

WASTEWATER COLLECTION SYSTEM

DELINEATION OF JURISDICTIONAL WATERS



**City of Twentynine Palms
San Bernardino County, California**

**Submitted to:
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ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
ft.	Feet
GIS	Geographic Information System
HUC	Hydrologic Cataloging Unit
IP	Individual Permit
M	Meters
NEPA	National Environmental Policy Act
NL	not listed
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OBL	obligate
OHWM	ordinary high-water mark
PM	post mile
Rapanos	Rapanos v. U.S. and Carabell v. U.S.
RPW	relatively permanent waterway
RWQCB	Regional Water Quality Control Board
SWANCC	Solid Waste Agency of Northern Cook County v. USACE
TNW	traditionally navigable waterway
UPL	upland
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture, Natural Resources Conservation Service
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
WSC	Waters of the State of California
WUS	Waters of the United States

1.0 INTRODUCTION

WSP USA Environment & Infrastructure Inc. (WSP) was contracted by Terra Nova Planning and Research to conduct a jurisdictional delineation and prepare a report for Phases 1 and 2 of the proposed Wastewater Collection System Project (project) in Twentynine Palms, San Bernardino County, California. This report presents regulatory framework, methods, and results of a delineation of jurisdictional waters, wetlands, and associated riparian habitat potentially impacted by the project.

1.1 Purpose

The purpose of the delineation is to determine the extent of state and federal jurisdiction within the project area potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and California Department of Fish and Wildlife (CDFW) under Section 1602 of the California Fish and Game Code.

1.2 Project Description

The installation of the sewer pipeline system will be generally trenched within existing road right-of-ways. Areas where the sewer line crosses drainage features will utilize jack and bore method to install the pipe under the drainages without disturbing the surface.

The project includes the following elements:

Gravity Sewer Pipelines:

- Phase 1A: 60,100 feet (11.4 miles)
- Phase 1B: 12,200 feet (2.3 miles)
- Phase 1C: 26,800 feet (5.1 miles)
- Phase 1D: 15,200 feet (2.9 miles)
- Phase 1E: 27,200 feet (5.1 miles)
- Total: 141,500 feet (26.8 miles)

Sewer Laterals/Properties Served:

- Phase 1A: 651 Properties
- Phase 1B: 105 Properties
- Phase 1C: 264 Properties
- Phase 1D: 75 Properties
- Phase 1E: 333 Properties
- Total: 1,428 Properties

Lift Stations and Force Mains:

- Phase 1D lift station
- Phase 1D force main: 3,700 feet (0.7 miles)

A wastewater treatment plant (WWTP) and an influent lift station for it are also included.

1.3 Project Location

The project is entirely within the city of Twentynine Palms, San Bernardino County, California (see Appendix A - Figure 1). It is located primarily on the 7.5-minute *Twentynine Palms*, Calif. United States Geological Survey (USGS) topographic quadrangle extending slightly south into the *Queen Mountain*, Calif. USGS topographic quadrangle. It is in Township 1 North, Range 9 East, in portions of Sections 15, 16, 20-22, 27-29, 32 and 33 (see Appendix A - Figure 2). Project topography is roughly level overall, with some low hills in the southwestern portion of the project footprint. Elevations range from approximately 1,795 feet (547 meters) in the northeast to 2,140 feet (652 meters) in the southwest. The land within the study area generally slopes from the southwest to the northeast (NV5 2022).

2.0 METHODS

Prior to conducting delineation fieldwork, the following literature and materials were reviewed:

- Aerial photographs (2021) of the survey area at a scale of 1:1800 to determine the potential locations of jurisdictional waters or wetlands;
- USGS topographic map (Figure 2-Appendix A) to determine the presence of any “blue line” drainages or other mapped water features;
- USDA soil mapping data (Figure 3-Appendix A); and
- USFWS National Wetlands Inventory map to identify areas mapped as wetland features (Figure 4-Appendix A).

Field surveys of the project area were conducted by WSP Senior Biologist Dale Hameister on 14 April, and 8 December 2022. The dates had such a large spread because the project footprint changed, and additional areas were added. The surveys consisted of all areas where potential drainages were crossing or in the vicinity of the proposed sewer lines within the survey area and identifying potentially jurisdictional water features. All accessible portions of the survey area were walked to determine if the flows associated with the project site meet the minimum criteria to be considered jurisdictional by the USACE, RWQCB, and CDFW. Visual observations of vegetation types and changes in hydrology and soil, as well as culvert locations were used to locate areas for evaluation. Weather conditions during delineation fieldwork was conducive for surveying with clear skies, winds ranging from 2 to 5 miles per hour, and a temperatures of 62-83° Fahrenheit during the April survey. The weather conditions during the December survey consisted of winds from 4-8 miles per hour and temperatures of 48-54° Fahrenheit.

USACE regulated Waters of the United States (WUS), including wetlands, and RWQCB Waters of the State of California (WSC) were delineated according to the methods outlined in *A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE, 2008a). The extent of WUS was determined based on indicators of an OHWM. The OHWM width was measured at points wherever clear changes in width occurred.

Potential Federally regulated wetlands were identified based on the *Wetlands Delineation Manual* (USACE, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE, 2008b). Additional data was recorded to determine if an area fulfilled the wetland criteria parameters. Three criteria must be fulfilled to classify an area as a wetland under the jurisdiction of the USACE: 1) a predominance of hydrophytic vegetation, 2) the presence of hydric soils, and 3) the presence of wetland hydrology.

RWQCB jurisdictional areas identified as WSC were determined by the edge of the OHWM, like associated with USACE limits. CDFW jurisdiction is delineated by measuring the elevations of land that confine a stream to a definite course when its waters rise to their highest level and to the extent of associated riparian vegetation. This edge is identified as the clearly

defined bed and bank feature and extends further to include any adjacent riparian habitat that clearly receives water resources associated with the drainage feature.

To determine jurisdictional boundaries, the surveyor walked the length of the drainage within the project area and recorded the centerline with a Trimble GeoXH global positioning system. The width of the drainage was determined by the OHWM and bankfull width measurements at locations where transitions were apparent. Other data recorded included bank height and morphology, substrate type, and all vegetation within the streambed and riparian vegetation adjacent to the streambed. Areas that lacked evidence of hydrophytic vegetation, lacked evidence of wetland hydrology, and had no recent disturbance, did not require a soil pit since the other wetland indicators were not present. Upon completion of fieldwork, all data collected in the field were incorporated into a Geographic Information System (GIS) along with basemap data. The GIS was then used to quantify the extent of jurisdictional waters and prepare graphical representations of that data.

