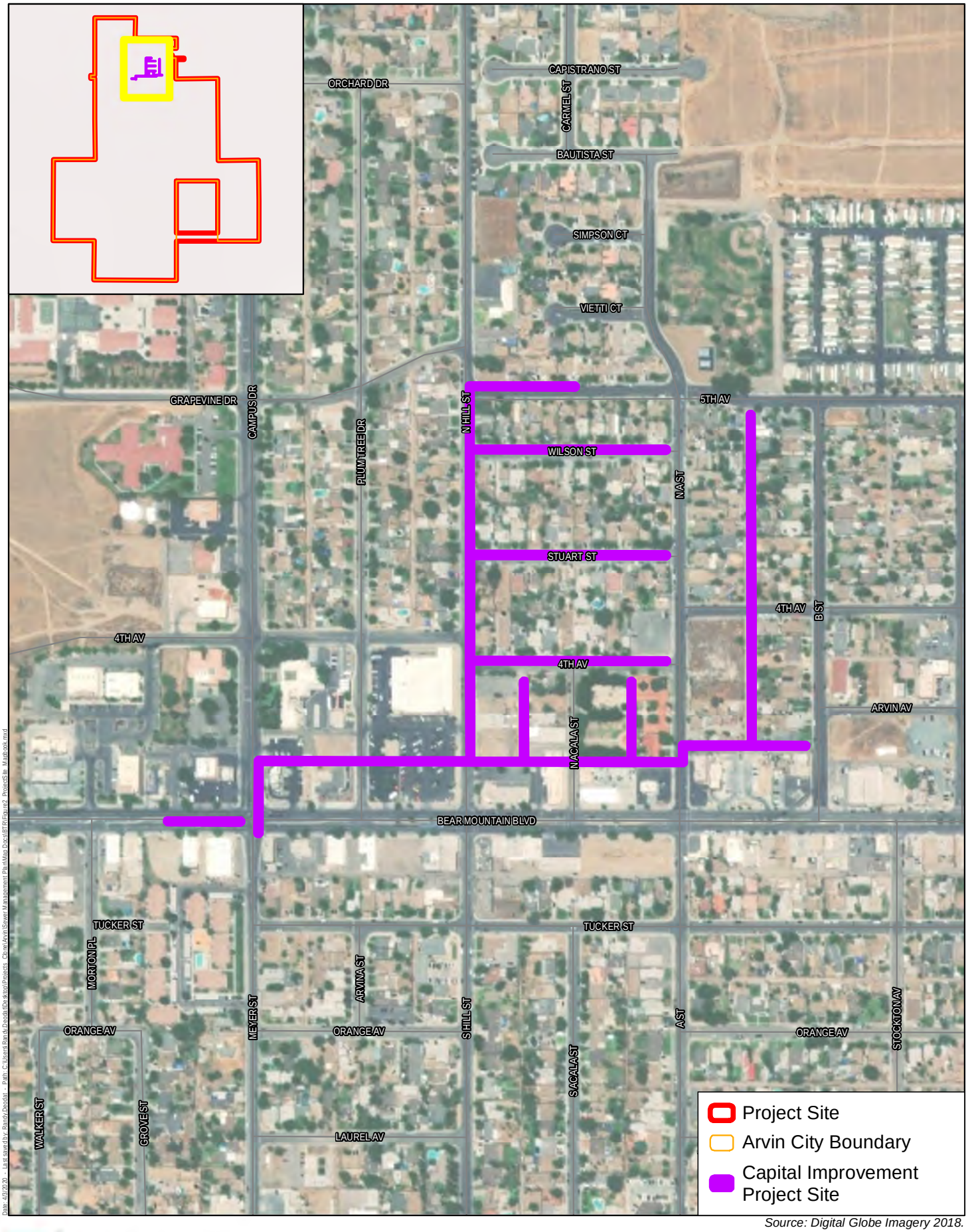
Figure 2m

Southeast Kovacevich Park CIP



Source: Digital Globe Imagery 2018.

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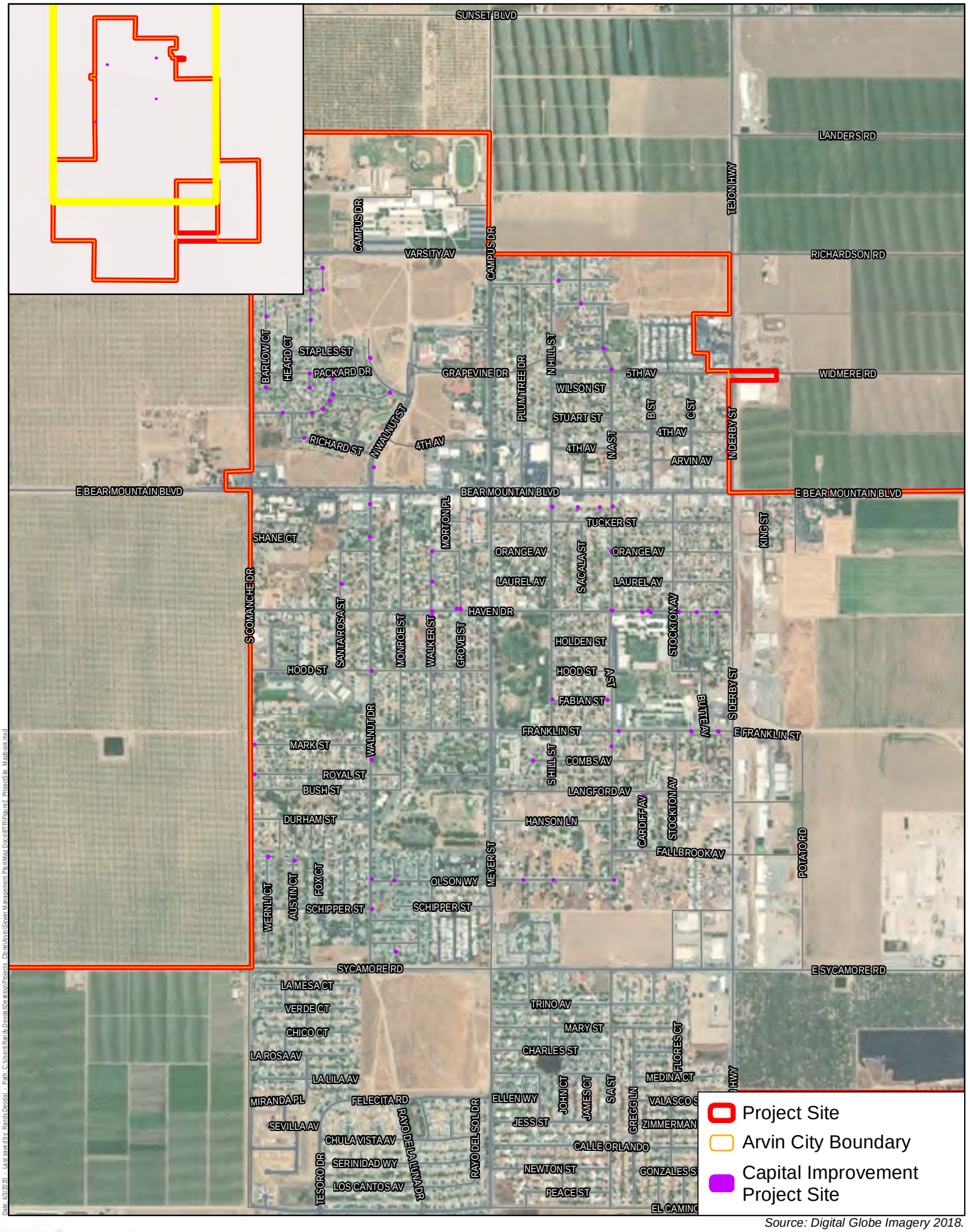
Figure 2n

Southwest Kovacevich Park CIP



Source: Digital Globe Imagery 2018.

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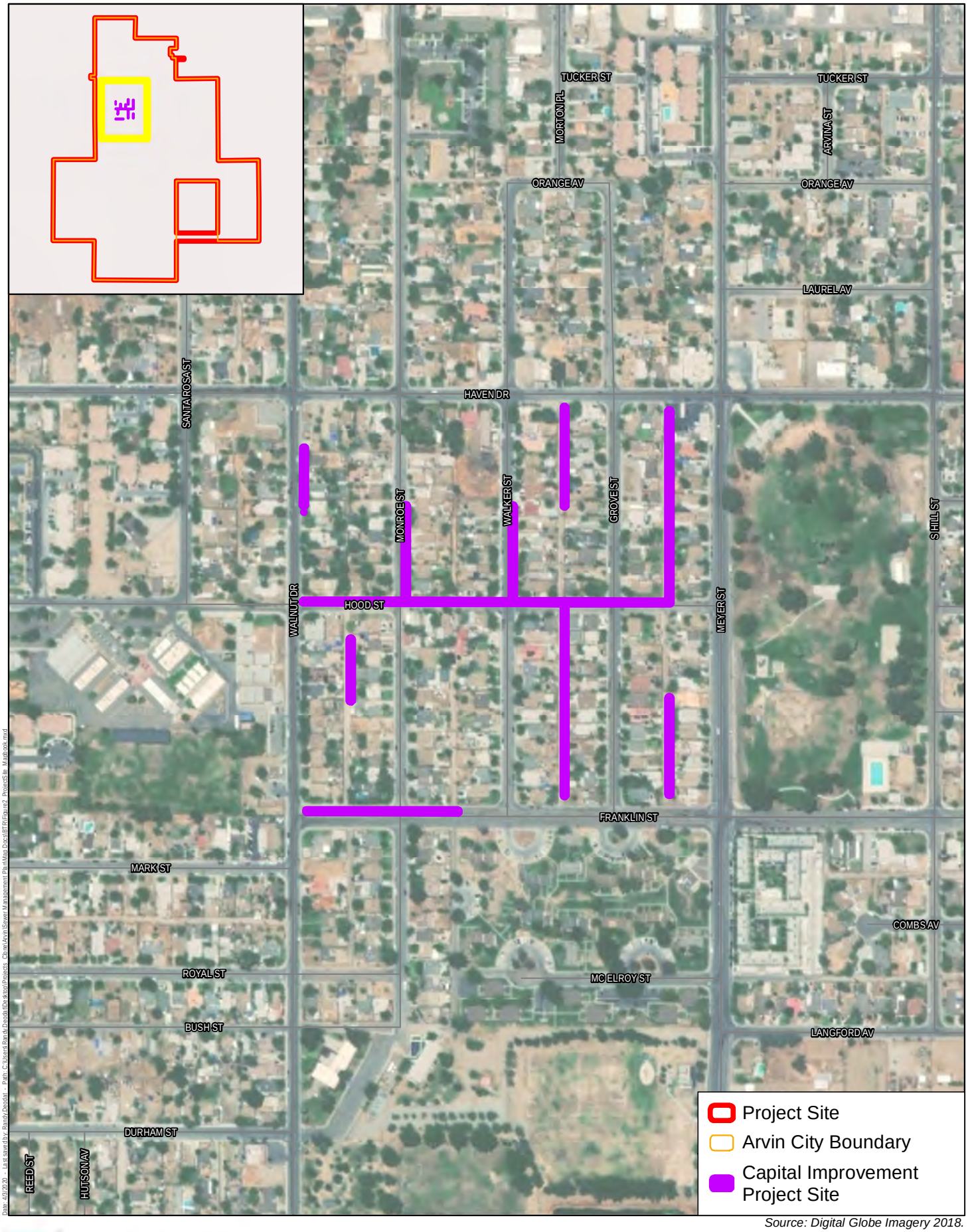
Figure 2o

Stand-Alone Manhole Repair and Replacement CIP



Source: Digital Globe Imagery 2018.

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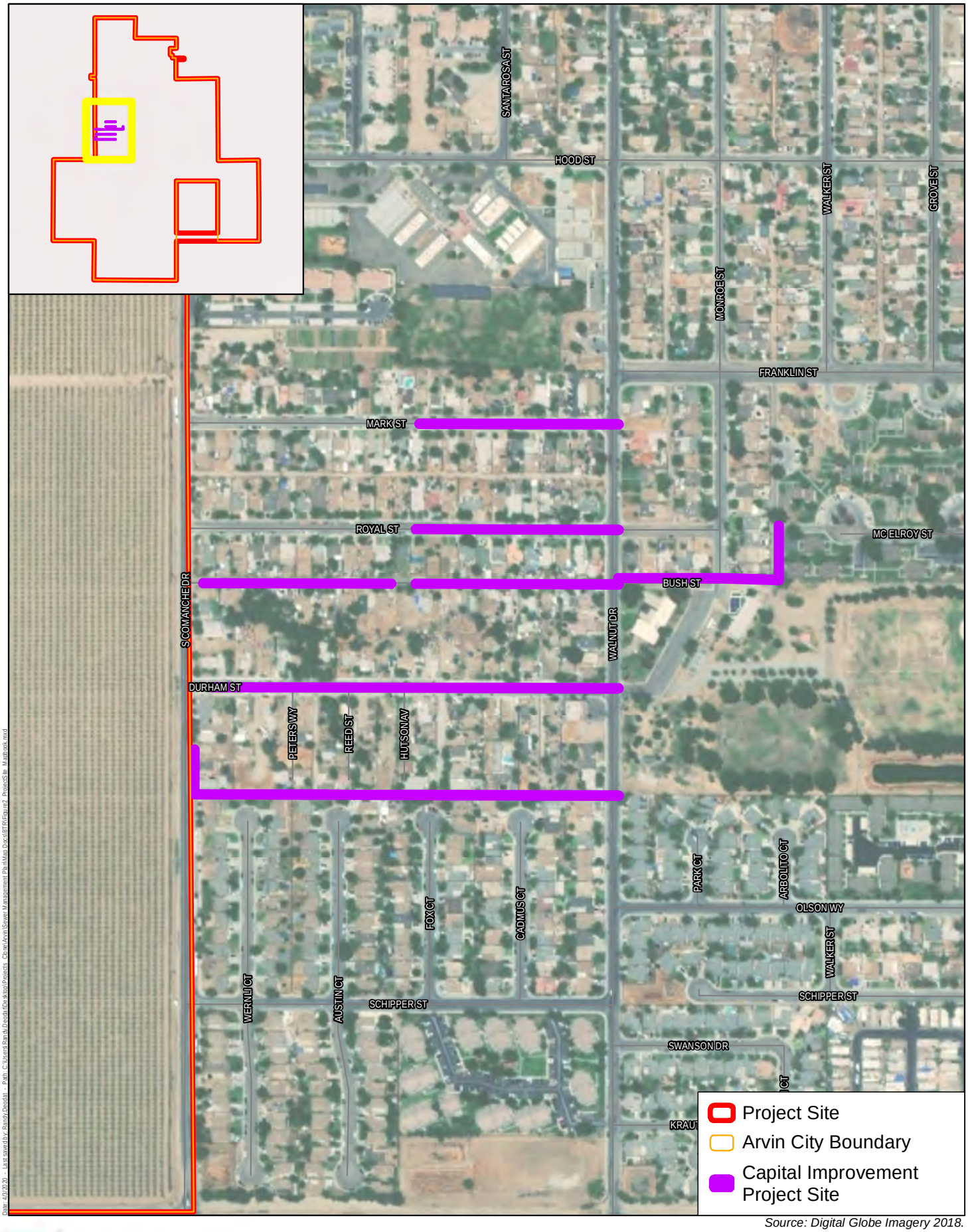
Figure 2p

West Di Giorgio Park CIP



Source: Digital Globe Imagery 2018.

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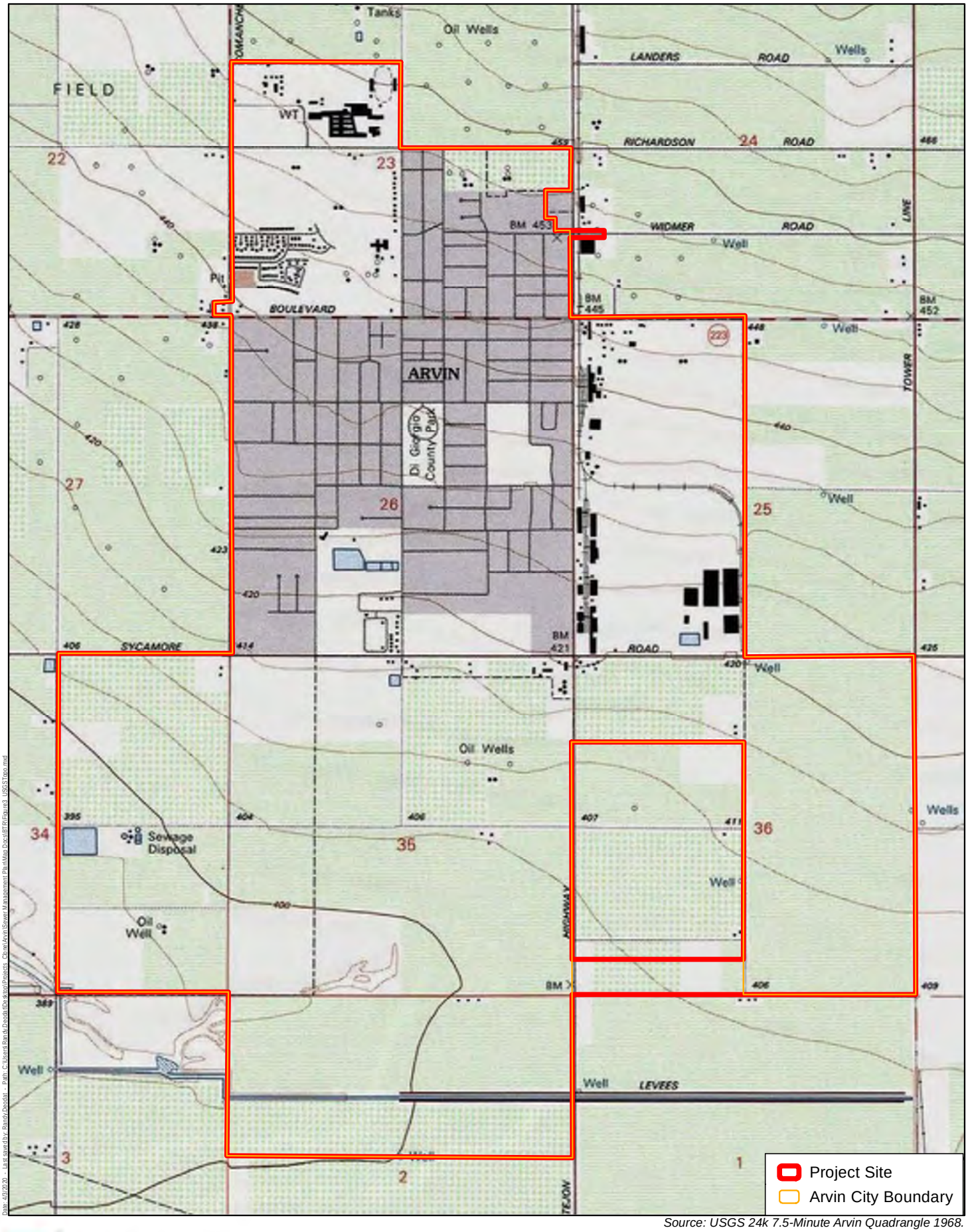
Figure 2q

West Smothermon Park CIP



Source: USGS 24k 7.5-Minute Arvin Quadrangle 1968.

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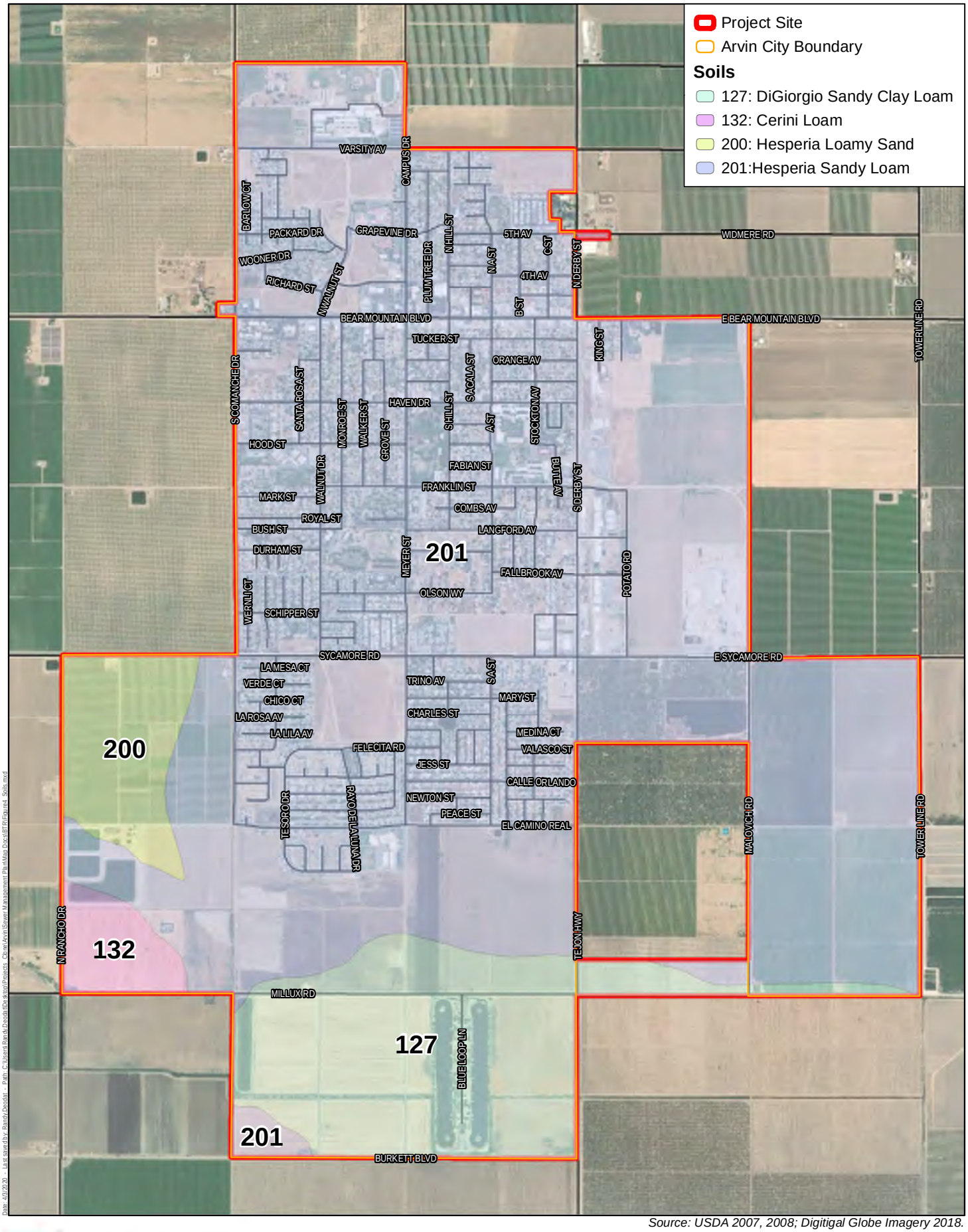
Figure 3

USGS Topographic Map



Source: USDA 2007, 2008; Digitigal Globe Imagery 2018.

Harris & Associates

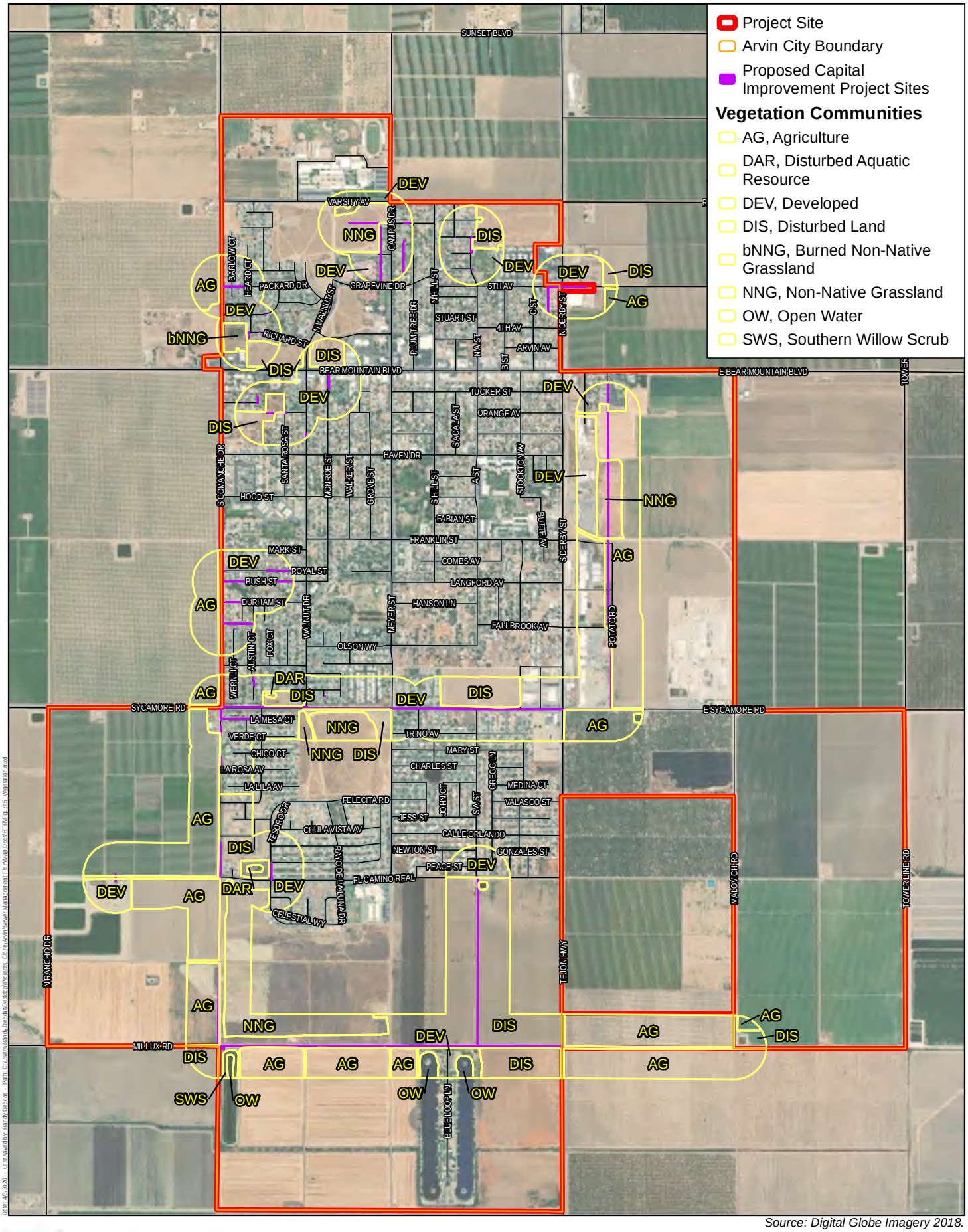
N

0 1,000 2,000

Feet

Figure 4

Soils



Source: Digital Globe Imagery 2018.

Harris & Associates

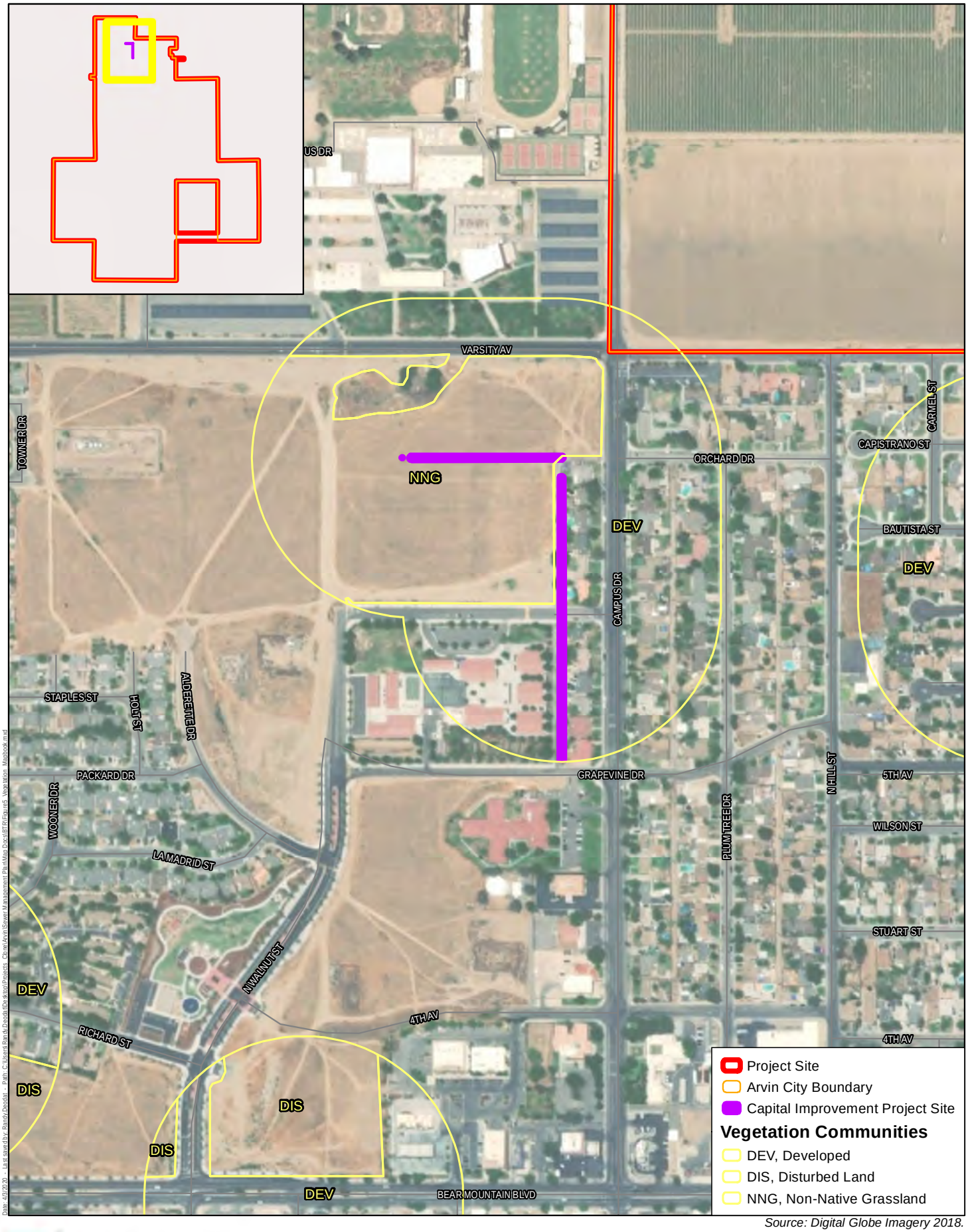
N

0 1,000 2,000

Feet

Figure 5

Vegetation Communities Overview



Source: Digital Globe Imagery 2018.

Harris & Associates

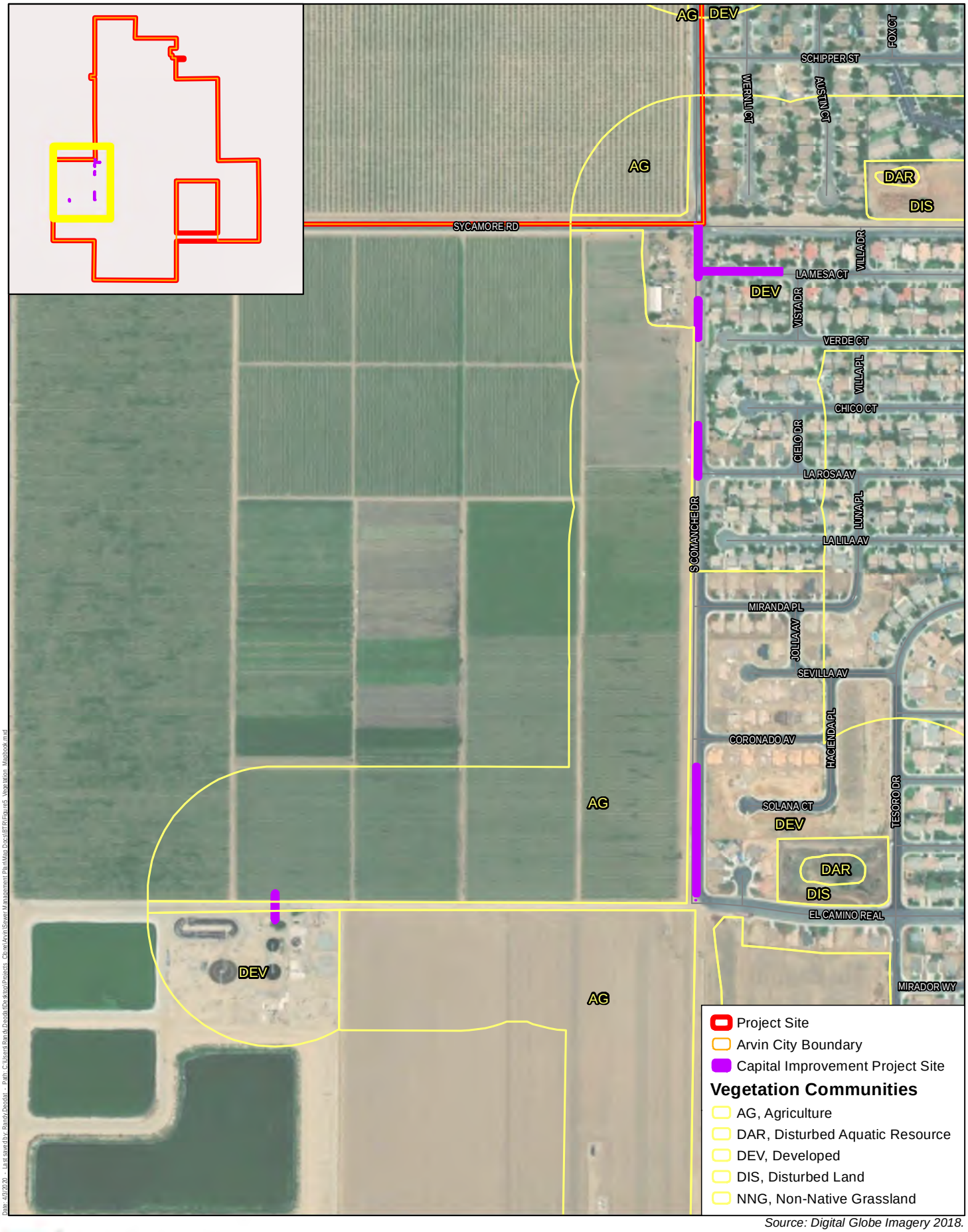
N

0 300 600

Feet

Figure 5a

Campus Drive Alley CIP



Source: Digital Globe Imagery 2018.

