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June 12, 2020

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County of San Diego
Department of Public Works
Environmental Services Unit
5510 Overland Avenue, Suite 410
San Diego, CA 92123

Reference: Biological Resources Letter Report for the County of San Diego Sanitation District: Los Coches
Sanitary Sewer Improvements from LSMH0555 to LSMH0599 Project
(RECON Number 9009-12)

Dear Ms. Curtis:

This report summarizes the biological resources survey methods and results, assessment of potential impacts to biological resources, and recommended mitigation measures for the proposed Los Coches Sanitary Sewer Improvements from LSMH0555 to LSMH0599 Project (project).

Summary

The County of San Diego Sanitation District is proposing to improve and stabilize a section of an existing sanitary sewer pipeline in a residential area of the unincorporated community of Lakeside. The project will rehabilitate approximately 7,300 feet of an existing sewer collection system pipeline located below a section of Los Coches Creek. The proposed work includes two main elements: (1) installation of a composite lining within the majority of the existing pipe and (2) pipe replacement and concrete encasement in three small sections of the pipeline. The lining installation is trenchless and only requires insertion at existing maintenance holes with very little ground disturbance and vegetation trimming for access. The pipe replacement includes trenching along three small sections where the pipe would be replaced and encased with articulated concrete block (ACB) which is an interlocking, prefabricated section of concrete with large voids to allow for water percolation and vegetative growth. The trenched areas will then be backfilled with native soil. Construction is scheduled to begin Spring 2021, and is expected to continue for approximately 180 days.

A RECON Environmental, Inc. (RECON) biologist conducted biological and jurisdictional delineation surveys in September 2019, after which a biological constraints report was prepared. The results of those surveys were used in the preparation of this report to map biological and jurisdictional resources within a 20-foot survey buffer surrounding the project impact areas. Eleven vegetation communities, including six sensitive vegetation communities – southern willow scrub (Tier I), mule fat scrub (Tier I), herbaceous wetland (Tier I), southern riparian forest (Tier I), southern coast live oak riparian forest (Tier I), and non-native riparian (Tier I) – were mapped with the survey area. Although no sensitive wildlife species were observed, seven species – Coronado skink, coastal whiptail, San Diego legless lizard, Cooper's hawk, yellow warbler, western red bat, and southern mule deer – have moderate to high potential to occur. None of these species is state or federally listed as endangered or threatened. However, all are County of San Diego Group 1 or Group 2 species and many are California Department of Fish and Wildlife (CDFW) species of special concern. Additionally, Cooper's hawk and southern mule deer are Multiple Species Conservation Program (MSCP)-covered species, and Cooper's hawk is a CDFW watch list species. No sensitive plant species were observed or have the potential to occur.

Proposed trenching and placement of ACB would result in permanent impacts to a total of 0.07 acre, including 0.03 acre of herbaceous wetland and southern riparian forest. Permanent impacts to these

sensitive vegetation communities would require compensatory mitigation via on-site restoration/habitat creation or through off-site preservation or purchase of mitigation credits at an approved mitigation bank. Proposed vegetation trimming and access would result in temporary impacts to a total of 1.31 acres, including 0.21 acre of mule fat scrub, herbaceous wetland, southern riparian forest, and southern coast live oak riparian forest. Temporary impacts to these sensitive vegetation communities would be mitigated via on-site revegetation of these areas using hydroseed, as needed.

Proposed earthwork and placement of ACB, as well as vegetation trimming and access, would result in permanent and temporary impacts to a total of 0.051 acre of wetland waters of the U.S./State and an additional 0.231 acre of wetland waters of the State. These proposed activities would also result in temporary and permanent impacts to 0.119 acre of non-wetland waters of the U.S./State. All impacts to wetland and non-wetland waters of the U.S. and wetland and non-wetland waters of the State would require permit authorization from the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the CDFW. Mitigation for these impacts would likely be required through habitat creation, enhancement, and/or credits in a mitigation bank to achieve a no-net loss of jurisdictional waters.

The project has potential to result in significant impacts to the following sensitive wildlife species: Cooper's hawk, yellow warbler, and western red bat, as well as migratory bird species protected by the Migratory Bird Treaty Act (MBTA) or California Fish and Game Code (CFG) 3503.5. Avoidance and minimization measures are recommended to reduce these potential impacts to below a level of significance. These recommendations include pre-construction surveys for any potentially nesting sensitive bird species, including Cooper's hawk and yellow warbler. If an active bird nest is found, additional measures shall be implemented to minimize impacts. Additionally, a biological monitor shall survey any trees with potential to support western red bat that are proposed for trimming immediately prior to the trimming activities. If any trees are found to be occupied by western red bat, additional avoidance/mitigation measures shall be implemented.

1.0 Introduction

1.1 Project Location and Site Description

The proposed project is located in the unincorporated community of Lakeside in central San Diego County, California (Figure 1; all figures are within Attachment 1). The project site lies within the El Cajon Landgrant on the U.S. Geological Survey (USGS) 7.5-minute topographic map series, Alpine and El Cajon quadrangles (USGS 1996 and 1997, respectively; Figure 2). The proposed project follows the alignment of a sewer line, which is situated just south of Old Highway 80 between its intersections with Gaucho Lane to the west and Flinn Crest Street to the east (Figure 3). It generally follows Los Coches Creek, crossing through the creek bed in multiple locations. No Critical Habitat for federally listed species is present at the site or the surrounding areas.

1.2 Project Description

The County of San Diego Sanitation District is proposing to improve and stabilize a section of an existing sanitary sewer pipeline in a residential area of the unincorporated community of Lakeside. The project will rehabilitate approximately 7,300 feet of an existing sewer collection system pipeline located between maintenance holes LSMH0555 to LSMH0599 (subject reach) below a section of the ephemeral Los Coches Creek. The pipeline serves as a local collector for sewer services south of the creek and as a bypass for the newer collector pipeline within Old Highway 80.

Based on an evaluation of pipeline surveying data, the proposed work includes two main elements: installation of a composite lining within the existing pipe using the Cured in Place Pipe (CIPP) method and sectional pipe replacement and concrete encasement. The CIPP liner serves to reinforce the existing pipe by precluding decay and providing additional structure. The installation of CIPP is trenchless and only requires insertion at existing maintenance holes with very little ground disturbance. The proposed access routes for vehicular travel to each

manhole have been identified in the project plans. These access routes were designed to minimize impacts to native vegetation communities and the creek bed of Los Coches Creek. A small amount of vegetation trimming may be needed along some access routes and around manholes that are overgrown with vegetation. Although this may include the trimming of tree branches, no trees are proposed to be removed. Any areas where vegetation has been trimmed along the access routes or around manholes will be revegetated, as needed, using hydroseed after the project is complete. Proper best management practices (BMPs), such as the use of fiber rolls and dust control measures, would be implemented in areas where the trimming of vegetation or vehicular access may result in any erosion, construction runoff, or significant dust during construction activities. Any areas of minor ground disturbance within Los Coches Creek due to access would be restored to their original contours and hydroseeded after the project is complete.

Excavation would occur in three minor sections of the subject reach, where the exterior of the pipe is deteriorating and requires reinforcement through concrete encasement. Sections of concrete encasement requires replacement of existing vitrified clay pipe with polyvinyl chloride pipe material, along with a recompacted cover of the ACB above the pipe section to increase stability of the pipe in the event of erosion. The ACB provides stabilization of the streambed surfaces that overlay the pipe.

Sectional pipe replacement and concrete encasement is warranted where three separate sections of the pipeline have less than the recommended soil cover above the pipe. To perform pipe replacement and concrete encasement in these areas, a mini-backhoe and a small skid loader would be used to excavate between 3 to 5 feet in diameter of native soil around the existing sewer main located in these three sections. Dewatering may be needed during excavation and the installation of concrete encasement. A dewatering plan will be prepared which will provide recommendations to avoid and/or minimize impacts to water quality and jurisdictional resources. Additionally, proper BMPs such as sand/gravel bags, fiber rolls, and/or silt fencing will be used around the perimeter of the excavation areas in order to avoid and/or minimize erosion or runoff impacts to the creek bed of Los Coches Creek. Upon completion of each pipe section's concrete encasement, excavated areas would be backfilled with native soil, aligned, with ACB and restored using hydroseed.

These repairs and improvements would protect and stabilize the long-term safety and reliability of the sewer pipeline to reduce the likelihood of future sewage spills and damage caused by pipe material degradation and erosion. Temporarily disturbed areas would be backfilled with native soil and restored using hydroseed. Construction is scheduled to begin on March 1, 2021, and expected to continue for approximately 180 days.

1.3 Methods

RECON conducted an analysis of existing sensitive species data recorded within two miles of the proposed project area. This analysis included searches of the U.S. Fish and Wildlife (USFWS) All Species Occurrences Database (USFWS 2019) and critical habitat portal (USFWS 2020), the SanBIOS database (County of San Diego 2019), and species occurrence records from the California Natural Diversity Database (CNDDB; CDFW 2019a).

Background research to assess the existing biological conditions also included a review of online aerial satellite imagery (Google 2020), a USGS topographic map (USGS 1996 and 1997), U.S. Department of Agriculture (USDA) soil survey maps (USDA 1973), and the USFWS National Wetland Inventory. Determination of the potential occurrence for listed, sensitive, or noteworthy species is based upon known ranges and habitat preferences for the species (Jennings and Hayes 1994; Unitt 2004; CDFW 2019b–c, 2020a–b; California Native Plant Society [CNPS] 2020; Reiser 2001).

RECON biologist Andrew Smisek conducted a general biological survey and jurisdictional waters/wetland delineation on September 4, 2019, and September 19, 2019. The methods used for analyzing both the biological resources and jurisdictional resources are described below.

RECON prepared the Los Coches Creek Sewer Improvements – Opportunities and Constraints Analysis (constraints report) on October 21, 2019, which analyzed the biological and jurisdictional resources present

within the project area. This report was used during the project design phase in order to minimize impacts to the biological and jurisdictional resources present.

1.3.1 Biological Resources

The sewer alignment was surveyed by walking through the habitat, with frequent pauses to note wildlife and plant species, and vegetation characteristics. Species lists were created for all plants and wildlife observed during the survey using nomenclature from the Jepson Online Interchange (University of California 2020), Scientific and Standard English Names of Amphibians and Reptiles of North America (Crother 2017), the Revised Checklist of North American Mammals North of Mexico (Baker et al. 2003), the Checklist of North American Birds (Chesser et al. 2018), and the San Diego County Bird Atlas (Unitt 2004).

Mr. Smisek used binoculars to visually identify wildlife species and listened for vocalizations to identify bird species that could not be directly observed. The survey focused on documenting and mapping biological resources, and noting suitable habitat for rare, listed threatened and endangered, and County sensitive and narrow endemic species. This included an assessment of the potential to occur for sensitive species known to occur within two miles of the study area according to the database searches listed above (CDFW 2019a; USFWS 2019; County of San Diego 2019).

Vegetation communities were mapped along the proposed project alignment during the surveys on September 4 and 5, 2019, and presented within a 5-foot buffer along the alignment in the constraints report (RECON 2019). This report presents vegetation mapping within a 20-foot buffer of the project impact areas (survey area). The vegetation mapping was updated as part of this report using previous vegetation mapping, photographs, and aerial photography.

1.3.2 Jurisdictional Resources

The jurisdictional waters/wetland delineation was conducted along the sewer alignment during the September 4 and 5, 2019, surveys following the guidelines set forth by the USACE (1987 and 2008). The results were presented within only a 5-foot buffer of the alignment in the constraints report (RECON 2019). However, jurisdictional mapping and photographs from September 2019 as well as aerial photography were used to map jurisdictional resources within a 20-foot buffer of the impact area (survey area) as part of this report.

Prior to conducting the delineation, aerial photographs and USGS topographic maps of the project vicinity were examined to assess the potential for wetlands and hydrologic activity. Once on-site, areas with potential to support federal or state wetlands or waters were examined to determine the presence and extent of any jurisdictional waters.

Wetlands are delineated using three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. The hydrophytic status of each plant species was determined based on the National Wetland Plant List (Lichvar et al. 2016), which breaks down the indicator status of each species as follows: Obligate (OBL), Facultative-Wet (FACW), Facultative (FAC), Facultative Upland (FACU), Upland (UPL), and Not Indicated (NI). Dominant species with an indicator status of NI were evaluated as either wetland or upland indicator species based on local professional knowledge of where the species are most often observed in habitats that are characteristic in southern California.