3.0 ENVIRONMENTAL SETTING

3.1 Existing Conditions

The proposed project area consists of developed areas associated with the city of Twentynine Palms, CA. The survey area consists of urban areas, mostly non-vegetated flood control channels, creosote scrub habitat and disturbed areas.

3.2 Hydrology

The average rainfall for the area is 4.24 inches per year (COOP 049099). Weather data was recorded in the city of Twentynine Palms. Prior to the April survey, the most recent recordable rainfall fell on 16 February 2022 for a total of 0.02 inches. The most recent sizeable rain events before the survey were 0.01 in on November 1, 2022, and 0.61 inches on October 15, 2022.

The project site is generally located within the Southern Mojave-Salton Sea Subregion (USGS). It is more specifically located within the Mojave hydrologic area within the Southern Mohave hydrologic unit and within the Forty-nine Palms/Canyon-Shortz Lake Watershed (Hydrologic Unit Code 1810010021) (see Appendix A – Figure 3).

3.3 Vegetation

The dominant vegetation community within the vegetated survey area is *Larrea tridentata* Shrubland Alliance (Creosote bush scrub) (Sawyer et. al 2009). Holland (1986) refers to these vegetation communities as “Mojave creosote bush scrub”. Creosote bush scrub is dominated by creosote bush (*Larrea tridentata*) with various co-dominants including white bur-sage (*Ambrosia dumosa*), white rhatany (*Krameria bicolor*), allscale saltbush (*Atriplex polycarpa*) and cheesebush (*Ambrosia salsola*). In the northern project area, there are stand of Saltbush Scrub dominated by allscale saltbush and/or four-wing saltbush (*Atriplex canescens*). A major flood control channel which originates from Forty-nine Palms Canyon to the southwest is present on-site, as well as other unnamed drainages. These are mapped as Desert Wash Systems and where plants have not been removed by flood control agencies, they are vegetated with species such as smoke tree (*Psoralea argyrea*) and catclaw (*Senegalia greggii*) (FACU). No riparian indicator species were observed, and no other hydric vegetation was observed.

3.4 Soils

Soil data is not mapped for the survey area. All soils observed during the field survey were coarse sand and rock. No indicators of wetland soils were observed, and no soil moisture was detected within the survey area.

3.5 National Wetlands Inventory

The United States Fish and Wildlife Service (USFWS) is the principal Federal agency that provides information to the public on the extent and status of the Nation’s wetlands. The USFWS has developed a series of maps, known as the National Wetlands Inventory (NWI) to

show wetlands and deep-water habitat. This geospatial information is used by Federal, State, and local agencies, academic institutions, and private industry for management, research, policy development, education, and planning activities. The NWI program was neither designed nor intended to produce legal or regulatory products; therefore, wetlands identified by the NWI program are not the same as wetlands defined by the USACE.

The NWI Mapper (USFWS, 2022) was accessed on-line to review mapped wetlands or riverine areas within the project study areas. The NWI mapper shows the flood channel as well as some smaller washes in the southwestern portion of the survey area. All the mapped drainages mapped are classified as riverine, intermittent streambed (see Appendix A - Figure 4).

4.0 RESULTS

Based on the field visit, five ephemeral drainages were observed within mostly unvegetated earthen channels (Appendix A – Figure 5). The main flood control channel, Drainage 1 (D1), is an earthen trapezoid engineered. The top of bank width (CDFW) ranges between 65 to 73 feet and the bottom of the channel (RWQCB) ranges between 10-14 feet. There was little to no sign of OHWM within the channel due to routine maintenance of the channel with heavy equipment. The depth of the drainage varies from 6 to 15 feet. The unvegetated drainage feature consists of sandy soils with no hydric soil indicators. Therefore, there are no wetlands present within the drainage feature. Site photos of representative portions of the on-site drainage as well as off-site areas upstream and downstream are included in Appendix B.

The flow pattern of the flood control channel generally flows west to east and originates from the Forty-nine Palms Oasis. The channel collects stormwater and urban runoff and connects to a natural dry wash north of the developed area of Twentynine Palms. The wash flows within braided channels to the east and terminated approximately 19.2 miles to the east at Dale Dry Lake.

Drainage 2 (D2), which flows into D1 east of the project area. The drainage is partially an earthen engineered channel and is fed by dry braided washes from the southeast.

Drainage 3 is a partially engineered drainage which flows from the south under SR 62 and ends at D1. This drainage is not within the project footprint.

Drainage 4 is a small, braided channel flowing south to north at the lift station area from 2 Mile Road north of Student Transportation of America school bus facility and into the creosote scrub.

Drainage 5 is a small, braided channel flowing south to north at the lift station area from Amboy Road in north into the desert. Due to the drainages terminating in an isolated dry lake and having no commerce nexus or federal nexus, it was determined that D1-D5 should not be considered to have any USACE jurisdiction. This is due to the lack of connection to any RPG or TNW.

No other drainages investigated met the criteria to be considered jurisdictional.

Small, braided washes were surveyed within the southern portion of the survey area south of Sullivan Road and were determined to be non-jurisdictional due to lack of OHWM, defined bed and bank, and a total lack of any hydric vegetation.

The playa area south of Amboy Road and north of 2 Mile Road was also investigated. There was some evidence of soil cracking from temporary inundation during storms mixed with mesquite hummocks. The area was determined to not be jurisdictional due to the lack of defined bed and bank and no evidence of OHWM or connection to any established drainage.

The Jurisdictional Delineation Map (Appendix A – Figure 5) identifies the five jurisdictional drainages observed. Table 1 includes the specific location of the drainages. Table 2 identifies

the total jurisdictional area associated with the drainage features. Associated jurisdictional delineation forms can be found in Appendix C.

The USACE, in combination with the Environmental Protection Agency (EPA), when necessary, reserves the ultimate authority in making the final jurisdictional determination of WUS and the RWQCB reserves the ultimate authority in making the final jurisdictional determination of WSC. Additionally, CDFW has ultimate discretion in the determination of their jurisdiction. Based on our delineation, the drainages meet the requirements to be considered jurisdictional by CDFW and RWQCB. The drainages are considered ephemeral and only conveys flows during and immediately following a storm event.