Harris & Associates

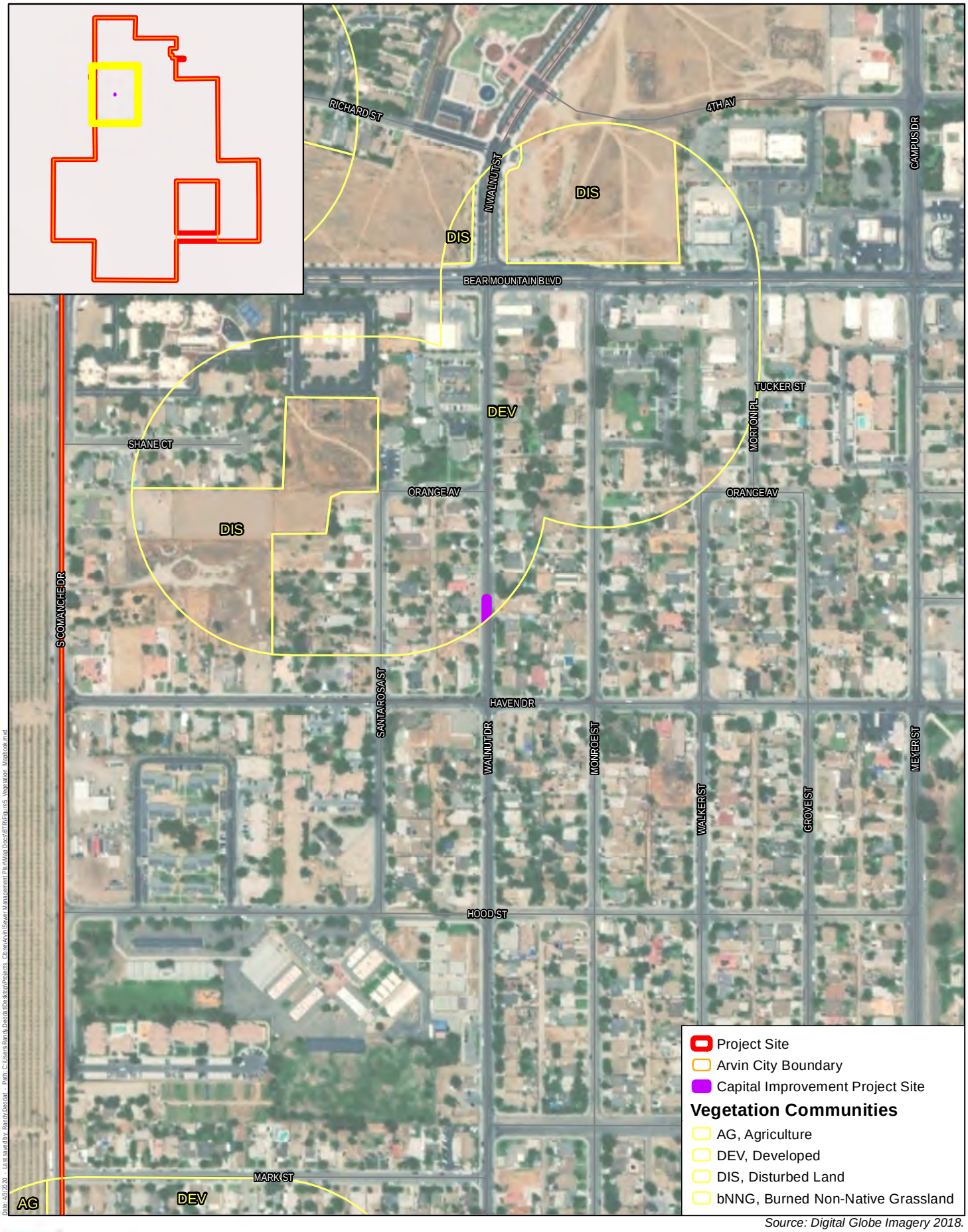
N

0 300 600

Feet

Figure 5b

Comanche Drive CIP



Source: Digital Globe Imagery 2018.

Harris & Associates

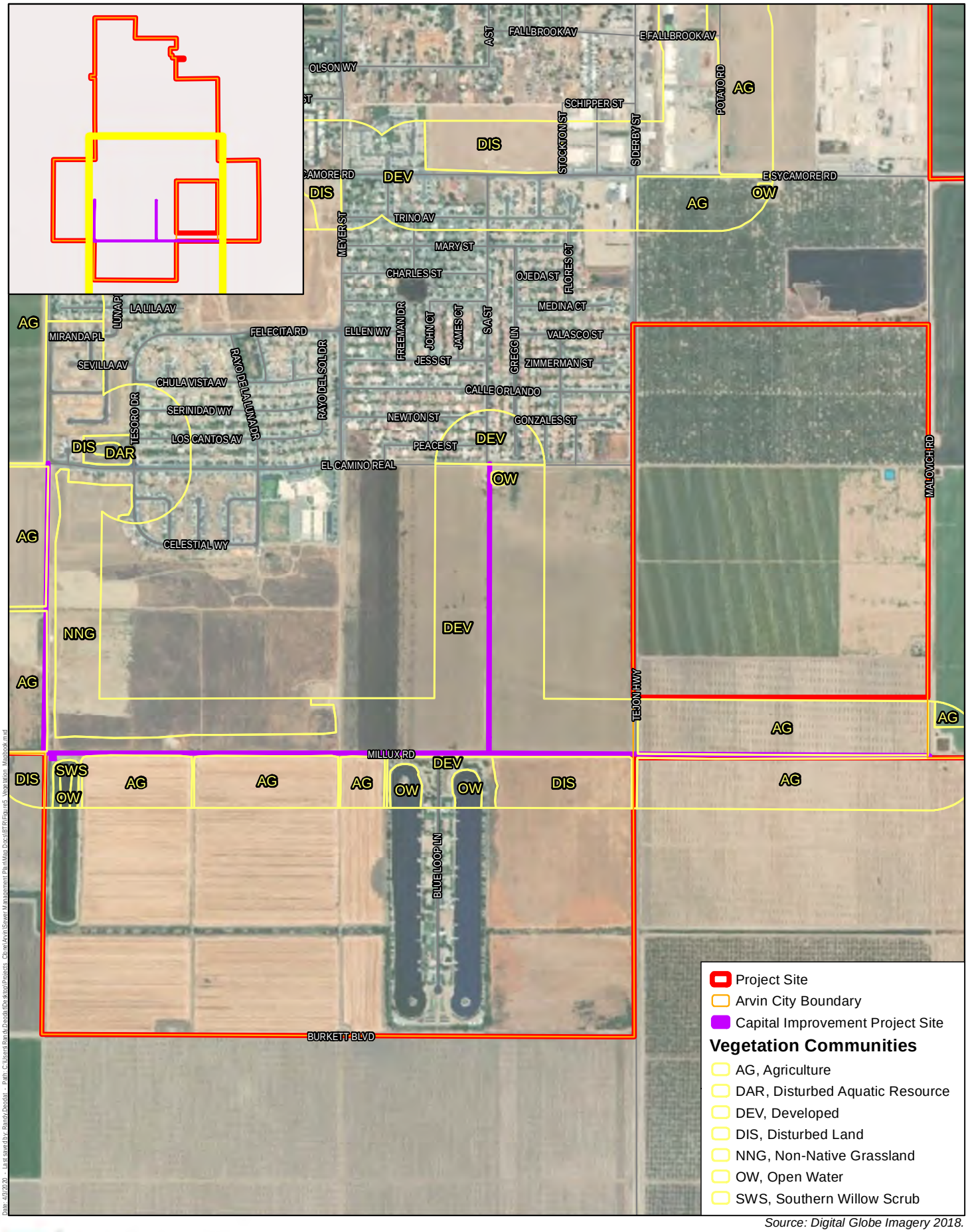
N

0 300 600

Feet

Figure 5c

Haven Drive CIP



Source: Digital Globe Imagery 2018.

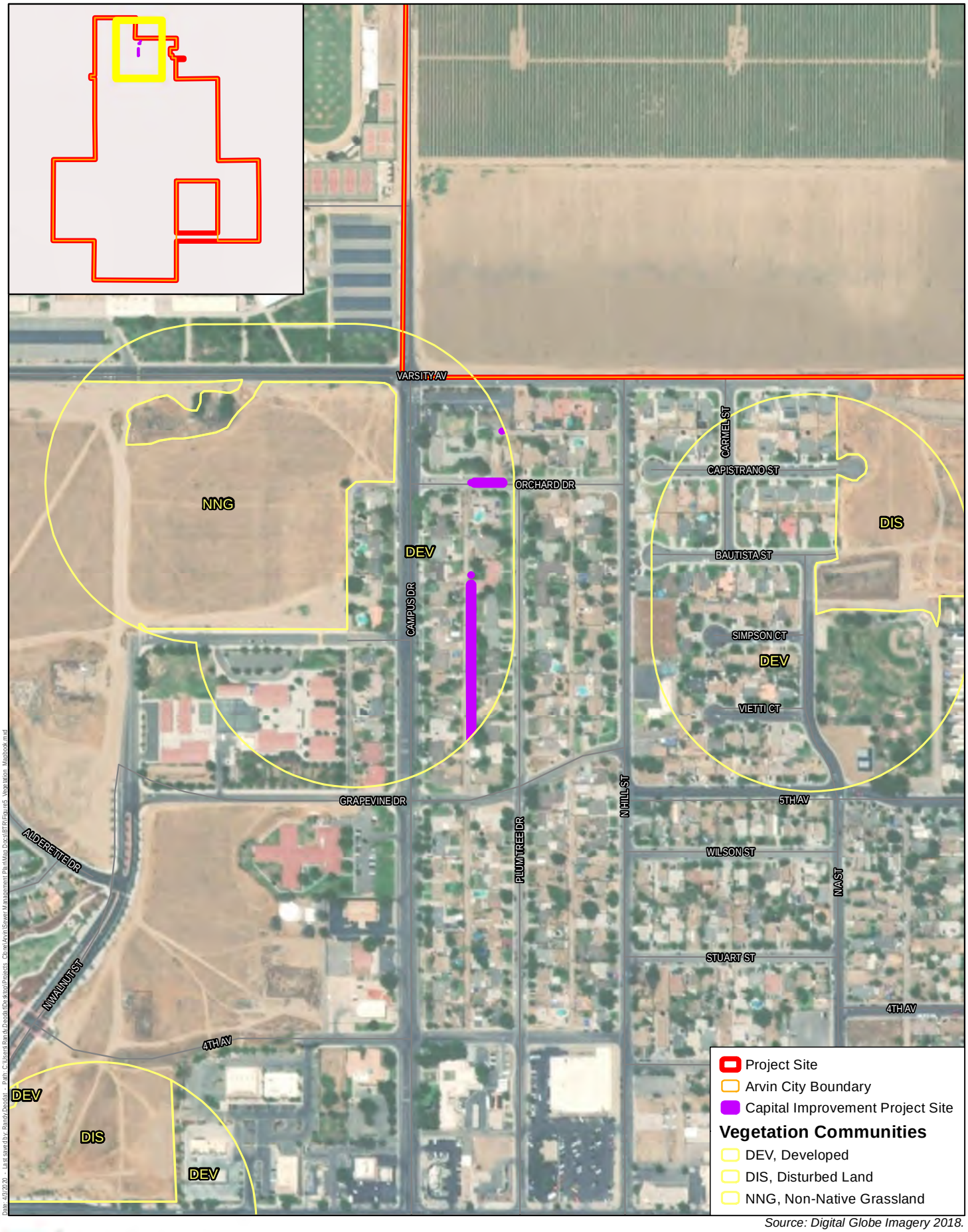
Harris & Associates

N

0 300 600
Feet

Figure 5d

Millux Road Pipeline and Pump Station CIP



Source: Digital Globe Imagery 2018.

Harris & Associates

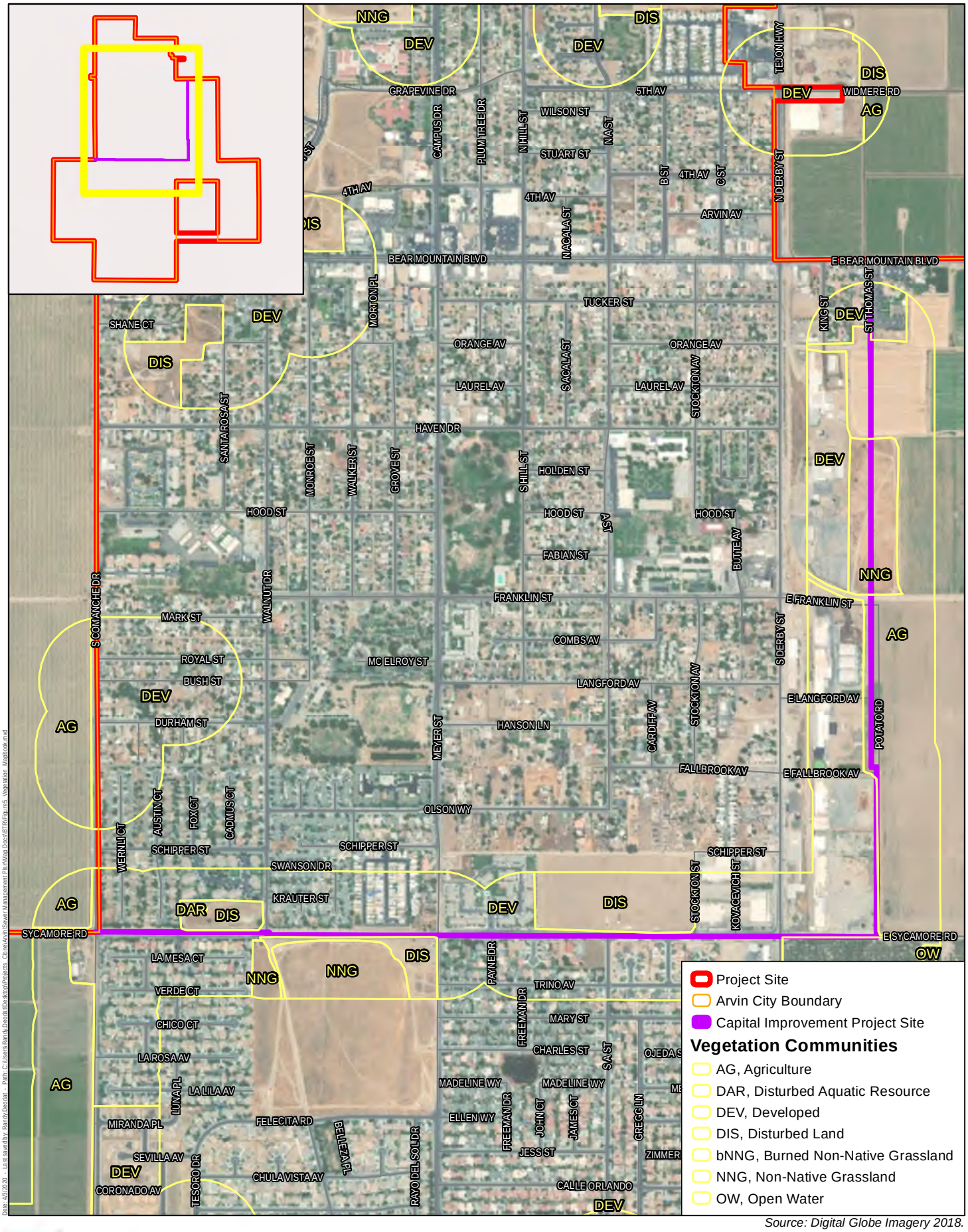
N

0 300 600

Feet

Figure 5e

Plumtree Drive Alleys CIP



Source: Digital Globe Imagery 2018.

Harris & Associates

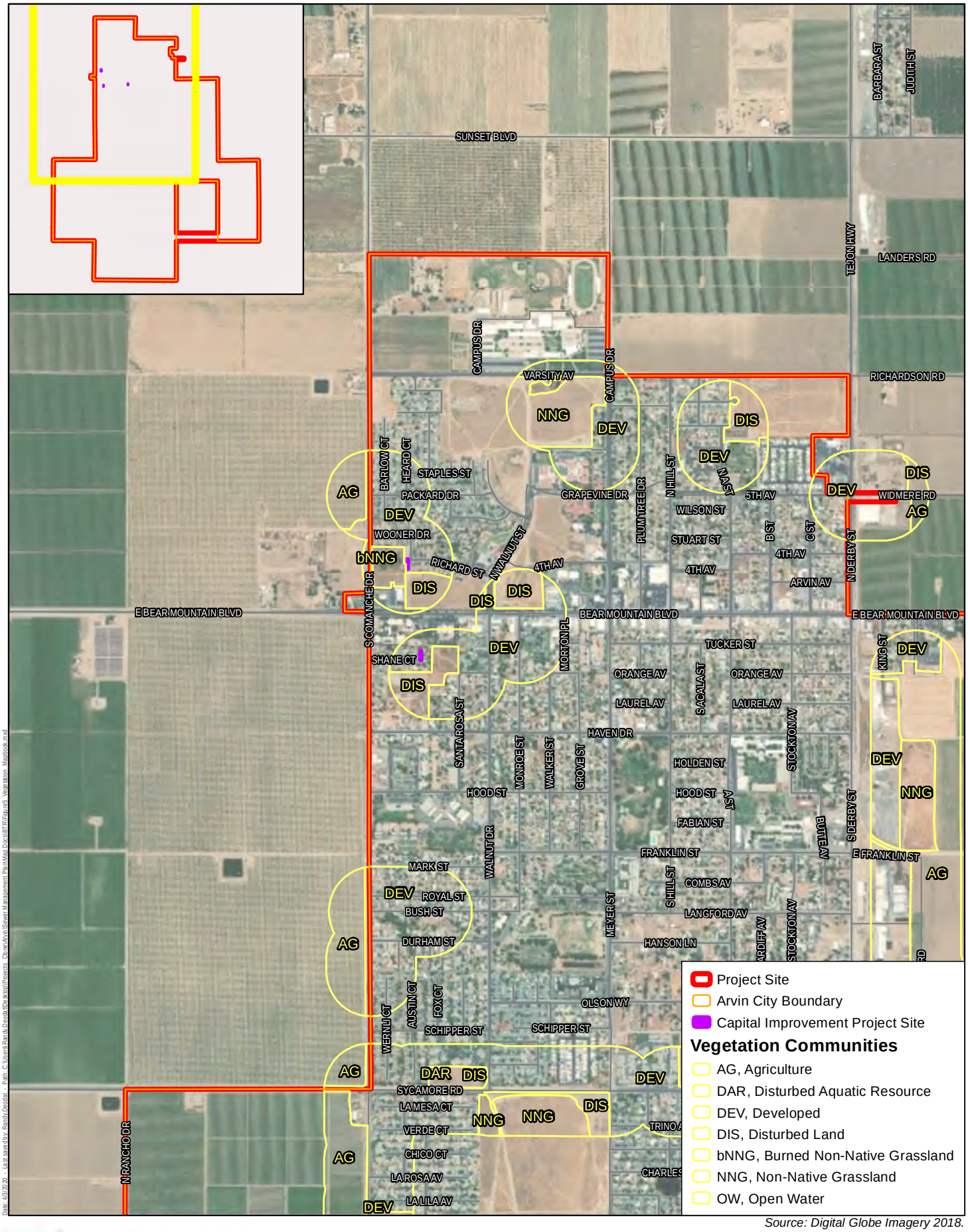
N

0 300 600

Feet

Figure 5f

Potato-Sycamore CIP



Source: Digital Globe Imagery 2018.

Harris & Associates

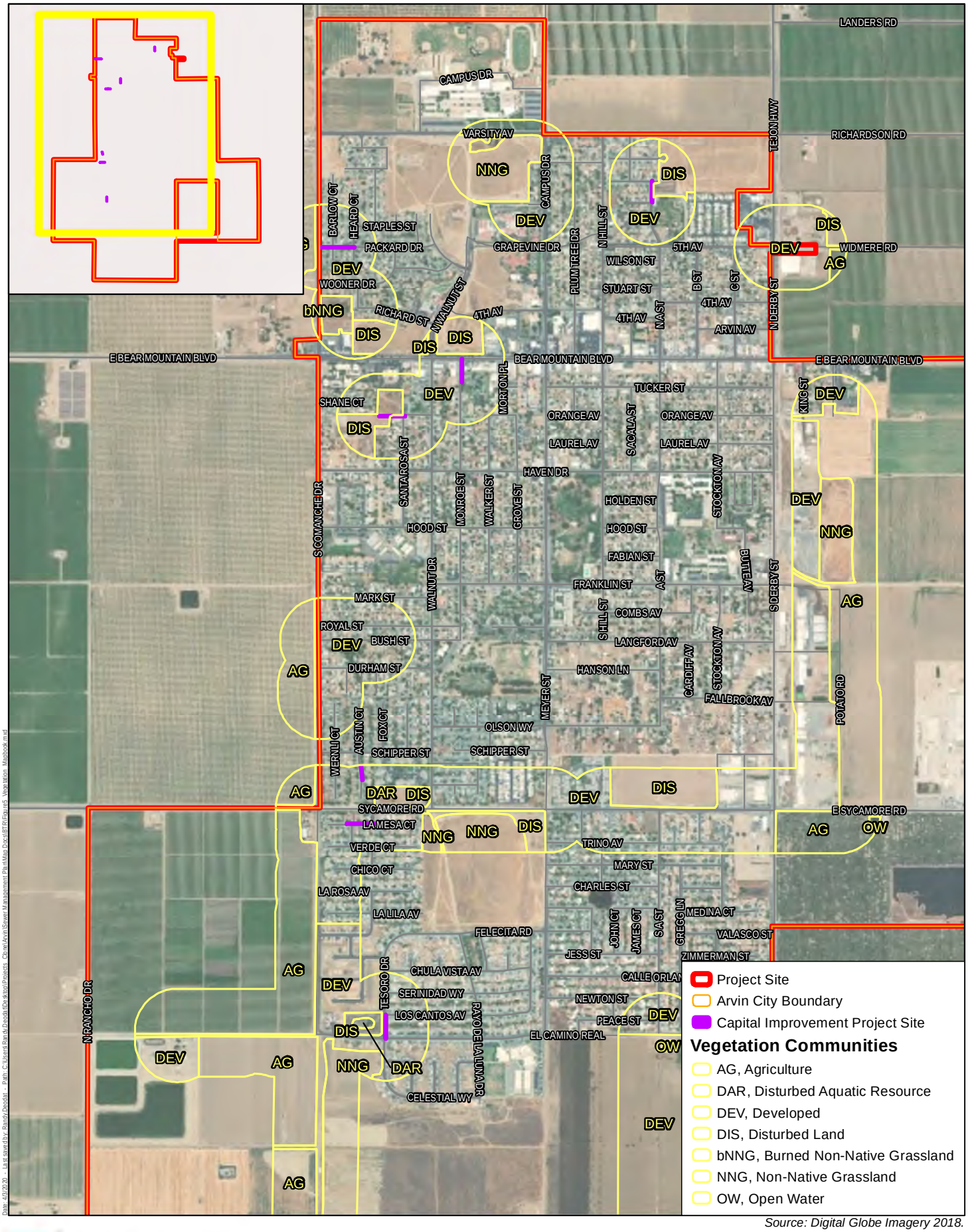
N

0 300 600

Feet

Figure 5g

Small Pipeline Replacement CIP



Source: Digital Globe Imagery 2018.

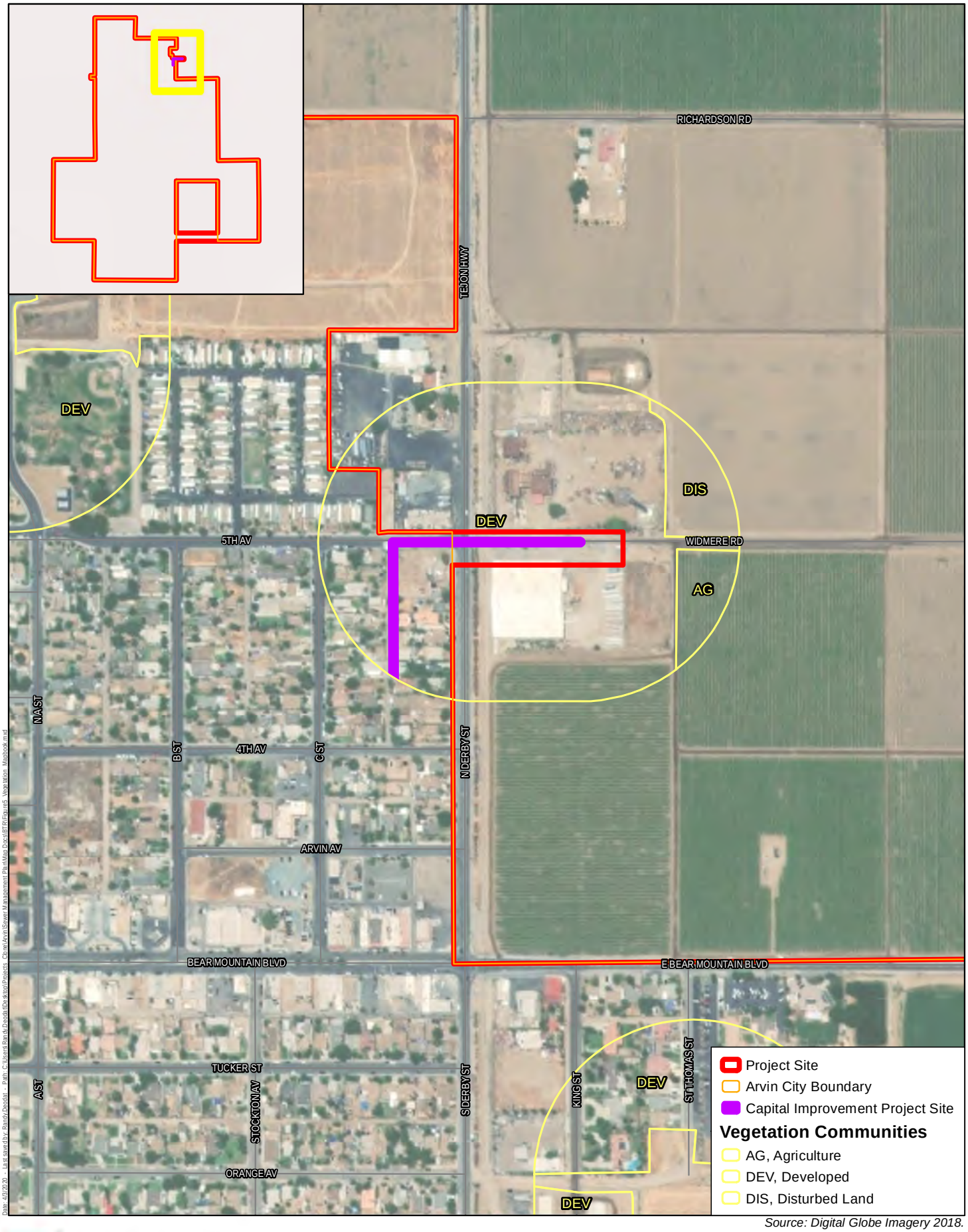
Harris & Associates

N

0 300 600
Feet

Figure 5h

Small Spot Repair CIP



Source: Digital Globe Imagery 2018.

Harris & Associates

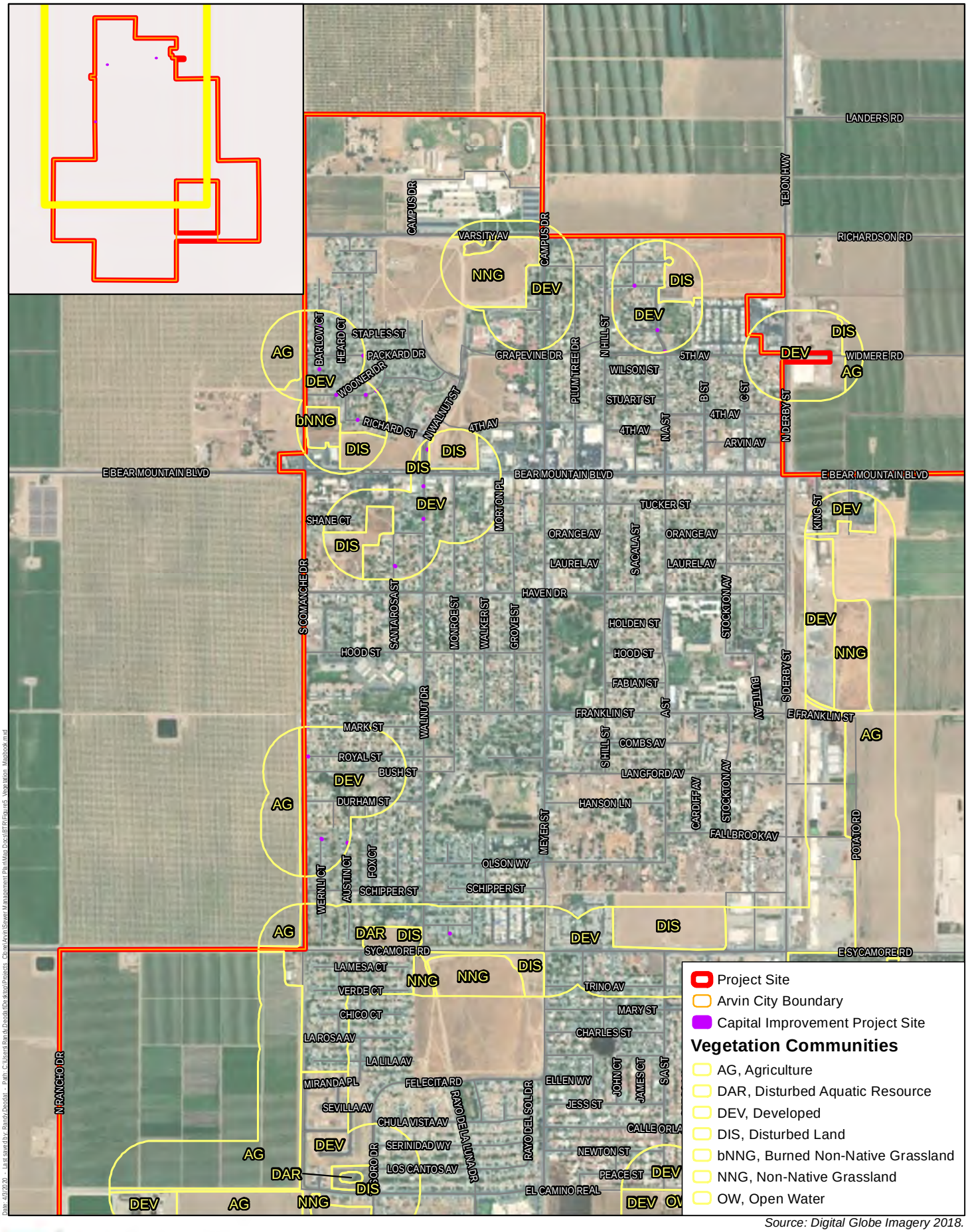
N

0 300 600

Feet

Figure 5i

Southeast Kovacevich Park CIP



Source: Digital Globe Imagery 2018.

Harris & Associates

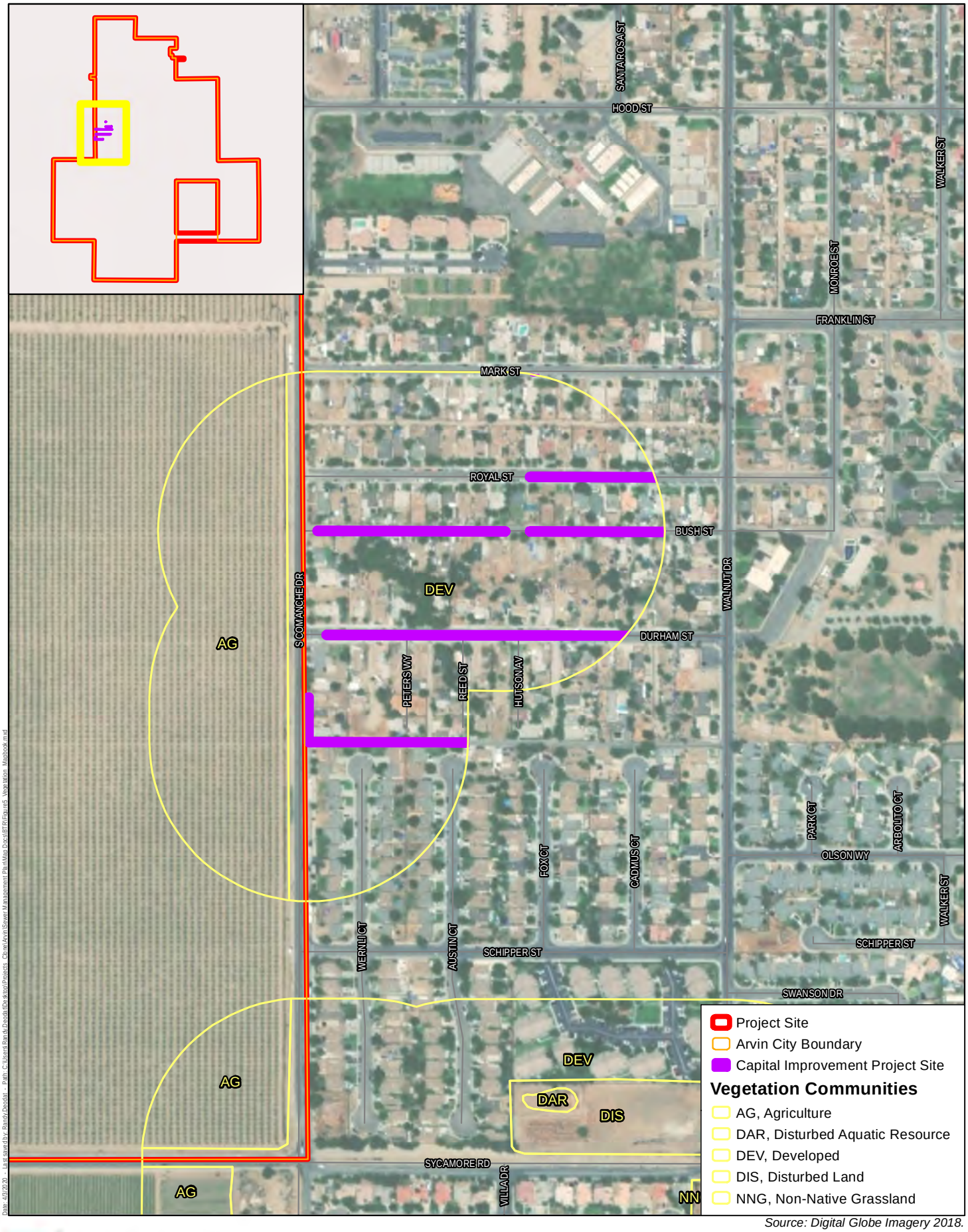
N

0 300 600

Feet

Figure 5j

Stand-Alone Manhole Repair and Replacement CIP



Source: Digital Globe Imagery 2018.

Harris & Associates

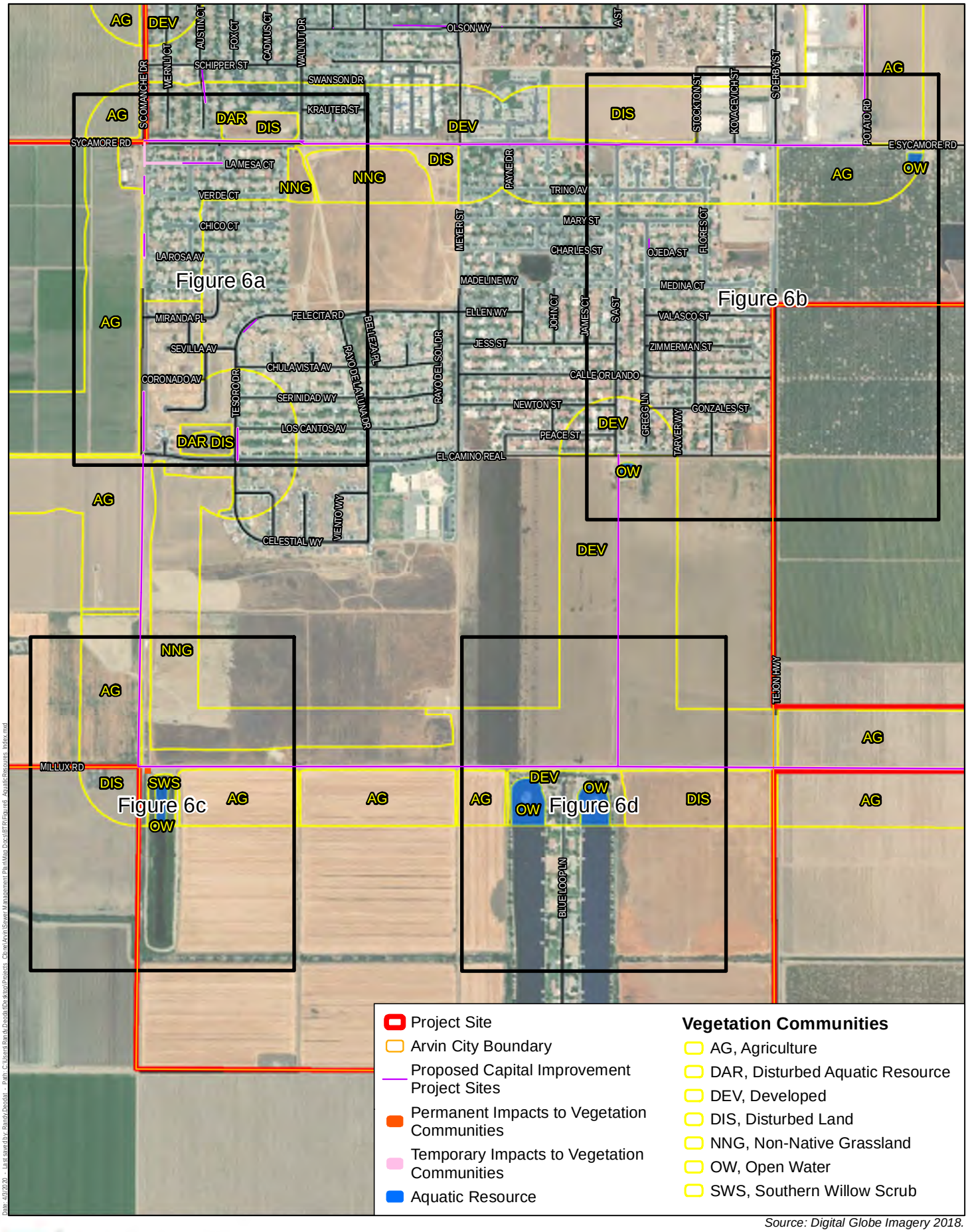
N

0 300 600

Feet

Figure 5k

West Smothermon Park CIP



Source: Digital Globe Imagery 2018.