Soil pits were dug to a depth of at least 18 inches or to a depth necessary to determine indicators of hydric soils. A Munsell Soil-Color Book (2009) was used to determine soil colors. The 2008 Arid West Regional Supplement (USACE 2008) and the Field Indicators of Hydric Soils in the United States guide (USDA 2017) were used to determine the presence of hydric soil indicators.

Hydrologic information for the site was obtained by reviewing USGS topographic maps and by directly observing hydrology indicators in the field. All portions of any potentially occurring wetlands or non-wetland

waters within the survey area were inspected for signs of hydrology as defined in the 2008 Arid West Regional Supplement (USACE 2008). Non-wetland jurisdictional waters within the survey area were delineated along their ordinary high water mark (OHWM) as identified by the presence of hydrogeomorphic OHWM indicators. The identification of these characteristics was determined using the 2008 Arid West Regional Supplement (USACE 2008) and A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region (Lichvar and McColley 2008).

1.4 Regulatory Context

For purposes of this report, sensitive species include those that are (1) listed as threatened or endangered or are proposed for listing by the USFWS or CDFW; 2019c and 2020b); (2) plant species included on CNPS California Rare Plant Ranks (CRPR) 1 through 4 (CNPS 2020) (3) wildlife species designated as “fully protected”, considered “species of special concern”, or considered “taxa to watch” by CDFW (2019b and 2020a). In addition, most native bird species are protected by the federal MBTA and/or CFGC 3503.5.

The County’s MSCP Subarea Plan was prepared to guide implementation of the MSCP Plan in the South County subarea, including the project area (County of San Diego 1997). Under the MSCP, vegetation communities have been divided into four tiers of sensitivity. Vegetation communities that are classified as Tier I, Tier II, or Tier III are considered sensitive. Tier IV vegetation communities are not considered sensitive.

Biological Resource Core Area (BRCA) lands are those that have been included within the County’s MSCP Subarea Plan for habitat conservation. These lands have been determined to provide the necessary habitat quality, quantity, and connectivity to sustain the unique biodiversity of the San Diego region. These lands are considered by the County to be a sensitive biological resource. The project site does not meet the habitat quality or connectivity standards to be considered a BRCA.

Several sensitive plant and wildlife species are considered to be adequately protected under the MSCP as ‘covered species’ and are included in the Incidental Take Authorization issued to the County by federal and state agencies as part of the County’s MSCP Subarea Plan. In addition, the County MSCP categorizes sensitive plant species into lists (List A through D) and sensitive wildlife species into groups (Groups 1 and 2) according to their rarity.

There are 17 plant species and 17 wildlife species that are classified as narrow endemic species based on their limited distributions in the region. These narrow endemic species are sensitive biological resources; some are also federally or state listed as threatened or endangered. The habitat that supports a narrow endemic species is also considered a sensitive biological resource.

In accordance with Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into waters of the U.S. Under sections 1600–1607 of the CFGC, the CDFW regulates activities that would divert or obstruct the natural flow or would substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The RWQCB is the regional agency responsible for protecting water quality in California. The jurisdiction of this agency includes all waters of the state and all waters of the United States as mandated by Section 401 in the Clean Water Act and the California Porter-Cologne Water Quality Control Act.

2.0 Results

The following paragraphs describe the soils, vegetation communities, jurisdictional resources, and plant and wildlife species observed during the biological survey. Acreages are provided for vegetation communities and jurisdictional resources.

2.1 Soils

Soil within the survey area consists mostly of Visalia Sandy Loam, 2 to 5 percent slopes (USDA 1973), which is listed as a hydric soil when occurring within floodplains by the Natural Resource Conservation Service (NRCS; 2015). The survey area also includes small areas of Escondido Very Fine Sandy Loam, 5 to 9 percent slopes and Cienega Rocky Course Sandy Loam, 9 to 30 percent slopes (USDA 1973).

2.2 Vegetation Communities

The following eleven vegetation communities/land cover types were observed within the survey area: southern willow scrub, mule fat scrub, herbaceous wetland, southern riparian forest, southern coast live oak riparian forest, non-vegetated channel, eucalyptus woodland, non-native woodland, non-native riparian, disturbed habitat, and urban/developed. The acreages of each vegetation community/land cover type within the survey area are presented in Table 1 and depicted in Figure 4.

Table 1 Vegetation Communities On-site	
Vegetation Type	Acres
No Tier	
Non-vegetated Channel	0.42
Tier I	
Southern Willow Scrub	0.02
Mule Fat Scrub	0.02
Herbaceous Wetland	0.07
Southern Riparian Forest	0.40
Southern Coast Live Oak Riparian Forest	0.53
Non-native Riparian	0.01
Tier IV	
Eucalyptus Woodland	0.44
Non-native Woodland	0.21
Disturbed Habitat	3.45
Urban/Developed	5.33
Total	10.90

2.2.1 Southern Willow Scrub (Tier I)

Southern willow scrub is considered a sensitive wetland vegetation community by CDFW, USACE, and the County (County of San Diego 2010a). It is a dense riparian community dominated by broad-leaved, winter-deciduous trees such as willows (*Salix* spp.), and may be scattered with other riparian tree species. This community requires repeated flooding to prevent succession to a community dominated by sycamores and cottonwoods (Holland 1986).

A total of less than 0.02 acre of southern willow scrub occurs as one small patch in the western portion of the survey area, along the southern bank of Los Coches Creek (see Figure 4). This patch is dominated by Goodding's black willow (*Salix gooddingii*) and contains mix of native and non-native annuals in the understory such as cocklebur (*Xanthium strumarium*), bristly ox-tongue (*Helminthotheca echioides*), and horseweed (*Erigeron canadensis*).

2.2.2 Mule Fat Scrub (Tier I)

Mule fat scrub is considered a sensitive vegetation community by CDFW, USACE, and the County. Mule fat scrub is a tall, herbaceous riparian scrub strongly dominated by mule fat (*Baccharis salicifolia*). This community is an early seral plant community that often occurs along drainages with a fairly coarse substrate and a moderate depth to the water table. Mule fat scrub often occurs in areas that are subject to disturbance, such as flooding, in the absence of which it may change through successional processes to riparian forest or woodland. Mule fat scrub typically occurs at elevations below 2,000 feet (Holland 1986).

A total of 0.02 acre of mule fat scrub occurs as one small patch within the west-central portion of the survey area (see Figure 4). This patch is dominated by mule fat and contains a sparse understory of cocklebur and horseweed.

2.2.3 Herbaceous Wetland (Tier I)

Herbaceous wetland is a seasonal wetland vegetation community mainly dominated by low-growing herbaceous annual wetland species. It is generally found in swales and adjacent to drainages. Herbaceous wetland can be dominated by a variety of herbaceous forbs and grasses, but it typically does not support wetland species associated with freshwater marsh, such as cattails (*Typha* sp.), tules (*Schoenoplectus* sp.), and rushes (*Juncus* sp.; Oberbauer 2008).

A total of 0.07 acre of herbaceous wetland occurs in the eastern (upstream) portions of the survey area (see Figure 4), primarily within the creek channel in portions that contain either damp soil or flowing water. This vegetation community is not present in western (downstream) portions of the creek channel where the substrate is mostly dry. The herbaceous wetland areas are dominated by tall flatsedge (*Cyperus eragrostis*), willow weed (*Persicaria lapathifolia*), and cocklebur, with occasional bristly ox-tongue, horseweed, and water cress (*Nasturtium officinale*) along areas with flowing water. Herbaceous wetland occurs along the creek channel within the understory of some areas mapped as southern riparian forest that contained an open canopy. However, herbaceous wetland was absent from the understory where the canopy of southern riparian forest, or other vegetation communities overlapping the creek channel, was closed.

2.2.4 Southern Riparian Forest (Tier I)

Southern riparian forest is an open, seral type of riparian forest dominated by tall broadleaved winter-deciduous trees including western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), and tree willows (*Salix* spp.), with a variety of potential riparian shrub and herbaceous species occurring in the understory. This community typically occurs along mid-sized to large rivers and streams (Oberbauer 2008).

A total of 0.40 acre of southern riparian forest occurs within several portions of the survey area, with larger stands in the eastern portions (see Figure 4). This vegetation community is dominated by western sycamore with occasional Fremont cottonwood and black willow.

2.2.5 Southern Coast Live Oak Riparian Forest (Tier I)

Southern coast live oak riparian forest is a dense riparian forest dominated by coast live oak (*Quercus agrifolia*), mixed with other riparian trees, forming a closed, or nearly closed, canopy (Oberbauer 2008). The herbaceous layer is typically well represented by a variety of native and non-native species. However, the shrub layer is typically sparse or absent. It occurs in bottomlands and outer floodplains along larger streams (Oberbauer 2008).

A total of 0.53 acre of southern coast live oak riparian forest occurs within the western and central portions of the survey area (see Figure 4). This vegetation community is dominated by coast live oak with occasional western sycamore and willow (*Salix* spp.) trees.

2.2.6 Non-native Riparian (Tier I)

Non-native riparian is comprised of riparian thickets dominated by non-native, invasive species (Oberbauer 2008).

A total of 0.01 acre of non-native riparian occurs as a small monotypic stand of giant reed (*Arundo donax*) growing along the active channel of Los Coches Creek in the east-central portion of the survey area (see Figure 4).

2.2.7 Non-vegetated channel (No Tier)

Non-vegetated channel was mapped along portions of Los Coches Creek with little or no vegetation and loose sandy soils due to sediment deposition during flow events. The sewer alignment generally follows the path of

Los Coches Creek and a number of small segments of non-vegetated channel occur throughout the survey area. Although non-vegetated channel does not have an MSCP Tier, it would be considered sensitive because it occurs within Los Coches Creek, which would likely be considered waters of the U.S. under USACE jurisdiction and waters of the state under RWQCB and CDFW jurisdiction.

2.2.8 Eucalyptus Woodland (Tier IV)

Eucalyptus woodland is characterized by tall, exotic, gum trees (*Eucalyptus* sp.), which can occur as thickets containing few other species, or stands of scattered trees over a well-developed herbaceous and shrubby understory. Gum trees produce a large amount of leaf and bark litter, which contain chemical characteristics that limit the ability of other species to grow in the understory. Dense stands of eucalyptus woodland are typically limited to one or several gum tree species intermixed with a few other non-native tree species. Native tree species may also be present, although these would likely be few and isolated (Oberbauer 2008).

A total of 0.44 acre of eucalyptus woodland occurs as two large stands in the east-central portion of the survey area (see Figure 4). These stands are dominated by blue gum tree (*Eucalyptus globulus*), but also contain lemon-scented gum tree (*Eucalyptus citriodora*) and other non-native trees, such as Peruvian pepper tree (*Schinus molle*) and Mexican fan palm (*Washingtonia robusta*). The understory contains a variety of native and non-native herbaceous species, notably non-native brome grasses (*Bromus* spp.).

2.2.9 Non-native Woodland (Tier IV)

Non-native woodland is composed of exotic trees, sometimes intentionally planted, but which are not maintained or irrigated (Oberbauer 2008). The species composition can vary widely from a combination of exotic tree species with an understory non-native annuals, to a stand of a single exotic tree species with little understory.

A total of 0.21 acre of non-native woodland occurs as small patches in the eastern and east-central portions of the survey area (see Figure 4). These areas are dominated by a variety of mature non-native trees, including shamel ash (*Fraxinus uhdei*), Peruvian pepper tree, Chinese elm (*Ulmus parvifolia*), and Mexican fan palm. The understory contains a variety of native and non-native herbaceous species.

2.2.10 Disturbed Habitat (Tier IV)

Disturbed habitat consists of areas that may have been disturbed by human activity, and no longer function as a native vegetation community. Vegetation in such areas is typically dominated by opportunistic non-native species but may also contain a substantial portion of bare ground. Disturbed habitat can also include previously graded lands such as off-road vehicle trails and construction staging sites (Oberbauer et al. 2008).

A total of 3.45 acres of disturbed habitat occurs in many portions of the survey area (see Figure 4). Some of the larger areas of disturbed habitat occur in the western portion of the survey area and are dominated by horseweed and non-native grasses. The species composition varies between many of the disturbed habitat areas, with all patches mostly dominated by non-native plant species. Some areas mapped as disturbed habitat appear to have been mowed recently.

2.2.11 Urban/Developed (Tier IV)

Urban/developed areas consist of any land that has been constructed upon, containing permanent or semi-permanent structures, pavement or hardscape, or landscaped areas that are regularly maintained and/or irrigated (Oberbauer et al. 2008). A total of 5.33 acres of the survey area contains buildings, roads, landscaping, or other land-uses that have been mapped as urban/developed (see Figure 4).