Table 1. Survey Site Information

Drainage	Latitude	Longitude	Quad	Township	Range	Section
D1	34.140971	-116.054382	Twentynine Palms	1N	9E	15, 16, 20-22, 27-29, 32 and 33
D2	34.148927	-116.028266	Twentynine Palms	1N	9E	22 and 27
D3	34.140195	-116.038231	Twentynine Palms	1N	9E	28
D4	34.151399	-116.035334	Twentynine Palms	1N	9E	22
D5	34.166465	-116.018461	Twentynine Palms	1N	9E	15

Table 2. Summary of Jurisdictional Areas in the Survey Area

Drainage ID /Survey Area	Watershed	Waters of the US Length (feet)	Waters of the US (acre)	RWQCB Length (Feet)	RWQCB (acre)	CDFW Length (Feet)	CDFW (acre)	Cowardin Class	Class of Aquatic Resource
D1	Forty-nine Palms	0	0	32,012	13.57	32,012	58.57	R4SBJx	non-section10-non wetland
D2	Forty-nine Palms	0	0	5,598	2.81	5,598	9.57	R4SBJ	non-section10-non wetland
D3	Forty-nine Palms	0	0	2,558	0.15	2558	6.60	R4SBJx	non-section10-non wetland
D4	Forty-nine Palms	0	0	622	3.75	622	0.27	R4SBJ	non-section10-non wetland
D5	Forty-nine Palms	0	0	783	0.85	783	1.21	R4SBJ	non-section10-non wetland
Total		0	0	41,573	21.13	41,573	76.22		

CDFW – California Department of Fish and Wildlife

R4SBJ – Riverine, Intermittent, Streambed, excavated (Seasonally Flooded) based on Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et. al., 1979).

5.0 IMPACTS TO JURISDICTIONAL AREAS

Based on the proposed site plan that was provided by Terra Nova, the wastewater collection pipes will be installed in trenches within existing roadways. At this time, it is assumed that the pipeline will be installed under the drainage utilizing the jack and bore method and will not impact any drainages. Drainage 4 and 5 could be impacted within the proposed wastewater treatment plant (WWTP) and an influent lift station. The construction designs have not been finalized so calculating project related impacts will need to be postponed until a more complete design of the WWTP. The potential impacts to Drainage 4 are 0.27 acres of CDFW and 0.15 acres of RWQCB jurisdictional area. The potential impacts to Drainage 5 are 1.21 acres of CDFW and 0.85 acres of RWQCB jurisdictional area. Regulatory Framework can be found in Appendix D.

5.1 Permitting Requirements

The proposed project requires permanent impacts to the jurisdictional drainage and therefore, authorization from USACE, RWQCB, and CDFW are required as described below.

5.1.1 U.S. Army Corps of Engineers

Due to the drainages terminating in an isolated dry lake and having no commerce nexus or federal nexus, it was determined that D1-D5 should not be considered to have any USACE jurisdiction.

5.1.2 Regional Water Quality Control Board

The project areas occur in the Lahontan RWQCB (Region 6). Under Section 401 of the CWA, the RWQCB must certify that the discharge of dredged or fill material into WUS does not violate state water quality standards.

The RWQCB also regulates impacts to WSC under the Porter Cologne Water Quality Control Act through issuance of a Construction General Permit, State General Waste Discharge Order, or Waste Discharge Requirements, depending upon the level of impact and the properties of the waterway.

The project proponent would need to obtain a Water Quality Certification. In addition to the formal application materials and fee (based on area of impact), a copy of the appropriate California Environmental Quality Act (CEQA) documentation must be included with the application.

Mitigation measures typically includes replacement of temporary impacts at a 2:1 ratio and replacement of permanent impacts at a 3:1 ratio. Mitigation can be implemented through the purchase of mitigation credits through an approved in-lieu fee program or similar mitigation bank. Other options can include the purchase of off-site habitat and placed into a conservation easement. It should be noted that the mitigation ratios are based on in-kind habitat replacement and ratios may be reduced if higher quality habitat is purchased.

5.1.3 California Department of Fish and Wildlife

A 1602 Streambed Alteration Agreement is required for all activities that alter streams and lakes and their associated riparian habitat, regardless of the extent of impacts. In addition to the formal application materials and fee (based on cost of the project), a copy of the appropriate CEQA documentation must be included with the application.

Mitigation measures will follow similar to those described under Section 5.1.2. Regional Water Quality Control Board discussed above.

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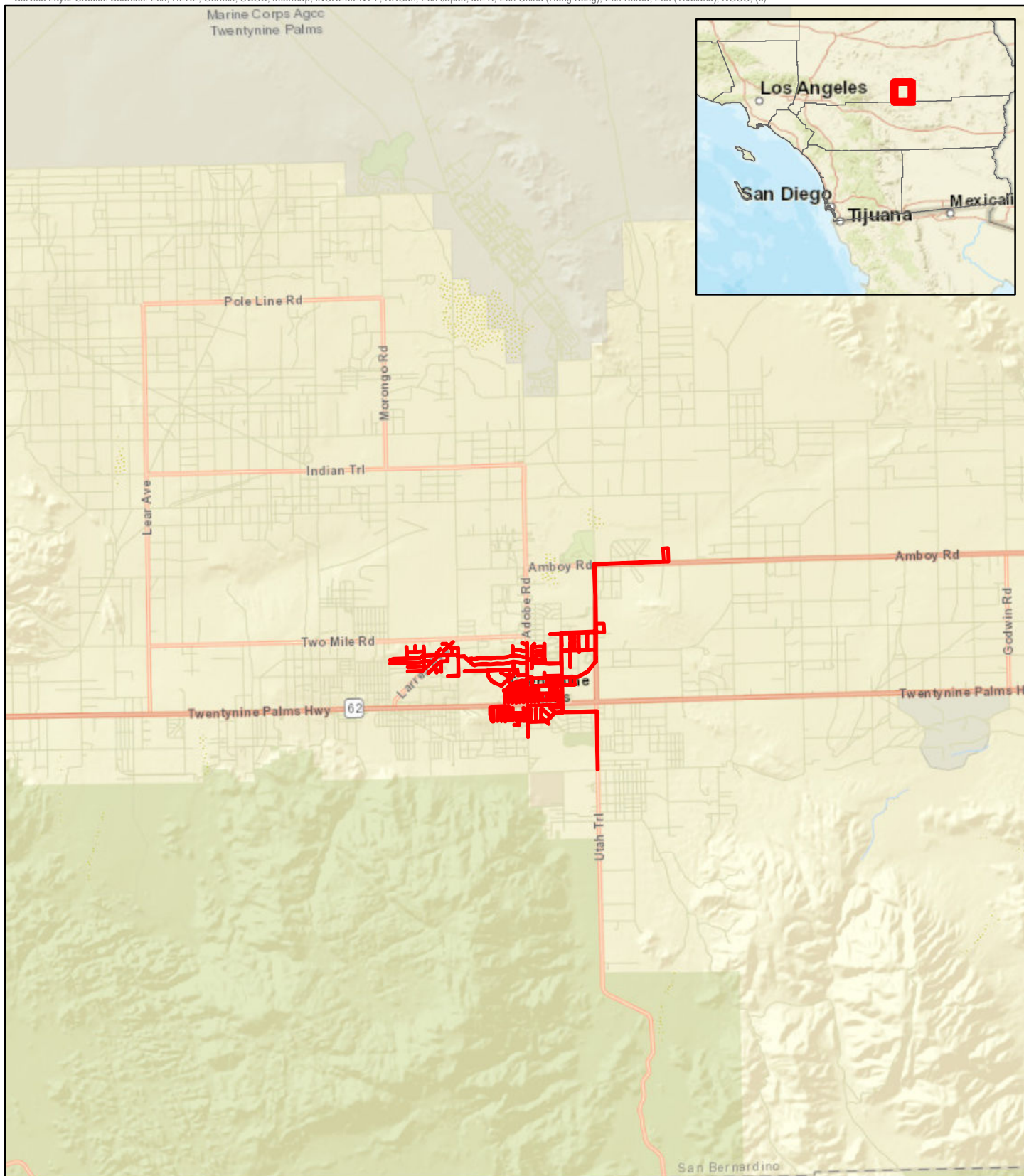
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Western Regional Climate Center (Accessed 2022)
<https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9325>