Harris & Associates

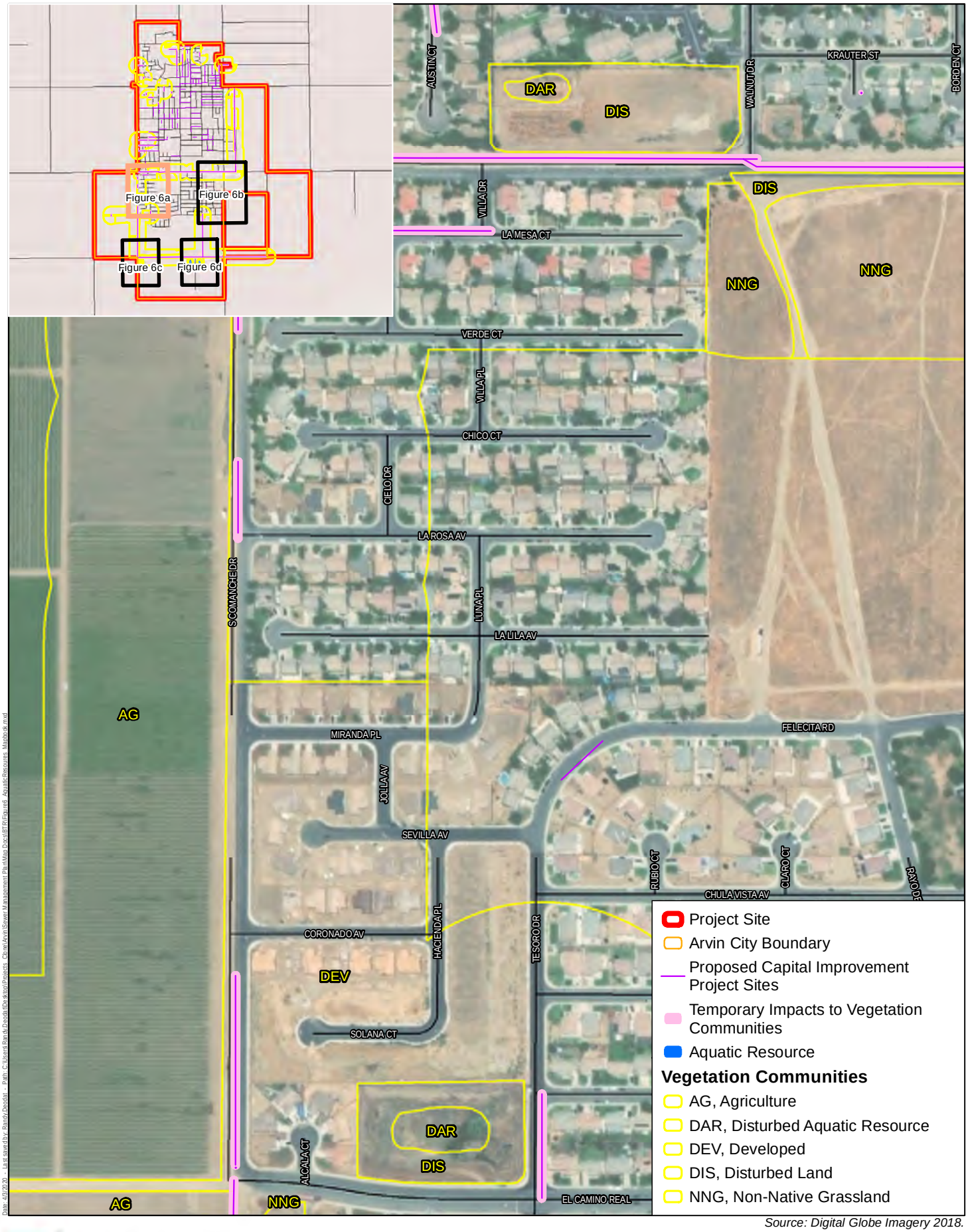
N

0 500 1,000

Feet

Figure 6

Aquatic Resources - Index



Source: Digital Globe Imagery 2018.

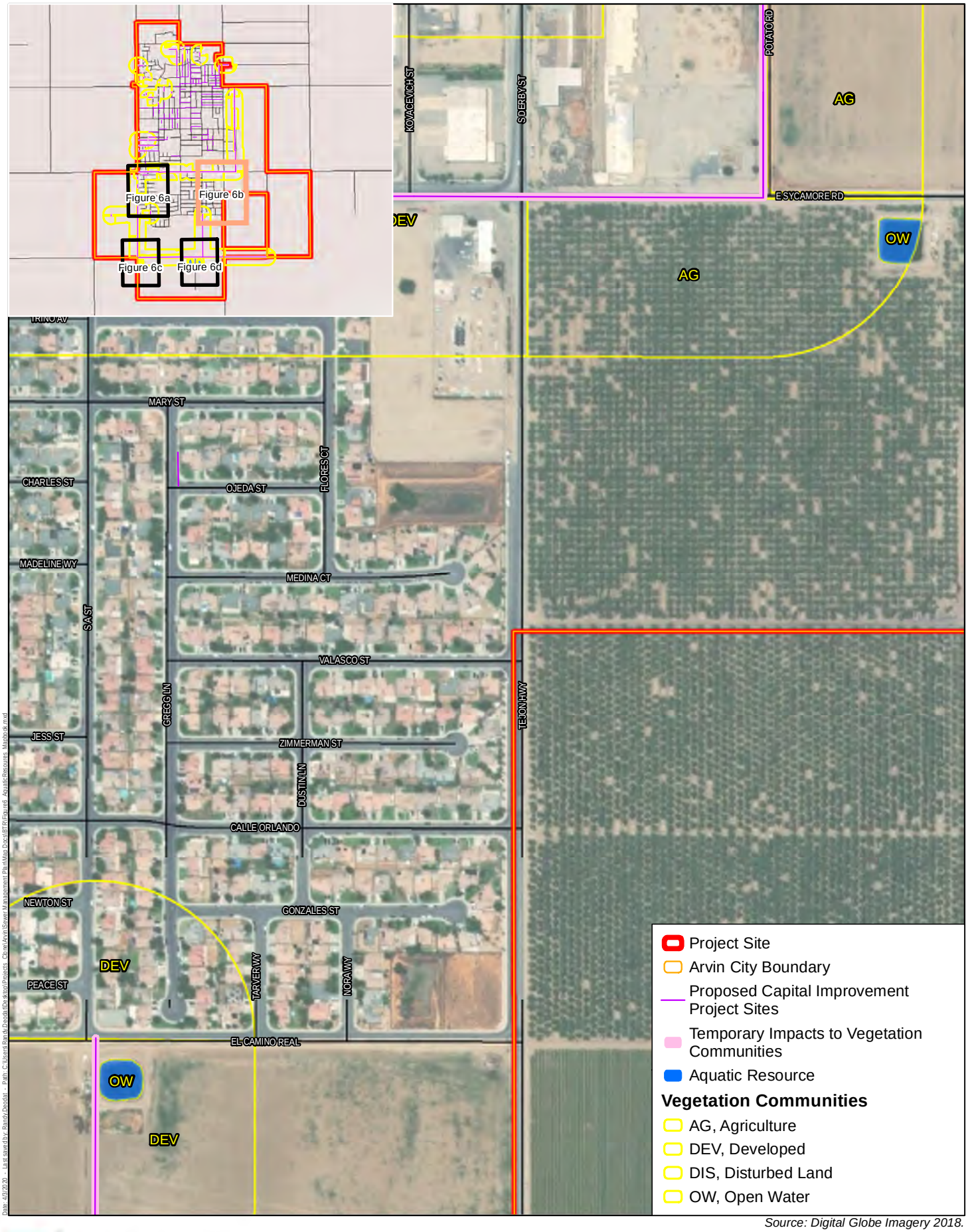
Harris & Associates

N

0 200 400
Feet

Figure 6a

Aquatic Resources



Source: Digital Globe Imagery 2018.

Harris & Associates

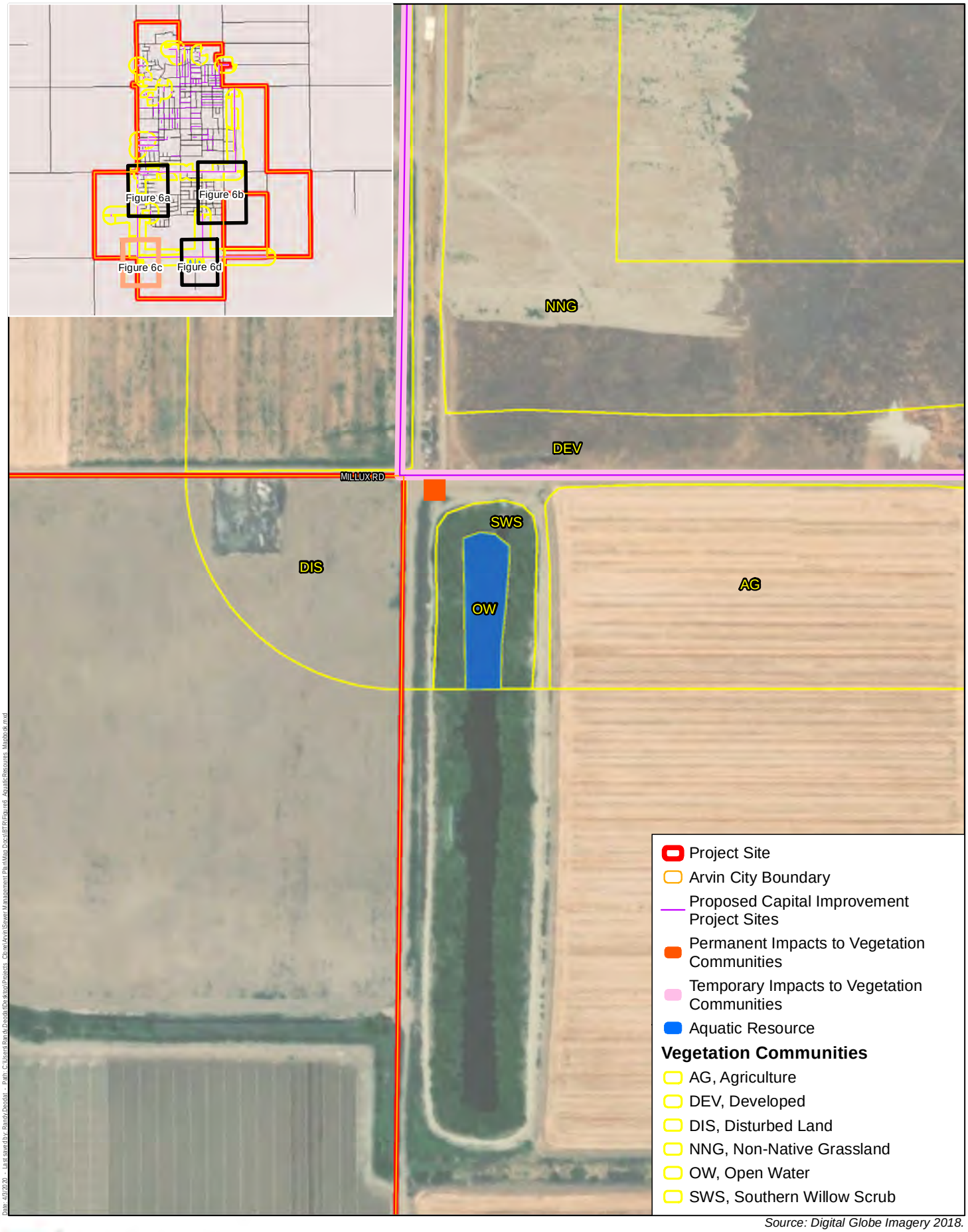
N

0 200 400

Feet

Figure 6b

Aquatic Resources



Source: Digital Globe Imagery 2018.

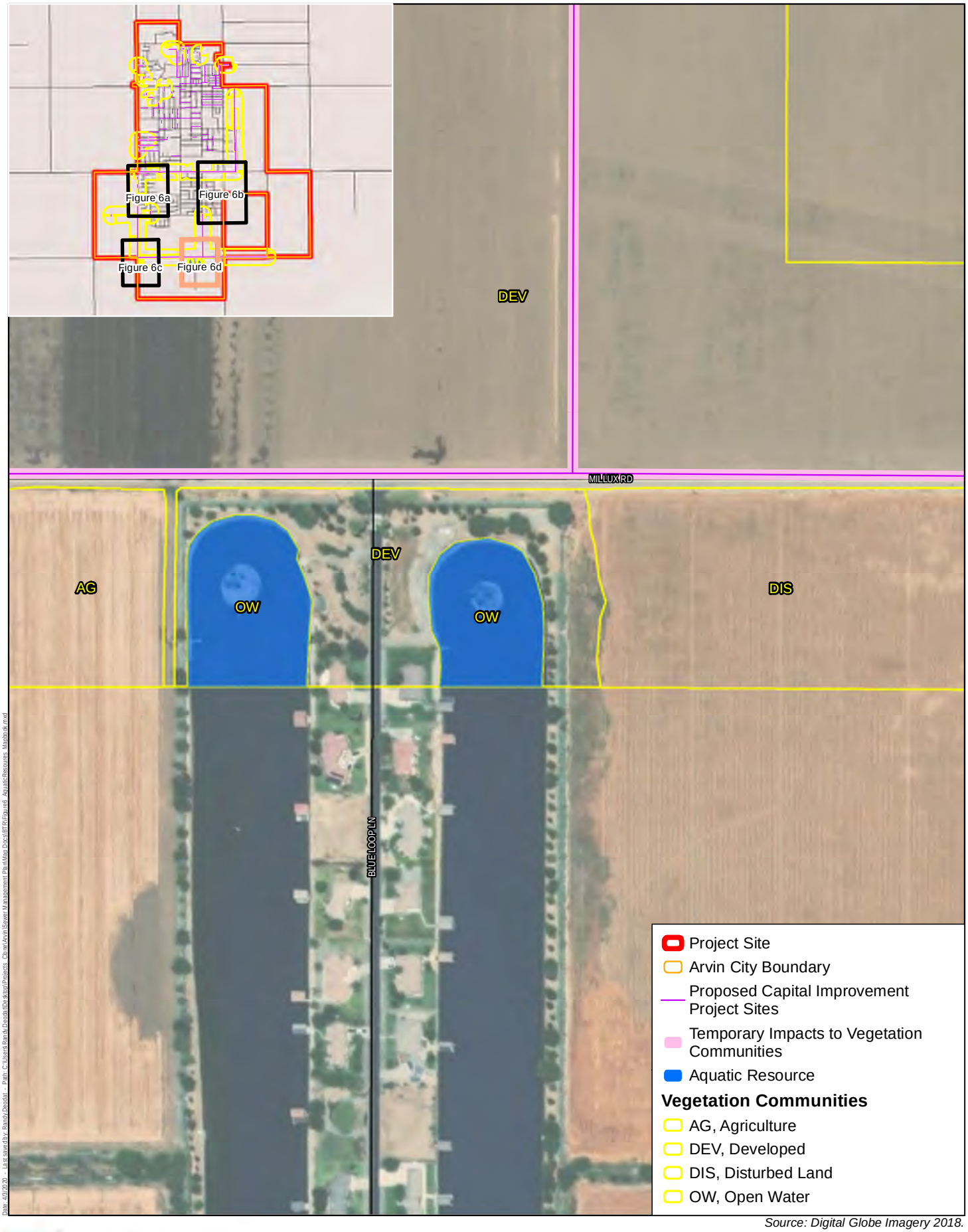
Harris & Associates

N

0 200 400
Feet

Figure 6c

Aquatic Resources



Source: Digital Globe Imagery 2018.

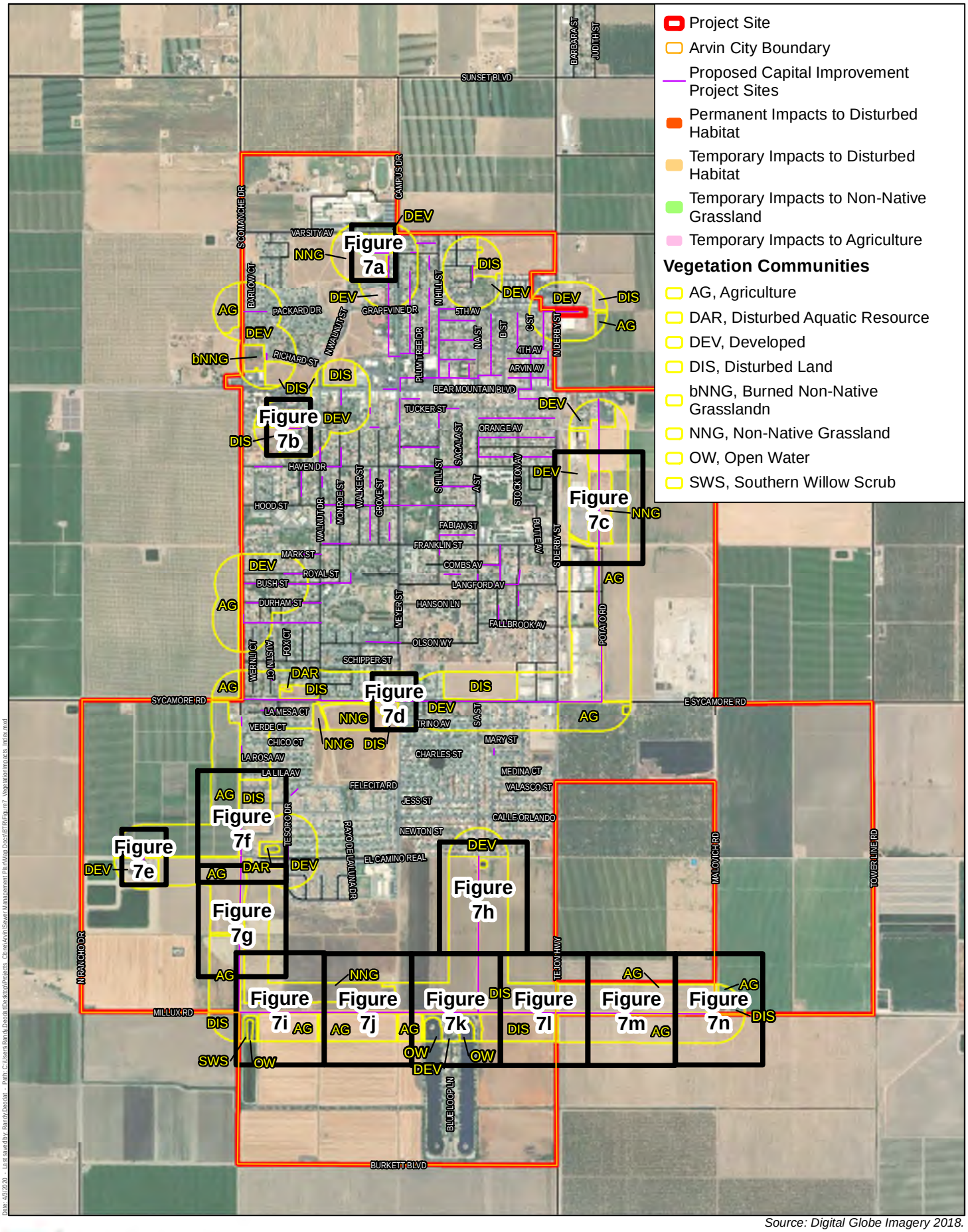
Harris & Associates

N

0 200 400
Feet

Figure 6d

Aquatic Resources



Source: Digital Globe Imagery 2018.

Harris & Associates

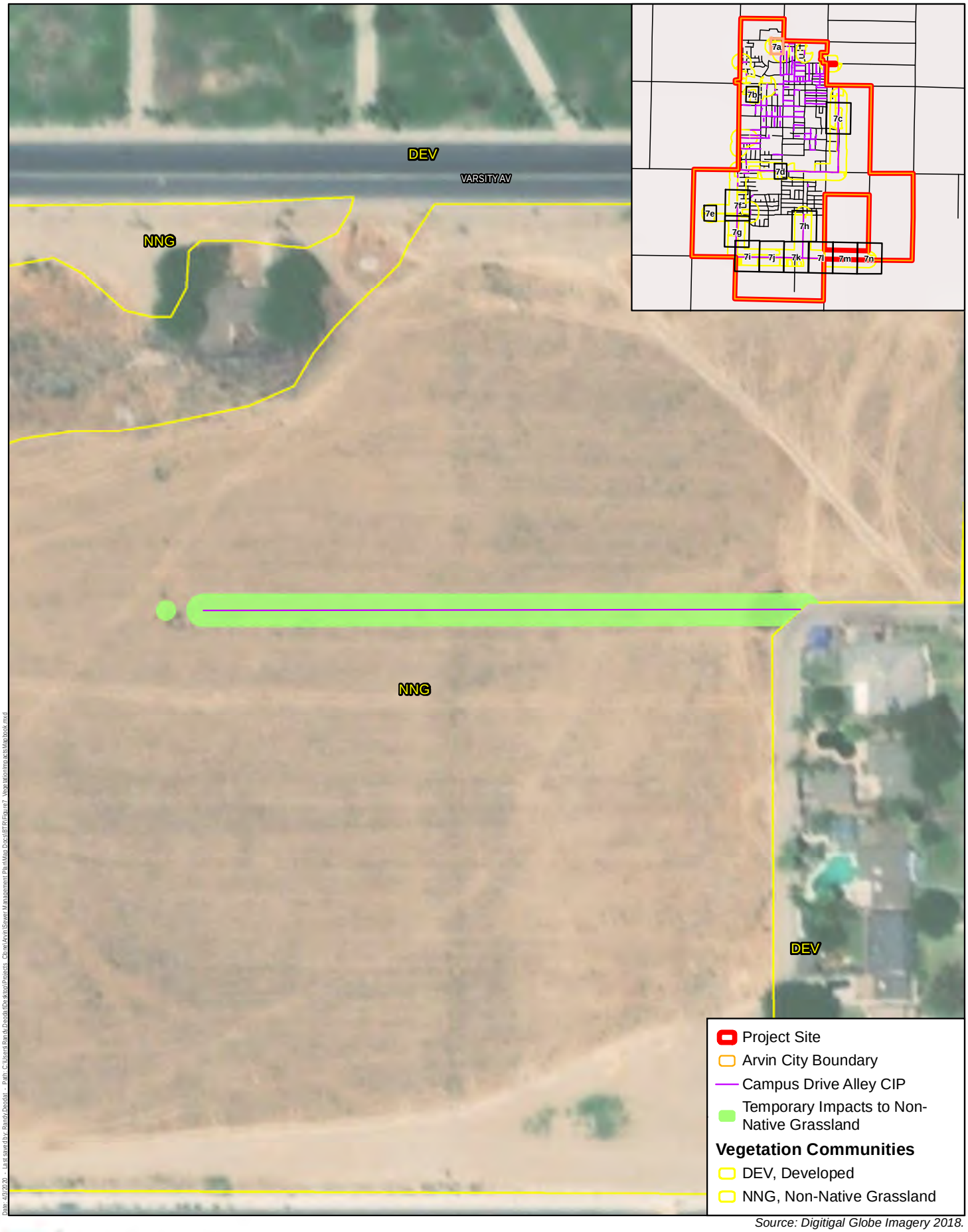
N

0 1,000 2,000

Feet

Figure 7

Impacts to Vegetation Communities - Index



Source: Digitigal Globe Imagery 2018.

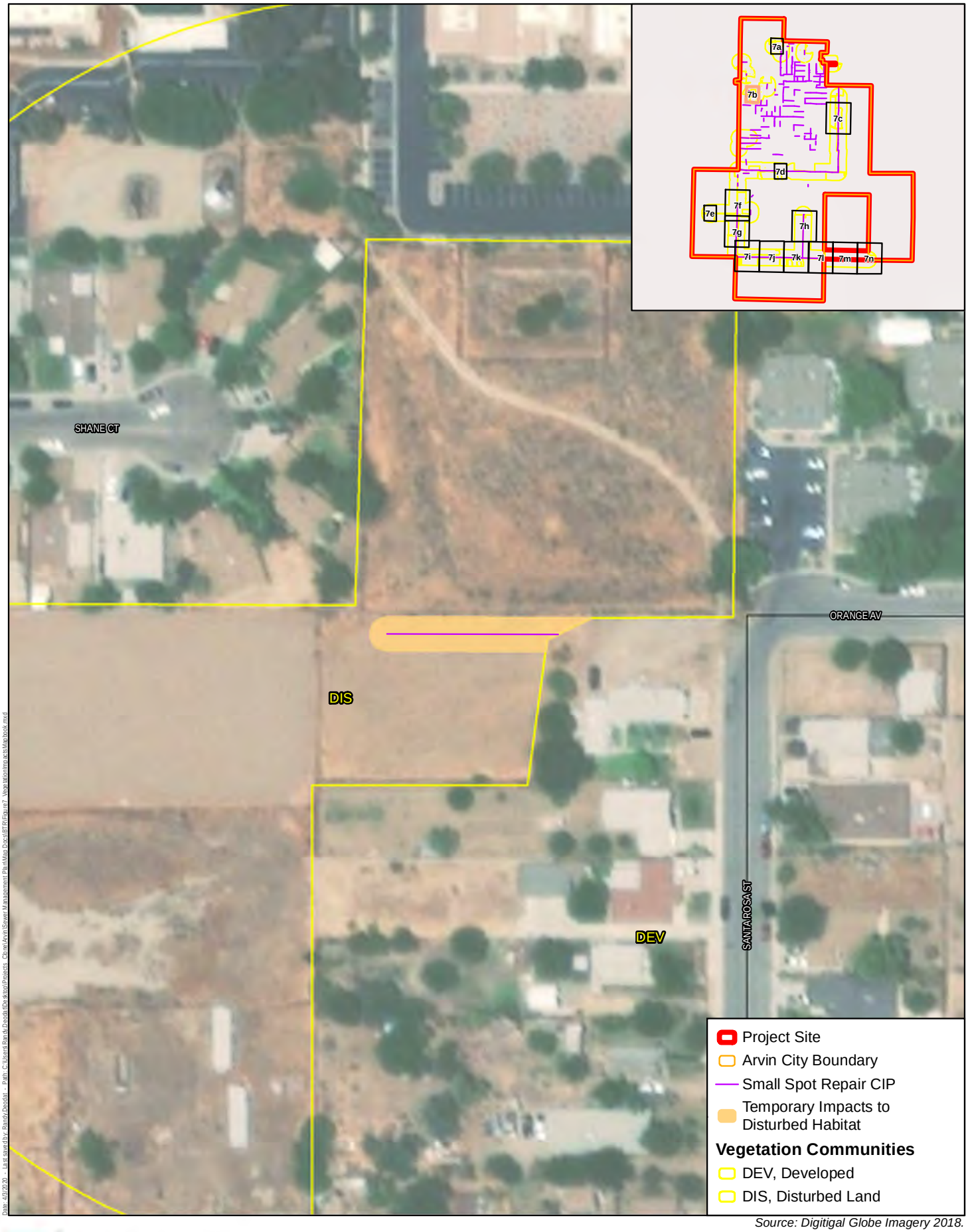
Harris & Associates

N

0 50 100
Feet

Figure 7a

Impacts to Vegetation Communities
Campus Drive Alley



Source: Digitigal Globe Imagery 2018.

Harris & Associates

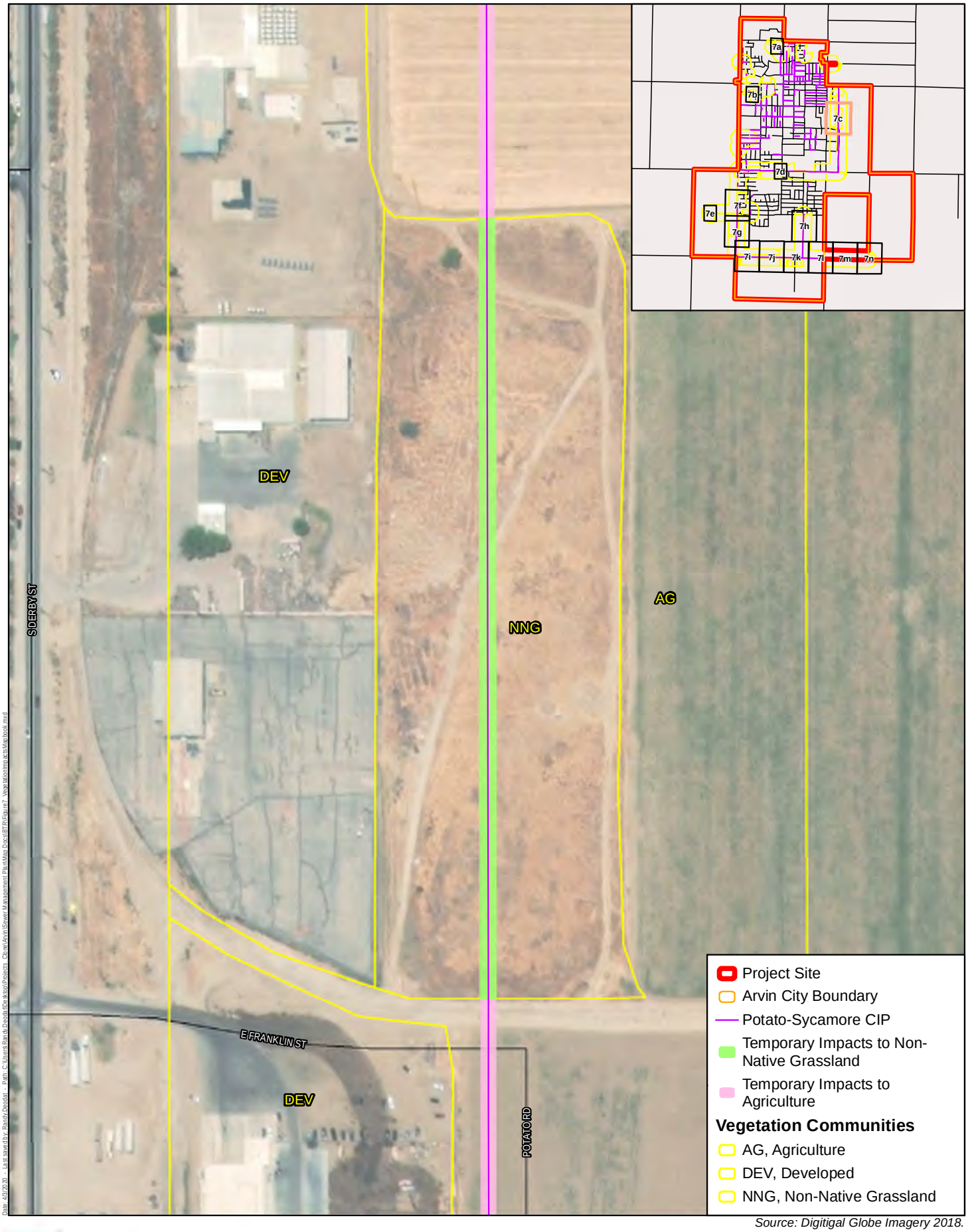
N

0 50 100

Feet

Figure 7b

Impacts to Vegetation Communities
Small Spot Repair



Source: Digitigal Globe Imagery 2018.

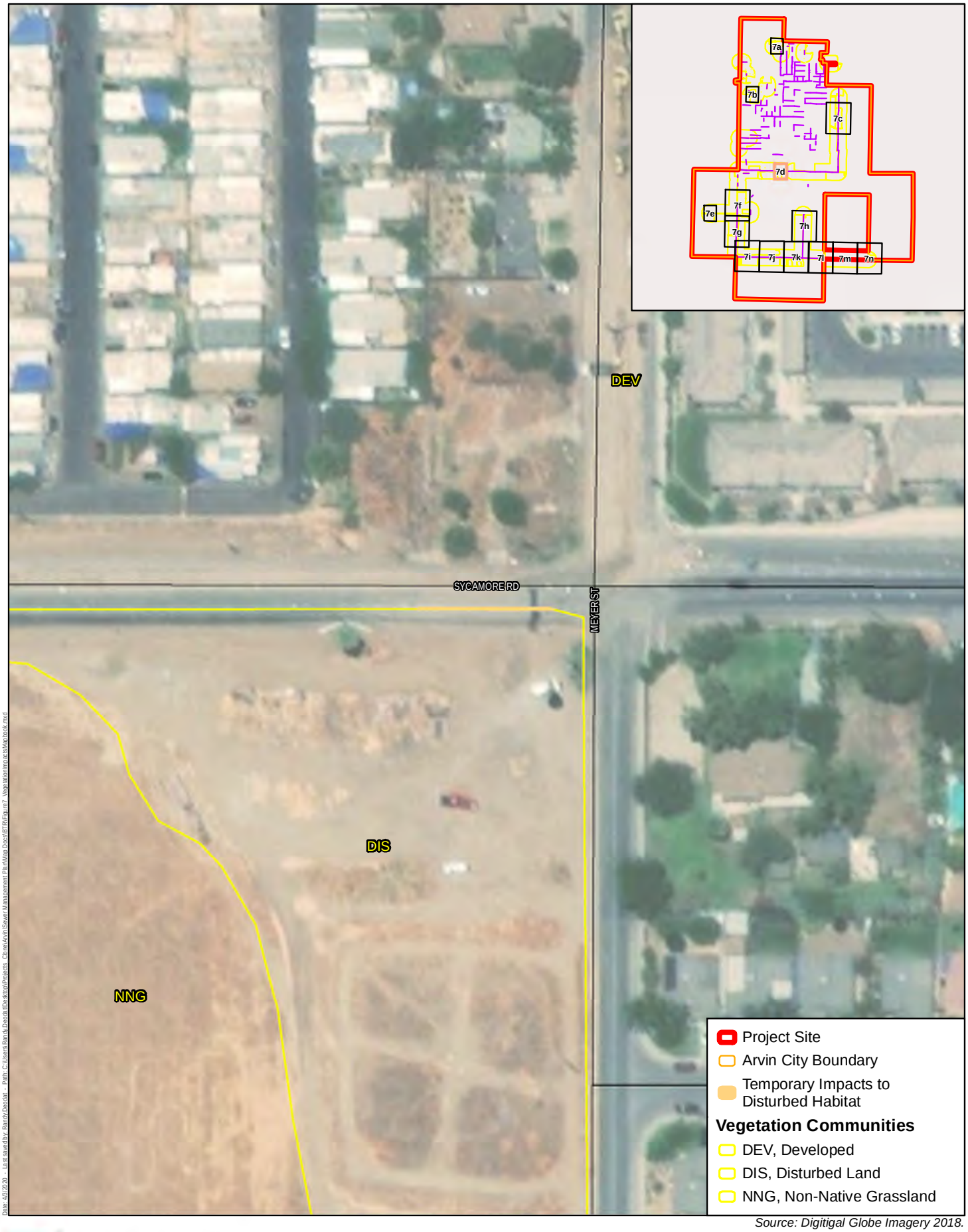
Harris & Associates

N

0 50 100
Feet

Figure 7c

Impacts to Vegetation Communities
Potato-Sycamore



Source: Digitigal Globe Imagery 2018.