2.3 Jurisdictional Resources

The survey area generally parallels Los Coches Creek, crossing the creek in many locations. The potential jurisdictional resources recorded within the survey area are summarized in Table 2. Wetland vegetation communities that occur within the survey area include southern willow scrub, mule fat scrub, and

herbaceous wetland. Sample wetland delineation points were taken in these areas to determine if they meet the wetland parameters described in Section 1.3.2 above, and sample OHWM transects were taken along unvegetated portions of the creek to determine the extent of the active floodplain, in accordance with the guidelines set forth by the USACE (1987 and 2008).

Table 2	
Existing Jurisdictional Waters within the Survey Area	
Jurisdictional Areas	Total Survey Area Acres (linear feet)
USACE Total Jurisdiction	0.667 (1,567)
Wetland Waters of the U.S.	0.131
Non-wetland Waters of the U.S.**	0.536 (1,567)
CDFW and RWQCB Total Jurisdictional Areas*	1.270 (1,567)
Wetland Waters of the State (Riparian Habitat)	0.734
Non-wetland Waters of the State (Streambed)**	0.536 (1,567)
*CDFW/RWQCB area of jurisdiction includes all USACE jurisdictional waters.	
**Non-wetland waters/streambed area not included in the wetland/riparian areas so that no area is counted twice for the same jurisdiction.	

2.3.1 USACE Waters of the U.S.

A total of 0.131 acre of potential wetland waters of the U.S. were mapped within the survey area (see Table 2; Figure 5) and include some of the areas mapped as southern willow scrub, mule fat scrub, and herbaceous wetland. The Wetland Determination Forms completed for each sample point are included as Attachment 2. In general, these potential wetland waters of the U.S. occur within the active channel of Los Coches Creek. Many of the areas of mule fat scrub and southern willow scrub outside the active creek channel lack hydrology or hydric soils indicators and therefore would not be considered wetland waters of the U.S., despite being dominated by wetland vegetation.

Most of the areas mapped as southern riparian forest and southern coast live oak riparian forest are generally rooted outside the active creek channel (although their canopies frequently overlap the active channel), and therefore, do not meet the hydrology or hydric soils criteria. The creek channel beneath these dense canopies is mostly unvegetated. However, in the eastern portion of the survey area, patches of southern riparian forest have a mostly open canopy and an understory of herbaceous wetland species. These portions of the creek channel are included as potential wetland waters of the U.S.

A total of 0.536 acre of potential non-wetland waters of the U.S. were mapped within the survey area (see Table 2 and Figure 5). The Arid West Ephemeral and Intermittent Streams OHWM datasheets completed for each sample transect are included as Attachment 3. These non-wetland waters consist of non-vegetated channel as well as areas where the unvegetated channel extends beneath the canopy of southern riparian forest, southern coast live oak riparian forest, eucalyptus woodland, and non-native woodland.

2.3.2 CDFW and RWQCB Waters of the State

A total of 0.734 acre of wetland waters of the state were mapped within the survey area and include the extent of the following wetland and riparian vegetation communities: southern willow scrub, mule fat scrub, herbaceous wetland, southern riparian forest, southern coast live oak riparian forest, and non-native riparian. A total of 0.536 acre of potential non-wetland waters of the state (streambed) match those areas mapped as non-wetland waters of the U.S. described above.

2.4 Plant and Wildlife Species

A total of 42 plant species were observed within the survey area (Attachment 4). No sensitive plant species were observed.

A total of nine wildlife species were observed or detected during the biological survey, including one invertebrate, seven birds, and one mammal (Attachment 5). No sensitive wildlife species were observed.

2.5 Sensitive Biological Resources

The following paragraphs describe the sensitive vegetation communities observed and the sensitive wildlife species determined to have a moderate or high potential to occur within the survey area. No sensitive plant species were determined to have a moderate or high potential to occur. Assessments of plant and wildlife species' potential to occur are discussed in Attachments 6 and 7, respectively.

2.5.1 Sensitive Vegetation Communities

Five sensitive Tier I vegetation communities were documented on-site: southern willow scrub, mule fat scrub, herbaceous wetland, southern riparian forest, and southern coast live oak riparian forest. Additionally, non-vegetated channel (no tier) and non-native riparian (Tier IV) would also likely be considered sensitive. Although non-native riparian is dominated by a non-native invasive species, giant reed, this habitat may be considered wetland waters of the U.S. and state. Additionally, the areas mapped as non-vegetated channel (no tier) would likely be considered non-wetland waters of the U.S. and state.

2.5.2 Sensitive Wildlife Species

Sensitive Wildlife Species with Potential to Occur

No sensitive wildlife species were detected within the survey area; however, seven sensitive wildlife species were determined to have moderate to high potential to occur within the study area: Coronado skink (*Plestiodon skiltonianus interparietalis*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), San Diegan legless lizard (*Anniella stebbensi* [= *pulchra*]), Cooper's hawk (*Accipiter cooperii*), yellow warbler (*Setophaga petechial*), western red bat (*Lasiurus blossevillii*), and southern mule deer (*Odocoileus hemionus*). None of these species is state or federally listed as endangered or threatened. However, all but Cooper's hawk are County of San Diego Group 2 species. Cooper's hawk is a Group 1 species. Additionally, Coronado skink, San Diegan tiger whiptail, San Diegan legless lizard, yellow warbler, and western red bat are CDFW species of special concern. Cooper's hawk and mule deer are MSCP-covered species, and Cooper's hawk is also a CDFW watch list species.

Coastal Whiptail

The coastal whiptail is a CDFW species of special concern, was formerly a federal candidate for listing, and is a County of San Diego Group 2 (CDFW 2019a; USWFS 1994, County of San Diego 2010a). The coastal whiptail ranges predominantly on the coastal slope from Santa Barbara County south into northwestern Baja California, Mexico (Stebbins 2003). In San Diego County, the whiptail occurs in coastal sage scrub and chaparral, as well as in woodlands and streamsides. Its diet consists of a wide variety of insects, spiders, scorpions, and other lizards. The decline of populations of coastal western whiptail is attributed to habitat loss and fragmentation.

This species has been observed within two miles of the project site in riparian habitats (CDFW 2019b). Although the project occurs adjacent to many developed areas, there is a moderate potential for this species to utilize the woodland and forest habitats within the survey area.

Coronado Skink

Coronado skink is a CDFW species of special concern and is a County of San Diego Group 2 species (CDFW 2019a, County of San Diego 2010a). The Coronado skink ranges from central Riverside County south to Baja California, Mexico (Jennings and Hayes 1994). In San Diego County, the Coronado skink is found in a variety of plant communities including grassland, open woodland, forest, and broken chaparral habitats and is often associated with mesic areas. The Coronado skink is diurnal and most active from early spring until fall; breeding occurs in June or July (Jennings and Hayes 1994). The diet of the Coronado skink consists of

moths, beetles, crickets, grasshoppers, and leafhoppers. This species is threatened by habitat loss and fragmentation resulting from urbanization and agriculture.

This species has been observed within two miles of the project site in Diegan coastal sage scrub (CDFW 2019a). Although the survey area does not contain sage scrub habitat, the on-site woodland and forest habitats near Los Coches Creek may support this species.

San Diegan Legless Lizard

The San Diegan legless lizard is a CDFW species of special concern and is a County of San Diego Group 2 species (CDFW 2019a, County of San Diego 2010a). This species ranges from Contra Costa County south along the California Coast, Transverse, and Peninsular ranges into Baja California, Mexico, from sea level to 5,900 feet (Jennings and Hayes 1994). It is a nocturnal species that occurs in coastal scrub, chaparral, and open riparian habitats, where it tends to be found in leaf litter and loose soil with a relatively higher moisture level (Zeiner et al. 1988-1990). It uses sandy washes and beach dunes for burrowing and logs and leaf litter for cover and feeding. Breeding occurs between early spring and July. The California legless lizard is insectivorous and its diet consists of larval insects, adult beetles, termites (*Reticulitermes* sp.), and spiders. Threats to this species include urbanization, agricultural and pesticide use, livestock grazing, and recreational activities in habitat.

This species has been observed within two miles of the project site in scrub and chaparral habitats (CDFW 2019a). Although the survey area does not contain suitable scrub or chaparral, there is a moderate potential for this species to utilize the loose soils in the woodland and forest habitats within the survey area.

Cooper's Hawk

The Cooper's hawk is a CDFW watch list species (nesting), an MSCP-covered species, and a County of San Diego Group 1 species (CDFW 2019a, County of San Diego 2010a). The Cooper's hawk's year-round range extends throughout most of the U.S. Its wintering range extends south to Central America, and its breeding range extends north to southern Canada (Curtis et al. 2006). Breeding birds are widespread over San Diego County's coastal slope and most abundant in lowland and foothill canyons and in urban areas. It is a common breeder in both oak and willow riparian woodlands and urban environments, with eucalyptus trees used nearly as often as oaks (Unitt 2004). Additionally, this species has been known to nest within planted trees including pine, redwood, and avocado (Unitt 2004). Breeding occurs from March to June, and nests are typically located high in the tree but under the canopy. This hawk forages primarily on medium-sized birds but is also known to eat small mammals such as chipmunks and other rodents (Curtis et al. 2006). Although urbanization and loss of habitat have contributed to the decline of this species, its acclimation to city living over the last 20 years has generously increased Cooper's hawk numbers (Unitt 2004).

This species has been observed within two miles of the project site (CDFW 2019a). There is a high potential for this species to nest in the mature riparian trees in the areas of southern riparian forest and southern coast live oak riparian forests, or within the eucalyptus woodland within the survey area.

Yellow Warbler

The yellow warbler is a CDFW species of special concern and is a County of San Diego Group 2 species (CDFW 2019a, County of San Diego 2010a). Yellow warblers commonly breed in San Diego County and are considered to be a rare winter visitor (Unitt 2004). This species is an obligate riparian species, nesting and foraging almost exclusively in mature riparian corridors on the coastal slopes and within the desert in San Felipe Valley (Unitt 2004). Shuford and Gardali (2008) describe yellow warblers as showing a high degree of site fidelity, with 60 to 64.5 percent of males and 32 to 44 percent of females returning to their previous year's territory. They are often observed in riparian habitat where surface water is evident, although it is not necessary. Nesting occurs from April (Unitt 2004) through early August, and nests are typically three to five feet from the ground (Lowther et al. 1999). This species is declining due to the loss of riparian habitat and as a result of nest parasitism by brown-headed cowbirds (Unitt 2004; Zeiner et al. 2005).

The survey area contains mature riparian trees, particularly cottonwood and willow trees, in the areas of southern riparian forest and southern coast live oak riparian forests that may be utilized for nesting by this species. However, a number of these mature native trees are exposed and occur adjacent to developed areas. Therefore, there is a moderate potential for this species to occur in the survey area.

Western Red Bat

The western red bat is a CDFW species of special concern and is a County of San Diego Group 2 species (CDFW 2019a, County of San Diego 2010a). The species ranges from southern British Columbia south through California, western Nevada, Arizona, southern Utah, and western Mexico into South America (Harvey, Altenbach, and Best 2000, Tremor et al. 2017). In San Diego County, it occurs throughout the coastal slope, with occasional records in Borrego Valley (Tremor et al. 2017). It is a tree-roosting bat that primarily roosts in riparian woodlands and forests dominated by sycamores, cottonwoods, oaks, and willows, though it will also use tamarisk and gum trees. Western red bat has adapted somewhat to urbanization, using orchard trees such as avocado, orange, fig, and walnut, as well as ornamental species like bougainvillea (Tremor et al. 2017). It primarily forages for moths in riparian and adjacent habitats, but has also been found foraging around street lights in suburban neighborhoods and parks. The primary threat to the species is loss of riparian habitat; however, individuals in urban and orchard trees can be at risk from tree trimming and herbicide use (Tremor et al. 2017).

The survey area contains suitable trees and shrubs to support roosting and the habitat edges offer moderately suitable foraging habitat, although they occur adjacent to developed areas in many portions of the survey area. Therefore, there is a moderate potential for this species to roost and forage in the survey areas.