APPENDIX A – JURISDICTIONAL MAPS

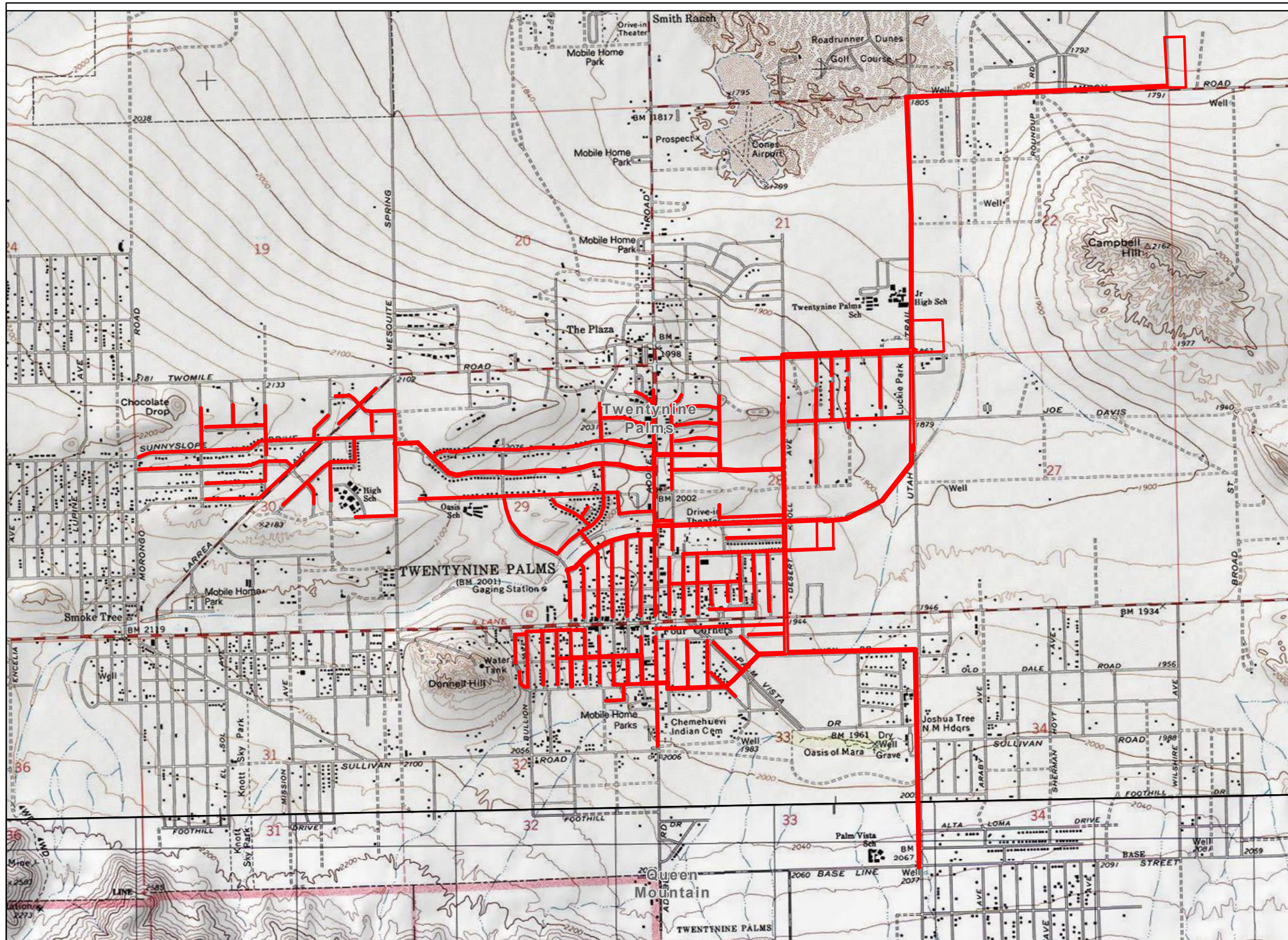


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 Project Area

FIGURE 1
Regional Vicinity
Twentynine Palms Wastewater Collection System
Jurisdictional Delineation
Twentynine Palms, CA