Harris & Associates

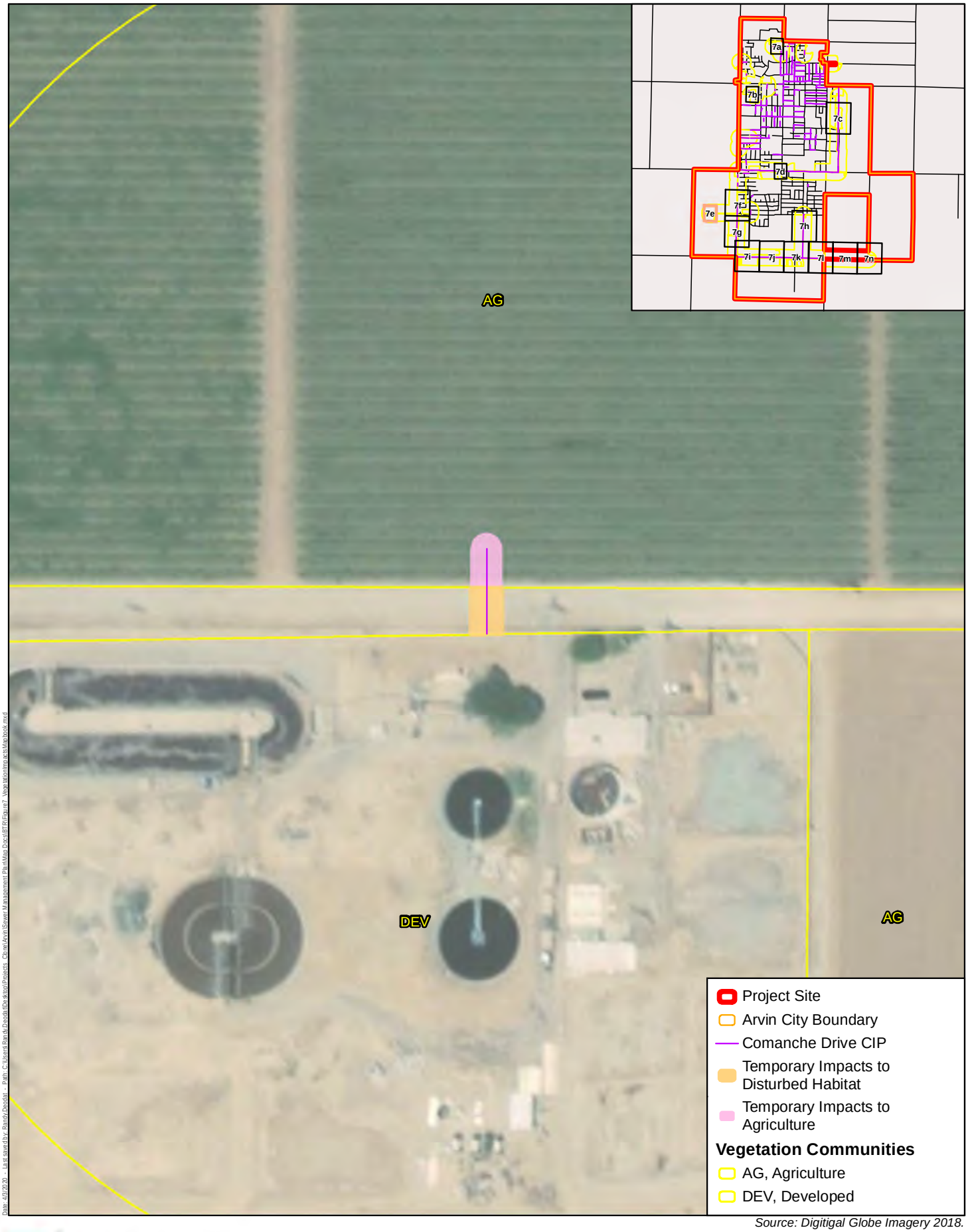
N

0 50 100

Feet

Figure 7d

Impacts to Vegetation Communities
Potato-Sycamore



Source: Digitigal Globe Imagery 2018.

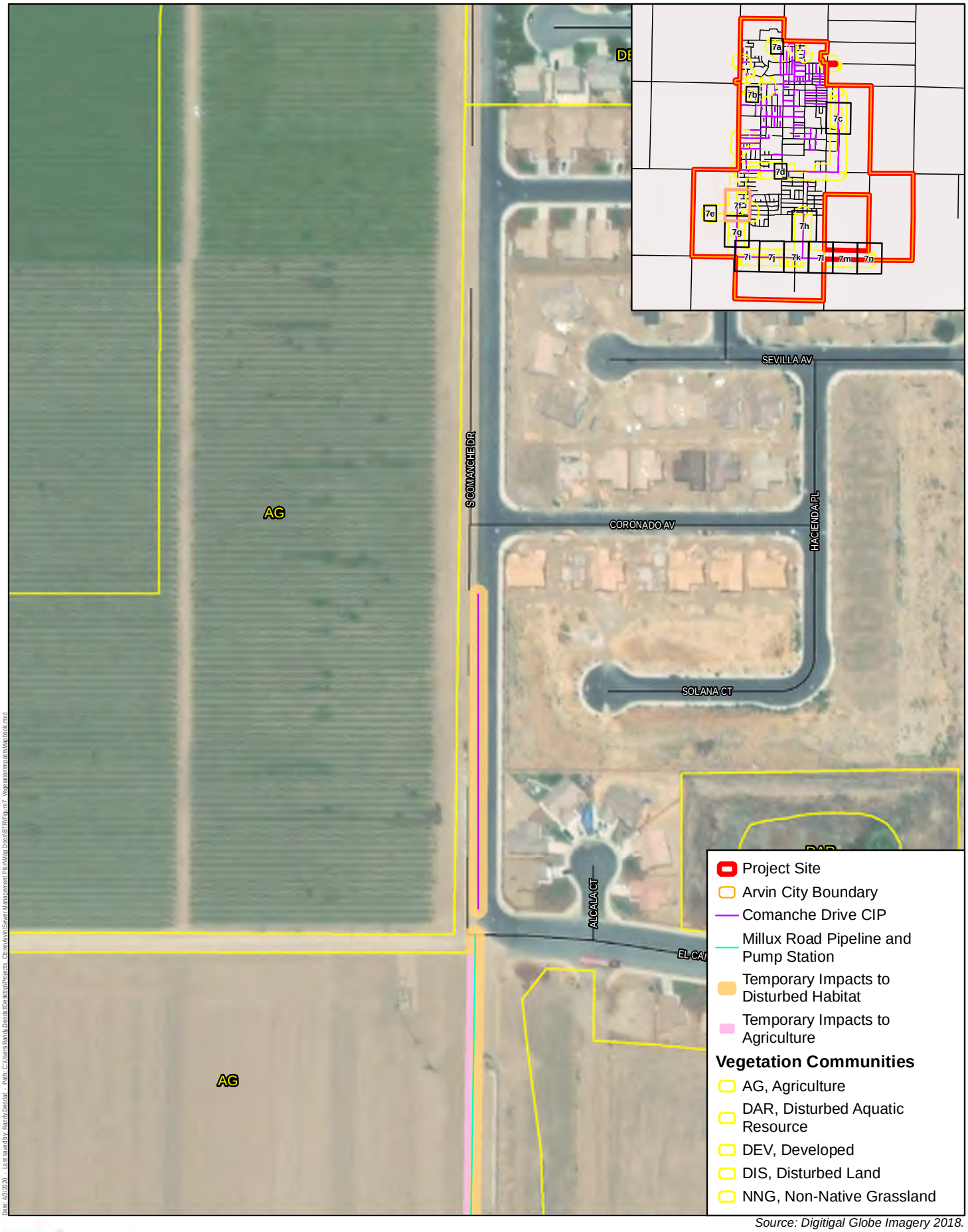
Harris & Associates

N

0 50 100
Feet

Figure 7e

Impacts to Vegetation Communities
Comanche Drive



Source: Digitigal Globe Imagery 2018.

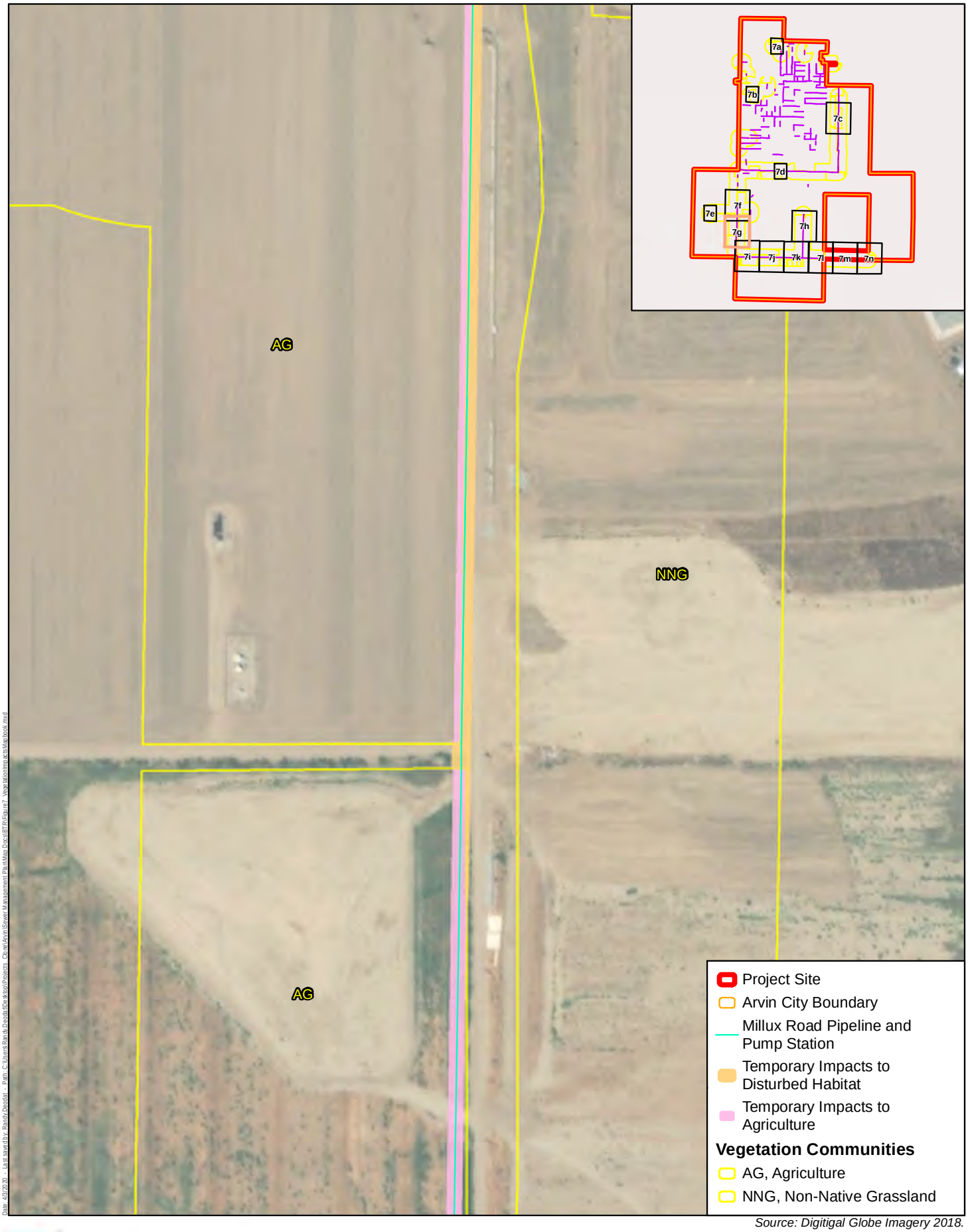
Harris & Associates

N

0 50 100
Feet

Figure 7f

Impacts to Vegetation Communities
Comanche Drive and Millux Road Pipeline and Pump Station



Source: Digitigal Globe Imagery 2018.

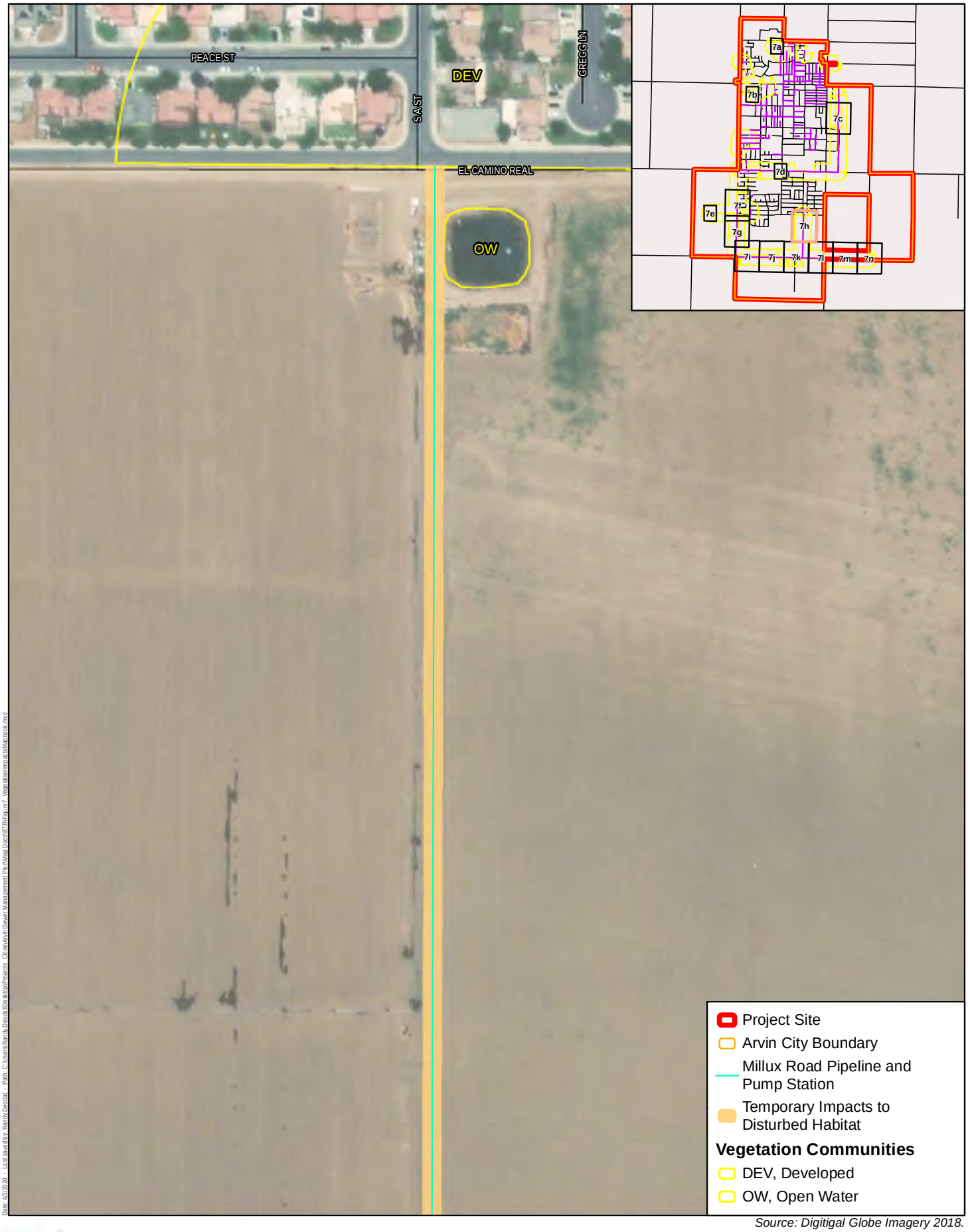
Harris & Associates

N

0 50 100
Feet

Figure 7g

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station



Source: Digitigal Globe Imagery 2018.

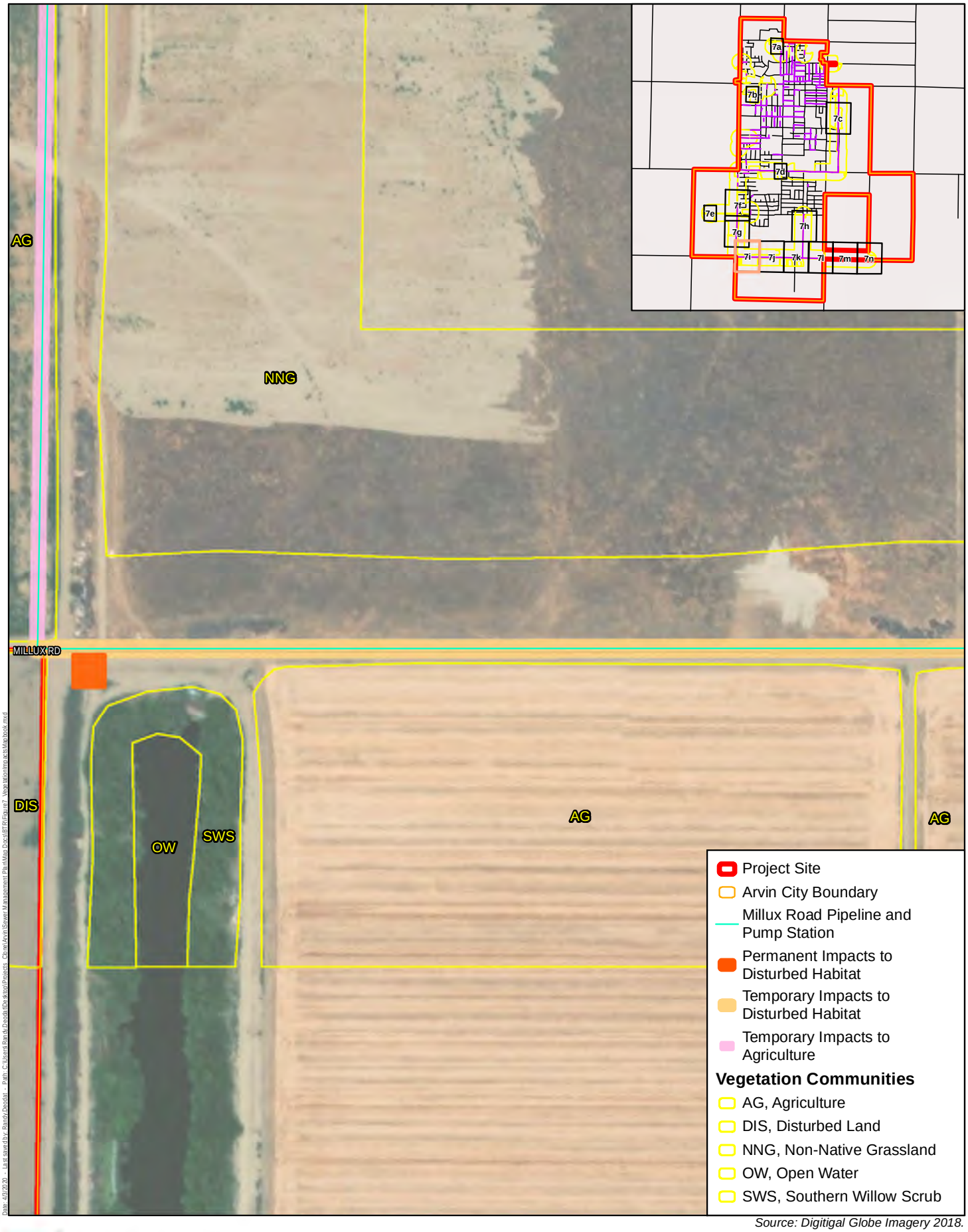
Harris & Associates

N

0 50 100
Feet

Figure 7h

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station



Source: Digitigal Globe Imagery 2018.

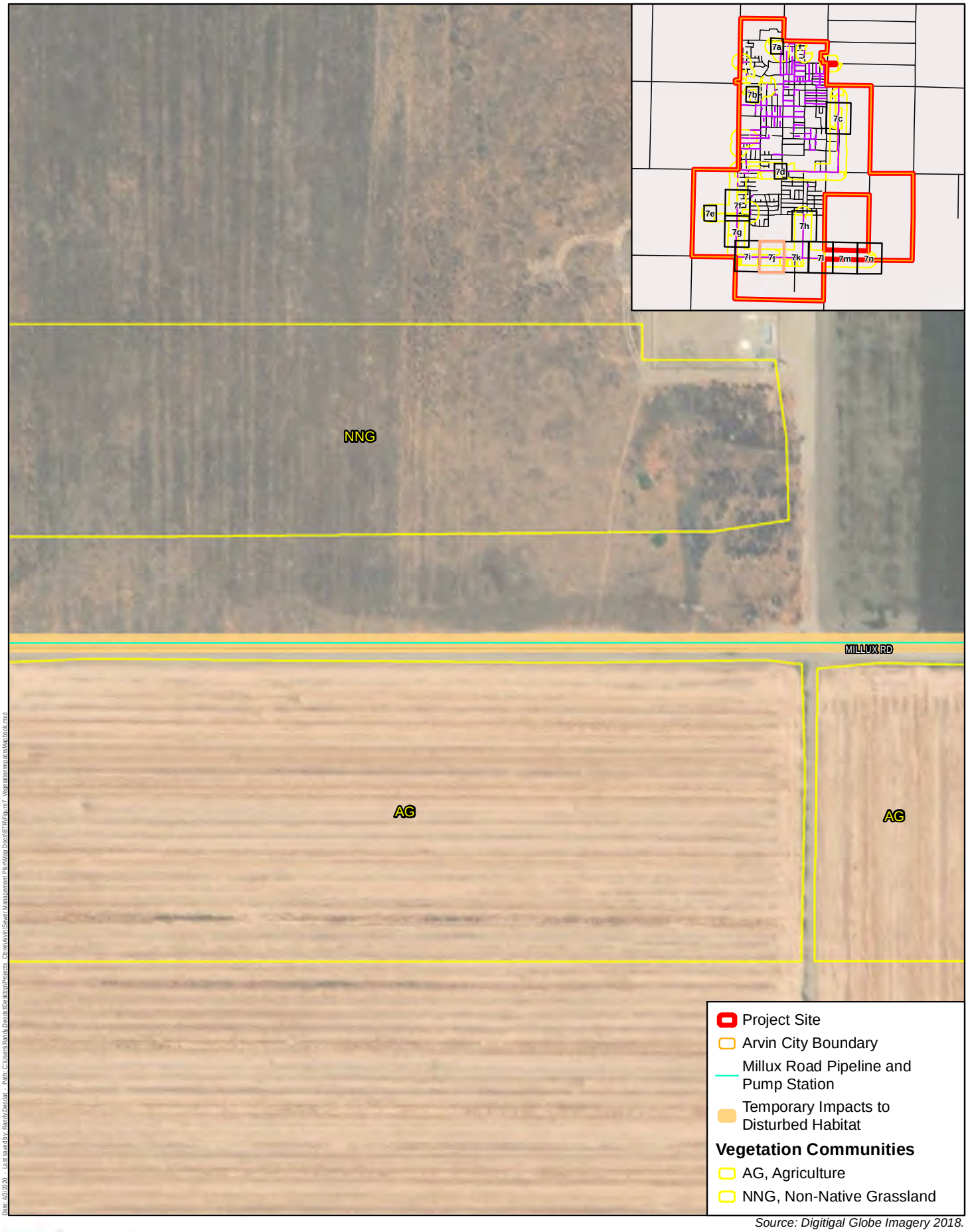
Harris & Associates

N

0 50 100
Feet

Figure 7i

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station



Source: Digitigal Globe Imagery 2018.

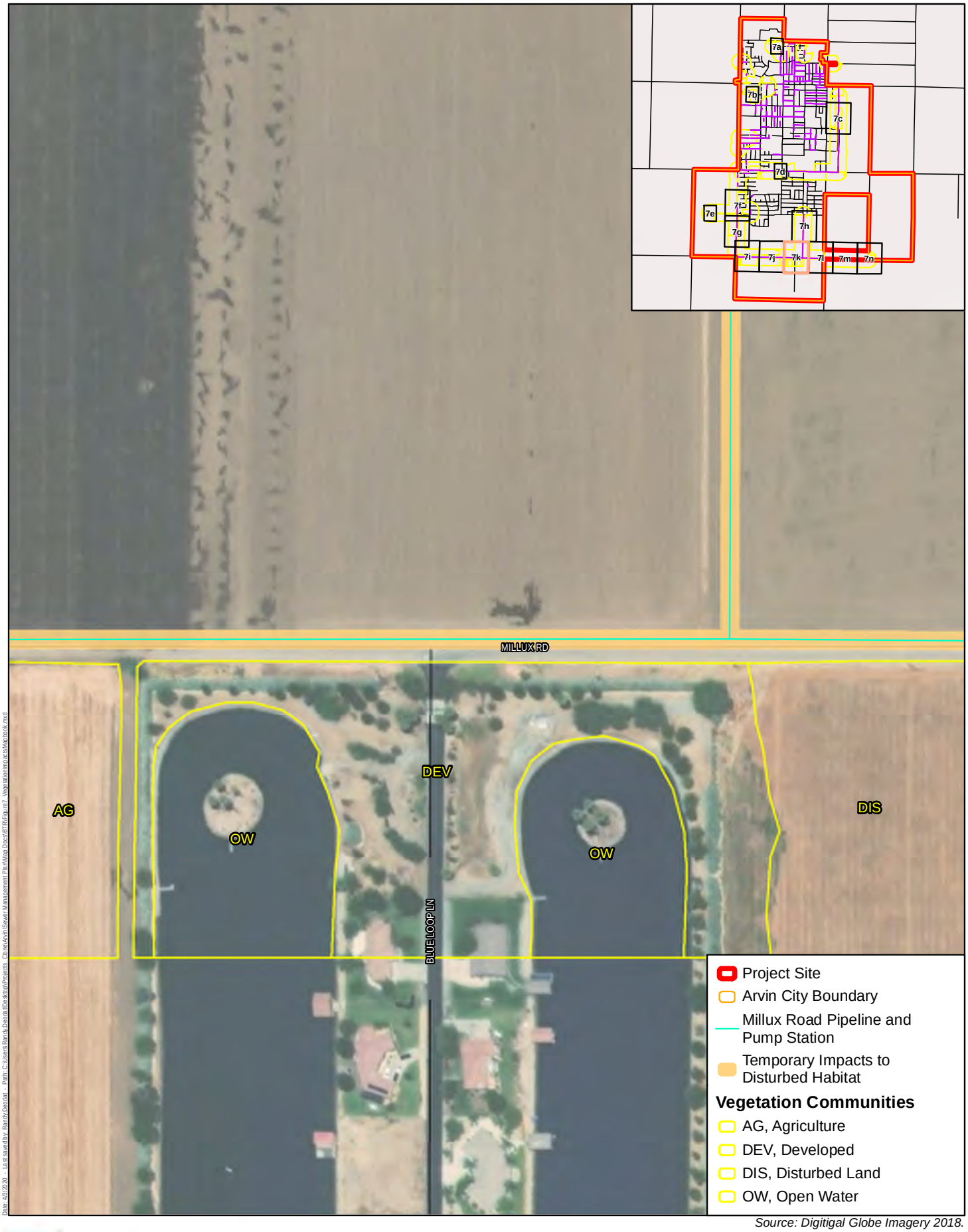
Harris & Associates

N

0 50 100
Feet

Figure 7j

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station



Source: Digitigal Globe Imagery 2018.

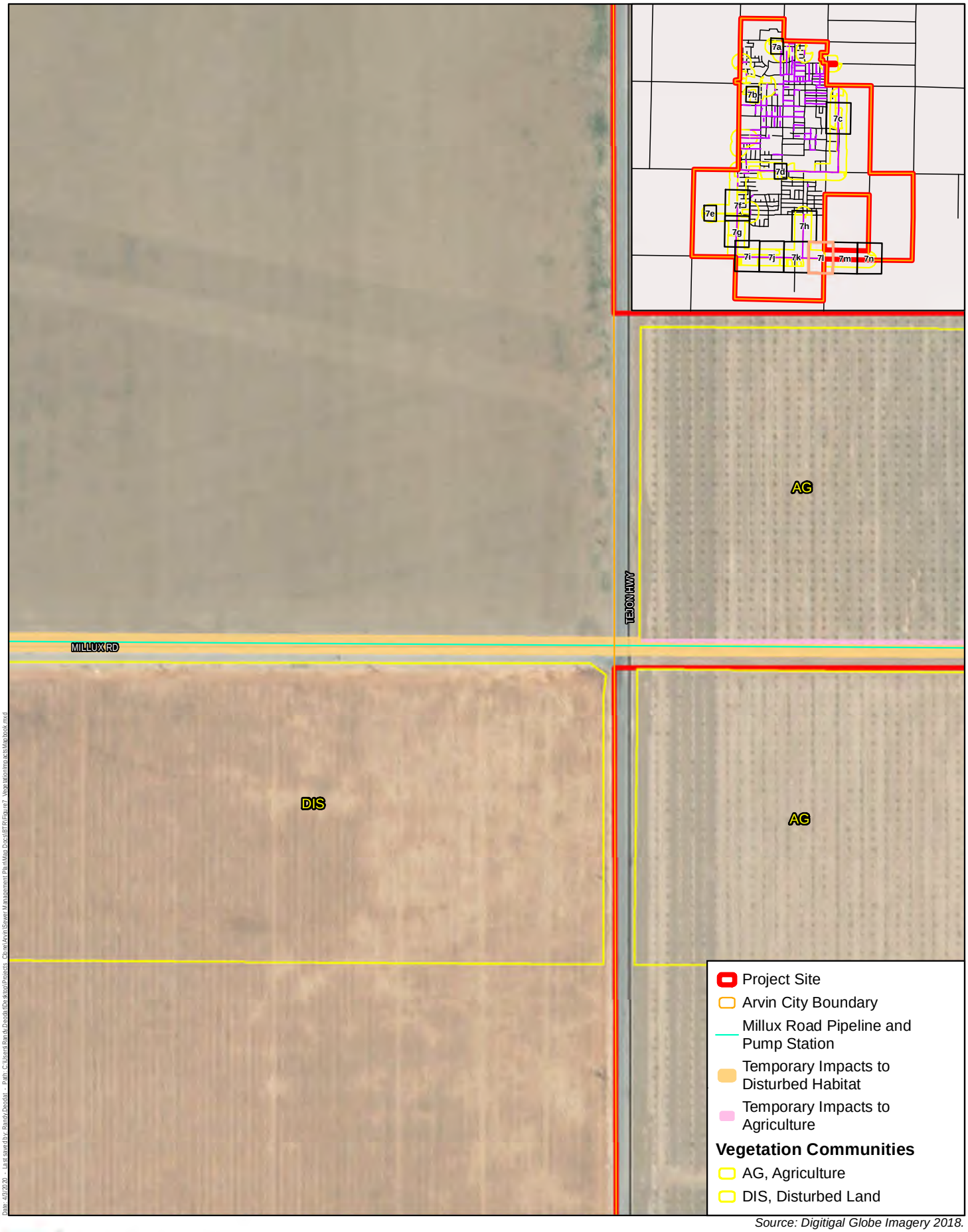
Harris & Associates

N

0 50 100
Feet

Figure 7k

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station



Source: Digitigal Globe Imagery 2018.

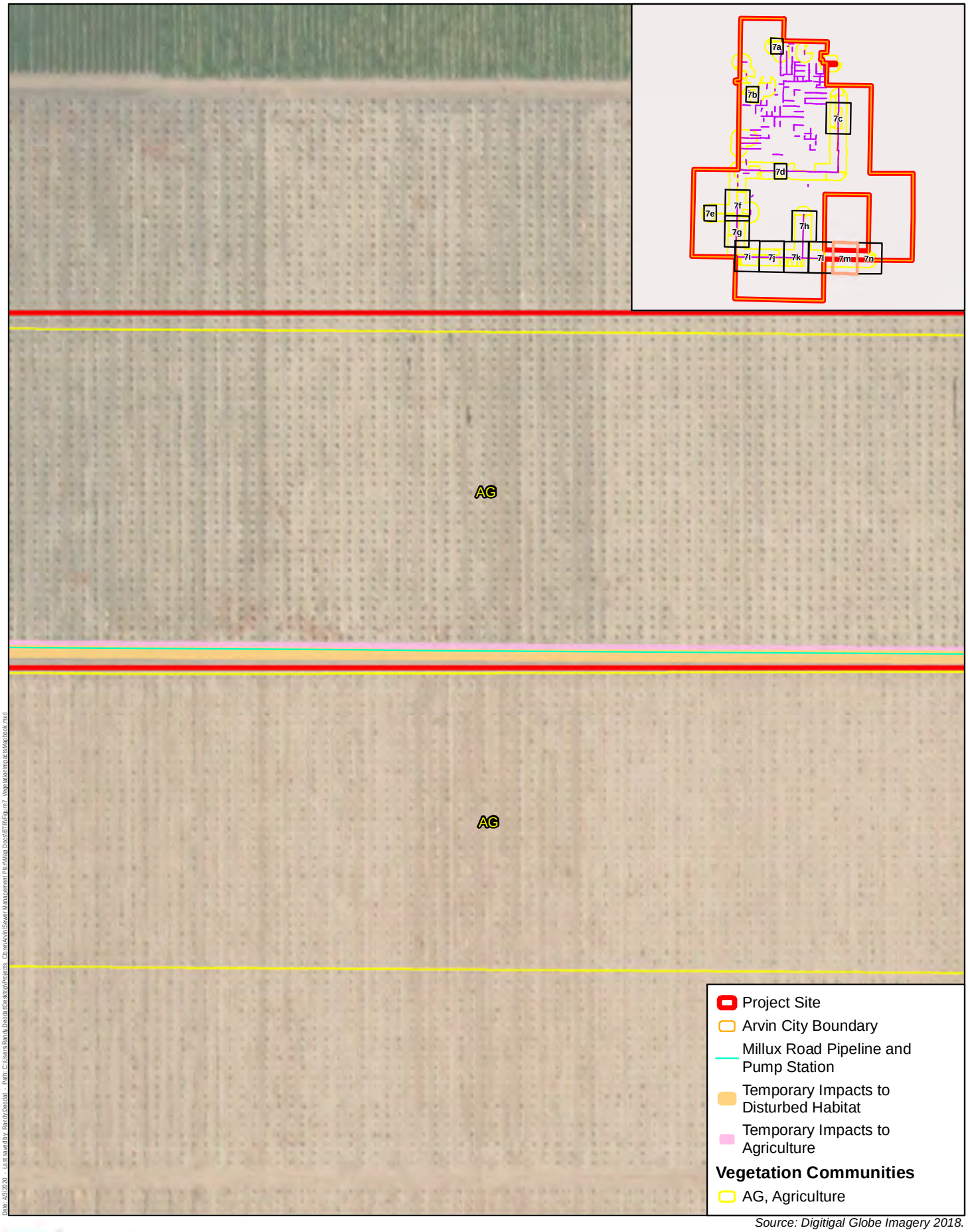
Harris & Associates

N

0 50 100
Feet

Figure 7l

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station



Source: Digitigal Globe Imagery 2018.