Southern Mule Deer

The southern mule deer is an MSCP-covered species and a County of San Diego Group 2 species (County of San Diego 2010a). The mule deer is a wide-ranging species, occurring from central Canada through the United States into central Mexico. The southern subspecies occurs from Orange and Riverside Counties, south through San Diego to central Baja California, Mexico (Tremor et al. 2017). In San Diego County, it is widespread throughout undeveloped areas from Camp Pendleton to the Laguna Mountains, Sweetwater River, and Otay Lakes at elevations of 400 to 3,600 feet (Bleich and Holl 1982). This species requires relatively large, undisturbed tracts of chaparral, coastal sage scrub, mixed grassland/shrub habitats, oak woodlands, and/or coniferous forests (Tremor et al. 2017). The reproductive cycle begins with the male rutting season as early as September, with breeding continuing through January, and fawning between June and August (Tremor et al. 2017). The diet of the southern mule deer consists of forbs, grasses, and nuts. Populations of mule deer appear to show a long-term decline, primarily as a result of urbanization and habitat fragmentation (Tremor et al. 2017).

This species may utilize undeveloped portions of the survey area. Although the survey area does not function as a wildlife corridor, it occurs in close proximity to an expanse of undeveloped land south and east of the survey area as part of the Crestridge Ecological Reserve.

2.5.3 Wildlife Corridor

Movement of large terrestrial wildlife is not expected to occur through the survey area, which is mostly constrained by surrounding development. Wildlife occurring within the large expanses of undeveloped land south and east of the survey area as part of the Crestridge Ecological Reserve may occasionally utilize the survey area, including Los Coches Creek. However, the creek and survey area contain a patchwork of developed and undeveloped land and do not provide connectivity to any other large areas of undeveloped land. Therefore, the survey area does not function as a wildlife movement corridor.

The southern riparian forest and other natural habitats within the survey area provide some wildlife habitat value and may act as “stepping stones” for flying species but would not facilitate the movement of large

terrestrial wildlife in the vicinity of the project. Urban-acclimated terrestrial wildlife, such as coyote, raccoon, and striped skunk, likely utilize the creek and surrounding survey area. However, large terrestrial wildlife would likely be deterred by the existing development within the survey area.

3.0 Project Impacts and Mitigation Recommendations

Project impacts were analyzed according to the County's Guidelines for Determining Significance (2010a) and the County's Biological Mitigation Ordinance (County of San Diego 2010b). Potential impacts that were considered include direct, indirect, and cumulative impacts. Impacts are considered direct when they result in a physical change (e.g., vegetation removal, plant/wildlife mortality, grubbing, grading, and/or excavation) of the environment due to project activities. Direct impacts are further divided into permanent and temporary impacts depending on whether the direct impact would result in either a permanent or temporary (during construction only) physical change. As described above, the impacts resulting from the installation of CIPP would include trimming of vegetation around some manholes and access routes. Any impacted areas would be revegetated using hydroseed and, therefore, are considered temporary impacts. The installation of ACB within the three pipe replacement and concrete encasement areas would result in a permanent physical change to these areas. However, because the interlocking ACB is constructed with voids of 30 percent, they can support vegetation and these areas would be backfilled with native soil and revegetated using hydroseed, permanent impact calculations here are reduced by 30 percent. The impacts in these areas are calculated at 70 percent permanent and 30 percent temporary by acreage.

Indirect impacts are unintended or collateral changes in the environment caused by a project. For example, generation of dust, noise, lighting, and erosion could result in indirect impacts to plants, wildlife, and/or waterways. Cumulative impacts are those that are compounded by impacts from other projects resulting in a regional loss of a biological resource. The MSCP was designed to address cumulative impacts and compensate for the regional loss of biological resources throughout the region.

Direct impacts to vegetation as a result of earthwork for pipe replacement and concrete encasement would total 0.10 acre, including 0.07 acre of permanent impacts and 0.03 acre of temporary impacts resulting from the installation of ACB (Table 3). Direct impacts from trimming of vegetation around some manholes and access routes would result in 1.28 acres of temporary impact (1.31 acres – 0.03 acre) (see Table 3). Analyses of the direct, indirect, and cumulative impacts to sensitive vegetation communities, jurisdictional resources, and sensitive wildlife species, as well as the recommended mitigation measures for each, are detailed below.

3.1 Impacts to Sensitive Vegetation Communities

BIO-1: A total of 0.03 acre of permanent impacts would occur to sensitive vegetation communities, including herbaceous wetland and southern riparian forest, and 0.21 acre of temporary impacts would occur to mule fat scrub, herbaceous wetland, southern riparian forest, and southern coast live oak riparian forest (see Table 3; see Figure 4).

Figure 4 depicts the project impact areas as no impact areas, temporary impact areas, and permanent impact areas. Project areas with no impact include access routes where no vegetation trimming or ground disturbance would occur. As described above, the temporary impacts would result from vegetation trimming around manholes and access routes, and permanent and temporary impacts would result from the earthwork and placement of ACB in the pipe replacement and concrete encasement areas.

Table 3 Project Impacts to Vegetation Communities/Land Cover Types and Mitigation Required					
Vegetation Community/Land Cover Type	Survey Area (acres)	Temporary Impacts (acres) ¹	Permanent Impacts (acres)	Mitigation Ratio for Permanent Impacts ²	Mitigation Required
Southern Willow Scrub (Tier I)	0.02	0.00	0.00	1:1	--
Mule Fat Scrub (Tier I)	0.02	0.01	0.00	1:1	--
Herbaceous Wetland (Tier I)	0.07	0.01 ³	0.02 ³	1:1	0.02
Southern Riparian Forest (Tier I)	0.40	0.10 ³	0.01 ³	1:1	0.01
Southern Coast Live Oak Riparian Forest (Tier I)	0.53	0.09	0.00	1:1	--
Non-native riparian (Tier I ⁴)	0.01	0.00	0.00	0:1	--
Non-vegetated channel (No Tier ⁵)	0.42	0.09 ³	0.01 ³	0:1	--
Eucalyptus Woodland (Tier IV)	0.44	0.07	0.00	0:1	--
Non-native Woodland (Tier IV)	0.21	0.05	0.00	0:1	--
Disturbed Habitat (Tier IV)	3.45	0.44 ³	0.02 ³	0:1	--
Urban/Developed (Tier IV)	5.33	0.45 ³	0.01 ³	0:1	--
Total	10.90	1.31³	0.07³	--	0.03
¹ Areas of temporary impacts to Tier I vegetation communities would be restored to their pre-impacts conditions. ² Ratios may vary based on the location of mitigation and whether or not it meets the definition of a Biological Resources Core Area ³ Permanent impact totals have been reduced by 30 percent and the reduced acreages has been added to their respective temporary impact totals. ⁴ No mitigation ratio is proposed for this community because it is dominated by a California Invasive Plant Council high rated non-native plant species. However, this vegetation may be considered wetland waters of the U.S. and/or State and mitigation may be required as part of project-specific permits. ⁵ Non-vegetated channel is not considered a sensitive vegetation community, but mitigation for impacts to these areas would likely be required by the wetland agencies.					

The proposed project would also result in 0.04 acre of permanent impacts and 1.10 acres of temporary impacts to non-sensitive vegetation communities/land cover types, including eucalyptus woodland, non-native woodland, disturbed habitat, and urban developed land (see Table 3). These impacts are not considered significant and would not require mitigation.

No substantial edge effects would be created through the impacts to vegetation communities due to the small size of the impact areas and the abundance of existing disturbed habitat throughout the surrounding area. The use of ACB to overlay the pipe within the pipe replacement and concrete encasement areas would provide stabilization of the streambed surfaces and is not expected to significantly alter the hydrologic regime of the creek. Other potential construction-related indirect impacts (erosion, dust, etc.) are expected to be minimal due to the small size of the project and the BMP measures proposed as described in Section 2.2 above. Therefore, no indirect impacts to vegetation communities are expected to be significant.

Compliance with the MSCP via compensatory mitigation for permanent impacts to sensitive vegetation communities is expected to avoid any cumulative impacts to these vegetation communities. No sensitive plant species would be impacted by the project.

3.2 Mitigation for Impacts to Sensitive Vegetation Communities

As described above, a calculation of 0.03 acre of permanent impacts to herbaceous wetland and southern riparian forest would result from placement of ACB in the pipe replacement and concrete encasement areas. Although these areas would be backfilled with native soil and revegetated with hydroseed, in-kind mitigation would be required. As described above, a calculation of 0.21 acre of temporary impacts would occur to mule fat scrub, herbaceous wetland, southern riparian forest, and southern coast live oak riparian forest.

MIT-BIO-1: In-kind mitigation for 0.01 acre of permanent impacts to southern riparian forest and 0.02 acre of permanent impacts to herbaceous wetland shall occur at a 1:1 ratio (County of San Diego 2010b). This compensatory mitigation may occur via onsite restoration/habitat creation or off-site through preservation or purchase of mitigation credits at an approved mitigation bank. Mitigation for impacts to temporarily impacted sensitive vegetation communities shall occur via the restoration of these temporary impact areas to their pre-impact conditions.

Although non-vegetated channel is not considered a sensitive vegetation community, compensatory mitigation would likely be required for 0.01 acre of permanent impacts to these areas as determined by the jurisdictional resource agencies. Additionally, these agencies would also likely require that temporary impacts to non-vegetated channel be restored to their pre-impact conditions.

3.3 Impacts to Jurisdictional Resources

Table 4 summarizes the existing jurisdictional areas mapped within the survey area and the anticipated temporary and permanent impacts to each jurisdictional area. Jurisdictional resources and impacts are rounded to the nearest thousandth.

BIO-2: A total of 0.024 acre of permanent impacts would occur to Wetland Waters of the U.S./State and an additional 0.003 acre of permanent impacts would occur to Wetland Waters of the State. Permanent impacts to Non-wetland Waters of the U.S./State would total 0.015 acre and 100 linear feet (see Table 4; see Figure 5). A total of 0.027 acre of temporary impacts would occur to Wetland Waters of the U.S./State and an additional 0.183 acre of temporary impacts would occur to Wetland Waters of the State. Temporary impacts to Non-wetland Waters of the U.S./State would total 0.105 acre and 344 linear feet (see Table 4; see Figure 5).

The permanent impacts to 0.024 acre of wetland waters of the U.S./State and the additional 0.003 acre of wetland waters of the State are included in the permanent impacts to herbaceous wetland, southern riparian forest, and southern coast live oak riparian forest. The temporary impacts to 0.027 acre of wetland waters of the U.S./State and the additional 0.183 acre of wetland waters of the State are included in the temporary impacts to southern willow scrub, mule fat scrub, herbaceous wetland, southern riparian forest, and southern coast live oak riparian forest. Temporary and permanent impacts to 0.120 acre of non-wetland waters of the U.S./State include those impacts to the areas of Los Coches Creek mapped as non-vegetated channel as well as some portions mapped as riparian or woodland habitats where the active unvegetated channel occurs below the canopy of trees. As described above, all permanent impact areas are calculated at 70 percent permanent and 30 percent temporary by acreage.

Table 4 Project Impacts to Jurisdictional Areas			
Jurisdictional Areas	Total Survey Area in Acres (linear feet)	Temporary Impacts in Acres (linear feet)	Permanent Impacts in Acres (linear feet)
USACE Total Jurisdiction	0.667 (1,567)	0.132 (344)	0.039 (100)
Wetland Waters of the U.S.	0.131	0.027	0.024
Non-wetland Waters of the U.S.**	0.536 (1,567)	0.105 (344)	0.015 (100)
CDFW and RWQCB Total Jurisdictional Areas*	1.270 (1,567)	0.288 (344)	0.042 (100)
Wetland Waters of the State (Riparian Habitat)	0.734	0.183	0.027
Non-wetland Waters of the State (Streambed)**	0.536 (1,567)	0.105 (344)	0.015 (100)
*CDFW/RWQCB area of jurisdiction includes all USACE jurisdictional waters.			
**Non-wetland waters/streambed area not included in the wetland/riparian areas so that no area is counted twice for the same jurisdiction.			

3.3.1 Federal Waters

The project proposes permanent and temporary impacts from the earthwork and placement of ACB in the pipe replacement and concrete encasement areas. Additionally, the project proposes temporary impacts from vegetation trimming and access. Permanent impacts to wetland waters of the U.S. would total 0.024 acre and temporary impacts to wetland waters of the U.S. would total 0.027 acre (see Figure 5). Permanent impacts to non-wetland waters of the U.S. would total 0.015 acre and temporary impacts to non-wetland waters of the U.S. would total 0.105 acre (see Figure 5).

3.3.2 State Waters

The project proposes permanent and temporary impacts from the earthwork and placement of ACB in the pipe replacement and concrete encasement areas. Additionally, the project proposes temporary impacts from vegetation trimming and access. Permanent impacts to wetland waters of the State/CDFW riparian would total 0.027 acre and temporary impacts to wetland waters of the State/CDFW riparian would total 0.210 acre (see Figure 5). Permanent impacts to non-wetland waters of the State/CDFW streambed would total 0.015 acre and temporary impacts to non-wetland waters of the State/CDFW streambed would total 0.105 acre (see Figure 5).