 Project Area



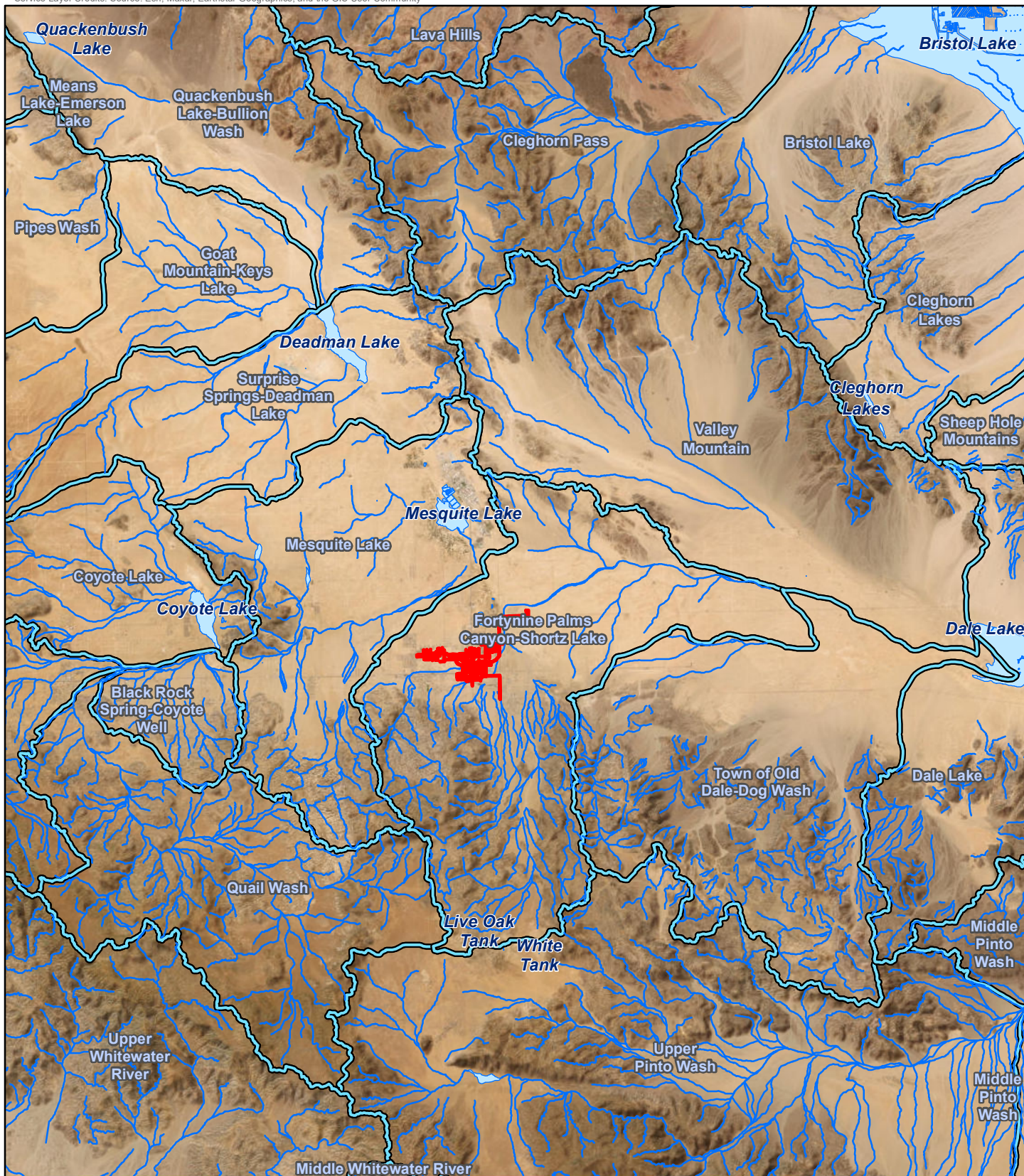
1 inch = 2,000 feet
0 2,000 Feet

FIGURE 2

USGS 7.5" Topo Quad:
Twentynine Palms
Twentynine Palms Wastewater
Collection System
Jurisdictional Delineation
Twentynine Palms, CA



Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



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- Project Area
- Stream (NHD)
- Watershed (HU10)
- Waterbody (NHD)

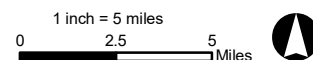
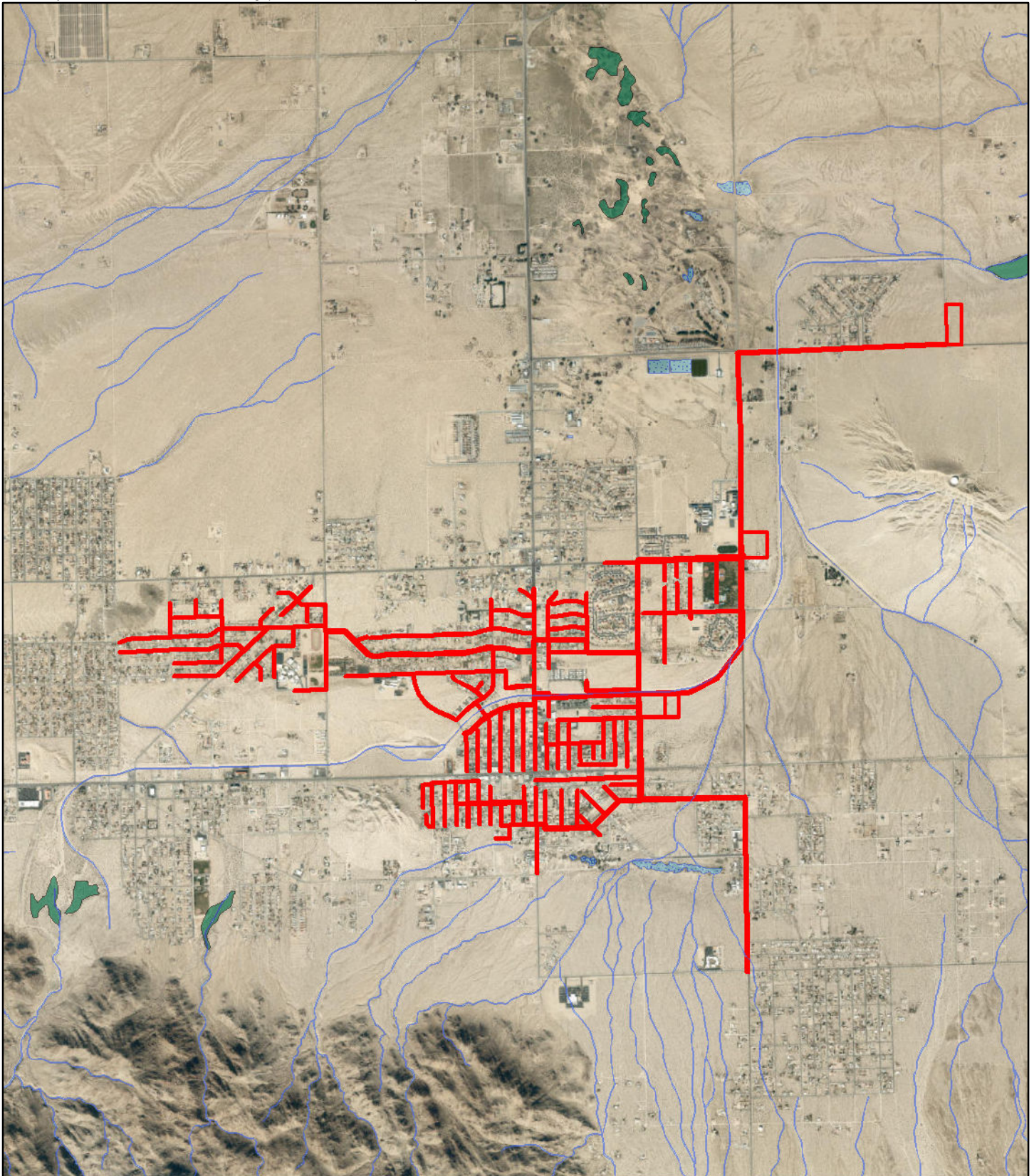
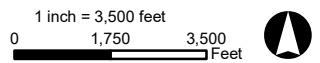