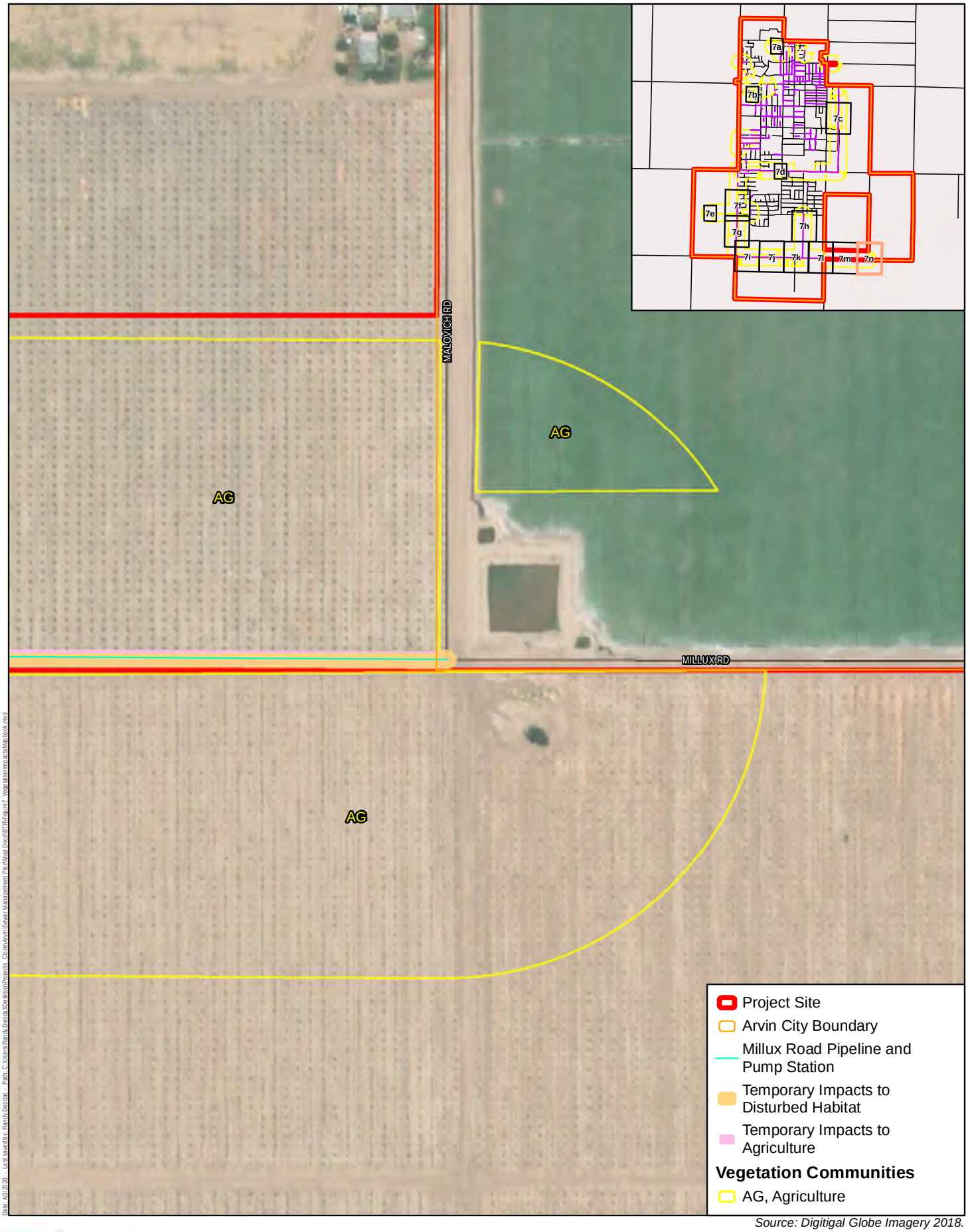
Harris & Associates

N

0 50 100
Feet

Figure 7m

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station



Source: Digitigal Globe Imagery 2018.

Harris & Associates

N

0 50 100
Feet

Figure 7n

Impacts to Vegetation Communities
Millux Road Pipeline and Pump Station

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Attachment 2. Plant and Wildlife Species Observed

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Plant Species Observed

Scientific Name	Common Name
Dicots	
Adoxaceae	**Muskroot Family**
Sambucus nigra	Black elderberry
Amaranthaceae	**Amaranth Family**
*Amaranthus albus**	Tumbleweed
Apocynaceae	**Dogbane Family**
*Nerium oleander**	Oleander
Asteraceae	**Sunflower Family**
Ambrosia psilostachya	Western ragweed
Artemisia douglasiana	California mugwort
Heterotheca grandiflora	Telegraph weed
*Lactuca serriola**	Prickly lettuce
Brassicaceae	**Mustard Family**
*Brassica nigra**	Black mustard
Chenopodiacaceae	**Chenopod Family**
*Salsola tragus**	Russian thistle
Salicaceae	**Willow Family**
Salix laevigata	Red willow
Salix lasiolepis	Arroyo willow
Strelitziaceae	**Bird of Paradise Family**
*Strelitzia reginae**	Bird of paradise
Tamaricaceae	**Tamarisk Family**
*Tamarix ramosissima**	Salt cedar
Monocots	
Arecaceae	**Palm Family**
*Washingtonia robusta**	Mexican fan palm
Cyperaceae	**Sedge Family**
Carex sp.	Sedge
Eleocharis sp.	Spike rush
Poaceae	**Grass Family**
*Avena barbata**	Slender wild oat
*Avena fatua**	Wild oat
*Bromus diandrus**	Ripgut grass
*Bromus hordeaceus**	Soft chess
Typhaceae	**Cattail Family**
*Typha angustifolia**	Narrowleaf cattail

Notes:

* = Non-native

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Wildlife Species Observed

Family	Common Name	Scientific Name
Amphibians		
Anura (Frogs)		
Ranidae True Frogs	American bullfrog[1]	*Lithobates catesbeianus*
Birds		
Accipitriformes (Hawks, Kites, Eagles, and Allies)		
Accipitridae Hawks, Eagles, Kites, and Allies	Northern harrier[2]	*Circus hudsonius*
	Red-tailed hawk	*Buteo jamaicensis*
Cathartidae New World Vultures	Turkey vulture	*Cathartes aura*
Falconiformes (Caracaras and Falcons)		
Falconidae Caracaras and Falcons	American kestrel	*Falco sparverius*
Anseriformes (Ducks, Geese, and Swans)		
Anatidae Ducks, Geese, and Swans	Mallard	*Anas platyrhynchos*
Gruiformes (Coots, Cranes, Rails)		
Rallidae Rails, Gallinules, and Coots	American coot	*Fulica americana*
Charadriiformes (Shore Birds, Gulls, Alcids, Plovers, and Oystercatchers)		
Charadriidae Plovers and Lapwings	Killdeer	*Charadrius vociferus*
Passeriformes (Perching Birds)		
Columbiformidae Doves	Mourning dove	*Zenaida macroura*
	Rock pigeon[1]	*Columba livia*
Corvidae Jays, Magpies, and Crows	American crow	*Corvus brachyrhynchos*
	Common raven	*Corvus corax*
Fringillidae Finches	House finch	*Haemorhous mexicanus*
Mimidae Mockingbirds and Thrashers	Northern mockingbird	*Mimus polyglottos*
Passerellidae New World Sparrows	Song sparrow	*Melospiza melodia*
	White-crowned sparrow	*Zonotrichia leucophrys*
Tyrannidae Tyrant Flycatchers	Black phoebe	*Sayornis nigricans*
	Say's phoebe	*Sayornis saya*
	Western kingbird	*Tyrannus verticalis*
Icteridae American Blackbirds, Orioles, and New World Blackbirds	Brewer's blackbird	*Euphagus cyanocephalus*
	Western meadowlark	*Sturnella neglecta*

Wildlife Species Observed

Family	Common Name	Scientific Name
Parulidae Wood Warblers	Yellow warbler[2]	*Setophaga petechia brewsteri*
Sturnidae Songbirds	European starling[1]	*Sturnus vulgaris*
Mammals		
Lagomorpha (Rabbits, Hares, and Pika)		
Leporidae Rabbits and Hares	Desert cottontail	*Sylvilagus audubonii*
Rodentia (Rodents)		
Sciuridae Squirrels, Chipmunks, and Marmots	California ground squirrel	*Spermophilus beecheyi*
Reptiles		
Squamata (Lizards and Snakes)		
Iguanidae Iguanids	Western fence lizard	*Sceloporus occidentalis*

Notes:

[1] Non-native

[2] California Department of Fish and Wildlife species of special concern

Attachment 3. Special-Status Plant and Wildlife Species Potential to Occur Tables

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Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status[1] Federal/State/ CRPR	Habit, Ecology, and Life History[1]	Potential to Occur[1]
Astragalus hornii var. *hornii*	Horn's milk vetch	None/None/1B.1	Small annual herb. Occurs on salty flats and lake shores. Flowering period is from May through September. Elevation range is from 200 to 980 feet.	**Low.** No suitable habitat occurs in the survey area. Horn's milk vetch has not been recently documented within 3 miles of the survey area. No Horn's milk vetch was observed in the survey area during the 2019 surveys.
Calochortus palmeri var. *palmeri*	Palmer's mariposa lily	None/None/1B.2	Perennial herb. Occurs in meadows, vernally moist areas of yellow pine forest, and chaparral. Blooming period is from May through July. Elevation range is from 3,935 to 7,215 feet.	**Low.** No suitable habitat is present in the survey area. The survey area is not located within this species' typical elevation range. Palmer's mariposa lily has not been recently documented within 3 miles of the survey area. No Palmer's mariposa lily was observed in the survey area during the 2019 surveys.
Calochortus striatus	Alkali mariposa lily	None/None/1B.2	Perennial herb. Occurs in alkaline meadows and moist creosote bush scrub. Blooming period is from April through June. Elevation range is from 2,645 to 4,590 feet.	**Low.** No suitable habitat is present in the survey area. The survey area is not located within this species' typical elevation range. However, alkali mariposa lily was recently documented approximately 5 miles south of the survey area at Amargo Springs in Tejon Ranch. No alkali mariposa lily was observed in the survey area during the 2019 surveys.
Caulanthus californicus	California jewelflower	FE/SE/1B.1	Annual herb. Occurs on flats and slopes and is generally observed in non-alkaline grassland. Blooming period is from February through April. Elevation range is from 230 to 3,280 feet.	**Low**. One historical occurrence of California jewelflower has been documented within 0.25 mile of the survey area, although this occurrence is considered extirpated. Limited suitable habitat is present in the survey area. Remaining known populations of California jewelflower occur in the foothills on the western edge of the Central Valley and in the Counties of Santa Barbara and San Luis Obispo. No California jewelflower was observed in the survey area during the 2019 surveys.
Eremalche kernensis	Kern mallow	FE/None/1B.2	Annual herb. Occurs in eroded hillsides and alkali flats. Blooming period is from March through May. Elevation range is from 330 to 3,280 feet.	**Low.** Limited suitable habitat is present in the survey area; however, Kern mallow's range is considered restricted to the foothills west of the Central Valley and to the foothills surrounding Comanche Point. Kern mallow has been recently documented approximately 5 miles south of the survey area in Tejon Ranch near Comanche Point. No Kern mallow was observed in the survey area during the 2019 surveys.

Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status[1] Federal/State/ CRPR	Habit, Ecology, and Life History[1]	Potential to Occur[1]
Eschscholzia lemmonii ssp. *kernensis*	Tejon poppy	None/None/1B.1	Annual herb. Occurs in open grassland. Blooming period is from March through April. Elevation range is from 655 to 2,280 feet.	**Low.** Suitable habitat is present in the survey area. However, this species is generally located at higher elevations than the survey area is (384 to 465 feet). Tejon poppy has been recently documented approximately 5 miles south of the survey area in Tejon Ranch. No Tejon poppy was observed in the survey area during the 2019 surveys.
Layia leucopappa	Comanche Point layia	None/None/1B.1	Annual herb. Occurs in grassy areas or open areas with heavy soils. Blooming period is from March through April. Elevation range is from 325 to 1,150 feet.	**Low**. Suitable habitat is present in the survey area; however, Comanche Point layia is restricted to a limited range in the foothills southeast of the survey area. Comanche Point layia has been documented within 3 miles of the survey area. However, this record was made more than 20 years from the date of the 2019 surveys. No Comanche Point layia was observed in the survey area during the 2019 surveys.
Layia munzii	Munz's tidy-tips	None/None/1B.2	Annual herb. Occurs in valley grasslands and wetland riparian areas with alkaline clay soils. Blooming period is from March through April. Elevation range is from 165 to 2,625 feet.	**Low.** Marginally suitable habitat is present in the survey area. Munz's tidy-tips has been documented within 3 miles of the survey area. However, this record was documented greater than 20 years from the date of the 2019 surveys. Munz's tidy-tips are now considered restricted to the foothills in western County of Kern. No Munz's tidy-tips was observed in the survey area during the 2019 surveys.
Monolopia congdonii	San Joaquin woolly-threads	FE/None/1B.2	Annual herb. Occurs in valley grasslands with sandy soils. Blooming period is from February through May. Elevation range is from 295 to 2,295 feet.	**Moderate.** Non-native grassland in the survey area has been recently disked and contains an abundance of tumbleweed (*Amaranthus albus*) and Russian thistle (*Salsola damascena*), which may shade and suppress germination of San Joaquin woolly-threads. San Joaquin wooly-threads has been documented 3 miles south of the survey area. However, this record was made more than 20 years from the date of the 2019 surveys. More recent surveys (2010) by U.S. Fish and Wildlife Service document several occurrences of this species in the County of Kern but none within 3 miles of the survey area. No San Joaquin woolly-threads was observed in the survey area during the 2019 surveys.

Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status[1] Federal/State/ CRPR	Habit, Ecology, and Life History[1]	Potential to Occur[1]
Navarretia setiloba	Piute Mountains navarretia	None/None/1B.1	Annual herb. Occurs in valley grasslands, foothill woodlands, and pinyon-juniper woodlands and often found in depressions in clay or gravelly loam. Blooming period is from April through June. Elevation range is from 1,640 to 6,890 feet.	**Low.** While suitable habitat is present in the survey area, this species generally occurs at much higher elevations than the survey area is (384 to 465 feet). However, Piute Mountains navarretia has been recently documented approximately 5 miles south of the survey area in Tejon Ranch. No Puite Mountains navarretia was observed in the survey area during the 2019 surveys.
Opuntia basilaris var. *treleasei*	Bakersfield cactus	FE/SE/1B.1	Stem succulent/shrub. Occurs in valley grasslands. Blooming period is from March through April. Elevation range is from 390 to 490 feet.	**Not Present.** No Bakersfield cactus was observed in the survey area. Bakersfield cactus is a perennial succulent shrub and would have been observed if present.

Notes: FE = Federally listed as endangered; None = No status indicated for species; SE = State listed as endangered;
CRPR = California Rare Plant Rank
1B = rare, threatened, or endangered in California and elsewhere
Extension codes: .1 = seriously endangered; .2 = moderately endangered

[1] Calflora. 2019. The Calflora Database. Accessed November 2019. https://www.calflora.org/.
CDFW (California Department of Fish and Wildlife). 2019a. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Biogeographic Data Branch, California Natural Diversity Database. Accessed November 2019. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline.
CNPS (California Native Plant Society). 2019. Inventory of Rare and Endangered Plants of California. Online edition, v8-03 0.39. Rare Plant Program. Accessed November 2019. http://www.rareplants.cnps.org.
USFWS (U.S. Fish and Wildlife Service). 2019. Critical Habitat Mapper.

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Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status[1,2] Federal/State	Habit, Ecology, and Life History[1]	Potential to Occur[1]
Amphibians				
Rana draytonii	California red-legged frog	FT/ST	Occurs mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover. Most common in lowlands or foothills and frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources: lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Range is generally along the coast of California and northern Baja California, with some occurrences east into the Sacramento Valley, but thought unlikely to occur in County of Kern due to annual floods.	**Low**. No suitable habitat is present in the survey area. Although artificial ponds and disturbed wetlands are present in the survey area, predators, including the American bullfrog (*Lithobates catesbeianus*), were observed in these areas, making the presence of the California red-legged frog unlikely. No records were found documenting California red-legged frog within 3 miles of the survey area. No California red-legged frog was observed in the survey area during the 2019 surveys.
Birds				
Athene cunicularia	Burrowing owl	None/SSC	Occurs in open, treeless areas with low, sparse vegetation, usually on gently sloping terrain. Can be found in grasslands, deserts, and steppe environments, as well as disturbed edges of urban areas. Often associated with high densities of burrowing mammals such as prairie dogs (*Cynomys* sp.), ground squirrels (*Otospermophilus* sp.), and tortoises (*Gopherus* sp.).	**High**. Suitable nesting and foraging habitat is present in the non-native grassland and disturbed habitat in the northeastern portion of the survey area. High numbers of active and inactive mammal burrows were observed in this portion of the survey area. Burrowing owl has been recently documented within 3 miles of the survey area. Two burrowing owls were observed near the intersection of South Comanche Drive and El Camino Real on January 4, 2016, adjacent to the survey area. No burrowing owl was observed in the survey area during the 2019 surveys.
Agelaius tricolor	Tricolored blackbird	None/ST	Occurs in freshwater wetlands, in agricultural fields, and at the edges of urban areas. Foraging habitats include cultivated fields, feedlots associated with dairy farms, and wetlands. Species is a colonial nester, typically requiring open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	**Moderate**. Suitable nesting and foraging habitat exists in the non-native grasslands, agricultural fields, and disturbed wetland and pond habitats at the edges of and surrounding the survey area. Several breeding colonies have been documented within the County of Kern. Six breeding colonies have been documented within 8 miles of the survey area. However, tricolored blackbird has not been observed within the last 5 years at these sites. No tricolored blackbird was observed in the survey area during the 2019 surveys.
Asio otus	Long-eared owl	None/SSC	Roosts in dense vegetation and forages in open grasslands or shrublands and open coniferous or deciduous woodlands.	**Low.** No suitable roosting habitat exists in or around the survey area. However, the survey area provides suitable foraging habitat for long-eared owl. This species was

Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status[1,2] Federal/State	Habit, Ecology, and Life History[1]	Potential to Occur[1]
				documented within 3 miles of the survey area; however, this record was made more than 20 years prior to the 2019 survey date. No long-eared owl was observed during the 2019 surveys.
Buteo swainsoni	Swainson's hawk	None/CT	Breeds in western North America in mature riparian trees, oak groves, and mature roadside trees in proximity to large, open spaces for foraging. Winters in South America.	**High.** Suitable nesting and foraging habitat exists in the large mature trees located near the non-native grassland, disturbed habitat, and agricultural lands in and surrounding the survey area. Swainson's hawk was documented near the intersection of State Route 223 and Tejon Highway on September 16, 2007. In addition, several active Swainson's hawk nests were documented in 2016 within 5 miles of the survey area, including at the Kern County Waste Management facility, approximately 5 miles west of the survey area, and near the intersection of Sycamore Road and South Edison Road, approximately 1.7 miles west of the survey area. No Swainson's hawk was observed during the 2019 surveys.
Circus hudsonius	Northern harrier	SSC	Inhabits grasslands, open rangelands, and salt and freshwater wetlands throughout California. Individuals may migrate to breeding grounds in northeastern and coastal California, although the species is widespread and common in suitable habitat throughout California during the winter.	**Present.** One northern harrier was observed foraging in the fallow agricultural fields west of Tejon Highway, near the intersection of Millux Road, during the 2019 surveys. The abundance of small mammal burrows and small lizards observed in the non-native grassland, disturbed habitat, and agricultural land in the southern portion of the survey area suggest ample prey availability for northern harrier.
Gymnogyps californianus	California Condor	FE/SE	Requires large areas of remote country for foraging, roosting, and nesting. Roosts on large trees or snags or isolated rocky outcrops and cliffs. Nests are located in shallow caves and rock crevices on cliffs where there is minimal disturbance. Foraging habitat includes open grasslands and oak savanna foothills that support populations of large mammals such as deer (*Cervidae* sp.) and cattle. Historical range has been restricted to the mountains of Southern California north of the County of Los Angeles, the central California coast, around the Grand Canyon in Arizona, and in the mountains of Baja California.	**Low.** No suitable nesting habitat exists in or around the survey area. However, the survey area provides marginally suitable foraging habitat. No records were found documenting this species within 3 miles of the survey area. No California condor was observed during the 2019 surveys.

Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status[1,2] Federal/State	Habit, Ecology, and Life History[1]	Potential to Occur[1]
Empidonax traillii extimus	Southwestern willow flycatcher	FE/CE	Breeds in patchy to dense riparian habitats with water present. Usually found in riparian woodlands with a well-developed canopy and a thick understory but not uniformly dense. Restricted to few known breeding sites in Southern California.	**Low**. While riparian vegetation surrounds one of the artificial ponds located in the southern portion of the survey area, this riparian vegetation is isolated and low quality and is not suitable for this species. No records were found documenting southwestern willow flycatcher within 3 miles of the survey area. No southwestern willow flycatcher was observed during the 2019 surveys.
Vireo belli pusillus	Least Bell's vireo	FE/CE	Occurs in riparian scrub and riparian forest and is a summer resident in Southern California below 2,000 feet. Even when large trees such as cottonwoods and willows are present, tends to stay in the low vegetation. Avoids open desert scrub, grasslands, and cultivated areas. Known to feed primarily on insects and spiders.	**Low**. While riparian vegetation surrounds one of the artificial ponds located in the southern portion of the survey area, this riparian vegetation is isolated and low quality. In addition, the riparian vegetation is surrounded by open agricultural fields and non-native grassland and is not suitable habitat for this species. Least Bell's vireo was documented within 3 miles of the survey area. However, this record was documented more than 20 years prior to the 2019 survey date. No least Bell's vireo was observed during the 2019 surveys.
Fishes				
Hypomesus transpacificus	Delta smelt	FT/ST	Found only in the Sacramento–San Joaquin River Delta in California. Historically, populations were found from Suisun Bay, east to the Delta area, and then upstream in the Sacramento River to approximately Isleton and upstream in the San Joaquin River to approximately Mossdale. As a result of increasing water diversions and drought, the center of species abundance has shifted east to the Sacramento River channel in the delta.	**No Potential**. No riverine habitat exists in the survey area. No records were found documenting delta smelt within 3 miles of the survey area.
Invertebrates				
Bombus crotchii	Crotch's bumble bee	None/CE	Occurs on relatively warm and dry sites, including the inner Coast Ranges of California and the margins of the Mojave Desert.	**Moderate**. Suitable habitat exists in the survey area. Crotch's bumble bee has been documented within 3 miles of the survey area. However, this record was documented more than 20 years prior to the 2019 survey date. No Crotch's bumble bee was observed during the 2019 surveys.
Branchinecta lynchi	Vernal pool fairy shrimp	FT/ST	Occurs primarily in vernal pools, seasonal wetlands that fill with water during fall and winter rains and dry up in spring and summer. Typically, most pools in any vernal pool	**Low**. No suitable vernal pool habitat exists in the survey area. No records were found documenting vernal pool fairy shrimp

Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status[1,2] Federal/State	Habit, Ecology, and Life History[1]	Potential to Occur[1]
			complex are not inhabited by the species at one time. Different pools in or between complexes may provide habitat for the species in alternative years because climatic conditions vary.	in the survey area. No vernal pool fairy shrimp was observed during the 2019 surveys.
Mammals				
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	FE/SE	Occurs in valley saltbush scrub, valley sink scrub, and grassland habitats with friable soils suitable for digging burrows. Range is the San Joaquin Valley floor to 300 feet in elevation. Eats a variety of annual and perennial grass and forb seeds, including wild oat (*Avena fatua*), brome grasses (*Bromus* sp.), alkali sacaton (*Sporobolus airoides*), coastal heron's bill (*Erodium cicutarium*), and others.	**Moderate**. Suitable foraging habitat exists in the survey area, and high numbers of active and inactive mammal burrows were observed in the survey area. However, the survey area is located above the typical elevation range for Tipton kangaroo rat. This species occurs east and south of the City of Bakersfield, approximately 25 miles from the survey area. No Tipton kangaroo rat was observed during the 2019 surveys.
Taxidea taxus	American badger	None/SSC	Occurs in open areas including plains and prairies, farmland, and the edges of woods throughout the western United States, ranging southward through mountainous parts of Mexico and northward through Canada's central western provinces. Primarily nocturnal and uses multiple burrows within its home area.	**Moderate.** Marginally suitable habitat exists in the survey area. High numbers of active and inactive mammal burrows were observed in the survey area. American badger was documented in 2012 3 miles east of the survey area. No American badger was observed during the 2019 surveys.
Vulpes macrotis mutica	San Joaquin kit fox	FE/ST	Occurs in San Joaquin scrub and grasslands with loose and textured soils, but modification of the burrows of other animals facilitates denning in other soil types. The entrances of San Joaquin kit fox burrows are typically 5 to 8 inches wide, and vacant kit fox burrows are often utilized by other ground-dwelling wildlife. This species can use small remnants of native habitat interspersed with development as long as there are minimal disturbances, dispersal corridors, and a sufficient prey base. However, San Joaquin kit foxes have suffered from habitat conversion to urban and agricultural uses.	**High.** Suitable habitat exists in the non-native grassland and disturbed areas at the edges of the survey area. High numbers of active and inactive mammal burrows were observed in the survey area. Suitable burrowing and foraging habitat is present within the tracts of non-native grassland and disturbed habitat located in the north and eastern portions of the survey area. San Joaquin kit fox was documented in 2012 in the undeveloped foothills of the Tehachapi Mountains, which are known to support San Joaquin kit fox, located approximately 3.4 miles southeast of the survey area. No San Joaquin kit fox was observed during the 2019 surveys.
Reptiles				
Gambelia sila	Blunt-nosed leopard lizard	FE/SE	Occurs in semi-arid grasslands, alkali flats, and washes with flat, open space for running. Inhabits the San Joaquin Valley and nearby valleys and foothills at an elevation range	**Moderate.** Suitable habitat exists in the non-native grassland and disturbed areas at the edges of the survey area. High numbers of active and inactive mammal burrows were

Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status[1,2] Federal/State	Habit, Ecology, and Life History[1]	Potential to Occur[1]
			of 100 to 2,400 feet. Avoids densely vegetated areas while using large shrubs with dense canopy cover for refuge and thermoregulation. Uses both active and inactive mammal dens and burrows for cover and shelter.	observed in the survey area that may provide suitable shelter for this species. Blunt-nosed leopard lizard was documented in 2016 3 miles south of the survey area. No blunt-nosed leopard lizard was observed during the 2019 surveys.
Thamnophis gigas	Giant garter snake	FT/ST	Occurs primarily in marshes, sloughs, drainage canals, and irrigation ditches, especially around rice fields and occasionally in slow-moving creeks. Often found in locations with vegetation close to the water to use for basking. Historically, ranges from the County of Kern north along the Central Valley to the County of Butte, with a gap in the central part of the valley. Generally found at elevations up to 400 feet.	**Low.** Marginally suitable habitat exists in the agricultural lands at the edges and within the southern portion of the survey area. No records were found documenting giant garter snake in the survey area. No giant garter snake was observed during the 2019 surveys.

Notes: CE = Candidate Endangered; CT = Candidate Threatened; FE = Federally Endangered; FT = Federally Threatened; None = No status indicated for species; SE = State Endangered; SSC = Species of Special Concern; ST = State Threatened

[1] Calherps.com 2019. "California Herps: A Guide to the Amphibians and Reptiles of California." Accessed November 2019. http://www.californiaherps.com/.

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Appendix B. Air Quality/Greenhouse Gas Model Outputs

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Arvin SMP Worst Case Construction Year

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	0.60	Acre	0.60	26,136.00	0
Unrefrigerated Warehouse-No Rail	5.00	1000sqft	0.11	5,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Adjusted PS phases to extend through one year and lengthened pipeline installation to one year.

Off-road Equipment - Reduced cement mixers to one

Off-road Equipment - Added paving equipment to pipeline installation for roadway replacement

Grading - Added worst-case quantity calculated for maximum of 8,930 LF of trenched pipeline

Demolition -

Trips and VMT - Estimated haul trip lengths for excavated material using 16 CY truck capacity

Arvin SMP Worst Case Construction Year - Kern-San Joaquin County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	132.00
tblConstructionPhase	NumDays	10.00	32.00
tblConstructionPhase	NumDays	2.00	32.00
tblConstructionPhase	NumDays	5.00	32.00
tblConstructionPhase	NumDays	1.00	32.00
tblConstructionPhase	NumDays	2.00	261.00
tblConstructionPhase	PhaseEndDate	12/4/2020	5/14/2021
tblConstructionPhase	PhaseEndDate	7/14/2020	8/13/2020
tblConstructionPhase	PhaseEndDate	7/17/2020	11/11/2020
tblConstructionPhase	PhaseEndDate	12/11/2020	6/29/2021
tblConstructionPhase	PhaseEndDate	7/15/2020	9/28/2020
tblConstructionPhase	PhaseStartDate	7/18/2020	11/12/2020
tblConstructionPhase	PhaseStartDate	7/16/2020	9/29/2020
tblConstructionPhase	PhaseStartDate	12/5/2020	5/15/2021
tblConstructionPhase	PhaseStartDate	7/15/2020	8/14/2020
tblGrading	AcresOfGrading	0.00	0.11
tblGrading	AcresOfGrading	16.00	0.11
tblGrading	AcresOfGrading	0.00	0.60
tblGrading	MaterialExported	0.00	4,014.00
tblGrading	MaterialImported	0.00	4,014.00
tblOffRoadEquipment	HorsePower	132.00	130.00
tblOffRoadEquipment	LoadFactor	0.36	0.42
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	23.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0580	0.5592	0.4682	8.5000e-004	0.0232	0.0298	0.0530	9.2800e-003	0.0280	0.0372	0.0000	74.5262	74.5262	0.0169	0.0000	74.9494
2021	0.1330	1.2704	1.3116	2.4300e-003	0.0819	0.0647	0.1466	0.0358	0.0605	0.0962	0.0000	215.1621	215.1621	0.0476	0.0000	216.3513
2022	0.0715	0.6651	0.8010	1.5300e-003	0.0692	0.0313	0.1005	0.0320	0.0296	0.0616	0.0000	135.3000	135.3000	0.0263	0.0000	135.9584
Maximum	**0.1330**	**1.2704**	**1.3116**	**2.4300e-003**	**0.0819**	**0.0647**	**0.1466**	**0.0358**	**0.0605**	**0.0962**	**0.0000**	**215.1621**	**215.1621**	**0.0476**	**0.0000**	**216.3513**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0580	0.5592	0.4682	8.5000e-004	0.0232	0.0298	0.0530	9.2800e-003	0.0280	0.0372	0.0000	74.5262	74.5262	0.0169	0.0000	74.9493
2021	0.1330	1.2704	1.3116	2.4300e-003	0.0819	0.0647	0.1466	0.0358	0.0605	0.0962	0.0000	215.1619	215.1619	0.0476	0.0000	216.3511
2022	0.0715	0.6651	0.8010	1.5300e-003	0.0692	0.0313	0.1005	0.0320	0.0296	0.0616	0.0000	135.2999	135.2999	0.0263	0.0000	135.9582
Maximum	**0.1330**	**1.2704**	**1.3116**	**2.4300e-003**	**0.0819**	**0.0647**	**0.1466**	**0.0358**	**0.0605**	**0.0962**	**0.0000**	**215.1619**	**215.1619**	**0.0476**	**0.0000**	**216.3511**

Arvin SMP Worst Case Construction Year - Kern-San Joaquin County, Annual

	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	N20	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**7-1-2020**	**9-30-2020**	0.2957	0.2957
2	**10-1-2020**	**12-31-2020**	0.3192	0.3192
3	**1-1-2021**	**3-31-2021**	0.3028	0.3028
4	**4-1-2021**	**6-30-2021**	0.2566	0.2566
5	**7-1-2021**	**9-30-2021**	0.4204	0.4204
6	**10-1-2021**	**12-31-2021**	0.4213	0.4213
7	**1-1-2022**	**3-31-2022**	0.3674	0.3674
8	**4-1-2022**	**6-30-2022**	0.3707	0.3707
		Highest	0.4213	0.4213

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0252	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Energy	4.9000e-004	4.4300e-003	3.7200e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	21.1435	21.1435	8.3000e-004	2.4000e-004	21.2361
Mobile	3.4300e-003	0.0452	0.0362	2.2000e-004	0.0125	1.8000e-004	0.0127	3.3700e-003	1.7000e-004	3.5400e-003	0.0000	20.4909	20.4909	1.2200e-003	0.0000	20.5213
Waste						0.0000	0.0000		0.0000	0.0000	0.9541	0.0000	0.9541	0.0564	0.0000	2.3636
Water						0.0000	0.0000		0.0000	0.0000	0.3668	1.8201	2.1869	0.0378	9.1000e-004	3.4011
Total	**0.0292**	**0.0496**	**0.0400**	**2.5000e-004**	**0.0125**	**5.2000e-004**	**0.0131**	**3.3700e-003**	**5.1000e-004**	**3.8800e-003**	**1.3209**	**43.4546**	**44.7755**	**0.0962**	**1.1500e-003**	**47.5222**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0252	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Energy	4.9000e-004	4.4300e-003	3.7200e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	21.1435	21.1435	8.3000e-004	2.4000e-004	21.2361
Mobile	3.4300e-003	0.0452	0.0362	2.2000e-004	0.0125	1.8000e-004	0.0127	3.3700e-003	1.7000e-004	3.5400e-003	0.0000	20.4909	20.4909	1.2200e-003	0.0000	20.5213
Waste						0.0000	0.0000		0.0000	0.0000	0.9541	0.0000	0.9541	0.0564	0.0000	2.3636
Water						0.0000	0.0000		0.0000	0.0000	0.3668	1.8201	2.1869	0.0378	9.1000e-004	3.4011
Total	**0.0292**	**0.0496**	**0.0400**	**2.5000e-004**	**0.0125**	**5.2000e-004**	**0.0131**	**3.3700e-003**	**5.1000e-004**	**3.8800e-003**	**1.3209**	**43.4546**	**44.7755**	**0.0962**	**1.1500e-003**	**47.5222**

	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	N20	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

Arvin SMP Worst Case Construction Year - Kern-San Joaquin County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition - PS	Demolition	7/1/2020	8/13/2020	5	32	
2	Site Preparation - PS	Site Preparation	8/14/2020	9/28/2020	5	32	
3	Grading - PS	Grading	9/29/2020	11/11/2020	5	32	
4	Building Construction - PS	Building Construction	11/12/2020	5/14/2021	5	132	
5	Paving - PS	Paving	5/15/2021	6/29/2021	5	32	
6	Pipeline Installation	Grading	7/1/2021	6/30/2022	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Arvin SMP Worst Case Construction Year - Kern-San Joaquin County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Pipeline Installation	Concrete/Industrial Saws	1	8.00	81	0.73
Paving - PS	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition - PS	Concrete/Industrial Saws	1	8.00	81	0.73
Grading - PS	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction - PS	Cranes	1	4.00	231	0.29
Building Construction - PS	Forklifts	2	6.00	89	0.20
Site Preparation - PS	Graders	1	8.00	187	0.41
Paving - PS	Pavers	1	7.00	130	0.42
Paving - PS	Rollers	1	7.00	80	0.38
Demolition - PS	Rubber Tired Dozers	1	1.00	247	0.40
Grading - PS	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction - PS	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition - PS	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading - PS	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving - PS	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation - PS	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Installation	Rubber Tired Dozers	1	1.00	247	0.40
Pipeline Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Pipeline Installation	Paving Equipment	2	6.00	130	0.42

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 - PS	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - PS	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading - PS	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction - PS	5	13.00	5.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving - PS	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Installation	6	15.00	0.00	1,004.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - PS - 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	tons/yr										MT/yr					
Fugitive Dust					2.5000e-003	0.0000	2.5000e-003	3.8000e-004	0.0000	3.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.1260	0.1220	1.9000e-004		7.4800e-003	7.4800e-003		7.1300e-003	7.1300e-003	0.0000	16.6521	16.6521	3.1500e-003	0.0000	16.7308
Total	**0.0139**	**0.1260**	**0.1220**	**1.9000e-004**	**2.5000e-003**	**7.4800e-003**	**9.9800e-003**	**3.8000e-004**	**7.1300e-003**	**7.5100e-003**	**0.0000**	**16.6521**	**16.6521**	**3.1500e-003**	**0.0000**	**16.7308**