3.4 Mitigation for Impacts to Jurisdictional Resources

Due to a no-net-loss policy implemented by the resource agencies, the first consideration in project planning should be avoidance of USACE, CDFW, and RWQCB jurisdictional waters. The use of ACB for pipeline stabilization, in lieu of poured concrete, was selected in an effort to reduce the placement of permanent fill in the streambed while meeting the structural requirements to preserve the sewer pipeline. It is designed with large voids to allow the percolation of water and plant establishment, allowing for minimal impacts to the functions and values of Los Coches Creek.

MIT-BIO-2: Unavoidable impacts to jurisdictional waters may be authorized by the USACE through the Section 404 Permit Program, by the CDFW through a 1602 Streambed Alteration Agreement, and by the RWQCB through a 401 State Water Quality Certification. Approved impacts to USACE, CDFW, and RWQCB jurisdictional waters require mitigation through habitat creation, enhancement, and/or credits in a mitigation bank to achieve a no-net loss of jurisdictional waters.

The non-wetland waters portions of Los Coches Creek that would be temporarily impacted by the use of access routes that cross the creek channel would be restored to their pre-impact contours and conditions. The details regarding the restoration of temporarily impacted jurisdictional areas would be included in the permit authorizations described above.

3.5 Impacts to Sensitive Wildlife

Seven wildlife species have moderate to high potential to occur within the survey area and could be affected by the project: Coronado skink, coastal whiptail, San Diegan legless lizard, Cooper's hawk, yellow warbler, western red bat, and southern mule deer. The potential for direct and indirect impacts to these sensitive wildlife species, including avian species covered by the MBTA or CFGC 3503 and 3503.5, is discussed below.

3.5.1 Sensitive Reptiles

Coronado skink, coastal whiptail, and San Diegan legless lizard have moderate potential to occur within and adjacent to the proposed impact areas. The proposed project has a potential to result in direct impacts to these species, if present, through incidental mortality during construction activities (e.g., crushing or vehicle strikes) and permanent loss of 0.01 acre of southern riparian forest. However, the suitable habitat within the proposed project impact areas comprises a small fraction of the habitat available to these species both at a local level (undeveloped habitat along Los Coches Creek) and on a regional scale. Therefore, direct impacts to these species would be considered less than significant, and no species-specific mitigation would be required.

The project would not alter land uses on the site. Additionally, no significant increase in edge effects is expected to result as the amount of vegetation to be removed. Expected edge effects are small in relation to the expanses of habitat available for these species. Fugitive dust and construction noise are not expected to result in significant indirect impacts to these species as construction activities would include only intermittent use of equipment and would not cause any substantial areas of bare dirt that could result in dust issues. Additionally, any project-related dust is anticipated to be reduced through implementation of BMPs during construction. Therefore, no significant indirect impacts are anticipated to occur to these sensitive reptile species.

3.5.2 Sensitive Birds

Cooper's hawk has a high potential to nest in the mature riparian trees in the areas of southern riparian forest, southern coast live oak riparian forests, or eucalyptus woodland within the survey area. Yellow warbler has a moderate potential to nest in southern riparian forest and southern coast live oak riparian forests within the survey area.

BIO-3: Temporary impacts as a result of vegetation trimming and permanent impacts as a result of trenching to a combined total of 0.21 acre of suitable habitat types has potential to result in significant direct impacts to Cooper's hawk and yellow warbler. Additionally, increased noise levels due to construction during the breeding seasons for these species (January 15 to July 15 for Cooper's hawk and February 1 to August 31 for yellow warbler) could result in indirect impacts to any individuals determined to be nesting within the habitats adjacent to the project impact areas.

Nesting bird species covered under the MBTA or CFGC 3503 also have potential to be directly impacted by the temporary impacts as a result of vegetation trimming and permanent impacts as a result of trenching.

Direct or indirect impacts to these species, including Cooper's hawk, yellow warbler, and nesting bird species covered under the MBTA or CFGC 3503, that adversely affects nesting success would be considered significant and would require avoidance, minimization, and/or mitigation measures.

3.5.3 Sensitive Mammals

Southern mule deer has a moderate potential to occur within and adjacent to the proposed impact areas. No direct impacts to this species are expected as any individuals present are likely to flee the construction area once the construction site becomes active and no species-specific mitigation would be required.

Western red bat has a moderate potential to day-roost within riparian trees in the areas of southern riparian forest, southern coast live oak riparian forests, eucalyptus woodland, or non-native woodland.

BIO-4: Direct impacts to roosting western red bats could occur during any vegetation trimming of trees with potential to support this species day-roosting. This would be significant and would require species-specific avoidance, minimization, and/or mitigation measures.

This project would not alter land uses on the site. Fugitive dust and construction noise are not expected to result in indirect impacts to southern mule deer or western red bat as construction activities would include only intermittent use of equipment and would not cause any substantial areas of bare dirt that could result in dust issues. Additionally, any project-related dust is anticipated to be reduced through implementation of BMPs. Therefore, no significant indirect impacts are anticipated to occur to these sensitive mammal species.

3.6 Mitigation for Impacts to Sensitive Wildlife Species

The following mitigation measures are recommended to reduce the level of impact to less than significant.

Avoidance and/or mitigation measures would be required to reduce potential impacts to Cooper's hawk and yellow warbler, as well as migratory bird species protected by the MBTA or CFGC 3503.5, below a level of significance. Construction is scheduled to occur during the breeding season for these species (January 15 to July 15 for Cooper's hawk and other tree-nesting raptors and February 1 to August 31 for yellow warbler and other migratory birds).

MIT-BIO-3: In order to avoid direct impacts to potentially nesting individuals of sensitive bird species, a qualified biologist should conduct a survey prior to the start of construction activities. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). If an active bird nest is found, additional measures should be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. With implementation of these measures, the project is expected to avoid significant direct and indirect impacts to Cooper's hawk and yellow warbler, as well as species protected by the MBTA or CFGC.

MIT-BIO-4: In order to avoid direct impacts to any potentially roosting western red bats, a biological monitoring shall survey any trees with potential to support this species that are proposed for trimming immediately prior to the trimming activities. If any trees are occupied by western red bat, additional avoidance/mitigation measures shall be implemented as recommended by the biological monitor. The biological monitor shall be present during all vegetation removal and tree trimming at the occupied habitat. With the implementation of these measures, the project is expected to avoid significant direct impacts to western red bat.

If you have any questions on this letter report, or require additional information, please contact me at asmisek@reconenvironmental.com or (619) 308-9333 extension 158.

Sincerely,



Andrew Smisek
Biologist

AKS:sh

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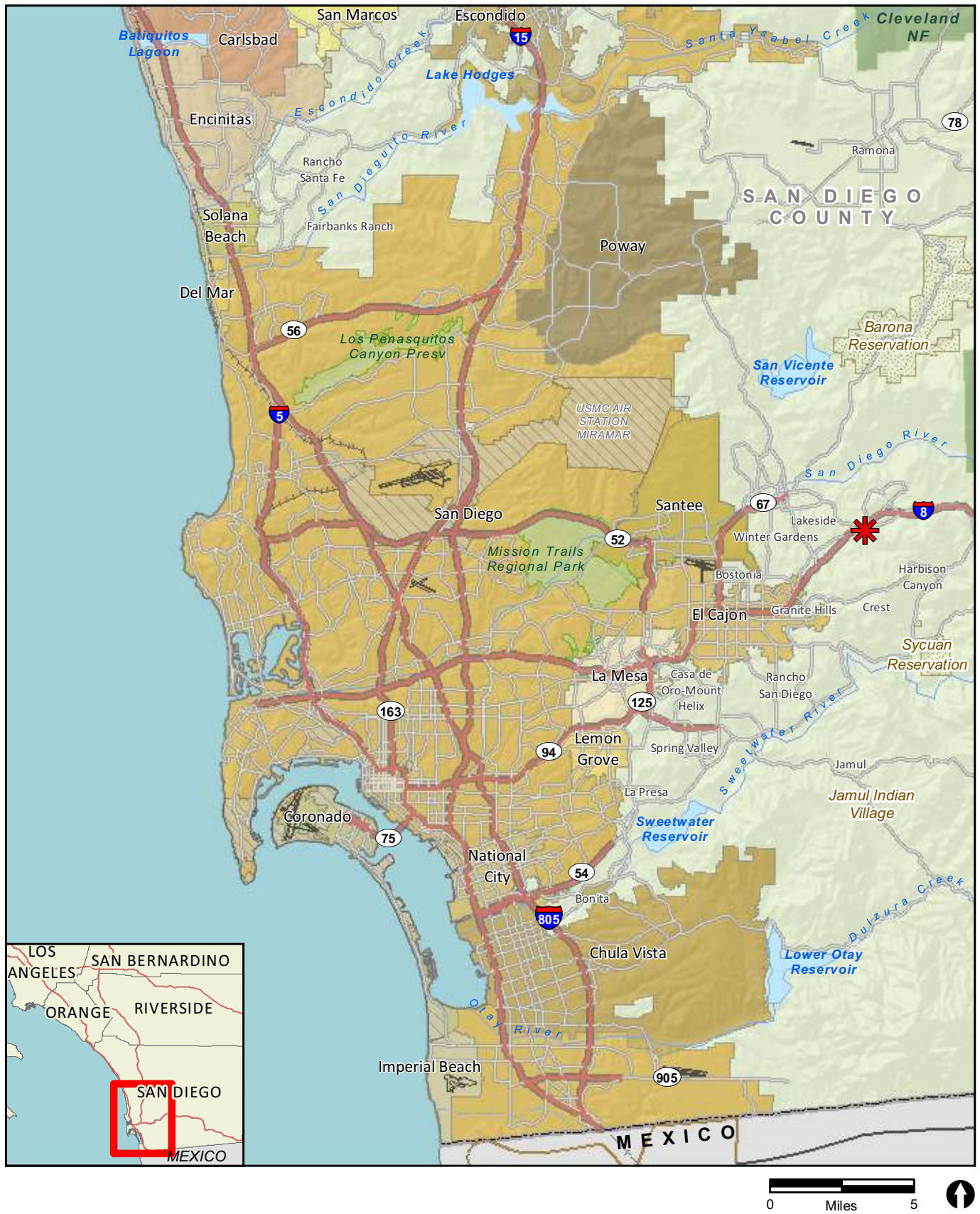
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ATTACHMENTS