FIGURE 3
Hydrology/Watershed
Twentynine Palms Wastewater Collection System
Jurisdictional Delineation
Twentynine Palms, CA



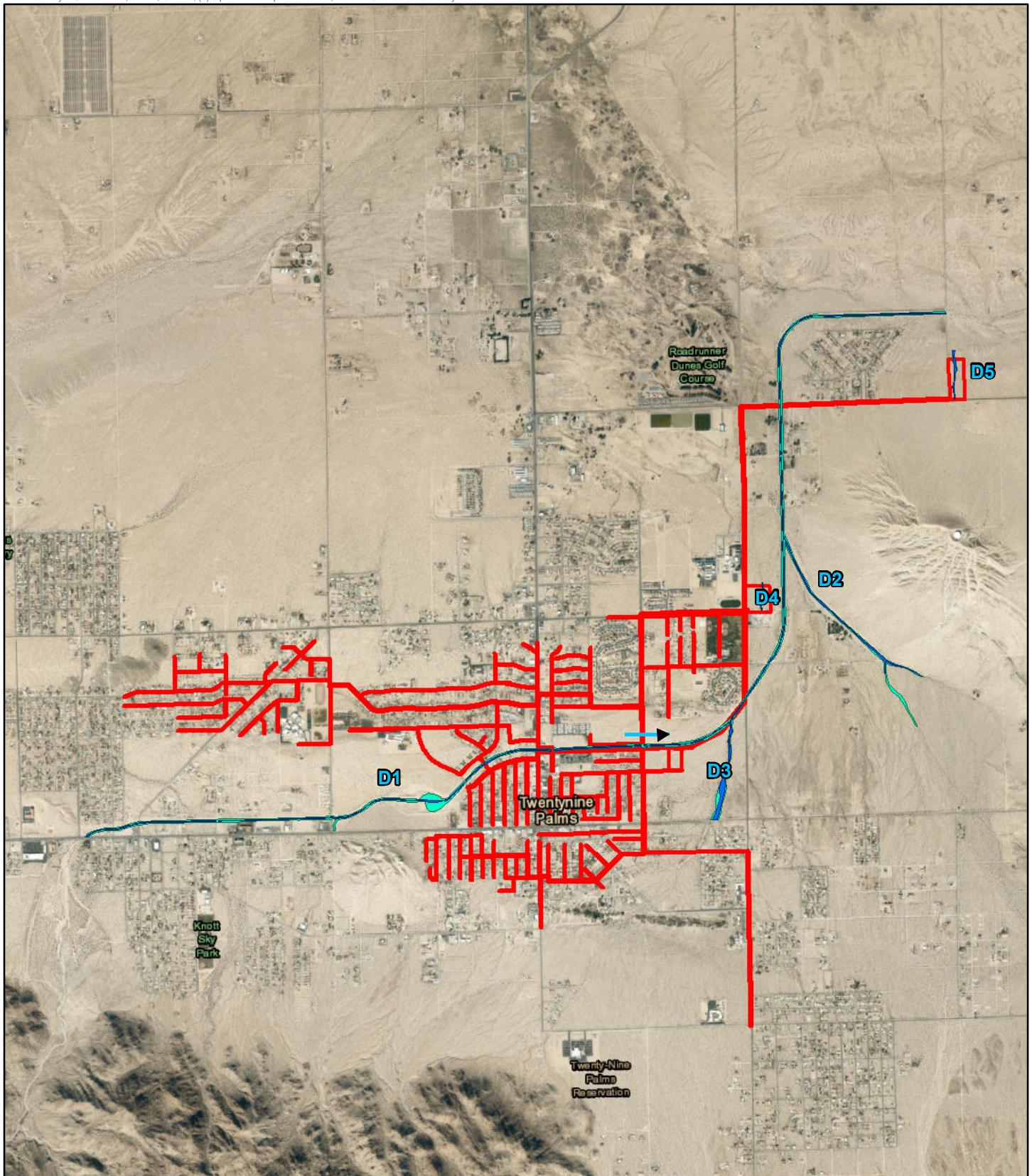
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-  Wetlands
-  Riparian
-  Project Area

FIGURE 4

NWI
Twentynine Palms Wastewater Collection System
Jurisdictional Delineation
Twentynine Palms, CA



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1 inch = 3,500 feet
0 1,750 3,500 Feet



- RWQCB
- CDFW
- Project Area
- ➔ Flow Direction

FIGURE 5
Jurisdictional Delineation
Twentynine Palms Wastewater Collection System
Jurisdictional Delineation
Twentynine Palms, CA

APPENDIX B – SITE PHOTOGRAPHS



Photo 1. D1 looking northeast showing lack of OHWM due to maintenance activity.



Photo 2. Looking northeast at the Adobe Road Bridge over D1. Note the vegetation consists of a single smoke tree.



Photo 3. Arizona crossing of D1 looking northwest.



Photo 4. Looking northeast showing D2 with disturbance in the bottom of the channel from off-roading.



Photo 5. Looking downstream at D3 and the connection to D1.



Photo 6. Looking upstream at D3.