3.2 Demolition - PS - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	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	0.0000	0.0000
Worker	8.6000e-004	6.2000e-004	6.0100e-003	2.0000e-005	2.0000e-003	1.0000e-005	2.0200e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.8208	1.8208	5.0000e-005	0.0000	1.8220
Total	**8.6000e-004**	**6.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.0000e-003**	**1.0000e-005**	**2.0200e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8208**	**1.8208**	**5.0000e-005**	**0.0000**	**1.8220**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.5000e-003	0.0000	2.5000e-003	3.8000e-004	0.0000	3.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.1260	0.1220	1.9000e-004		7.4800e-003	7.4800e-003		7.1300e-003	7.1300e-003	0.0000	16.6521	16.6521	3.1500e-003	0.0000	16.7308
Total	**0.0139**	**0.1260**	**0.1220**	**1.9000e-004**	**2.5000e-003**	**7.4800e-003**	**9.9800e-003**	**3.8000e-004**	**7.1300e-003**	**7.5100e-003**	**0.0000**	**16.6521**	**16.6521**	**3.1500e-003**	**0.0000**	**16.7308**

3.2 Demolition - PS - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	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	0.0000	0.0000
Worker	8.6000e-004	6.2000e-004	6.0100e-003	2.0000e-005	2.0000e-003	1.0000e-005	2.0200e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.8208	1.8208	5.0000e-005	0.0000	1.8220
Total	**8.6000e-004**	**6.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.0000e-003**	**1.0000e-005**	**2.0200e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8208**	**1.8208**	**5.0000e-005**	**0.0000**	**1.8220**

3.3 Site Preparation - PS - 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	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0110	0.1349	0.0655	1.6000e-004		5.3700e-003	5.3700e-003		4.9400e-003	4.9400e-003	0.0000	13.6947	13.6947	4.4300e-003	0.0000	13.8054
Total	**0.0110**	**0.1349**	**0.0655**	**1.6000e-004**	**6.0000e-005**	**5.3700e-003**	**5.4300e-003**	**1.0000e-005**	**4.9400e-003**	**4.9500e-003**	**0.0000**	**13.6947**	**13.6947**	**4.4300e-003**	**0.0000**	**13.8054**

3.3 Site Preparation - PS - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	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	0.0000	0.0000
Worker	4.3000e-004	3.1000e-004	3.0000e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.9104	0.9104	2.0000e-005	0.0000	0.9110
Total	**4.3000e-004**	**3.1000e-004**	**3.0000e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9104**	**0.9104**	**2.0000e-005**	**0.0000**	**0.9110**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0110	0.1349	0.0655	1.6000e-004		5.3700e-003	5.3700e-003		4.9400e-003	4.9400e-003	0.0000	13.6947	13.6947	4.4300e-003	0.0000	13.8054
Total	**0.0110**	**0.1349**	**0.0655**	**1.6000e-004**	**6.0000e-005**	**5.3700e-003**	**5.4300e-003**	**1.0000e-005**	**4.9400e-003**	**4.9500e-003**	**0.0000**	**13.6947**	**13.6947**	**4.4300e-003**	**0.0000**	**13.8054**

3.3 Site Preparation - PS - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	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	0.0000	0.0000
Worker	4.3000e-004	3.1000e-004	3.0000e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.9104	0.9104	2.0000e-005	0.0000	0.9110
Total	**4.3000e-004**	**3.1000e-004**	**3.0000e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9104**	**0.9104**	**2.0000e-005**	**0.0000**	**0.9110**

3.4 Grading - PS - 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	tons/yr										MT/yr					
Fugitive Dust					0.0121	0.0000	0.0121	6.6300e-003	0.0000	6.6300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.1260	0.1220	1.9000e-004		7.4800e-003	7.4800e-003		7.1300e-003	7.1300e-003	0.0000	16.6521	16.6521	3.1500e-003	0.0000	16.7308
Total	**0.0139**	**0.1260**	**0.1220**	**1.9000e-004**	**0.0121**	**7.4800e-003**	**0.0196**	**6.6300e-003**	**7.1300e-003**	**0.0138**	**0.0000**	**16.6521**	**16.6521**	**3.1500e-003**	**0.0000**	**16.7308**

3.4 Grading - PS - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	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	0.0000	0.0000
Worker	8.6000e-004	6.2000e-004	6.0100e-003	2.0000e-005	2.0000e-003	1.0000e-005	2.0200e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.8208	1.8208	5.0000e-005	0.0000	1.8220
Total	**8.6000e-004**	**6.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.0000e-003**	**1.0000e-005**	**2.0200e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8208**	**1.8208**	**5.0000e-005**	**0.0000**	**1.8220**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0121	0.0000	0.0121	6.6300e-003	0.0000	6.6300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.1260	0.1220	1.9000e-004		7.4800e-003	7.4800e-003		7.1300e-003	7.1300e-003	0.0000	16.6521	16.6521	3.1500e-003	0.0000	16.7308
Total	**0.0139**	**0.1260**	**0.1220**	**1.9000e-004**	**0.0121**	**7.4800e-003**	**0.0196**	**6.6300e-003**	**7.1300e-003**	**0.0138**	**0.0000**	**16.6521**	**16.6521**	**3.1500e-003**	**0.0000**	**16.7308**

3.4 Grading - PS - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	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	0.0000	0.0000
Worker	8.6000e-004	6.2000e-004	6.0100e-003	2.0000e-005	2.0000e-003	1.0000e-005	2.0200e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.8208	1.8208	5.0000e-005	0.0000	1.8220
Total	**8.6000e-004**	**6.2000e-004**	**6.0100e-003**	**2.0000e-005**	**2.0000e-003**	**1.0000e-005**	**2.0200e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8208**	**1.8208**	**5.0000e-005**	**0.0000**	**1.8220**

3.5 Building Construction - PS - 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	tons/yr										MT/yr					
Off-Road	0.0155	0.1593	0.1330	2.0000e-004		9.4000e-003	9.4000e-003		8.6500e-003	8.6500e-003	0.0000	18.0109	18.0109	5.8300e-003	0.0000	18.1565
Total	**0.0155**	**0.1593**	**0.1330**	**2.0000e-004**		**9.4000e-003**	**9.4000e-003**		**8.6500e-003**	**8.6500e-003**	**0.0000**	**18.0109**	**18.0109**	**5.8300e-003**	**0.0000**	**18.1565**

3.5 Building Construction - PS - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	0.0000	0.0000
Vendor	3.4000e-004	0.0106	2.0400e-003	2.0000e-005	5.4000e-004	6.0000e-005	6.0000e-004	1.6000e-004	5.0000e-005	2.1000e-004	0.0000	2.3015	2.3015	2.0000e-004	0.0000	2.3064
Worker	1.2600e-003	9.0000e-004	8.7800e-003	3.0000e-005	2.9300e-003	2.0000e-005	2.9500e-003	7.8000e-004	2.0000e-005	8.0000e-004	0.0000	2.6630	2.6630	7.0000e-005	0.0000	2.6646
Total	**1.6000e-003**	**0.0115**	**0.0108**	**5.0000e-005**	**3.4700e-003**	**8.0000e-005**	**3.5500e-003**	**9.4000e-004**	**7.0000e-005**	**1.0100e-003**	**0.0000**	**4.9645**	**4.9645**	**2.7000e-004**	**0.0000**	**4.9710**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0155	0.1593	0.1330	2.0000e-004		9.4000e-003	9.4000e-003		8.6500e-003	8.6500e-003	0.0000	18.0109	18.0109	5.8300e-003	0.0000	18.1565
Total	**0.0155**	**0.1593**	**0.1330**	**2.0000e-004**		**9.4000e-003**	**9.4000e-003**		**8.6500e-003**	**8.6500e-003**	**0.0000**	**18.0109**	**18.0109**	**5.8300e-003**	**0.0000**	**18.1565**

3.5 Building Construction - PS - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	0.0000	0.0000
Vendor	3.4000e-004	0.0106	2.0400e-003	2.0000e-005	5.4000e-004	6.0000e-005	6.0000e-004	1.6000e-004	5.0000e-005	2.1000e-004	0.0000	2.3015	2.3015	2.0000e-004	0.0000	2.3064
Worker	1.2600e-003	9.0000e-004	8.7800e-003	3.0000e-005	2.9300e-003	2.0000e-005	2.9500e-003	7.8000e-004	2.0000e-005	8.0000e-004	0.0000	2.6630	2.6630	7.0000e-005	0.0000	2.6646
Total	**1.6000e-003**	**0.0115**	**0.0108**	**5.0000e-005**	**3.4700e-003**	**8.0000e-005**	**3.5500e-003**	**9.4000e-004**	**7.0000e-005**	**1.0100e-003**	**0.0000**	**4.9645**	**4.9645**	**2.7000e-004**	**0.0000**	**4.9710**

3.5 Building Construction - PS - 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	tons/yr										MT/yr					
Off-Road	0.0372	0.3833	0.3487	5.5000e-004		0.0215	0.0215		0.0198	0.0198	0.0000	48.0394	48.0394	0.0155	0.0000	48.4278
Total	**0.0372**	**0.3833**	**0.3487**	**5.5000e-004**		**0.0215**	**0.0215**		**0.0198**	**0.0198**	**0.0000**	**48.0394**	**48.0394**	**0.0155**	**0.0000**	**48.4278**

3.5 Building Construction - PS - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	0.0000	0.0000
Vendor	7.5000e-004	0.0255	4.7700e-003	6.0000e-005	1.4500e-003	6.0000e-005	1.5100e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	6.0798	6.0798	5.0000e-004	0.0000	6.0923
Worker	3.1000e-003	2.1400e-003	0.0213	8.0000e-005	7.8200e-003	5.0000e-005	7.8700e-003	2.0800e-003	5.0000e-005	2.1200e-003	0.0000	6.8536	6.8536	1.6000e-004	0.0000	6.8575
Total	**3.8500e-003**	**0.0276**	**0.0261**	**1.4000e-004**	**9.2700e-003**	**1.1000e-004**	**9.3800e-003**	**2.5000e-003**	**1.1000e-004**	**2.6000e-003**	**0.0000**	**12.9334**	**12.9334**	**6.6000e-004**	**0.0000**	**12.9498**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0372	0.3833	0.3487	5.5000e-004		0.0215	0.0215		0.0198	0.0198	0.0000	48.0393	48.0393	0.0155	0.0000	48.4278
Total	**0.0372**	**0.3833**	**0.3487**	**5.5000e-004**		**0.0215**	**0.0215**		**0.0198**	**0.0198**	**0.0000**	**48.0393**	**48.0393**	**0.0155**	**0.0000**	**48.4278**

3.5 Building Construction - PS - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	0.0000	0.0000
Vendor	7.5000e-004	0.0255	4.7700e-003	6.0000e-005	1.4500e-003	6.0000e-005	1.5100e-003	4.2000e-004	6.0000e-005	4.8000e-004	0.0000	6.0798	6.0798	5.0000e-004	0.0000	6.0923
Worker	3.1000e-003	2.1400e-003	0.0213	8.0000e-005	7.8200e-003	5.0000e-005	7.8700e-003	2.0800e-003	5.0000e-005	2.1200e-003	0.0000	6.8536	6.8536	1.6000e-004	0.0000	6.8575
Total	**3.8500e-003**	**0.0276**	**0.0261**	**1.4000e-004**	**9.2700e-003**	**1.1000e-004**	**9.3800e-003**	**2.5000e-003**	**1.1000e-004**	**2.6000e-003**	**0.0000**	**12.9334**	**12.9334**	**6.6000e-004**	**0.0000**	**12.9498**

3.6 Paving - PS - 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	tons/yr										MT/yr					
Off-Road	9.4300e-003	0.0942	0.1023	1.5000e-004		5.1400e-003	5.1400e-003		4.7400e-003	4.7400e-003	0.0000	13.3782	13.3782	4.2100e-003	0.0000	13.4833
Paving	7.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0102**	**0.0942**	**0.1023**	**1.5000e-004**		**5.1400e-003**	**5.1400e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**13.3782**	**13.3782**	**4.2100e-003**	**0.0000**	**13.4833**

3.6 Paving - PS - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	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	0.0000	0.0000
Worker	7.9000e-004	5.5000e-004	5.4700e-003	2.0000e-005	2.0000e-003	1.0000e-005	2.0200e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.7573	1.7573	4.0000e-005	0.0000	1.7583
Total	**7.9000e-004**	**5.5000e-004**	**5.4700e-003**	**2.0000e-005**	**2.0000e-003**	**1.0000e-005**	**2.0200e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7573**	**1.7573**	**4.0000e-005**	**0.0000**	**1.7583**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.4300e-003	0.0942	0.1023	1.5000e-004		5.1400e-003	5.1400e-003		4.7400e-003	4.7400e-003	0.0000	13.3781	13.3781	4.2100e-003	0.0000	13.4833
Paving	7.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0102**	**0.0942**	**0.1023**	**1.5000e-004**		**5.1400e-003**	**5.1400e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**13.3781**	**13.3781**	**4.2100e-003**	**0.0000**	**13.4833**

3.6 Paving - PS - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	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	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	0.0000	0.0000
Worker	7.9000e-004	5.5000e-004	5.4700e-003	2.0000e-005	2.0000e-003	1.0000e-005	2.0200e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.7573	1.7573	4.0000e-005	0.0000	1.7583
Total	**7.9000e-004**	**5.5000e-004**	**5.4700e-003**	**2.0000e-005**	**2.0000e-003**	**1.0000e-005**	**2.0200e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7573**	**1.7573**	**4.0000e-005**	**0.0000**	**1.7583**

3.7 Pipeline Installation - 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	tons/yr										MT/yr					
Fugitive Dust					0.0506	0.0000	0.0506	0.0274	0.0000	0.0274	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0742	0.6970	0.7855	1.2500e-003		0.0377	0.0377		0.0356	0.0356	0.0000	108.9606	108.9606	0.0258	0.0000	109.6062
Total	**0.0742**	**0.6970**	**0.7855**	**1.2500e-003**	**0.0506**	**0.0377**	**0.0883**	**0.0274**	**0.0356**	**0.0630**	**0.0000**	**108.9606**	**108.9606**	**0.0258**	**0.0000**	**109.6062**

3.7 Pipeline Installation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8700e-003	0.0644	9.6800e-003	2.0000e-004	7.5900e-003	2.0000e-004	7.7900e-003	1.9900e-003	1.9000e-004	2.1800e-003	0.0000	19.2198	19.2198	1.0500e-003	0.0000	19.2462
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	0.0000	0.0000
Worker	4.9200e-003	3.4000e-003	0.0339	1.2000e-004	0.0124	8.0000e-005	0.0125	3.2900e-003	8.0000e-005	3.3700e-003	0.0000	10.8734	10.8734	2.5000e-004	0.0000	10.8797
Total	**6.7900e-003**	**0.0678**	**0.0435**	**3.2000e-004**	**0.0200**	**2.8000e-004**	**0.0203**	**5.2800e-003**	**2.7000e-004**	**5.5500e-003**	**0.0000**	**30.0932**	**30.0932**	**1.3000e-003**	**0.0000**	**30.1259**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0506	0.0000	0.0506	0.0274	0.0000	0.0274	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0742	0.6970	0.7855	1.2500e-003		0.0377	0.0377		0.0356	0.0356	0.0000	108.9605	108.9605	0.0258	0.0000	109.6061
Total	**0.0742**	**0.6970**	**0.7855**	**1.2500e-003**	**0.0506**	**0.0377**	**0.0883**	**0.0274**	**0.0356**	**0.0630**	**0.0000**	**108.9605**	**108.9605**	**0.0258**	**0.0000**	**109.6061**

3.7 Pipeline Installation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8700e-003	0.0644	9.6800e-003	2.0000e-004	7.5900e-003	2.0000e-004	7.7900e-003	1.9900e-003	1.9000e-004	2.1800e-003	0.0000	19.2198	19.2198	1.0500e-003	0.0000	19.2462
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	0.0000	0.0000
Worker	4.9200e-003	3.4000e-003	0.0339	1.2000e-004	0.0124	8.0000e-005	0.0125	3.2900e-003	8.0000e-005	3.3700e-003	0.0000	10.8734	10.8734	2.5000e-004	0.0000	10.8797
Total	**6.7900e-003**	**0.0678**	**0.0435**	**3.2000e-004**	**0.0200**	**2.8000e-004**	**0.0203**	**5.2800e-003**	**2.7000e-004**	**5.5500e-003**	**0.0000**	**30.0932**	**30.0932**	**1.3000e-003**	**0.0000**	**30.1259**

3.7 Pipeline Installation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0495	0.0000	0.0495	0.0268	0.0000	0.0268	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0654	0.6047	0.7617	1.2200e-003		0.0311	0.0311		0.0294	0.0294	0.0000	106.5130	106.5130	0.0251	0.0000	107.1411
Total	**0.0654**	**0.6047**	**0.7617**	**1.2200e-003**	**0.0495**	**0.0311**	**0.0806**	**0.0268**	**0.0294**	**0.0562**	**0.0000**	**106.5130**	**106.5130**	**0.0251**	**0.0000**	**107.1411**

3.7 Pipeline Installation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7200e-003	0.0574	9.0900e-003	1.9000e-004	7.5600e-003	1.6000e-004	7.7300e-003	1.9800e-003	1.6000e-004	2.1400e-003	0.0000	18.5471	18.5471	9.9000e-004	0.0000	18.5719
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	0.0000	0.0000
Worker	4.4600e-003	2.9700e-003	0.0302	1.1000e-004	0.0121	8.0000e-005	0.0122	3.2200e-003	7.0000e-005	3.2900e-003	0.0000	10.2400	10.2400	2.2000e-004	0.0000	10.2454
Total	**6.1800e-003**	**0.0604**	**0.0393**	**3.0000e-004**	**0.0197**	**2.4000e-004**	**0.0199**	**5.2000e-003**	**2.3000e-004**	**5.4300e-003**	**0.0000**	**28.7871**	**28.7871**	**1.2100e-003**	**0.0000**	**28.8173**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0495	0.0000	0.0495	0.0268	0.0000	0.0268	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0654	0.6047	0.7617	1.2200e-003		0.0311	0.0311		0.0294	0.0294	0.0000	106.5128	106.5128	0.0251	0.0000	107.1409
Total	**0.0654**	**0.6047**	**0.7617**	**1.2200e-003**	**0.0495**	**0.0311**	**0.0806**	**0.0268**	**0.0294**	**0.0562**	**0.0000**	**106.5128**	**106.5128**	**0.0251**	**0.0000**	**107.1409**

3.7 Pipeline Installation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7200e-003	0.0574	9.0900e-003	1.9000e-004	7.5600e-003	1.6000e-004	7.7300e-003	1.9800e-003	1.6000e-004	2.1400e-003	0.0000	18.5471	18.5471	9.9000e-004	0.0000	18.5719
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	0.0000	0.0000
Worker	4.4600e-003	2.9700e-003	0.0302	1.1000e-004	0.0121	8.0000e-005	0.0122	3.2200e-003	7.0000e-005	3.2900e-003	0.0000	10.2400	10.2400	2.2000e-004	0.0000	10.2454
Total	**6.1800e-003**	**0.0604**	**0.0393**	**3.0000e-004**	**0.0197**	**2.4000e-004**	**0.0199**	**5.2000e-003**	**2.3000e-004**	**5.4300e-003**	**0.0000**	**28.7871**	**28.7871**	**1.2100e-003**	**0.0000**	**28.8173**

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	tons/yr										MT/yr					
Mitigated	3.4300e-003	0.0452	0.0362	2.2000e-004	0.0125	1.8000e-004	0.0127	3.3700e-003	1.7000e-004	3.5400e-003	0.0000	20.4909	20.4909	1.2200e-003	0.0000	20.5213
Unmitigated	3.4300e-003	0.0452	0.0362	2.2000e-004	0.0125	1.8000e-004	0.0127	3.3700e-003	1.7000e-004	3.5400e-003	0.0000	20.4909	20.4909	1.2200e-003	0.0000	20.5213

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	8.40	8.40	8.40	32,453	32,453
Total	8.40	8.40	8.40	32,453	32,453

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-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	14.70	6.60	6.60	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816
Unrefrigerated Warehouse-No Rail	0.483371	0.030380	0.169336	0.116038	0.018013	0.005928	0.019788	0.146278	0.001620	0.001664	0.005839	0.000931	0.000816

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	16.3194	16.3194	7.4000e-004	1.5000e-004	16.3834
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	16.3194	16.3194	7.4000e-004	1.5000e-004	16.3834
NaturalGas Mitigated	4.9000e-004	4.4300e-003	3.7200e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8241	4.8241	9.0000e-005	9.0000e-005	4.8528
NaturalGas Unmitigated	4.9000e-004	4.4300e-003	3.7200e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8241	4.8241	9.0000e-005	9.0000e-005	4.8528

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	tons/yr										MT/yr					
Parking Lot	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	0.0000
Unrefrigerated Warehouse-No Rail	90400	4.9000e-004	4.4300e-003	3.7200e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8241	4.8241	9.0000e-005	9.0000e-005	4.8528
Total		**4.9000e-004**	**4.4300e-003**	**3.7200e-003**	**3.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**4.8241**	**4.8241**	**9.0000e-005**	**9.0000e-005**	**4.8528**

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	tons/yr										MT/yr					
Parking Lot	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	0.0000
Unrefrigerated Warehouse-No Rail	90400	4.9000e-004	4.4300e-003	3.7200e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8241	4.8241	9.0000e-005	9.0000e-005	4.8528
Total		**4.9000e-004**	**4.4300e-003**	**3.7200e-003**	**3.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**4.8241**	**4.8241**	**9.0000e-005**	**9.0000e-005**	**4.8528**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	9147.6	2.6611	1.2000e-004	2.0000e-005	2.6716
Unrefrigerated Warehouse-No Rail	46950	13.6583	6.2000e-004	1.3000e-004	13.7118
Total		**16.3194**	**7.4000e-004**	**1.5000e-004**	**16.3834**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	9147.6	2.6611	1.2000e-004	2.0000e-005	2.6716
Unrefrigerated Warehouse-No Rail	46950	13.6583	6.2000e-004	1.3000e-004	13.7118
Total		**16.3194**	**7.4000e-004**	**1.5000e-004**	**16.3834**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0252	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Unmitigated	0.0252	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-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	tons/yr										MT/yr					
Architectural Coating	4.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0212					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Total	**0.0252**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.0200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0212					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.1000e-004
Total	**0.0252**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.1869	0.0378	9.1000e-004	3.4011
Unmitigated	2.1869	0.0378	9.1000e-004	3.4011

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.15625 / 0	2.1869	0.0378	9.1000e-004	3.4011
Total		**2.1869**	**0.0378**	**9.1000e-004**	**3.4011**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1.15625 / 0	2.1869	0.0378	9.1000e-004	3.4011
Total		**2.1869**	**0.0378**	**9.1000e-004**	**3.4011**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.9541	0.0564	0.0000	2.3636
Unmitigated	0.9541	0.0564	0.0000	2.3636

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	4.7	0.9541	0.0564	0.0000	2.3636
Total		**0.9541**	**0.0564**	**0.0000**	**2.3636**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	4.7	0.9541	0.0564	0.0000	2.3636
Total		**0.9541**	**0.0564**	**0.0000**	**2.3636**

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

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Appendix C. Cultural Resources Study

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Cultural Resources Study for the City of Arvin Sewer Master Plan Project, Kern County, California

Lead Agency:

City of Arvin
Community Development Department
141 Plumtree Drive
Arvin, CA 93203
(661) 854-2822

Prepared by:

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Director of Archaeology
and Spencer Bietz
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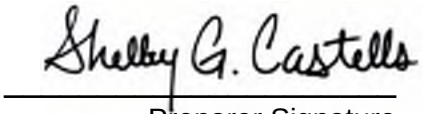

Preparer Signature

Project Proponent:

Kristin Blackson
Harris & Associates
600 B Street, Suite 2000
San Diego, CA 92101
(619) 814-9532

April 2020

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY iii

1. INTRODUCTION 7
- 1.1 Project Description 7
- 1.2 Project Location 7

2. EXISTING CONDITIONS 11
- 2.1 Environmental Setting 11
- 2.2 Cultural and Historical Setting 11
  - Prehistoric Environment 11
  - Chronological Framework 12
  - Ethnographic Period 16
  - Historic Period 17

3. APPLICABLE REGULATIONS 19
- 3.1 California Environmental Quality Act (CEQA) 19
- 3.2 City of Arvin 21

4. METHODS 23
- 4.1 Archival Research 23
- 4.2 Archaeological Survey 23
- 4.3 Native American Participation 23

5. RESULTS 24
- 5.1 Archival Research 24
  - SSJVIC 24
  - Historic Maps and Photographs 26
- 5.2 Archaeological Field Survey 27
- 5.3 Native American Participation 28

6. IMPACT IDENTIFICATION 30
- 6.1 Resource Importance 30
  - P-15-003545/CA-KER-3545H 30
- 6.2 Impact Identification 30

7. RECOMMENDATIONS AND CONCLUSIONS 31

8. REFERENCES 33

APPENDICES 37
- APPENDIX A 39
- SSJVIC RECORD SEARCH CONFIRMATION 39
- APPENDIX B 41
- NAHC CORRESPONDENCE 41

LIST OF TABLES

Page

Table 1. Previously Conducted Studies within ½-Mi. of the Project Area.....24
Table 2. Previously Recorded Cultural Resources within ½-Mi. of the Project Area 26
Table 3. Previously Recorded Historic Addresses within ½-Mi. of the Project Area.....26

LIST OF FIGURES

Page

Figure 1. Project Vicinity 8
Figure 2. Project Location, USGS 7.5' *Arvin, California* Topographic Map. 9
Figure 3. Project Area, aerial photograph. 10
Figure 4. Example of the Project area within existing infrastructure..... 28
Figure 5. Example of the Project area for new infrastructure. 28

EXECUTIVE SUMMARY

This report provides the results of a cultural resource study completed by Red Tail Environmental (Red Tail) for the Sewer Master Plan for the City of Arvin Project (Project). The Project is located within the City of Arvin in Kern County, California. The Project area is bounded Comanche Drive to the west, Varsity Road to the north, Milux Road to the south, and Tejon Highway to the east. The Project proposes to develop a Capital Improvement Plan (CIP) for the City's wastewater collection system. The CIP identified existing sewer pipe alignments and associated manholes within the City for various stages of repair, including pipe lining, point repair, and full alignment replacement. The CIP also identified a proposed route for a new alignment to be installed, proceeding south on S. Comanche Drive from El Camino Real to Milux Road, and then east along Milux Road to the intersection of Milux Road and Malovich Road. An unnamed unpaved road proceeding north from Milux Road to the intersection of El Camino Real and S. A Street is also included in the proposed route for the new infrastructure. This cultural resource study was conducted in accordance with the California Environmental Quality Act (CEQA). The City of Arvin (City) is the lead agency for the Project.

The study consisted of a review of relevant site records and reports on file with the South San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS) held at California State University Bakersfield within a ½ - mile (mi.) search radius, a pedestrian survey of sewer pipe alignments and manholes identified as requiring replacement and the proposed route for the new infrastructure within the Project area by a Red Tail archaeologist, a review of the Sacred Lands File (SLF) held by the Native American Heritage Commission (NAHC), and historical research including examination of historic maps and aerial imagery. This report includes the results of the study, as well as a brief historic background sketch for the area, an analysis of effects, and recommendations for future work.

The records search at the SSJVIC resulted in six previously recorded cultural resources being identified within a ½-mile radius of the Project area. Two previously recorded resources, P-15-003545/CA-KER-3545 and P-15-012765, were identified within the Project area. P-15-003545/CA-KER-3545 consists of a former wagon road which is presently in use as a segment of Tejon Highway, located along the east boundary of the Project area. P-15-012765 is a historic-era multiple family residence located at the intersection of Haven Drive and Stockton Ave and was determined to be ineligible for inclusion in either the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), or for local designation. Upon further review it was identified that P-15-012765 is not within the Project area and will not be impacted by the Project.

The review of the SLF by the NAHC was negative. Information request letters were sent to 16 Native American contacts provided by the NAHC. To date, two responses have been received. The San Manuel Band of Mission Indians, reported that the Project is outside of the Serrano ancestral territory and they will not request consultation. The Tejon Indian Tribe reported that previously-disturbed agricultural fields may still contain extant subsurface Tribal Cultural Resources ("TCRs") and/or ancestral human remains that are occasionally inadvertently discovered/impacted during project implementation. Therefore, they request that the Project proponent contact the Tejon Tribe in the event that TCRs are inadvertently discovered during Project implementation. The Tejon Tribe had no further concerns with the Project.

The Project Area was surveyed on October 22 and 23, 2019, by Red Tail Senior Archaeologist Spencer Bietz. The Project area was surveyed using a 10-meter buffer of Project areas containing replacement pipes and manholes with visible ground surface, and areas which have been largely developed that contain sewer alignments that require replacement or repair operations to occur via open trenching. The Project area

containing new infrastructure was surveyed using a 30-meter buffer. All open areas were visually inspected for any cultural resources dating to greater than 45 years in age.

The survey effort identified no previously unrecorded cultural resources within the Project area. All portions of existing alignments and associated manholes located within developed portions of the Project area did not display any visible indications of historic or prehistoric-era resources located either within or adjacent to said alignments. Undeveloped areas containing similar alignments were largely fallow, however these areas did exhibit indications of sporadic pedestrian traffic and modern refuse dumping. No previously unrecorded resources were identified within the proposed route for the new sewer infrastructure along S. Comanche Drive, Milux Road, or within the unnamed unpaved road proceeding north from Milux Road to S. A Street. The proposed alignment is located within roads which are currently in use by commercial and agricultural vehicles. The roads have been heavily impacted by the vehicular use, and noticeable indications of ongoing road repair and construction are visible along the proposed route. The probability of intact subsurface resources within the proposed alignment is low.

P-15-012765 was not revisited during the survey effort as existing alignments and manholes requiring replacement were not previously identified within the immediate proximity of the resource. P-15-003545/CA-KER-3545, Tejon Highway, within the Project area only, was revisited during the survey effort. The resource is in current use as a modern road, and experiences moderate traffic from commercial and agricultural equipment. This portion of P-15-003545/CA-KER-3545 is recommended as not eligible for listing on the CRHR and not significant under CEQA. Therefore, the cultural resources study did not identify any CEQA historic resources which will be adversely impacted by the Project and no further archaeological work is recommended.

All survey notes and photographs are kept on file at Red Tail Environmental, 328 State Place, Escondido, CA 92029.

NATIONAL ARCHAEOLOGICAL DATABASE INFORMATION

Author: Shelby Castells, M.A., RPA and Spencer Bietz

Firm: Red Tail Environmental, 328 State Place, Escondido, CA 92029

Client: Harris & Associates, 600 B Street, Suite 2000, San Diego, CA 92101

Project Proponent: City of Arvin

Report Date: April 2020

Report Title: Cultural Resources Study for the City of Arvin Sewer Master Plan Project, Kern County, California.

Type of Study: Phase I Archaeological Survey

New Sites: none

Updated Sites: P-15-003545/CA-KER-3545

USGS Quad: Arvin 7.5-minute Topographic Quad Map

Acreage: 3,055 acres

Keywords: Arvin 7.5-minute quadrangle, negative survey, Tejon Highway, P-15-003545/CA-KER-3545, P-15-012765, no impact

List of Acronyms and Abbreviations

APN	Assessor Parcel Number
CA	California
CEQA	California Environmental Quality Act
CHRIS	California Historic Resources Information System
CIP	Capital Improvement Plan
CRHR	California Register of Historical Resources
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
Red Tail	Red Tail Environmental, Inc.
SLF	Sacred Lands File
SSJVIC	South San Joaquin Valley Information Center
TCR	Tribal Cultural Resources

1. INTRODUCTION

This report documents the results of an archaeological survey for the Sewer Master Plan for the City of Arvin Project which was conducted to provide compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Project proposes to update a Capital Improvement Plan for the City's wastewater collection system. Red Tail Environmental, Inc. (Red Tail) was contracted by Harris & Associates to complete a cultural resources inventory for the Project area. Red Tail conducted a record search and literature review and performed a pedestrian field survey of the Project area. The report was compiled in accordance with Public Resources Code Section 21083.2 (CEQA). This report addresses the direct construction impacts to resources.

1.1 Project Description

The City of Arvin requires a comprehensive Capital Improvement Plan (CIP) for its wastewater collection system. A CIP is an investment strategy for the physical assets of the system. The CIP serves three inter-related purposes: (1) it identifies the capital improvements needed to provide a sufficient level of service to the City's sewer ratepayers, (2) it provides a basis for setting rates and impact fees, and (3) it satisfies a regulatory requirement of the City's discharge permit administered by the Regional Water Quality Control Board (RWQCB). The goal of this cultural resources study is to determine if any historic resources, that are eligible to the CRHR and significant under CEQA are present within the Project area, and if so if they will be adversely impacted by the Project.

Red Tail Principal Investigator Shelby Castells, M.A., RPA served as the primary author of this report, conducted the NAHC correspondence, and managed the study. Red Tail Senior Archaeologist Spencer Bietz conducted the archaeological survey, contributed to the report, and conducted the record search at the SSJVIC.

1.2 Project Location

The Project is located within the City of Arvin in Kern County, California. The Project area is bounded by Comanche Drive to the west, Varsity Street to the north, Milux Road to the south, and Tejon Highway to the east. More specifically, the Project area is shown on the USGS 7.5' *Arvin, California* topographic quadrangle within Sections 23, 25, 26, 35, and 36 of Township 331 South, Range 29 East (Figures 1, 2, and 3).