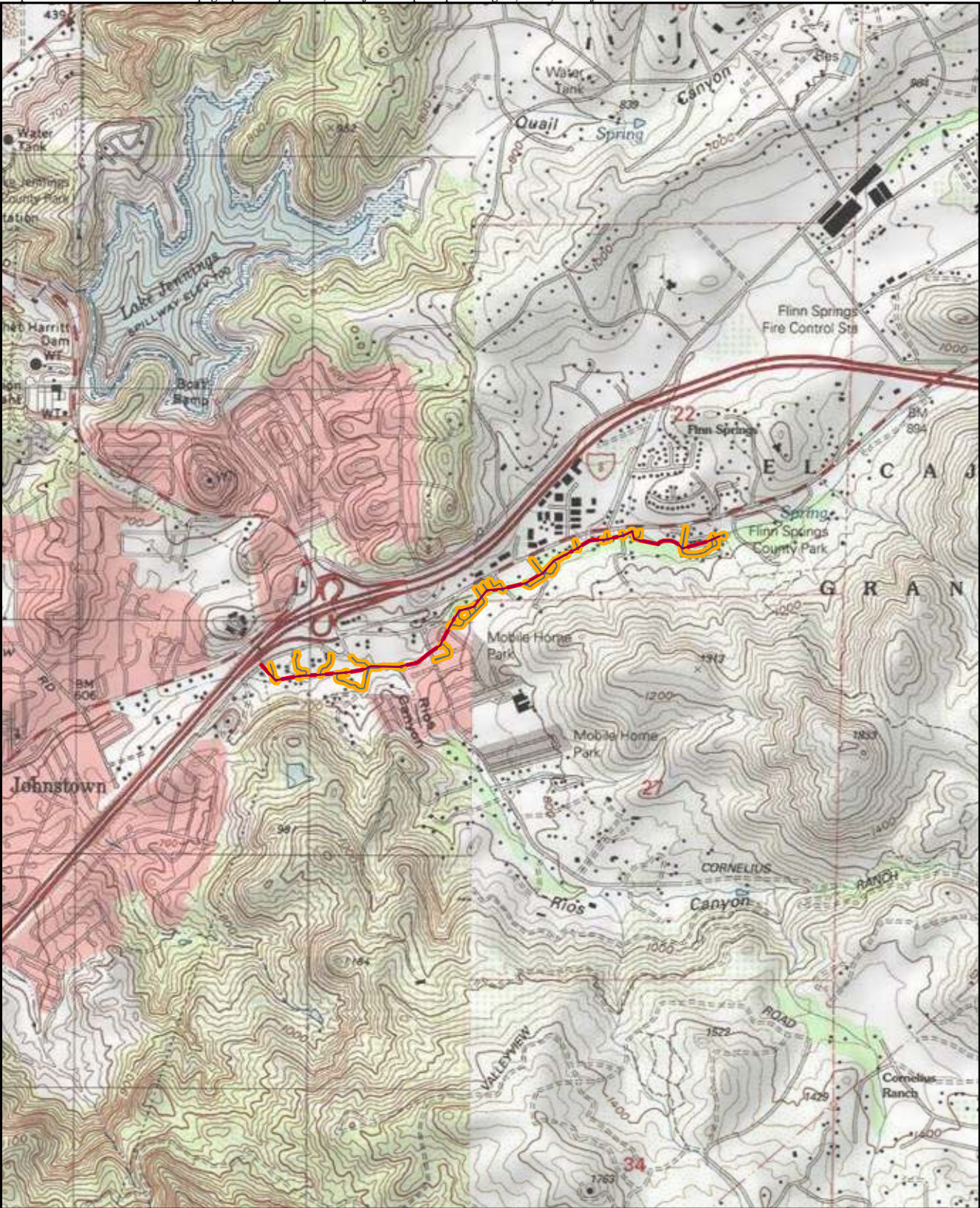
ATTACHMENT 1




Figures



✱ Project Location

FIGURE 1
Regional Location



-  Survey Area
-  Impact Areas
-  Proposed Lining Segments

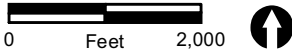


FIGURE 2
Project Location on USGS Map

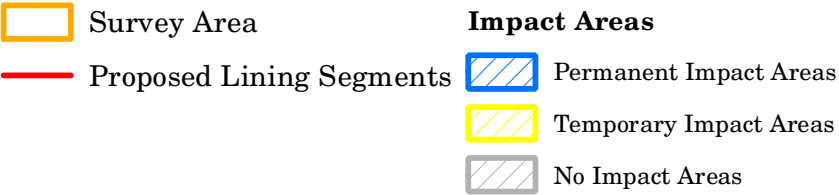
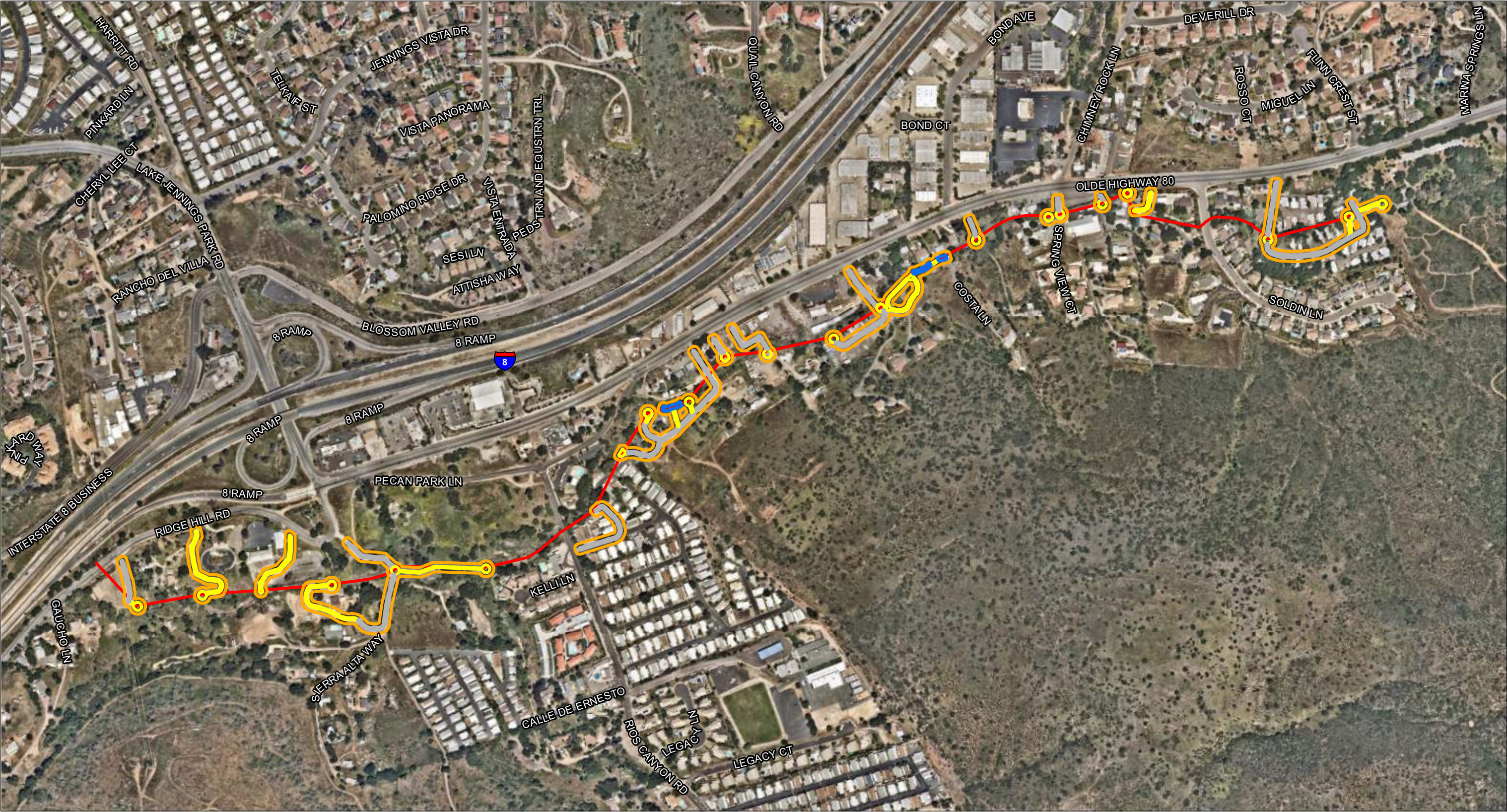


FIGURE 3
Project on Aerial Photograph

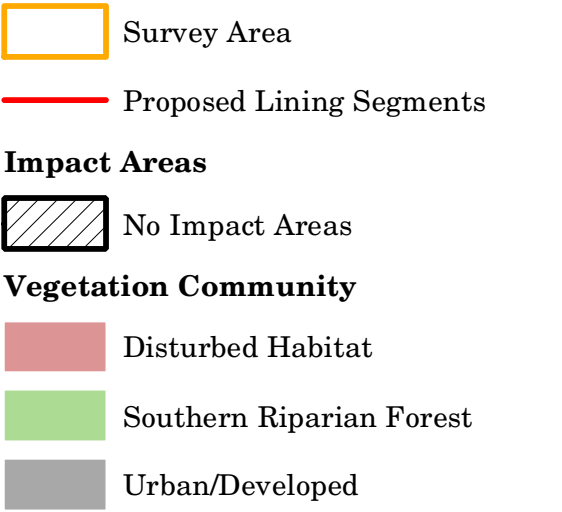
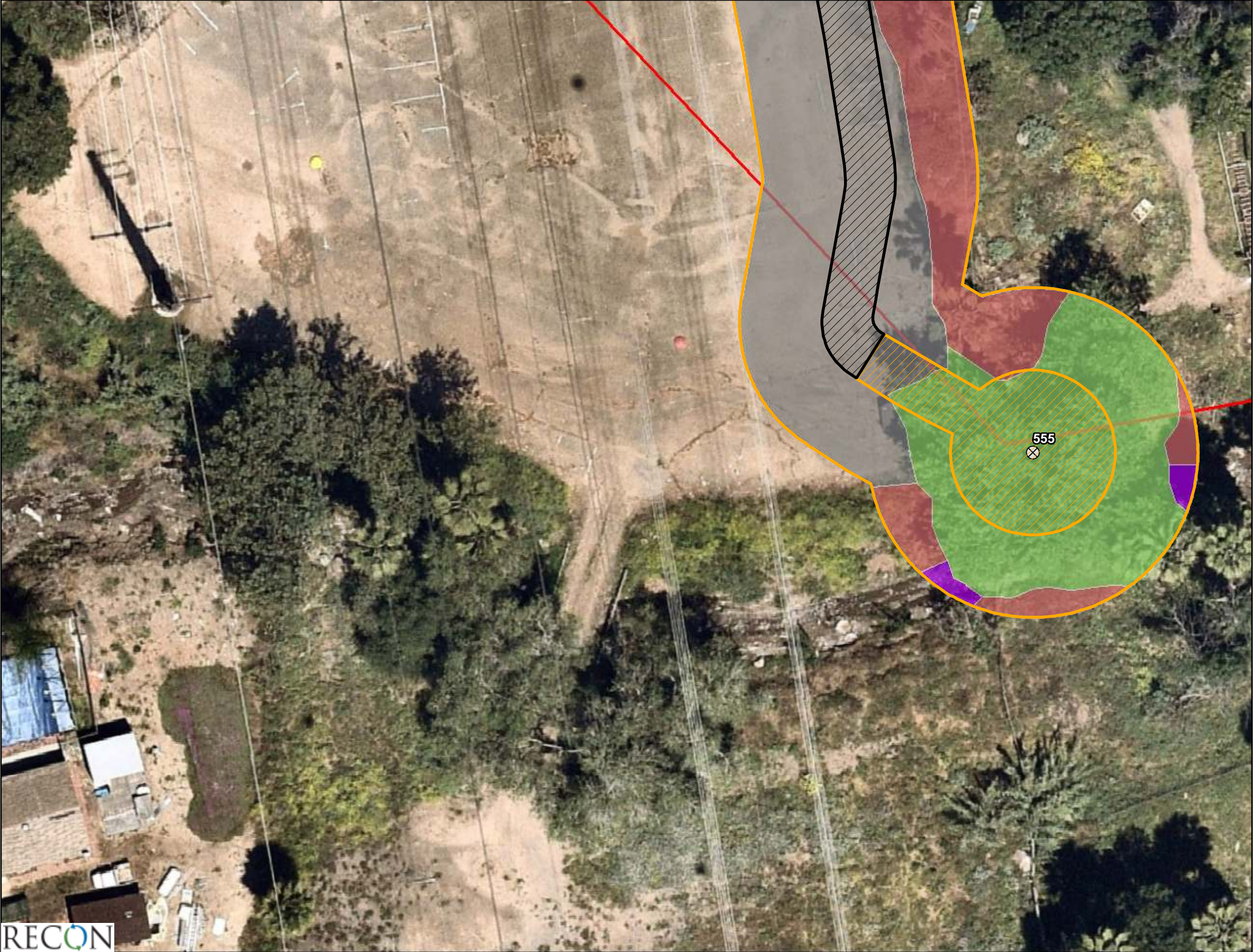


FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Disturbed Habitat
 - Non-vegetated Channel
 - Southern Riparian Forest
 - Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments

Impact Areas

- Temporary Impact Areas

Vegetation Community

- Disturbed Habitat
- Non-vegetated Channel
- Southern Riparian Forest



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
- Vegetation Community**
 - Coast Live Oak Riparian Forest
 - Disturbed Habitat
 - Southern Riparian Forest



FIGURE 4
Existing Biological Resources







-  Survey Area
- Impact Areas**
-  Temporary Impact Areas
- Vegetation Community**
-  Disturbed Habitat
-  Urban/Developed