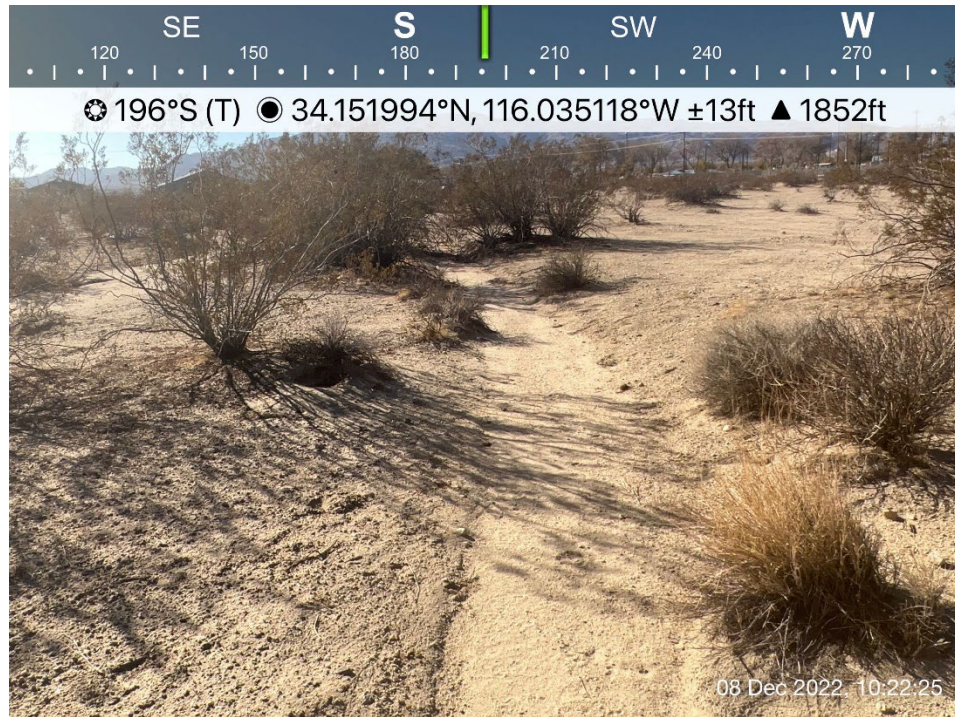


Photo 7. Looking upstream at D4.



Photo 8. Looking downstream at D4.

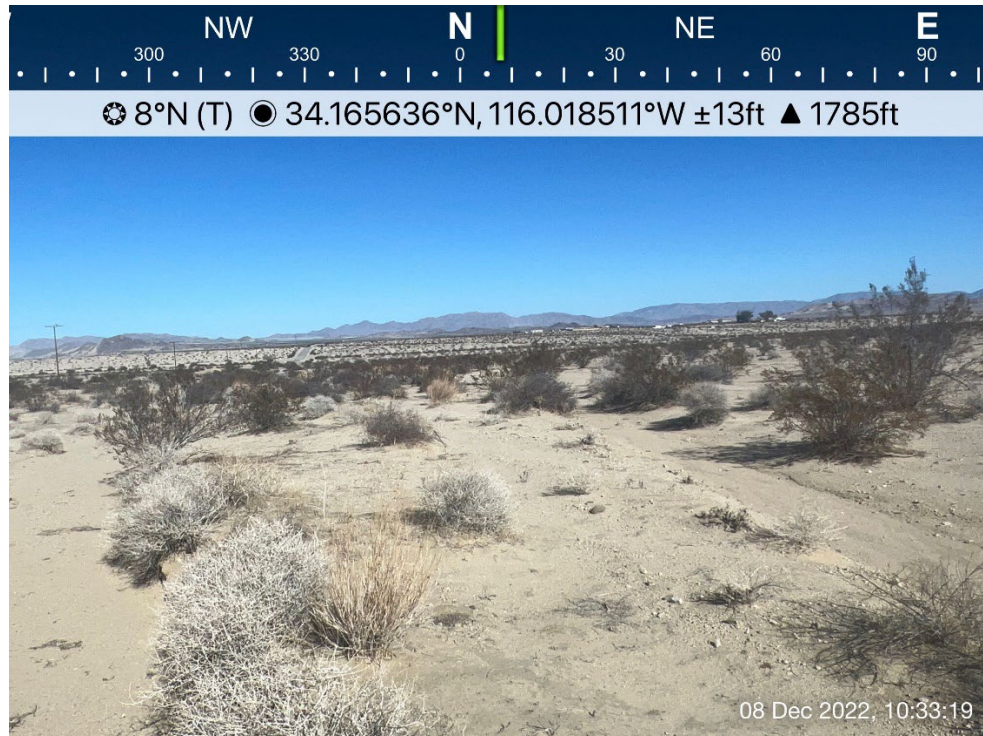


Photo 9. Looking downstream at D5.



Photo 10. Looking upstream at D5.

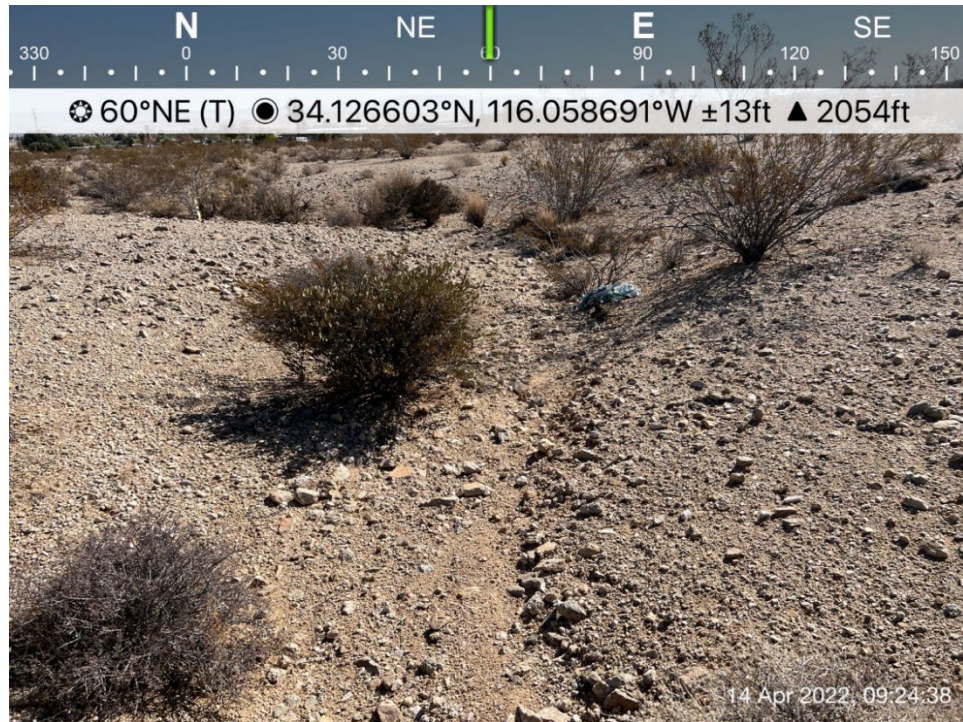


Photo 11. Looking northwest at one of the small drainages in the southwest portion of the survey area. These drainages were found to be non-jurisdictional.



Photo 12. Looking south showing playa/hummocks area in the north of the survey area. This area was determined to be non-jurisdictional.

APPENDIX C - JURISDICTIONAL FORMS

APPENDIX D – REGULATORY FRAMEWORK

REGULATORY FRAMEWORK

U.S. Army Corps of Engineers

The USACE regulates the discharge of dredged or fill material in waters of the United States (WUS) pursuant to Section 404 of the CWA.