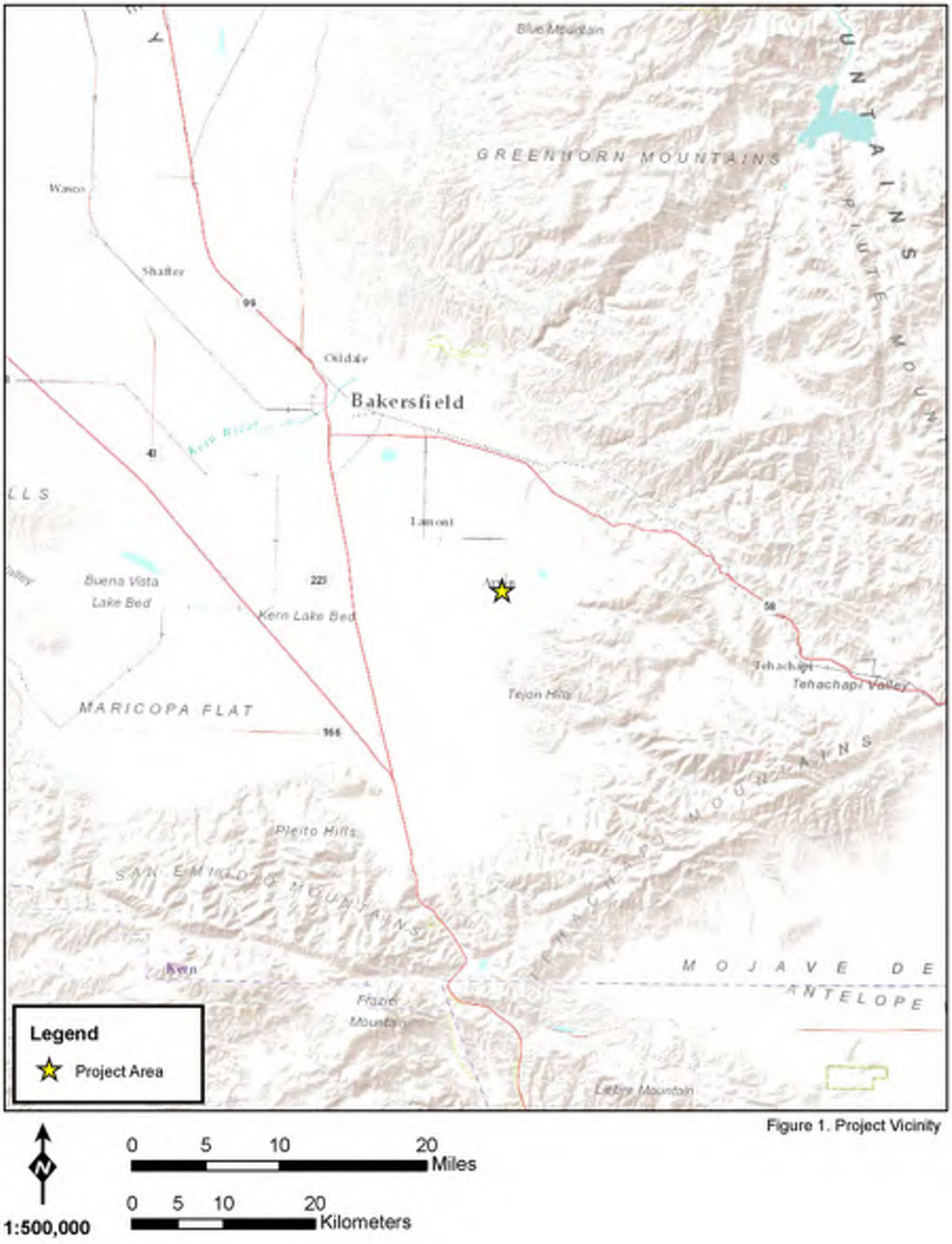

Figure 1. Project Vicinity

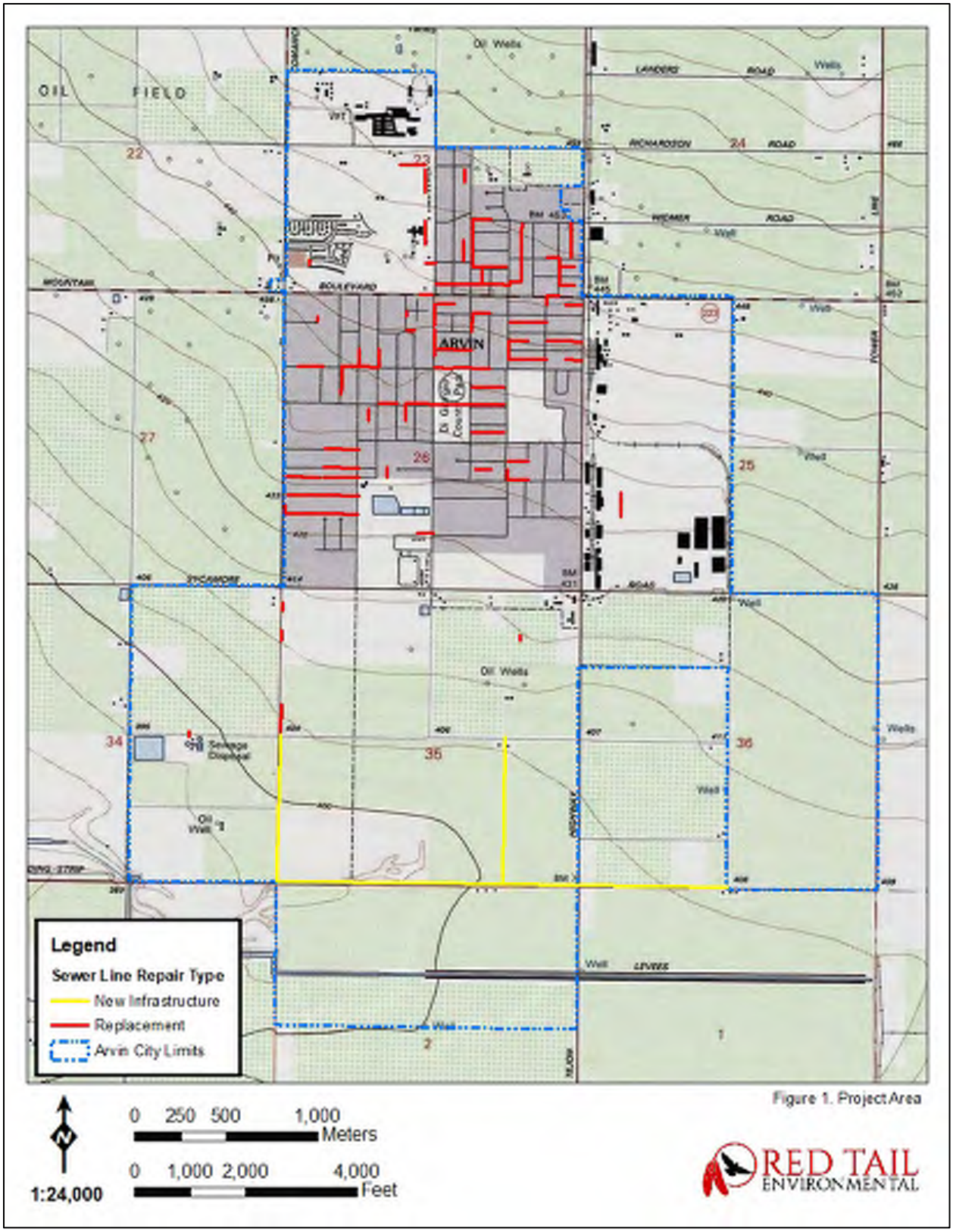

Figure 2. Project Location, USGS 7.5' *Arvin, California* Topographic Map.

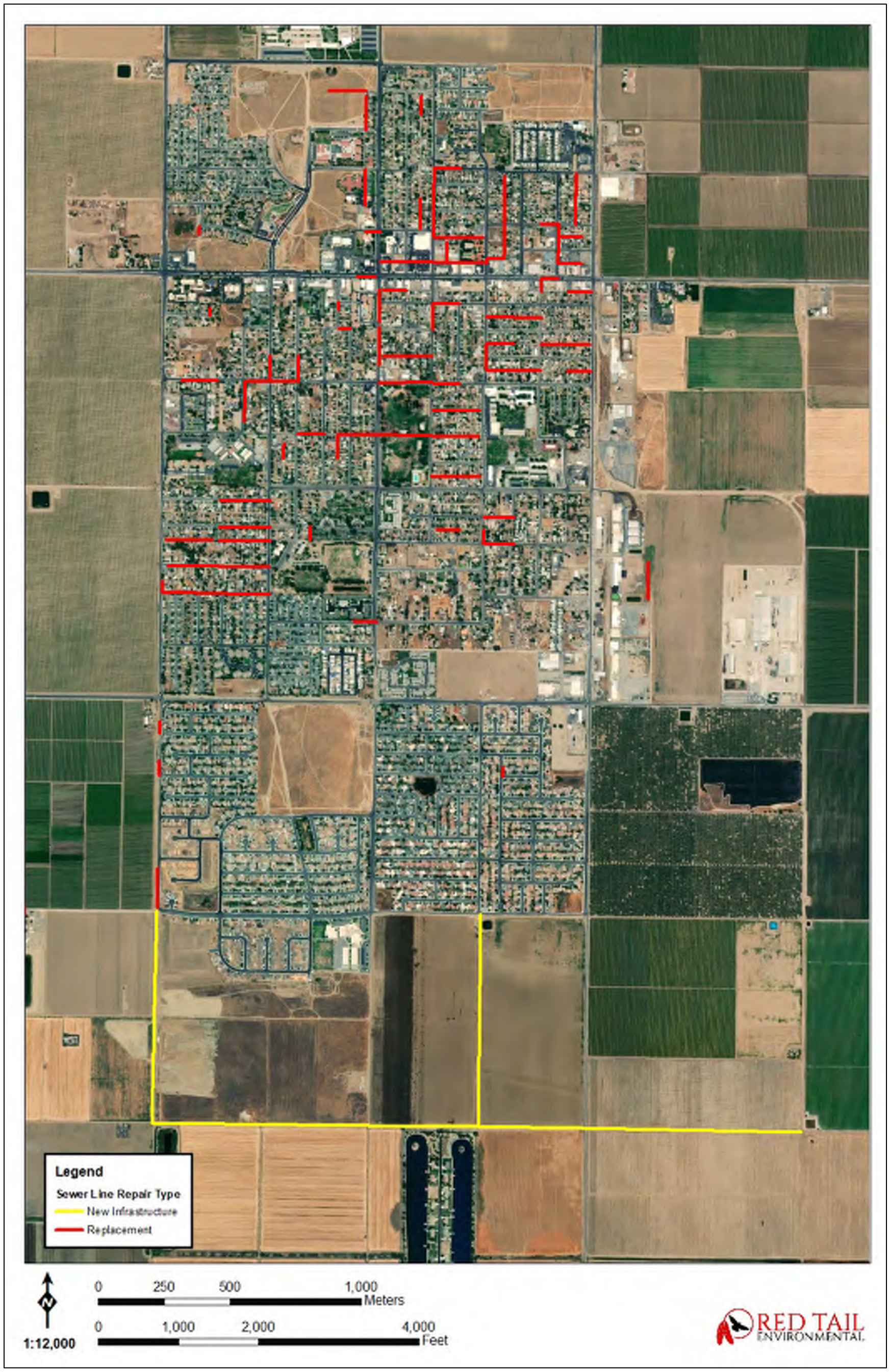

Figure 3. Project Area, aerial photograph.

2. EXISTING CONDITIONS

2.1 Environmental Setting

Kern County is geographically diverse, spanning portions of the Mojave Desert, the southern tip of the Sierra Nevada, and the San Joaquin Valley. The Project Area is located within the Great Valley geomorphic province, an alluvial plain that stretches for approximately 400 miles in length within the central part of California (California Depart. Of Conservancy California Geological Survey, 2002). The Great Valley spans a width of nearly 50 miles and is a trough in which sediments have been almost continuously deposited since the Jurassic era. The Great Valley is bordered by the Sierra Nevada province to the east, the Coast Ranges to the west, and the Transverse Ranges to the south (California Depart. Of Conservancy California Geological Survey, 2002). Within the southern portions of the San Joaquin Valley, several large oil fields have been discovered.

The Project area is approximately 445 feet above mean sea level and contains Hesperia-Arvin-Whitewolf series soils. Hesperia-Arvin-Whitewolf soils are present predominantly in very deep contexts, are well drained, and are nearly level in slope (USDA 1981). Hesperia-Arvin-Whitewolf soils in the Project area are typically representative of alluvial fans, flood plains, and stream terraces, consisting of sandy loam with thin strata of coarser and finer materials. The primary soil type within the Project area is Granoso association soils, typically associated with excessively drained to well-drained flood plain alluvium derived from mixed rock sources upon slopes ranging from 0 to 2 percent. Within the Project area, Granoso series soils are typically present from the surface to 62 inches in depth (USDA 2009).

The climate in the southern San Joaquin Valley area is characterized as a cool semi-arid climate with hot, dry summers and cool, moist winters. The temperature on average is greater than 90 degrees Fahrenheit (°F) in the summer, but with maximums that can occasionally reach the high 90s. In the winter, the average temperature is 38°F but can drop almost to below freezing. Rainfall occurs primarily during the winter months and averages about 8 inches per year. The closest natural body of water to the Project area is the Tejon Creek, located approximately 5.5 miles south of the Project area.

2.2 Cultural and Historical Setting

Prehistoric Environment

The southern San Joaquin Valley has been home for indigenous populations starting since the late Pleistocene. As human populations grew over time, subsistence and settlement strategies changed several times as local populations adapted to changes in the surrounding environment. With larger populations spread throughout the San Joaquin Valley and neighboring regions, early humans settled in villages and began to create sophisticated material cultures, evolving into an extensive trade system using a wide range of manufactured products using local and imported materials.

The Central Valley of California is divided into two major physiographic provinces separated by the Sacramento-San Joaquin Delta. North of the delta lies the Sacramento Valley, which drains south by the Sacramento River. To the south of the delta is the San Joaquin Valley, which drains north to the delta by the San Joaquin River. Quaternary landscapes are fairly common throughout the Central Valley, with older deposits represented by weathered, rolling piedmonts, and younger deposits represented by active basins and floodplains of the valley bottom. The earlier piedmonts are typically composed of early Tertiary fluvial sediments forming benchlike deposits and are commonly found combined with incised Pleistocene fans

associated with stream and river outlets at the base of the foothills (Rosenthal et al 1981). Active alluvial fans, alkali basins, and river floodplains make up the valley bottom. These floodplains were preferred as prehistoric habitation areas due to the natural elevated levees they contained.

Precipitation within the Central Valley is divided latitudinally, with greater amounts received within the northern areas of the Valley, and significantly less received within the southern areas. For the southern Valley areas, this is compounded by a second longitudinal gradient, in that more of the precipitation that falls is located along the eastern slopes of the Sierra, whereas little is received on the western slopes. The lower amount of western slope precipitation results in western drainages being smaller and more widely dispersed (Rosenthal et al 1981). The varying amounts of annual precipitation within the Central Valley led to a wide array of prehistoric habitats, including riparian forest, marshes, alkali basins, foothill woodlands, and oak savannas. The narrowness of the Valley and the elevational and hydrologic gradients along the western slopes of the Sierra established numerous variations of each of these vegetation communities, with at least one of each kind accessible within a day's walk from anywhere within the Valley basin (Rosenthal et al 1981).

As mentioned above, the natural elevated levees commonly found within floodplain environments of the Valley floor were preferred for habitation areas by prehistoric populations. Early twentieth-century records suggest that these habitation sites, also known as mound sites, were relatively abundant, with approximately one site present for every two to three miles of major watershed (Rosenthal et al 1981). In present day, evidence of these habitation sites has been increasing hard to locate due to increasing agricultural development, river erosion, and artificial levee construction. The initial setting of such habitation sites within natural levees presents a problem in of itself, as the natural erosional and depositional activities associated with floodplain hydrology tend to preserve younger, surficial sites and at the same time either bury or destroy older archaeological deposits (Rosenthal et al 1981).

Chronological Framework

Due to the transitory and ephemeral nature of the Valley landscape within the southern San Joaquin Valley, a single cultural-historical framework has been difficult to adopt. The few frameworks that have been adopted to encompass all of the Central Valley's prehistoric record have been either formulated around local sequencing which focus of isolated radiocarbon dates or relying instead of cross-dating stylistically diagnostic artifact types and ethnocultural patterns. Fredrickson (1973, 1974) proposed three basic periods: the Paleo-Indian, Archaic, and Emergent. These periods have been reformulated to four divisions using more modern calibration curves and radiocarbon dating results: Paleo-Indian, Lower Archaic, Middle Archaic, Upper Archaic, and Emergent.

Paleo-Indian (11,550 to 8550 BCE)

The Paleo-Indian period represents the earliest known occupation of the Central Valley by prehistoric populations. The earliest accepted evidence of said occupation are represented by the presence of basally thinned and fluted projectile points found at dispersed surface locations and are found primarily within the southern San Joaquin Valley (Rosenthal et al 1981). These projectile points are distinctive and are well dated within the North American region to an interval dating between 11,550 and 9550 BCE. At present, only three localities in the San Joaquin Valley have produced early concave base points: Tracy Lake, the Woolfsen mound, and the Tulare Lake basin (Rosenthal et al 1981). The Witt site in the southern San Joaquin Valley is an example of the Tulare Lake basin sites, containing hundreds of early concave base points along a remnant shoreline of Tulare Lake during the Late Pleistocene. Human and faunal bone fragments from the Witt site produced several uncalibrated date ranges, although no clear association between the projectile points and the bone fragments could be discerned. The human bone fragments from the Witt site returned dates ranging between 11,379 and 15,802 BCE, and a wider range of 10,788 to 17,745 BCE were returned from the faunal fragments (Rosenthal et al 1981).

Lower Archaic (8550 to 5550 BCE)

Around 9050 BCE, the Pleistocene epoch ended, and as a result of climate change at that time floodplains and alluvial fans within the central California lowlands experienced significant depositional events. Deposits from this period covered many Late Pleistocene alluvial landforms, and are now considered to represent a stratigraphic boundary between Late Pleistocene and Holocene alluvial deposits (Rosenthal et al 1981). A second episode of widespread alluvial fan and floodplain deposition occurred around 5550 BCE, in which many of the earlier archaeological deposits within the Central Valley were completely covered.

Lower Archaic occupation sites in the Central Valley is primarily represented by isolated finds, including chipped stone crescentics and stemmed points. These are commonly found alongside early concave base points around the prehistoric shore of Tulare Lake (Rosenthal et al 1981). The stemmed points are similar to Borax Lake wide-stemmed points from the North Coast Ranges and are also similar to Lake Mojave, Silver Lake, and Pinto points. Another diagnostic artifact, known as bi-pointed “humpies” are also commonly found within Lower Archaic sites, primarily along the southwestern shores of Tulare Lake. The common occurrence of large, heavily reworked projectile points has suggested that Early Archaic subsistence economies focused upon the hunting of artiodactyls (Rosenthal et al 1981). Although milling technologies and other direct evidence of plant subsistence are largely missing from valley floor sites, Lower Archaic sites within the adjoining Sierra Nevada and Coast Range foothills have been documented as containing abundant milling equipment, suggesting that foothill communities had a higher reliance upon plant-based resources (Rosenthal et al 1981). Nut crops, such as acorns and pine nuts, may have been the target of seasonal plant resource exploitation, especially as environmental conditions favored the expansion of woodland areas. Foothills sites appear to represent frequently visited camps in a seasonally structured settlement system, and are often accompanied with dense accumulations of handstones, milling technologies, and cobble-core tools.

During the Lower Archaic, regional interaction appeared to be well established and thriving within the Central Valley. Trade items, such as marine shell beads, have been found in Early Holocene deposits in the western and central Great Basin (Rosenthal et al 1981). Obsidian harvested from the eastern Sierra also makes up a large proportion of flakes stone tools using nonlocal materials. Obsidian debris from lithic tool-making activities have been documented within Lower Archaic sites on both sides of the Central Valley.

Middle Archaic (5550 to 550 BCE)

The Middle Archaic began with substantial changes in regional climate trends. Warmer and drier conditions became the new norm throughout the Central Valley, resulting in Tulare Lake shrinking in size and, ultimately, disappearing altogether. Similar declines in lake size have been observed within the geologic record throughout California due to the warmer and drier climate. During this time, sea levels rose and pushed further inland, leading to the development of the Sacramento-San Joaquin Delta, an important new regional wetland habitat (Rosenthal et al 1981). The Middle Archaic also began to see the separation of two distinct settlement-subsistence adaptations within the Central Valley, with one focusing upon foothill environments and the other upon valley floor environments. These newly distinct traditions may have begun during the latter portions of the Lower Archaic, however these traditions are more discernible within archaeological deposits dating to the Middle Archaic.

Foothill tradition sites are commonly found within buried contexts dating to between 4050 and 2050 BCE. The buried deposits typically contain an abundance of expedient cobble-based tools for pounding, chopping, scraping, and mulling. Subsistence strategies within these sites focus upon milling technologies, and archaeobotanical assemblages from foothill sites suggest that acorns and pine nuts were commonly harvested foods (Rosenthal et al 1981). Artifact assemblages from Foothill Tradition sites typically are

composed almost exclusively of flaked and ground stone tools used for the procurement and processing of food. Artifacts composed of animal products, such as bone or shell artifacts, beads, and ornaments, are present albeit in very low quantities (Rosenthal et al 1981). Other specialized tools and ornaments such as incised slate, perforated stone plummets, and tabular pendants have also been widely documented but is very low quantities. Foothill tradition projectile points include notched, stemmed, thick-leaf, and narrow concave base darts. Source materials for lithic tools are variable, displaying a reliance on locally available materials with supplementation by smaller quantities of imported materials such as obsidian from the North Coast Ranges, Cascades, and eastern Sierra. Rock features such as ovens and hearths are common, and several graves capped by cairns of unmodified rock and milling implements have been recorded (Rosenthal et al 1981).

Valley tradition sites are rare within the Central Valley due to the large-scale geomorphic changes occurring during the onset of the Middle Archaic. Valley tradition sites typically date between 5550 to 2050 BCE, and are present within subsurface contexts. In the San Joaquin Valley, the stratigraphically deepest occupation at SJO-68 dates to at least 3050 BCE (Lillard et al. 1939:31-32, Ragir 1972:27). Middle Archaic sites and their associated assemblages are comparatively better represented within more northern longitudes, primarily within the Sacramento Valley and Delta, and north San Joaquin Valley. These sites display a distinct adaptive pattern that reflects the emergence of increased residential stability along river corridors, stemming from the adoption of logistically organized subsistence practices. Overall, the adoption of riverine settlements appears to have been adopted approximately 6000 years ago, although the spatial extent and origins of this pattern remain largely unknown (Rosenthal et al 1981). Riverine settlements typically contain refined and specialized tool assemblages and features, abundant trade objects, and floral and faunal remains that indicate year-round occupation of the site. One diagnostic feature of Middle Archaic sites is the Windmiller Pattern, which are settlements containing westerly orientated, ventrally and dorsally extended burials along with sophisticated material goods associated as grave offerings. Windmiller Patterns were initially recognized at a handful of old levee ridge sites which were located adjacent to freshwater marshes and riparian settings near the confluence of the Mokelumne and Cosumnes Rivers (Fredrickson 1973, 1974; Moratto 1984). Additional Windmiller Patterns sites have developed a settlement model in which such sites were widespread within the San Joaquin Valley, although they did not necessarily spread from the delta region. Extended burial traditions have been recognized within both Middle and Upper Archaic sites throughout the San Joaquin Valley as far south as Buena Vista Lake.

Artifact assemblages within Middle Archaic sites of the lowlands of central California have suggested that mortars and pestles were used as early as 4050 BCE, particularly in marshland and riparian settings in the northern San Joaquin Valley and southern Sacramento valleys. Although the archaeobotoanical records suggests that the types of plant resources processed did not change during this time, the shift towards the mortar and pestle indicates more intensive subsistence practices and greater residential stability (Rosenthal et al 1981). Fishing may have also grown in importance within the Central Valley with the introduction of new technologies such as gorge hooks, composite bone hooks, and spears. Additional technologies appearing during this period include baked-clay impressions of fine twisted cordage and twined basketry, basketry awls, ceramic pottery and other baked clay objects. Specialty objects observed within Middle Archaic assemblages also include stone plummets, perforated “pencils,” bird bone tubes, shell beads, and other personal adornments. Commodity exchange was widespread during this time period, and the inhabitants of the Central Valley became important consumers of imported materials such as obsidian, shell beads, and ornaments (Rosenthal et al 1981). Two types of individual-made wall beads cut from *Olivella biplicata* shell are initially found in Middle Archaic assemblages, providing an origin to the manufacturing industry and exchange network that would develop through the Late Holocene.

Upper Archaic (550 BCE to 1100 CE)

The onset of changing environmental conditions again marked the turning from one time period to another. As environments abruptly changed to cooler, wetter, and more stable climates during the Late Holocene, lakes and riverine environments re-emerged from their desiccated contexts and returned to spill levels by approximately 1050 BCE. The onset of cooler and wetter conditions promoted greater freshwater flows in the Sacramento and San Joaquin watersheds and resulted in renewed fan and floodplain deposition and soil formation in the Central Valley (Rosenthal et al 1981). In many regions, present-day surface soils were formed in deep Late Holocene alluvium which also capped the Middle Holocene landscape.

Within the Central Valley, the Upper Archaic archaeological record is better represented due to the above conditions. It was during this time that several new specialized technologies, including bone tools and implements such as wands, tubes, and ornaments, became widespread and highly developed. Cultural diversity was more pronounced, and is reflected within the archaeological record by artifact styles, burial postures, and other elements of material culture (Rosenthal et al 1981). The Central Valley became home for numerous distinct sociopolitical entities, each with a discrete interpretation or modification of specialized tool technologies. For example, several goods such as saucer and saddle-shaped *Olivella* beads, *Haliotis* ornaments, obsidian bifacial rough-outs, and well-made ceremonial blades were regionally widespread, whereas other goods, such as polished and ground stone plummets, were more common to geographic areas focusing upon riverine and marshland subsistence strategies. Economies were regionally varied, focusing upon seasonal resources that could be harvested and processed in bulk (Rosenthal et al 1981). Examples of these resources include acorns, salmon, shellfish, rabbits, and deer.

Within the southern San Joaquin Valley, Upper Archaic cultures have little representation, although Hartzell (1992) reported two year-round villages were present on Buena Vista Lake. Archaeological investigations of these two settlements indicated the inhabitants incorporated a variety of residential features including house floors, while the archaeological assemblage suggested that local populations focused subsistence strategies upon the exploitation of both aquatic and terrestrial environments.

Emergent Period (1000 CE to European Contact)

Unlike the earlier transitions from the Lower to Middle Archaic and Middle to Upper Archaic periods, the transition from Upper Archaic to the Emergent Period was not characterized by large-scale changes in regional climates. At the onset of the Emergent Period, regional environments remained relatively stable, and continued to do so throughout the Emergent Period (Rosenthal et al 1981). Several locally significant flood and drought events have been identified, including pulses of floodplain deposition between 950 and 650 CE and around 1350 CE, a major delta flood around 1420 CE, and a significant drought within the Sacramento River watershed between 1575 and 1585 CE.

Within the San Joaquin Valley, only a handful of named Emergent Period components or phases have been identified and formally defined. Archaeological records from Emergent Period sites are the most substantial and comprehensive of all Central Valley periods, with artifact assemblages and adaptations being the most diverse. Notably, the lack of archaic technologies and traditions within Central Valley Emergent Period sites is notable, appearing after 1000 CE. The introduction of the bow and arrow occurred during this time, replacing the dart and atlatl as the favored hunting implement. Variations in burial types and furnishing also suggest a change to more complex social forms.

Two phases have been detailed during the Emergent Period: the Lower Emergent and the Upper Emergent. The Lower is characterized by the initial appearance of banjo-type *Haliotis* ornaments in the southern Sacramento Valley/Delta region, in addition to new specialized tools such as bird bone whistles and tubes, flanged soapstone pipes, and rectangular *Olivella* sequin beads (Rosenthal et al 1981). Artifacts defining

the Upper Emergent phase include small corner-notched and desert series projectile points, *Olivella* lipped and clam disk beads and bead drills, hopper mortars, and magnesite cylinders. Village sites containing house pits are also associated with the Upper Emergent phase (Rosenthal et al 1981).

During the Emergent Period, the most unique arrow point style in California was developed in and around the delta region. The Stockton serrated point (Dougherty 1990) was an independently developed type, whereas other styles contemporaneous with this time period also reflected morphological similarities with neighboring regions and populations. The development of the Stockton serrated point suggests that the changes within local populations during this period happened from internal causes, and not from the in-migration of new people. However, by the end of the Upper Emergent, Desert side-notched points were widespread in use, with local arrow point types supplementing the larger regionally-used style (Baumhoff and Byrne 1959; Dougherty 1990; White 2003).

Emergent Period economies focused on regionally variable sustenance, although the harvesting of aquatic and floral materials appear to continue to increase over time. Many residential sites from the Emergent Period include large quantities of fish bone and a diverse assortment of mammal and bird remains. Additionally, the use of mortar and pestle became the dominant milling technology. Acorn, pine nut, and manzanita berry remains are still abundant throughout archaeobotanical deposits, but the harvesting of smaller seed types is evident in the greater numbers present in subsurface deposits.

Trade operations also changed greatly during the Emergent Period. Firstly, the manufacturing of obsidian bifaces at centralized quarry workshops or nearby villages was replaced with raw obsidian cobbles or flake blanks, which were migrated out of the Napa Valley region to neighboring consumers. Secondly, the production of shell beads became decentralized, and local bead-making industries rose in importance. By approximately 300 years ago, clam shell disk beads became widely used, and associated manufacturing waste and bead blanks are found exclusively in the lower Sacramento Valley west of the Sacramento River. Although the exact cause for the decentralization has yet to be determined, the newer tradition of bead making is potentially related to an adoption of a monetized system of exchange (Chagnon 1970; C. King 1978).

Ethnographic Period

The project area lies within an area that was traditionally inhabited by the Foothill Yokuts, who inhabited portions of the southern San Joaquin Valley. The Foothill Yokut language is part of the Penutian language family, although linguistic influences from neighboring Western Mono or Monache groups may have been incorporated. Western Mono dialects were spoken by populations on both sides of the Sierra Nevada at the southern end of the Western Numic dialectic continuum, which belongs to the Northern Uto-Aztecan subfamily of Numic languages within the Uto-Aztecan language family that stretches from the Great Basin to southern Mexico (Golla 2011). The Foothill Yokuts inhabited a territory along the foothills and valley floor areas of the San Joaquin Valley, stretching south from Bakersfield to the hills and valleys of the Sierra Nevada mountains.

Foothill Yokut settlements were typically located within valley bottoms, mountain foothills, or along streams. Villages were often located in sheltered areas near good water supplies, in a defensive location, or on the side of warm thermal zone slopes. The basic social and economic structure of the Foothill Yokuts was the familial or household unit, with extended families forming the expanded social unit. These units would be combined into individually named villages or hamlets (Gayton 1948, Spier 1978). These families also formed lineage groups, which were important political and economic units that combined into tribelets. Leaders, their assistants, and their messengers exercised limited political control over tribelets as part of a dialect tribe, centering upon a principal village (Spier 1978).

The diverse ecological zones within the territory of the Foothill Yokuts provided a wide array of subsistence products. Principal game animals included deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, valley and mountain quail, doves, ducks, and other birds. Fishing also contributed as a local means of subsistence procurement (Gayton 1948). The most important gathered resource were acorns, and village locations were typically located near water sources for use in acorn leeching. Grass seeds were the next most abundant resource, in addition to manzanita, sunflower, chia, sage, lemonade berry, prickly pear, and pine nuts. Fire was used as a crop management technique as well as for community rabbit drives. Tools for the acquisition, storage, or preparation of food were highly varied and constructed from locally derived materials, with a few items acquired via trade from specific localities obsidian blanks, sinew-backed bows, moccasins, rock salt, pine nuts, and pinewood hot-rock lifters from either eastern or northern neighbors (Gayton 1948). Hunting activities used either individual or group participation, using bows and arrows for larger game or curved throwing sticks, slings, traps, or pit type deadfalls for smaller animals.

Historic Period

Regional history of the southern San Joaquin Valley history can be divided into three periods: the Spanish, Mexican and American periods.

Spanish Period (1769-1822)

European exploration of the San Joaquin Valley area was initiated with the arrival of Don Pedro Fages in 1772. Fages, then commandante of the Presidio at Monterey, arrived in the valley through Tejon Pass, which he described as “the Pass of Buena Vista” (Bolton 1931, Priestly 1937, Scott 2006). Upon his arrival within San Joaquin Valley, he described the area as “a labyrinth of lakes and tulares” encompassed by a large plain and populated with many large villages. Following Fages was Father Francisco Garces in 1776, who also entered the area through Tejon Pass but bypassed much of the valley area in preference of the eastern foothills. Garces proceeded north along the foothill boundary, encountering the present-day kern River which he named Rio de San Felipe, and continued north into Tulare County (Rehart 1997, Robinson 1963). The Kern River was renamed once again in 1806 as “La Porciuncula” by Padre Jose Maria de Zalvidea, who passed through the area before exiting through Tehachapi Pass. Later that same year, Lt. Francisco Ruiz, who accompanied the Moraga expedition, officially named Tejon Pass, or “Badger Pass” (Munoz et al 1946, Parsons 1987). Although the San Joaquin Valley had several brief Spanish explorations, no missions were established although several site locations were recommended to the Spanish governor.

Mexican Period (1822-1846)

In 1821 Mexico achieved its independence from Spain and by 1833 the missions were secularized. Until the secularization of the missions, little change occurred within the San Joaquin Valley. However, following the mission secularization, settlement of the area was encouraged by Mexico and was aided through their liberalization of their land grant policy. This resulted in a dramatic increase of bestowed land grants, rising from approximately 30 grants at the end of the Spanish period to over 500 grants by the time California became a part of the United States. Ranchos established upon these landgrants were bestowed by Mexican Governor Manuel Micheltoren, and remained the center of economic and social activities for the region for many years (Coons nd, McHenry 1998). During this time there is no evidence that the Project area was used during this time, besides possibly continued Native American use and grazing cattle (McHenry 1998).

American Period (1846-Present)

The American Period began at the end of the Mexican American War, between 1846-1848, with the Treaty of Guadalupe Hidalgo. After the Mexican-American war the population of the region began to grow, as the Ranchos changed hands and eventually were sold. Immigrants from the eastern U.S. gradually moved into the area and supplanted old Califorñio customs. Small scale agricultural ventures began in the area during

the 1850s and gradually grew. Most of the land in the vicinity of the Project area was held by the U.S. government until the Homestead Act of 1862.

Following the inception of California as the 31st state in the American Union on September 9, 1850, Mariposa County was formed and included present-day Kern County. American activity within the San Joaquin Valley grew quickly. Raising cattle and livestock quickly changed from a means of making a simple living to an important business commodity due to the increased demand for meat from rising populations. By the time Kern County was established on April 2, 1866, numerous developments had been achieved within San Joaquin Valley and neighboring areas. The first telegraph line connecting Los Angeles with Fort Tejon was completed in 1858 and was extended in 1860 to complete the line from Los Angeles to San Francisco (Kern County Superintendent of Schools 1995). In 1864, the Buena Vista Oil Refinery began operations, producing 4,000 gallons of illuminating oil during the first 3 years in operation. Also occurring in 1864, the first alfalfa crop was planted in the Kern River Valley by Thomas H. Barnes (Kern County Superintendent of Schools 1995). Mining operations near Lake Isabella and Kernville required reliable means of large-scale transportation, and by 1874 the Southern Pacific Railroad had established track through Sumner (Kern County Superintendent of Schools 1995).

Arvin

The City of Arvin was established in 1908 and was incorporated into Kern County in 1960. The town was named after Arvin Richardson, son of George Andrew Richardson (City of Arvin n.d.). The Richardson family originally hailed from Kentucky, where George Arvin Richardson was born in 1883. He moved to the Arvin area in 1907 and was one of the first settlers to establish a water well (Bakersfield Californian 1951). Richardson established a farm, and then established a pipe yard which was used for the development of numerous irrigation systems within the surrounding area and a self-service gas station, at which customer pumped their own gasoline and were responsible for making out the bills (Bakersfield Californian 1951). In 1913, the town's population asked the postmaster general to establish a post office, and the name chosen by the postmaster general for the community was Arvin, Richardson's middle name. In 1920, Richardson left the town of Arvin and moved to Bakersfield to enter into the real estate business. On July 2, 1951, Richardson passed away at the age of 67 (Bakersfield Californian 1951).

3. APPLICABLE REGULATIONS

This cultural resource study was conducted in compliance with the California Environmental Quality Act and the City of Arvin General Plan Update, dated 2012. CEQA requires that before approving discretionary projects the lead agency must identify and examine the significant adverse environmental effects which may result from that project. A project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment (Sections 15064.5(b) and 21084).

3.1 California Environmental Quality Act (CEQA)

According to CEQA (§15064.5a), the term "historical resource" includes the following:

(1) A resource listed in, or determined to be eligible by, the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR. Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, shall be presumed to be historically of culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14, Section 4852) including the following:

   (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

   (B) Is associated with the lives of persons important in our past;

   (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

   (D) Has yielded, or may be likely to yield, information important in prehistory or history.

(4) The fact that a resource is not listed in, or determined eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resource Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code section 5020.1(j) or 5024.1.

According to CEQA (§15064.5b), a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. CEQA defines a substantial adverse change as:

(1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

(2) The significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Section 15064.5(c) of CEQA applies to effects on archaeological sites and contains the following additional provisions regarding archaeological sites:

(1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).

(2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

(3) If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

(4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Section 15064.5 (d) & (e) contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) provides:

(d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American heritage Commission as provided in Public Resources Code SS5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American heritage Commission. Action implementing such an agreement is exempt from:

(1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).

(2) The requirement of CEQA and the Coastal Act.

3.2 City of Arvin

Under the City of Arvin General Plan Update, dated 2012, Conservation and Open Space Element Goals and Policies:

> Policy CO-2.7 Encourage conservation and promotion of the City's historical and cultural resources.

4. METHODS

Methods used to assess the presence or absence of cultural resources within the Project area included a search of existing records, archival research, and an intensive pedestrian field survey.

4.1 Archival Research

The records search was conducted at the SSJVIC on October 22, 2019 (Appendix A). The search included the Project area and a radius of ½ -mile around it. Historic aerial photographs and maps, provided by historicaerials.com and USGS Historical Topographic Map Explorer, of the Project area were also examined.