FIGURE 4
Existing Biological Resources







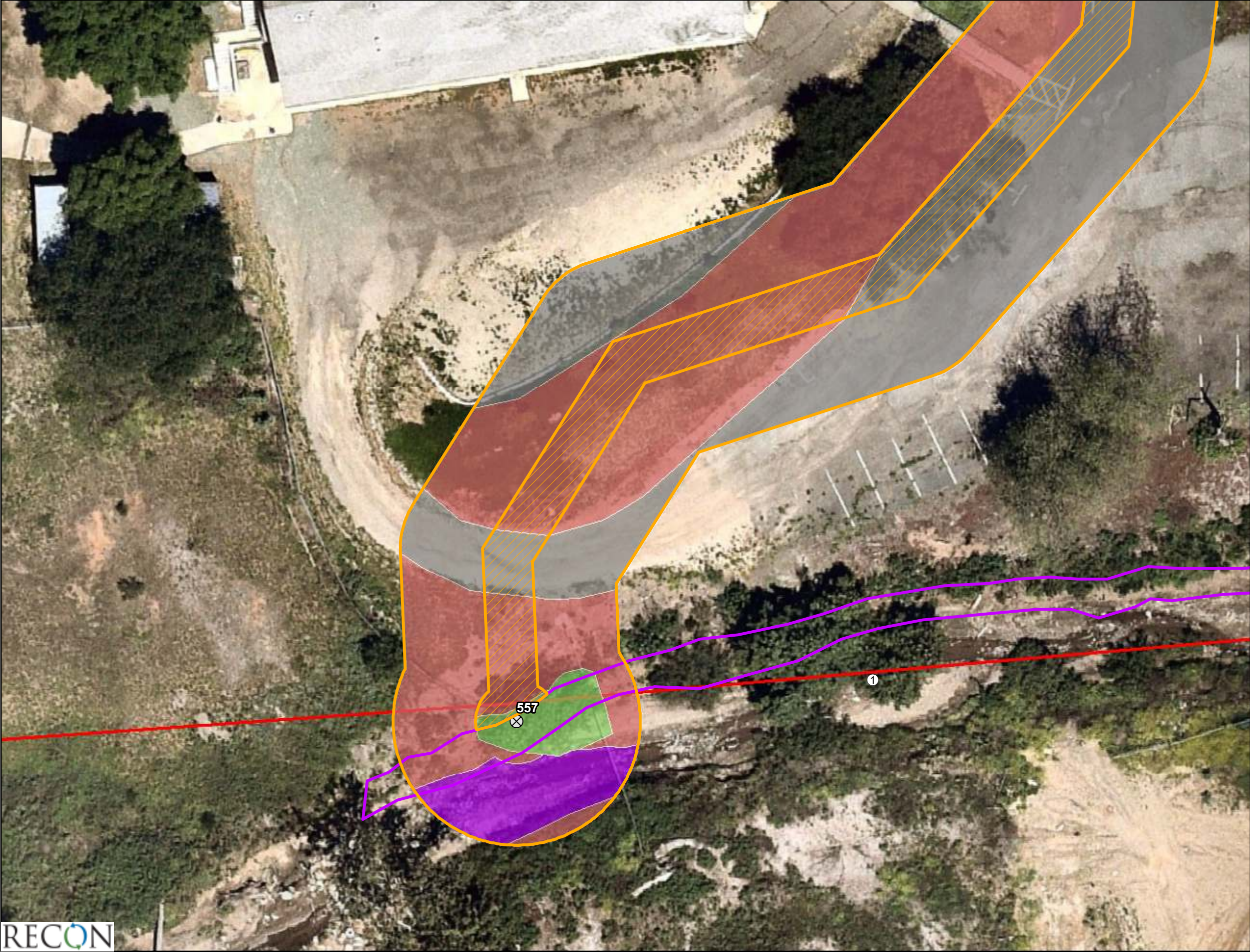
-  Survey Area
- Impact Areas**
-  Temporary Impact Areas
- Vegetation Community**
-  Disturbed Habitat
-  Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Sample Point
- Impact Areas**
 - Temporary Impact Areas
- Mitigation Areas**
 - Mitigation Area 2
- Vegetation Community**
 - Disturbed Habitat
 - Non-vegetated Channel
 - Southern Riparian Forest
 - Urban/Developed



FIGURE 4
Existing Biological Resources







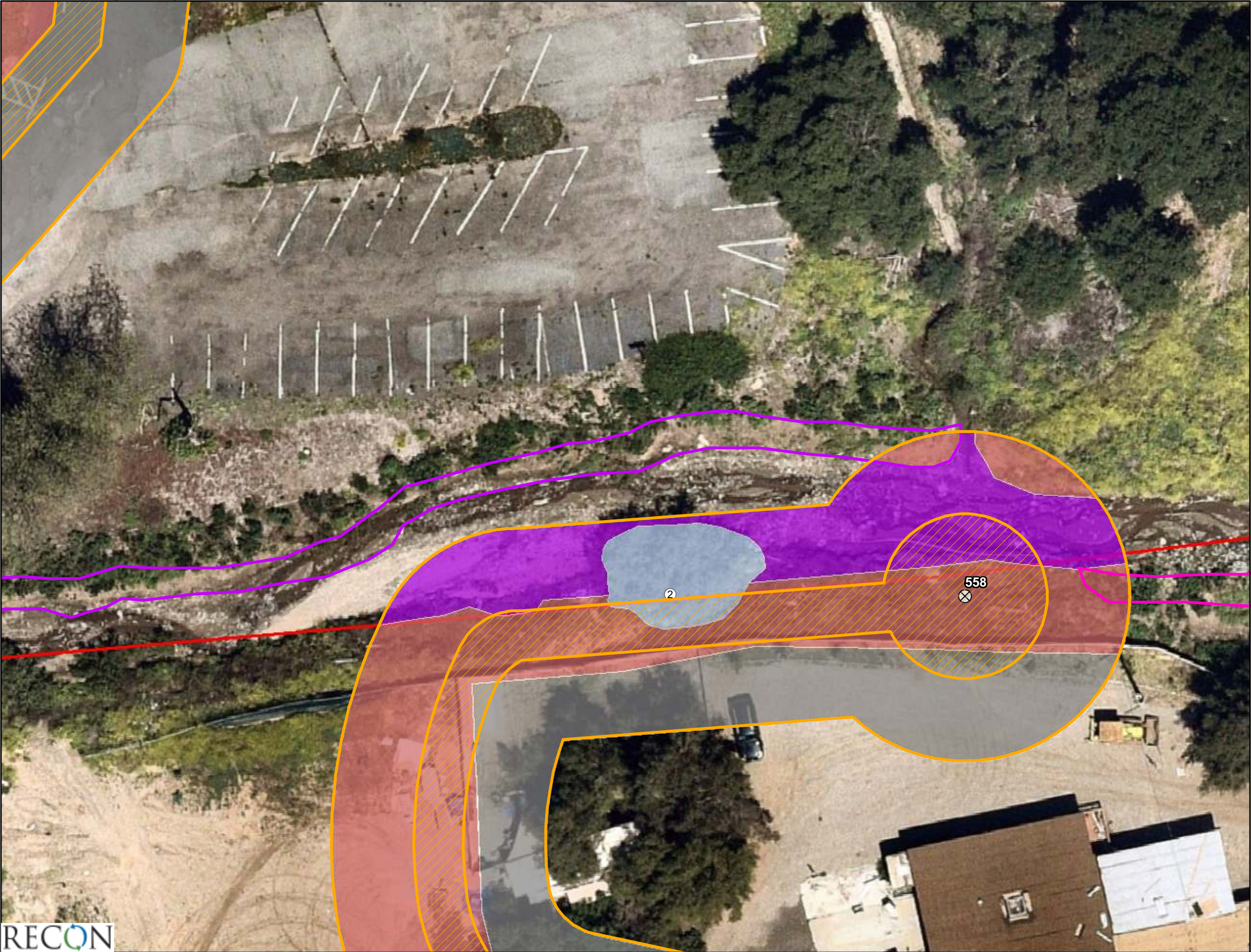
-  Survey Area
- Impact Areas**
-  Temporary Impact Areas
- Vegetation Community**
-  Disturbed Habitat
-  Urban/Developed



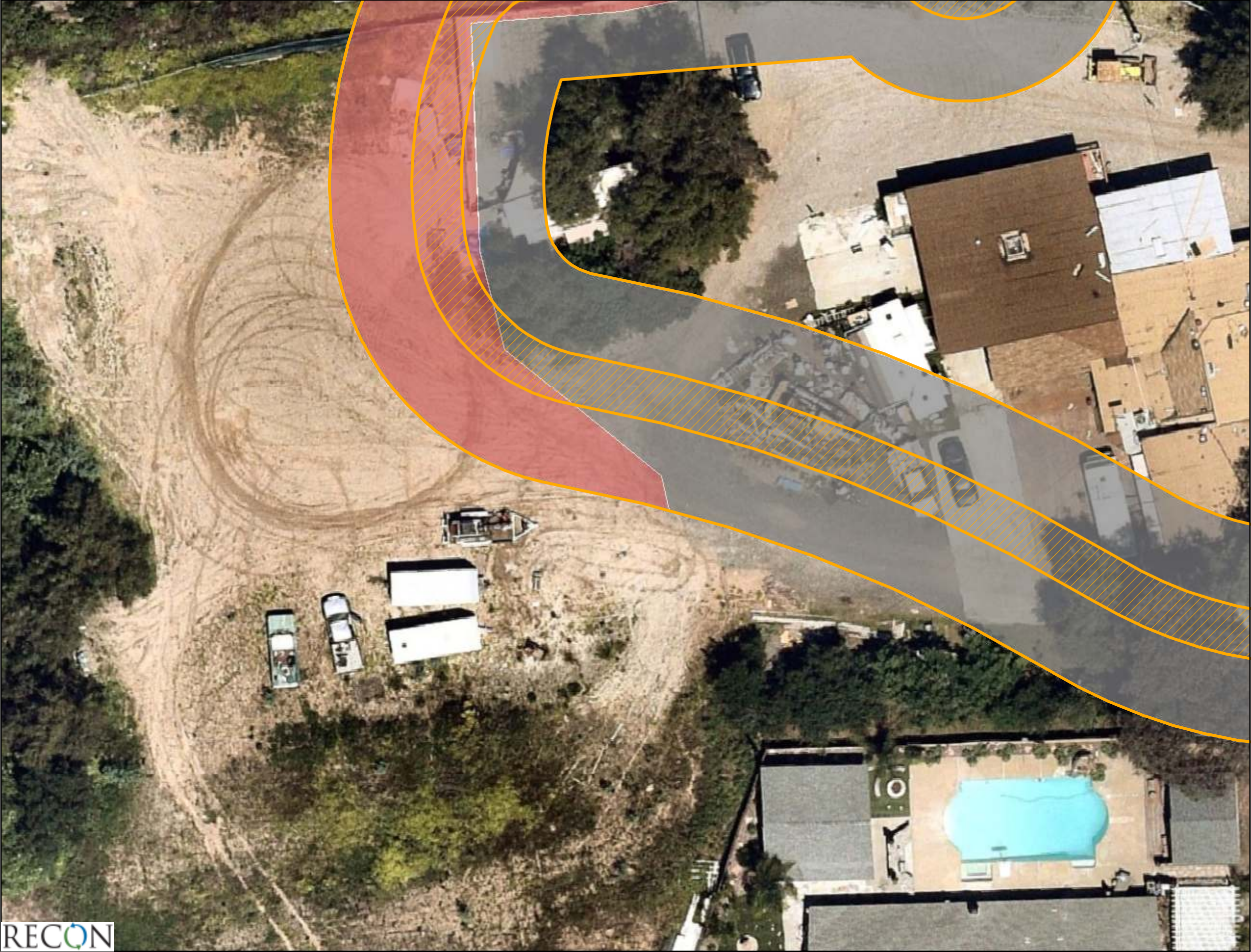
FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Sample Point
- Impact Areas**
 - Temporary Impact Areas
- Mitigation Areas**
 - Mitigation Area 1
 - Mitigation Area 2
- Vegetation Community**
 - Disturbed Habitat
 - Non-vegetated Channel
 - Southern Willow Scrub
 - Urban/Developed