Waters of the U.S.

The Environmental Protection Agency (EPA) and the Department of the Army (“the agencies”) finalized a rule defining the scope of waters protected under the Clean Water Act on December 30, 2022. In developing this rule, the agencies considered the text of the relevant provisions of the Clean Water Act and the statute as a whole, the scientific record, relevant Supreme Court case law, and the agencies’ experience and technical expertise after more than 45 years of implementing the longstanding pre-2015 regulations defining “waters of the United States.” This final rule advances the objective of the Clean Water Act and ensures critical protections for the nation’s vital water resources, which support public health, environmental protection, agricultural activity, and economic growth across the United States.

To summarize some of the most applicable highlights, the agencies’ new rule defines WOTUS as:

A. Features that do not require a site-specific evaluation to be determined to be WOTUS

1. Traditional navigable waters
2. Interstate waters
3. Territorial seas
4. Wetlands adjacent to the features identified in A.1 through A.3
5. Tributaries that are “relatively permanent, standing or continuously flowing,”
 - i. Including adjacent wetlands that have a continuous surface connection to these tributaries
6. Impoundments of features that are otherwise considered WOTUS

B. Features that are WOTUS if they are found to have a significant nexus to a Traditional navigable Water, interstate water, or territorial sea

1. Non-relatively permanent tributaries, including ephemeral and intermittent waters
2. Wetlands adjacent to but lacking a continuous connection with the features identified in A.5.
3. Wetlands adjacent to the features identified in B.1.

C. Features that are not WOTUS

1. Aquatic resources that were considered non-jurisdictional under the pre-2015 regulations, subject to agency discretion
 - i. Upland ditches that are not relatively permanent waters

- ii. Artificial lakes or ponds created in dry land for such purposes as irrigation, stock watering, settling, or rice growing
- iii. Water-filled depressions created incidental to mining or construction activities, provided those activities are ongoing at the time of the determination
- iv. Areas that would revert to upland in the absence of irrigation
- v. Prior Converted Cropland designated by the Secretary of Agriculture, but only until there is a change of land use from agricultural purposes
- vi. Waste treatment facilities
- vii. Many stormwater facilities constructed in uplands.

The new rule adds substantially to guidance on determining whether a significant nexus exists through “material influence” on connected waters by evaluation of

- distance to a traditional navigable water or relatively permanent water;
- hydrologic factors such as volume and duration of water flow;
- size, density, or number of similarly situated waters;
- landscape position and geomorphology; and
- regional climate and effects on water flow.

Of these five factors, distance and hydrology will receive the greatest weight in the assessing the strength of connectivity and material influence.

Supreme Court Decisions

Solid Waste Agency of Northern Cook County

On January 9, 2001, the Supreme Court of the United States issued a decision on Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al. with respect to whether the USACE could assert jurisdiction over isolated waters. The Solid Waste Agency of North Cook County (SWANCC) ruling stated that the USACE does not have jurisdiction over “non-navigable, isolated, intrastate” waters.

Rapanos/Carabell

In the Supreme Court cases of Rapanos v. United States and Carabell v. United States (herein referred to as Rapanos), the court attempted to clarify the extent of USACE jurisdiction under the CWA. The nine Supreme Court justices issued five separate opinions (one plurality opinion, two concurring opinions, and two dissenting opinions) with no single opinion commanding a majority of the Court. In light of the Rapanos decision, the USACE will assert jurisdiction over a traditional navigable waterway (TNW), wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are a relatively permanent waterway (RPW) where the tributaries typically flow

year-round or have continuous flow at least seasonally (e.g., typically three months) and wetlands that directly abut such tributaries. The USACE will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW: non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not RPWs, and wetlands adjacent to but that do not directly abut a non-navigable RPW.

Flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary indicate whether they significantly affect the chemical, physical and biological integrity of downstream TNWs. Analysis of potentially jurisdictional streams includes consideration of hydrologic and ecologic factors. The consideration of hydrological factors includes volume, duration, and frequency of flow, proximity to traditional navigable waters, size of watershed, average annual rainfall, and average annual winter snowpack. The consideration of ecological factors also includes the ability for tributaries to carry pollutants and flood waters to a TNW, the ability of a tributary to provide aquatic habitat that supports a TNW, the ability of wetlands to trap and filter pollutants or store flood waters, and maintenance of water quality.

Regional Water Quality Control Board

The RWQCB regulates activities pursuant to Section 401(a)(1) of the CWA. Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit including a Section 404 permit. Through the Porter Cologne Water Quality Control Act, the RWQCB asserts jurisdiction over Waters of the State of California (WSC) which is generally the same as WUS but may also include waters not in federal jurisdiction.

The State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State was adopted in April 2020 and put into effect statewide on May 28, 2020 (State Water Resources Control Board, 2020).

The Water Boards define an area as wetland as follows:

An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The Water Code defines WSC broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." WSC include all WUS but also includes waters not in federal jurisdiction.

The following wetlands are waters of the state:

1. Natural wetlands,
2. Wetlands created by modification of a surface water of the state, and
3. Artificial wetlands that meet any of the following criteria:
 - a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
 - b. Specifically identified in a water quality control plan as a wetland or other water of the state;
 - c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
 - d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):
 - i. Industrial or municipal wastewater treatment or disposal,
 - ii. Settling of sediment,
 - iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
 - iv. Treatment of surface waters,
 - v. Agricultural crop irrigation or stock watering,
 - vi. Fire suppression,
 - vii. Industrial processing or cooling,
 - viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
 - ix. Log storage,
 - x. Treatment, storage, or distribution of recycled water, or
 - xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
 - xii. Fields flooded for rice growing.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not WSC.

California Department of Fish and Wildlife

The CDFW regulates water resources under Section 1600-1616 of the California Fish and Game Code. Section 1602 states:

“An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake (CDFW, 2015).”

Evaluation of CDFW jurisdiction followed guidance in the Fish and Game Code and A Review of Stream Processes and Forms in Dryland Watersheds. In general, under 1602 of the Fish and Game Code, CDFW jurisdiction extends to the maximum extent or expression of a stream on the landscape (CDFW, 2010). It has been the practice of CDFW to define a stream as “a body of water that flows perennially or episodically and that is defined by the area in a channel which water currently flows or has flowed over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators” (Brady and Vyverberg, 2013). Thus, a channel is not defined by a specific flow event, nor by the path of surface water as this path might vary seasonally. Rather, it is CDFW's practice to define the channel based on the topography or elevations of land that confine the water to a definite course when the waters of a creek rise to their highest point.