4.2 Archaeological Survey

The field survey was conducted on October 22 and 23, 2019, by Red Tail Senior Archaeologist Spencer Bietz. The proposed new installation alignment and a 30-meter buffer was surveyed using a 5-meter transect running parallel to the proposed alignment centerline within S Comanche Drive, Milux Road, and an unnamed unpaved road proceeding north from Milux Road to S A Street. Alignments proposed for repair or replacement were surveyed using a 10-foot buffer from the alignment centerline. The Project area was photographed, and all visible soils within undeveloped areas were examined for cultural resources. Upon discovery of an artifact or feature, the area within the immediate vicinity would be surveyed to determine whether the item was an isolated discovery, if it was associated with only a few other items, or part of a larger site deposit. Archaeological isolates were distinguished from sites on the basis that isolates consist of three or fewer artifacts within a 50-m radius. All site and isolate locations were recorded in Universal Transverse Mercator (UTM) coordinates using handheld GPS units with sub-meter accuracy. Sites were plotted on Proposed Project maps using NAD 83 UTM feet coordinates. Site information was recorded on State of California Department of Parks and Recreation (DPR) 523 series forms. No artifacts were removed from the Project area during the survey.

4.3 Native American Participation

A records search of the Sacred Lands File held by the NAHC was requested on October 16, 2019. The NAHC responded on October 22, 2019 and provided a list of 16 Native American groups and individuals to contact for additional information. Red Tail sent the 16 contacts a letter requesting any information on the Project area on October 29, 2019 (Appendix B).

5. RESULTS

5.1 Archival Research

SSJVIC

Previous Studies

A total of 31 cultural resources studies have been completed within the ½-mi. record search radius (Table 1). Sixteen of the previously conducted studies have intersected the Project area.

Table 1. Previously Conducted Studies within ½-Mi. of the Project Area

Report Number	Year	Authors	Report Title	Relation to the Project Area
KE-00285	1994	Baxter, Scott R.	An Archaeological Assessment of the Proposed Arvin Apartments, Phase II Site, 1.74 Acres of Land in Arvin, Kern County, California	Outside
KE-00297	1993	Brady, Jon	Archaeological Survey of 13 Acres in the City of Arvin, Kern County, California	Within
KE-00411	1992	Garcia, J.	An Archaeological Assessment of 15 Acres of Land in the City of Arvin, Kern County, California	Within
KE-00633	1993	Macko, Michael E., Jeanne D. Binning, David D. Earle, and Paul E. Langenwalter	National Register Eligibility Determinations Along the Proposed AT&T Lightguide System, Victorville to Bakersfield, California	Within
KE-00690	1991	Murphy, Peggy, and Robert E. Parr	An Archaeological Assessment of 12.8 Acres in the City of Arvin, Kern County, California	Within
KE-01072	1979	Schiffman, Robert A.	Archaeological Investigation of the Proposed Wastewater Treatment Plant and Transmission Facility Modifications for the Arvin County Sanitation District	Within
KE-01220	1986	Schiffman, Robert A.	Caliente Creek Stream Group Investigation, Kern County, California: Intensive Cultural Resources Survey and Evaluation	Outside
KE-01416	1991	Schiffman, Robert A.	Archaeological Investigation of 40 Acre Parcel Near Arvin Section 36, T. 31S, R 29E. Kern County, California	Outside
KE-01519	1989	William Self Associates	Cultural Resource Report Arvin-Edison Water Exchange Project, Kern County, California	Outside
KE-01817	1990	Yohe II, Robert M.	Archaeological Assessment of 30 Acres in the City of Arvin, Kern County, California	Within
KE-01973	1997	Roper, Kristina C.	A Cultural Resources Inventory for the Proposed City of Arvin Sewer Treatment Plant Expansion, Kern County, California	Outside
KE-02022	1994	Brady, Jon	Archaeological Survey of Lots 16 and 24 of the Foothill Citrus Farms Subdivision in the City of Arvin, Kern County, California	Within
KE-02161	1997	Chamberlin, Christine	Archaeological Survey Report for the Proposed Rehabilitation o f Route 223, Kern County, California	Outside
KE-02454	2000	Duke, Curt	Cultural Resource Assessment for Pacific Bell Wireless Facility VY 004-01, Kern County, California	Outside
KE-02548	2001	Lloyd, John (Jay), and Sandra S. Flint	Archaeological Survey for the Cornell Southwest Corrections Facility Project, Arvin, Kern County, California	Outside
KE-03101	2005	Fleagle, Dorothy	A Cultural Resources Assessment for 30.5 Acres South of Varsity Road, East of North Hill Street and West of Historic Tejon Highway, in Arvin, Kern County, California	Within
KE-03229	2005	Schiffman, Robert A., and Alan P. Gold	Cultural Resource Survey for a 180-Acre Parcel Between El Camino West and Millix Avenue in Arvin, Kern County, California	Outside
KE-03262	22006	Fleagle, Dorothy	A Cultural Resources Assessment for 80.34 Acres South of Arvin, Kern County, California	Outside

Report Number	Year	Authors	Report Title	Relation to the Project Area
KE-03658	2005	Tang, Bai "Tom", Michael Hogan, and Josh Smallwood	Historic Building Evaluation: A 50-Unit Housing Compound Located at 500 La Vista Drive, City of Arvin, Kern County, California	Within
KE-03687	2009	Bonner, Wayne H.	Records Search and Site Visit Results for AT&T Mobility, LLC Candidate: VN0078-01 (Smothermon Park), 890 Walnut Drive, Arvin, Kern County, California	Within
KE-03777	2010	Palm-Leach, Larua, Paul Brandy, Jay King, Pat Mikkelsen, Libby Seil, Lindsay Hartman, Jill Bradeen, Bryan Larson, Joseph Freeman, Julia Costello, Jeffrey Rosenthal, and Deborah Jones	Cultural Resources Inventory of Caltrans District 6 Rural Conventional Highways in Fresno, Western kern, Kings, Madera, and Tulare Counties, Summary of Methods and Findings	Outside
KE-04013	2009	Tang, Bai "Tom", and Michael Hogan	Identification and Evaluation of Historic Properties Assessor's Parcel Number 190-020-46, City of Arvin, Kern County, California	Within
KE-04079	2011	Hudlow, Scott M.	A Phase I Cultural Resource Survey for Grimmway Charter School, City of Arvin, California	Within
KE-04104	2012	Billat, Lorna	AT&T Smothermon Park/ LAB520A	Within
KE-04269	2011	Hudlow, Scott	A Phase I Cultural Resource Survey for Arvin Plastic Recycling Facility, City of Arvin, California	Outside
KE-04489	2009	Peak & Associates, Inc.	Cultural Resource Assessment of the Proposed Arvin Family Apartments, Kern County, California	Within
KE-04543	2010	Peak, Melinda, and Robert Gerry	Cultural Resource Assessment of the Proposed Sycamore Apartments, Arvin, Kern County, California	Within
KE-04646	2014	Brunzell, David	Phase I Cultural Resources Assessment and Extended Phase I Subsurface Testing for Two Proposed Well Sites of the Arsenic Mitigation Project, Kern County, California	Outside
KE-04793	2015	Laurie, Leroy, and Andrew Pulcheon	Archaeological Survey Report for the Sycamore Road Improvement Project from Vineland Road to Comanche Road, Kern County, California	Outside
KE-04959	2016	Brunzell, David	Phase I Cultural Resources Assessment and Extended Phase I Subsurface Testing, Sonshine Water System consolidation Project, Kern County, California	Outside
KE-05040	2018	Brunzell, David	Phase I Cultural Resources Assessment and Extended Phase I Subsurface Testing Arsenic Mitigation Project	Within

Previously Recorded Sites

Six cultural resources have been previously recorded within a ½ -mile record search radius of the Project area (Table 2). Two previously recorded resources, P-15-003545/CA-KER-3545 and P-15-012765, were identified within the Project Area.

P-15-003545/CA-KER-3545 consists of a segment of historic Tejon Highway, which is located along the eastern boundary of the Project area. The resource was originally recorded in M. Macko in 1993 as a historic road spanning from Herring Road to its intersection with the Southern Pacific Railroad, a length of nearly 12.8 miles. The road was initially a wagon road that was depicted upon a 1915 topographic map and was last updated by L. Downs in 2016. The latest recordation states that it is an improved two-lane asphalt road.

P-15-012765 is a historic-era multiple family residence located at the intersection of Haven Drive and Stockton Ave. The resource was originally recorded by J. Smallwood in 2005 and was determined to be

ineligible for inclusion in either the NRHP, the CRHR, or for local designation. While this location was mapped within the Project area at the SSJVIC, it is not located within an area that will be impacted by the Project.

Table 2. Previously Recorded Cultural Resources within ½-Mi. of the Project Area

Primary Number	Trinomial	Period	Contents	Recorder Date	Evaluation	Relation to the Project Area
P-15-003545	CA-KER-3545H	Historic	Tejon Highway AH7 Roads/Trails/Road Grades	L. Downs (2016) M. Macko (1993)	Not evaluated	Within
P-15-007744	-	Historic	HP28 Street Furniture	J. Arbuckle (1980) R.L. Perkins (1959)	1CS – Listed in the CR as an Individual Property by the SRHC	Outside
P-15-009042	-	Historic	AH4 Refuse Isolate	J. Garcia (1992)	Not evaluated	Outside
P-15-011698	-	Prehistoric	AP2 Lithic Isolate	D. Fleagle, S. Ahlf (2005)	Not evaluated	Outside
P-15-012765	-	Historic	HP3. Multiple Family Residence	J. Smallwood (2005)	6Z – Determined Ineligible for NR or CR through Survey Evaluation	Within
P-15-018878	-	Historic	HP30 – Trees/Vegetation	D.W. Dodd (1999)	6Z – Determined Ineligible for NR or CR through Survey Evaluation	Outside

Previously Recorded Historic Addresses

The SSJVIC record search also indicated that there is one previously recorded historic address within the ½-mi. record search radius, P-15-012763, a historic multiple family residence (Table 3). The previously recorded historic address is within the Project area. While this location was mapped within the Project area at the SSJVIC, it is not located within an area that will be impacted by the Project.

Table 3. Previously Recorded Historic Addresses within ½-Mi. of the Project Area

Primary Number	Address	Name	Property Type	Recorder Date	Evaluation	Relation to the Project Area
P-15-012763	500 La Vista Drive	n/a	Multiple Family Residence	J. Smallwood (2005)	6Z – Determined Ineligible for NR or CR through Survey Evaluation	Within

Historic Maps and Photographs

Available USGS maps showing the Project area in 1930, 1933, 1943, 1956, 1970, 1973, 1995, 2012, and 2015 were consulted. The 1930, 1933, and 1943 topographic maps show several developed roads within the Project area having already been developed, including Bear Mountain Blvd, Walnut Street, Haven Drive, Comanche Drive, Sycamore Road, and Tejon Highway. Several isolated structures are depicted along the southern portions of the Project area, specifically along Walnut Drive and Sycamore Road. The majority of the developed areas are depicted around the intersection of Bear Mountain Blvd. and Tejon Highway, including several residential tracts and one school. The 1956, 1970, and 1973 maps show much of the area surrounding Haven Drive, Walnut Drive, Tejon Highway, and Bear Mountain Blvd having been subdivided with numerous streets. Additional subdivision is present along the east side of Comanche Drive, with two new cross-streets now visible in addition to numerous residential dwellings. The 1956, 1970, and 1973 maps also depict Sycamore Road having been improved, and the establishment of Milux Road and S.

Comanche Drive as being semi-improved unpaved roads. Topographic maps from 1995, 2012, and 2015 show the present-day extent of development within the Project area, with numerous new streets and alleys having been created. Individual residences are no longer represented; however, four schools are now depicted. Portions of S. Comanche Drive and Milux Road are also depicted as paved, improved roadways, although portions of Milux Road between .S Comanche Drive and Tejon Highway are not depicted as existing roadways.

Aerial photographs of the Project area from 1952, 1968, 1992, 2005, 2009, 2010, 2012, 2014, and 2016 were consulted. The 1952 aerial shows much of present-day downtown Arvin had already been constructed, with agricultural fields being the dominant use of land within areas south of Franklin Street. Additional residential development between Haven Drive and Franklin Street is evident in the 1968 aerial imagery, with residential development beginning to occur south of Franklin street, east of Comanche Drive, and west of Walnut Drive. Within the 1992 aerial image, additional development within areas south of Franklin Street and east of Walnut Drive has occurred, and areas along Comanche Drive continue to be subdivided for residential expansion. All residential areas north of Bear Mountain Blvd. between Comanche Drive and Tejon Highway have been developed by this time, and no indications of additional expansion are depicted. Aerial images from 2005 to 2016 show that the majority of residential development within central and northeast Arvin had ceased. However, additional development of vacant land along Comanche Drive is visible within these images, with noticeable development occurring along S. Comanche Drive between Sycamore Street and El Camino Real. All aerial imagery researched from 1952 through 2016 depicted that land-use of surrounding areas focused specifically upon agricultural production, with several isolated areas designated for the extraction of subsurface petroleum products.

5.2 Archaeological Field Survey

The survey effort identified no previously unrecorded cultural resources within the Project area. All portions of existing alignments and associated manholes located within developed portions of the Project area did not display any visible indications of historic or prehistoric-era resources located either within or adjacent to said alignments (Figure 4). Undeveloped areas containing similar alignments were largely fallow, however these areas did exhibit indications of sporadic pedestrian traffic and modern refuse dumping. No previously unrecorded resources were identified within the proposed route for the new sewer infrastructure along S. Comanche Drive, Milux Road, or within the unnamed unpaved road proceeding north from Milux Road to S. A Street (Figure 5). The proposed alignment is located within roads which are currently in use by commercial and agricultural vehicles. The roads have been heavily impacted by the vehicular use, and noticeable indications of ongoing road repair and construction are visible along the proposed route. The probability of intact subsurface resources within the proposed alignment is low.

P-15-012765 was not revisited during the survey effort as existing alignments and manholes requiring replacement were not previously identified within the immediate proximity of the resource, which is a multi family residence.

P-15-003545/CA-KER-3545H was revisited during the survey effort, and was found in the same condition as the previous recordation, as an improved asphalt road. The resource is in current use as a regional road, and experiences moderate traffic from commercial and agricultural equipment. No visible remnants of the original wagon road are visible within Tejon Highway. The proposed alignment for the new sewer infrastructure within Milux Road crosses P-15-003545/CA-KER-33545H as it proceeds towards its eastern terminus.

Figure 4. Example of the Project area within existing infrastructure.

Figure 5. Example of the Project area for new infrastructure.

5.3 Native American Participation

The NAHC responded on October 22, 2019 that the record search of the Sacred Lands File was negative. In addition, the NAHC provided contact information for 16 Native American groups and individuals which may provide additional information on the Project area. Red Tail sent letters to the 16 Native American contacts provided requesting additional information on the Project area on October 29, 2019.

On November 6, 2019 Alexandra McCleary, Tribal Archaeologist, San Manuel Band of Mission Indians, responded that the project is located outside of Serrano ancestral territory and they will bot be requesting consulting party status.

On December 3, 2020 Colin Rambo, Cultural Resource Management Technician, Tejon Indian Tribe, responded that it is the Tejon Tribe's experience that previously-disturbed agricultural fields may still contain extant subsurface Tribal Cultural Resources ("TCRs") and/or ancestral human remains that are occasionally inadvertently discovered/impacted during project implementation. Therefore, they request that an inadvertent discovery clause be included in the cultural resources technical report that advises the Project proponent to contact the Tejon Tribe in the event that TCRs are inadvertently discovered during project implementation. Beyond this request, the Tejon Tribe has no further concerns with the project moving forward as proposed.

To date no other responses have been received. All correspondence pertaining to the NAHC is included in Appendix B.

6. IMPACT IDENTIFICATION

6.1 RESOURCE IMPORTANCE

The City of Arvin is the lead review agency for CEQA compliance. Accordingly, the sites which may be impacted by the Project must be evaluated for eligibility for the CRHR under CEQA Guidelines. Each site may be recommended as eligible or not eligible for listing on the CRHR based on Criteria A, B, C, or D.

P-15-003545/CA-KER-3545, a segment of Tejon Highway, and P-15-012765 and P-15-012763 two multiple-family residences have been previously recorded within the Project area. Both residences, P-15-012765 and P-15-012763, have been mapped by the SSJVIC within the Project area, however they are located outside of any of the repair or new infrastructure alignments and will not be impacted by the Project.

P-15-003545/CA-KER-3545H

P-15-003545/CA-KER-3545 consists of a segment of historic Tejon Highway, which is located along the eastern boundary of the Project area. The resource was originally recorded in M. Macko in 1993 as a historic road spanning from Herring Road to its intersection with the Southern Pacific Railroad, a length of nearly 12.8 miles. The road was initially a wagon road that was depicted upon a 1915 topographic map and has been in continuous use as a modern improved asphalt highway. During the survey effort, a portion of the roadway was revisited which will be bisected by the new infrastructure alignment. This portion of the roadway is currently in-use as a modern two-land highway. No visible remnants of the original wagon road are visible or any historic features were present within the Project area. New infrastructure will cross Tejon Highway at the intersection of Tejon Highway and Milux Road.

P-15-003545/CA-KER-3545 within the Project area did not display evidence of specialized design or construction, and archival research was unable to associate the resource with a regionally historic theme or with a historical individual with regional importance. As a modern roadway the design and construction are unremarkable and essentially similar to other road designs. It is unlikely that this road has the potential to yield further information that will broaden our understanding of the past. Therefore, it is recommended that P-15-003545/CA-KER-3545H is not significant under CEQA and would not be eligible for listing on the CRHR under any Criteria.

6.2 IMPACT IDENTIFICATION

P-15-003545/CA-KER-3545H, within the Project area, does not appear to be significant under CEQA and would not be eligible for listing on the CRHR. P-15-012765 and P-15-012763 two multiple-family residences, are not located within the Project area and will not be impacted by the Project. Therefore, no CEQA historic resources have been identified within the Project area and the implementation of the Project will not have an adverse effect on any historic resources.

7. RECOMMENDATIONS AND CONCLUSIONS

Although avoidance is always the best course of action to take to protect cultural resources it may not be feasible in all project designs. In order to comply with CEQA project-related effects/impacts must be avoided, reduced, or mitigated to a level that is acceptable under CEQA.

Ground disturbance for the project will take place within the limits of the Project area which has been previously disturbed by urban development. Ground disturbance for sewer pipe alignments requiring repair and/or full replacement are located within previously excavated trenches within City streets and will not intrude onto private property. The proposed route for the installation of new sewer line infrastructure is limited to S. Comanche Drive, Milux Road, and an unnamed unpaved road that proceeds north from Milux Road to S. A Street. The proposed alignment is located within areas previously disturbed by vehicular and agricultural vehicle traffic, all of which are in use in the present day and display extensive evidence of ground alteration and road repair

The portion of P-15-003545/CA-KER-3545, Tejon Highway, within the Project area is recommended not eligible to the CRHR and not significant under CEQA. P-15-012765 and P-15-012763 two multiple-family residences, are not located within the Project area and will not be impacted by the Project. No other cultural resources have been identified within or near the Project area either during the record searches, archival research, pedestrian archaeological survey, or Native American correspondence. Therefore, no CEQA historic resources have been recorded within the Project area.

The probability of unidentified intact subsurface deposits within the Project area is low. Ground disturbance for much of the Project will be conducted within previously excavated trenches. Ground disturbance for the new infrastructure will be conducted within areas that are currently in use for vehicle traffic and agriculture and display extensive evidence of ground alteration. Therefore, no further archaeological work is recommended. It is recommended that per the Tejon Indian Tribe's response that if there are any inadvertent discoveries during project implementation that the project proponent contact the Tejon Indian Tribe, Cultural Resource Management Technician, Colin Rambo.

8. REFERENCES

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APPENDICES

APPENDIX A

SSJVIC RECORD SEARCH CONFIRMATION

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

IN-HOUSE RECORD SEARCH

RS# 19-432
Job# A11269

Please complete all sections:

DATE: 10/22/19

TIME IN: 10:15 TIME OUT: 1200 TOTAL TIME: 1:45

NUMBER OF COPIES MADE: _____

PROJECT NAME/NUMBER: City of Arvin Sewer Replace

COUNTY: FRESNO__ KERN ✓ KINGS__ MADERA__ TULARE__

7.5' USGS MAPS USED: Arvin

YOUR CONTACT INFORMATION: Access and Use Agreement Number: 521

Name: Spencer Bitz
Company: Red Tail Environmental
Address: 328 State Place, Escondido, CA, 92029

Phone Number: 760 294 3100 Fax Number: _____
Email Address: spencer@redtailenvironmental.com
Principal (if other than yourself): Shelby Gundermann Castells

BILLING INFORMATION (if different from contact information):

Name: _____
Company: _____
Address: _____

Phone Number: _____ Fax Number: _____
Email Address: _____

Please attach a map displaying your project area. Thank you.

Digital Product Information (IC Use Only): corrected materials sent via dropbox - no charge
encryption: spEvL3ra

Number of Staff Time Hours: 1 Hourly Staff time Charge: $40.00 ✓ $150.00__
Number of Shapefiles: _____
Number of Database Records: _____
Number of PDF Pages: 61

COMPLETED
10-22-19

APPENDIX B

NAHC CORRESPONDENCE

October 16, 2019

California Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
nahc@nahc.ca.gov

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear NAHC,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin and is shown on Figure 1. The proposed Project is being conducted in compliance with the California Environmental Quality Act and the City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system.

Red Tail is currently conducting a records search with the Southern San Joaquin Valley Information Center. I am writing to request a record search of the Sacred Lands File to determine if you have registered any cultural resources, tribal cultural resources, traditional cultural properties, or areas of heritage sensitivity within the proposed project area. The project area is shown on the USGS 7.5' Arvin Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East.

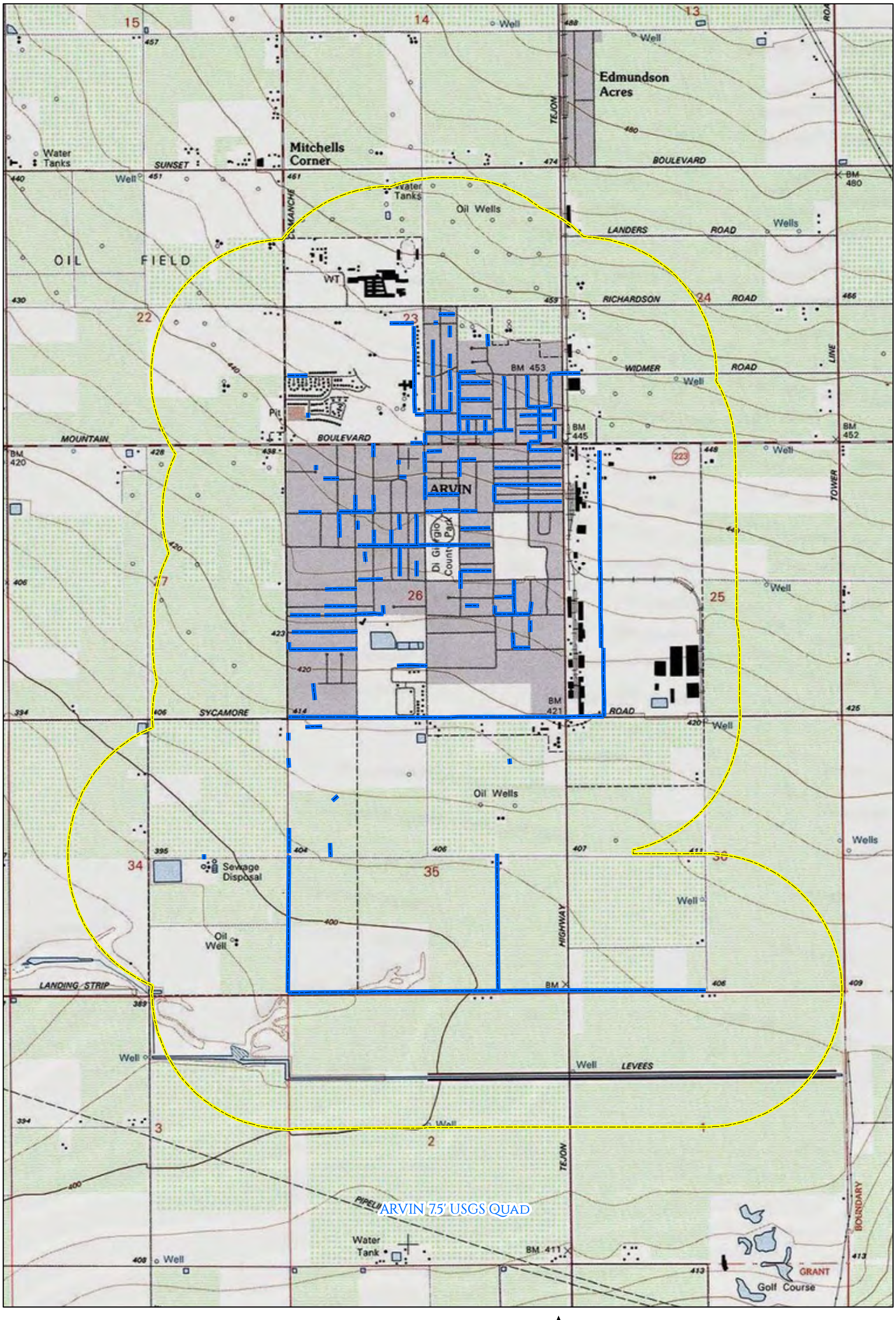
Our investigation will include direct contact with local tribal entities. Please include a list of the appropriate individuals to contact related to this project. Please submit your response via email to Shelby@redtailenvironmental.com.

Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology

Attachments: Project Area Map



LEGEND

- PROJECT AREA
- HALF MILE RS AREA
- 7.5' USGS QUADS

1:24,000

0 0.25 0.5 1 KILOMETERS

0 0.25 0.5 1 MILES

October 29, 2019

Kern Valley Indian Community
Brandy Kendricks
30741 Foxridge Court
Tehachapi, CA, 93561
krazykendricks@hotmail.com
(661) 821-1733
(661) 972-0445 fax

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Ms. Kendricks,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

A record search of the Sacred Lands File with the California Native American Heritage Commission was negative. Red Tail is conducting a record search at the South Coastal Information and a pedestrian survey of the Project Area.

We are contacting you to request additional information regarding the Project area, if you are aware of any issues of cultural concern regarding the area shown on the enclosed map. In particular, we would like to know if you have knowledge of any Traditional Cultural Properties, Sacred Sites, Tribal Cultural Resources, resource collecting areas, or any other areas of concern of which you would wish us to be aware. If you have any questions or concerns regarding the proposed Project, please contact me at the address or phone number listed below, or via email at Shelby@redtailenvironmental.com. We appreciate any input you may have on this project.

Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Tejon Indian Tribe
Colin Rambo, Cultural Resource Management
1731 Hasti-Acres Drive, Suite 108
Bakersfield, CA, 93309
Colin.rambo@tejonindiantribe-nsn.gov
(661) 832-8566

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Rambo,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

A record search of the Sacred Lands File with the California Native American Heritage Commission was negative. Red Tail is conducting a record search at the South Coastal Information and a pedestrian survey of the Project Area.

We are contacting you to request additional information regarding the Project area, if you are aware of any issues of cultural concern regarding the area shown on the enclosed map. In particular, we would like to know if you have knowledge of any Traditional Cultural Properties, Sacred Sites, Tribal Cultural Resources, resource collecting areas, or any other areas of concern of which you would wish us to be aware. If you have any questions or concerns regarding the proposed Project, please contact me at the address or phone number listed below, or via email at Shelby@redtailenvironmental.com. We appreciate any input you may have on this project.

Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Kitanemuk and Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street
Bakersfield, CA, 93305
2deedominguez@gmail.com
(626) 339-6785

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Ms. Dominguez,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

A record search of the Sacred Lands File with the California Native American Heritage Commission was negative. Red Tail is conducting a record search at the South Coastal Information and a pedestrian survey of the Project Area.

We are contacting you to request additional information regarding the Project area, if you are aware of any issues of cultural concern regarding the area shown on the enclosed map. In particular, we would like to know if you have knowledge of any Traditional Cultural Properties, Sacred Sites, Tribal Cultural Resources, resource collecting areas, or any other areas of concern of which you would wish us to be aware. If you have any questions or concerns regarding the proposed Project, please contact me at the address or phone number listed below, or via email at Shelby@redtailenvironmental.com. We appreciate any input you may have on this project.

Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Big Pine Paiute Tribe of the Owens Valley
Danelle Gutierrez, THPO
PO Box 700
Big Pine, CA, 93513
d.gutierrez@bigpinepaiute.org
(760) 938-2003 ext 228
(976) 938-2942

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Ms. Gutierrez,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street
Bakersfield, CA, 93307
chumashtribe@sbcglobal.net
(661) 322-0121

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Quair,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Big Pine Paiute Tribe of the Owens Valley
James Rambeau, Sr., Chairperson
PO Box 700
Big Pine, CA, 93513
j.rambeau@bigpinepaiute.org
(760) 938-2003
(976) 938-2942

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Rambeau,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Kern Valley Indian Community
Julie Turner, Secretary
PO Box 1010
Lake Isabella, CA, 93240
(661) 340-0032 cell

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Ms. Turner,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Wukasache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct
Salinas, CA, 933309
Kwood8934@aol.com
(831) 443-9702

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Woodrow,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

San Manuel Band of Mission Indians
Lee Clauss, Director – CRM Department
26569 Community Center Drive
Highland, CA, 92346
(909) 864-8933
(909) 846-3370 fax

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Clauss,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

San Manuel Band of Mission Indians
Lynn Valbuena, Chairwoman
26569 Community Center Drive
Highland, CA, 92346
(909) 864-8933

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Ms. Valbuena,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Tule River Indian Tribe
Neil Peyron, Chaiirperson
PO Box 589
Porterville, CA, 93258
neil.peyron@tulerivertribe-nsn.gov
(559) 781-4271
(559) 781-4610 fax

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Peyron,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Tejon Indian Tribe
Octavio Escobedo, Chairperson
1731 Hasti-Acres Drive, Suite 108
Bakersfield, CA, 93309
oescobedo@tejonindiantribe-nsn.gov
(661) 832-8566
(661) 834-8564 fax

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Escobedo,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Santa Rosa Rancheria Tachi Yokut Tribe
Rueben Barrios, Sr., Chairperson
PO Box 8
Lemoore, CA, 93245
(559) 924-1278
(559) 924-3583 fax

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Barrios,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Tubatulabals of Kern Valley
Robert L. Gomez, Jr., Tribal Chairperson
PO Box 226
Lake Isabella, CA, 93240
(760) 3379-4590
(760) 379-4592 fax

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Gomez,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Kern Valley Indian Community
Robert Robinson, Chairperson
PO Box 1010
Lake Isabella, CA, 93240
bbtutterbredt@gmail.com
(760) 378-2915 cell

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Mr. Robinson,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Sincerely,

Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

October 29, 2019

Big Pine Paiute Tribe of the Owens Valley
Sally Manning, Environmental Director
PO Box 700
Big Pine, CA, 93513
s.manning@bigpinepaiute.org
(760) 938-2003
(976) 938-2942

Re: Sewer Master Plan Project for the City of Arvin, Kern County, California

Dear Ms. Manning,

Red Tail Environmental (Red Tail) is conducting an archaeological study of the proposed Sewer Master Plan Project (Project) for the City of Arvin, Kern County, California. The Project is located within the city limits of Arvin, and is being conducted in compliance with the California Environmental Quality Act. The City of Arvin is the lead agency. The Sewer Master Plan will develop a Capital Improvement Plan for the City of Arvin's wastewater collection system. The project area is shown on the USGS 7.5' *Arvin, California* Quad map within Sections 23, 24, 25, 26, 35 and 36, of Township 31 South, Range 29 East, and is shown on Figure 1.

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Shelby G. Castells

Shelby Castells, M.A., RPA
Director of Archaeology
Attachments: Figure 1. Project Location Map

RED TAIL ENVIRONMENTAL
Powered by Google

Shelby Castells <shelby@redtailenvironmental.com>

Sewer Master Plan Project for the City of Arvin

Alexandra McCleary <Alexandra.McCleary@sanmanuel-nsn.gov> Wed, Nov 6, 2019 at 10:26 AM
To: "shelby@redtailenvironmental.com" <shelby@redtailenvironmental.com>

Dear Shelby,

Thank you for contacting the San Manuel Band of Mission Indians (SMBMI) regarding the above-referenced project. I write to you on behalf of Lee Clauss, Director of the Cultural Resources Management Department. SMBMI appreciates the opportunity to review the project documentation, which was received by the Cultural Resources Management Department on November 4, 2019. The proposed project is located outside of Serrano ancestral territory and, as such, SMBMI will not be requesting consulting party status with the lead agency or requesting to participate in the scoping, development, and/or review of documents created pursuant to legal and regulatory mandates.

Kind regards,

Alexandra McCleary

Alexandra McCleary
TRIBAL ARCHAEOLOGIST
O: (909) 864-8933 x502023
M: (909) 633-0054
26569 Community Center Drive Highland CA 92346
SAN MANUEL
BAND OF MISSION INDIANS

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination or copying of this communication is strictly prohibited. If you have received this electronic transmission in error, please delete it from your system without copying it and notify the sender by reply e-mail so that the email address record can be corrected. Thank You

RED TAIL ENVIRONMENTAL
Powered by Google

Shelby Castells <shelby@redtailenvironmental.com>

Sewer Master Plan Project City of Arvin Information Request

Colin Rambo <colin.rambo@tejonindiantribe-nsn.gov> Tue, Dec 3, 2019 at 2:29 PM
To: Shelby Castells <shelby@redtailenvironmental.com>

Hi Shelby,

Firstly, please forgive the delay in my reply to your original email, but the Tejon Tribe moved its offices over the first few weeks of November (see new address below), and then the Thanksgiving holiday snuck up on me before I could get around to responding to all my emails.

Secondly, thank you for taking the time to discuss this project with me on the phone today. Red Tail's negative pedestrian survey results align nicely with the data maintained in the Tejon Tribe's cultural sensitivity and ethnogeographical (i.e., aboriginal placename) geodatabase (a sample of our ethnogeographic database - centered around Arvin - is attached for your records, and for use in your archaeological technical report, should you wish to include aboriginal *Kitanemuk* placenames in your ethnographic context section; it's all sourced from the JP Harrington notes; please feel free to contact me if you have any questions about this data and/or its application).

Thirdly, after decades of monitoring ground-disturbing projects in Kern County, however, it is the Tejon Tribe's experience that previously-disturbed agricultural fields may still contain extant subsurface Tribal Cultural Resources ("TCRs") and/or ancestral human remains that are occasionally inadvertently discovered/impacted during project implementation. **Therefore, we simply request that Red Tail include an inadvertent discovery clause in its cultural resources technical report that advises the project proponent to contact the Tejon Tribe in the event that TCRs are inadvertently discovered during project implementation (please use my name and contact information as the primary point of contact in said clause; see below).** Beyond this request, the Tejon Tribe has no further concerns with the project moving forward as proposed.

Finally, I have attached some documents that provide an overview of the Tejon Tribe's ethnohistory - including a map of our "Contemporary Area of Interest for Cultural Resource Consultation" for purposes of complying with federal and state laws/regulations - I hope Red Tail finds them useful.

Again, thank you for taking the time to discuss this project with me today.

Sincerely,

Colin Rambo, M.A.I.S.

Cultural Resource Management Technician

Tejon Indian Tribe

Office: 661.834.8566 | Mobile: 484.515.4790

www.tejonindiantribe.com

PLEASE NOTE OUR NEW PHYSICAL & MAILING ADDRESSES:

Physical: 4941 David Road, Bakersfield, CA 93307

Mailing: P.O. Box 640, Arvin, CA 93203

[Quoted text hidden]

---

4 attachments

Tejon_Ethnogeographic Geodatabase_Snapshot for Arvin.jpg
437K

Tejon Tribe AB 52 Service Area Map.jpg
640K

Tejon Tribe_Ethnohistory_JJohnson_2016.pdf
237K

Tejon Tribe Ethnohistory (for AB 52).pdf
1006K

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