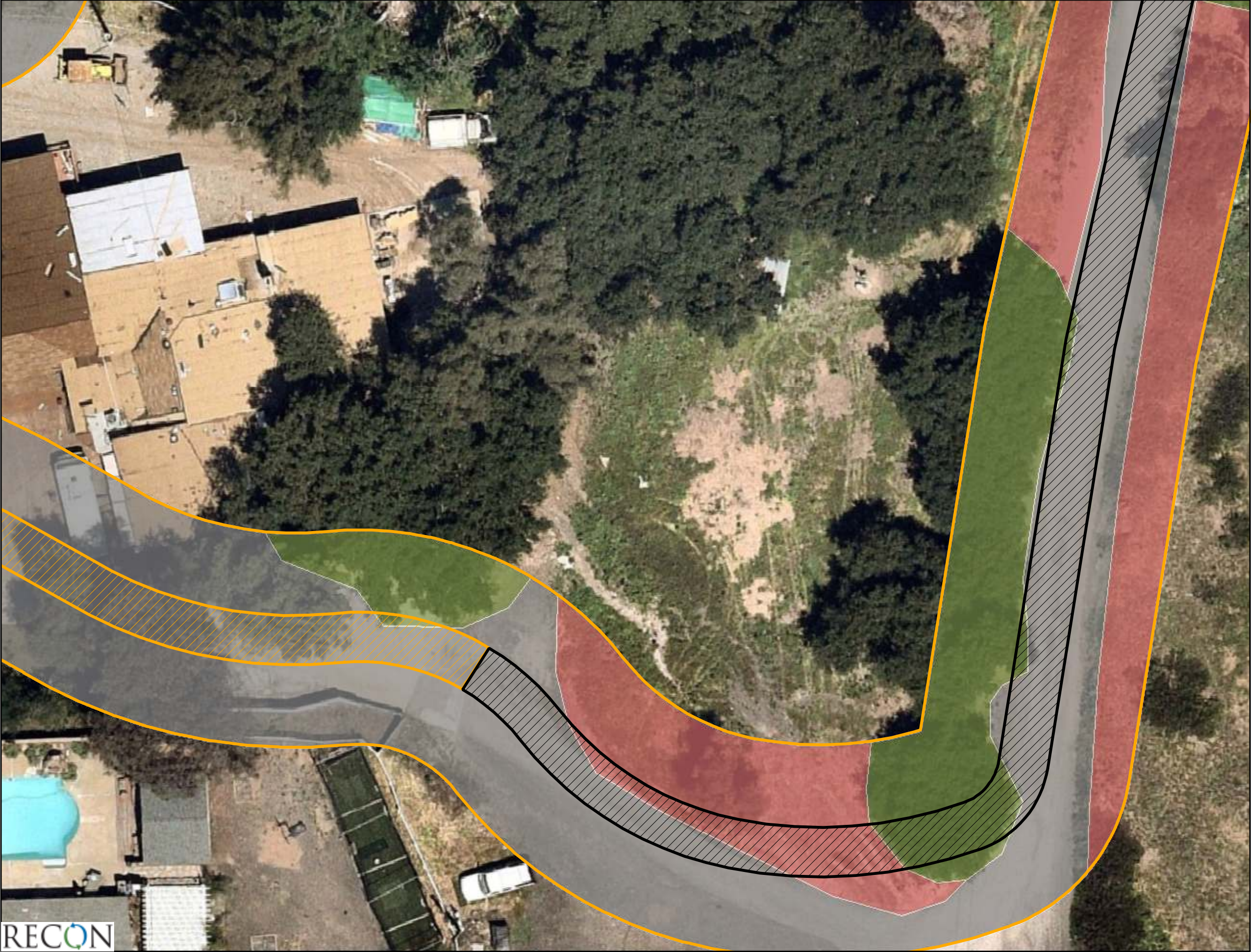
FIGURE 4
Existing Biological Resources



- Survey Area
- Impact Areas**
- Temporary Impact Areas
- Vegetation Community**
- Disturbed Habitat
- Urban/Developed



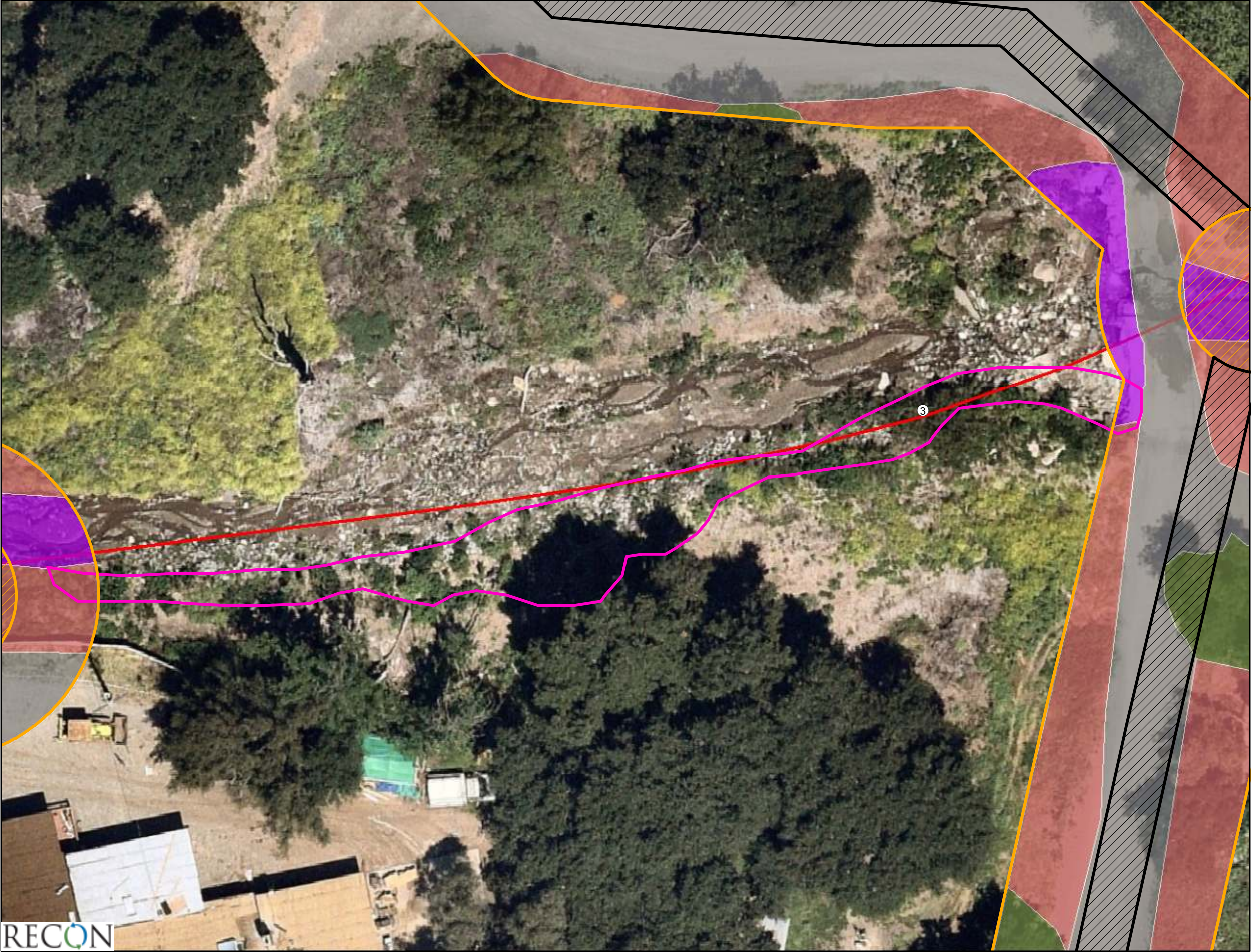
FIGURE 4
Existing Biological Resources



- Survey Area
- Impact Areas**
- Temporary Impact Areas
- No Impact Areas
- Vegetation Community**
- Coast Live Oak Riparian Forest
- Disturbed Habitat
- Urban/Developed



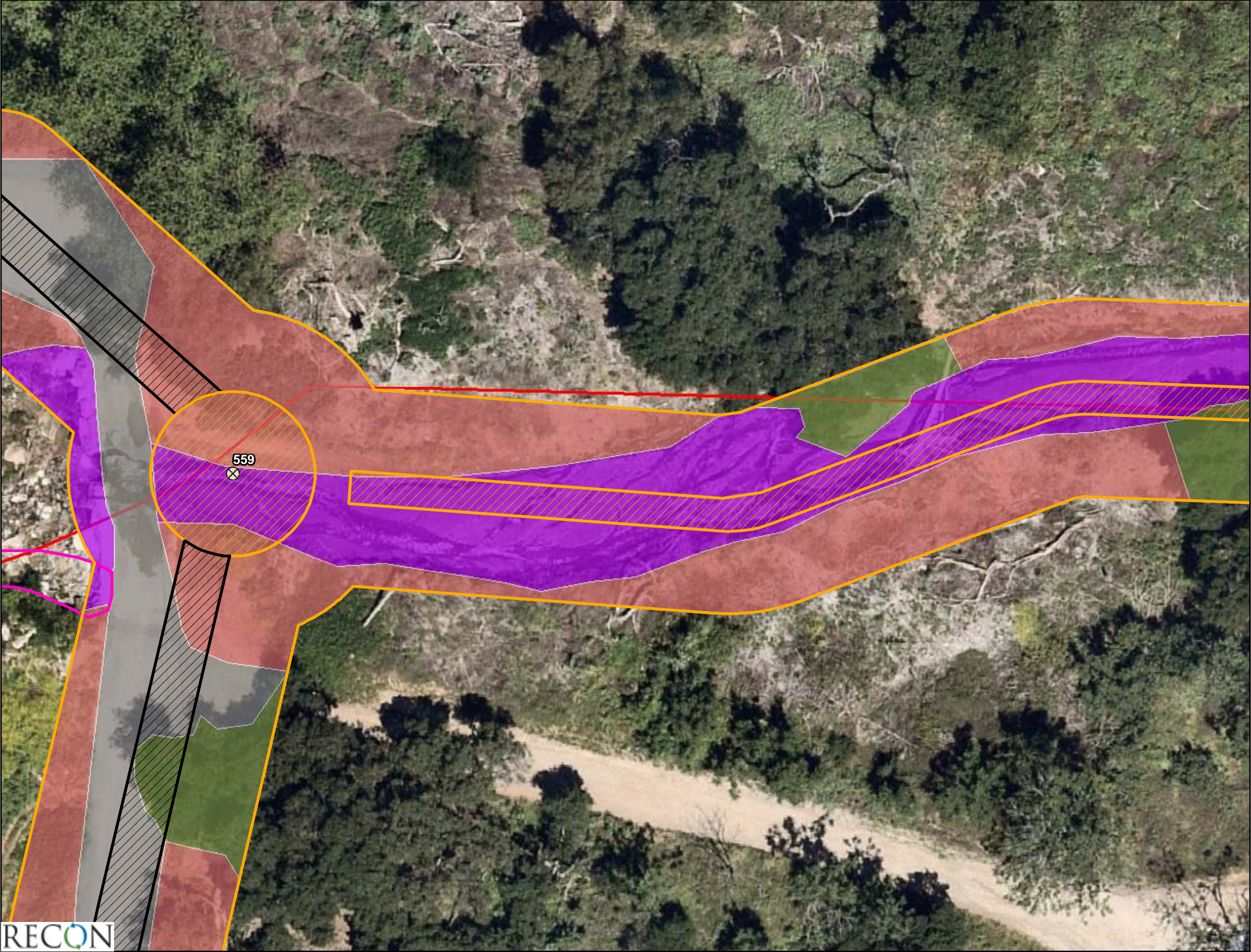
FIGURE 4
Existing Biological Resources



- Survey Area
- Proposed Lining Segments
- Sample Point
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Mitigation Areas**
 - Mitigation Area 1
- Vegetation Community**
 - Coast Live Oak Riparian Forest
 - Disturbed Habitat
 - Non-vegetated Channel
 - Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Mitigation Areas**
 - Mitigation Area 1
- Vegetation Community**
 - Coast Live Oak Riparian Forest
 - Disturbed Habitat
 - Non-vegetated Channel
 - Urban/Developed



FIGURE 4
Existing Biological Resources

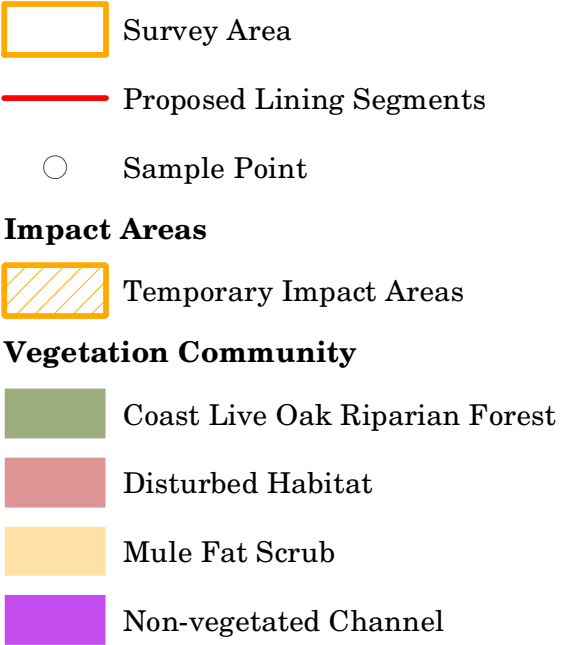
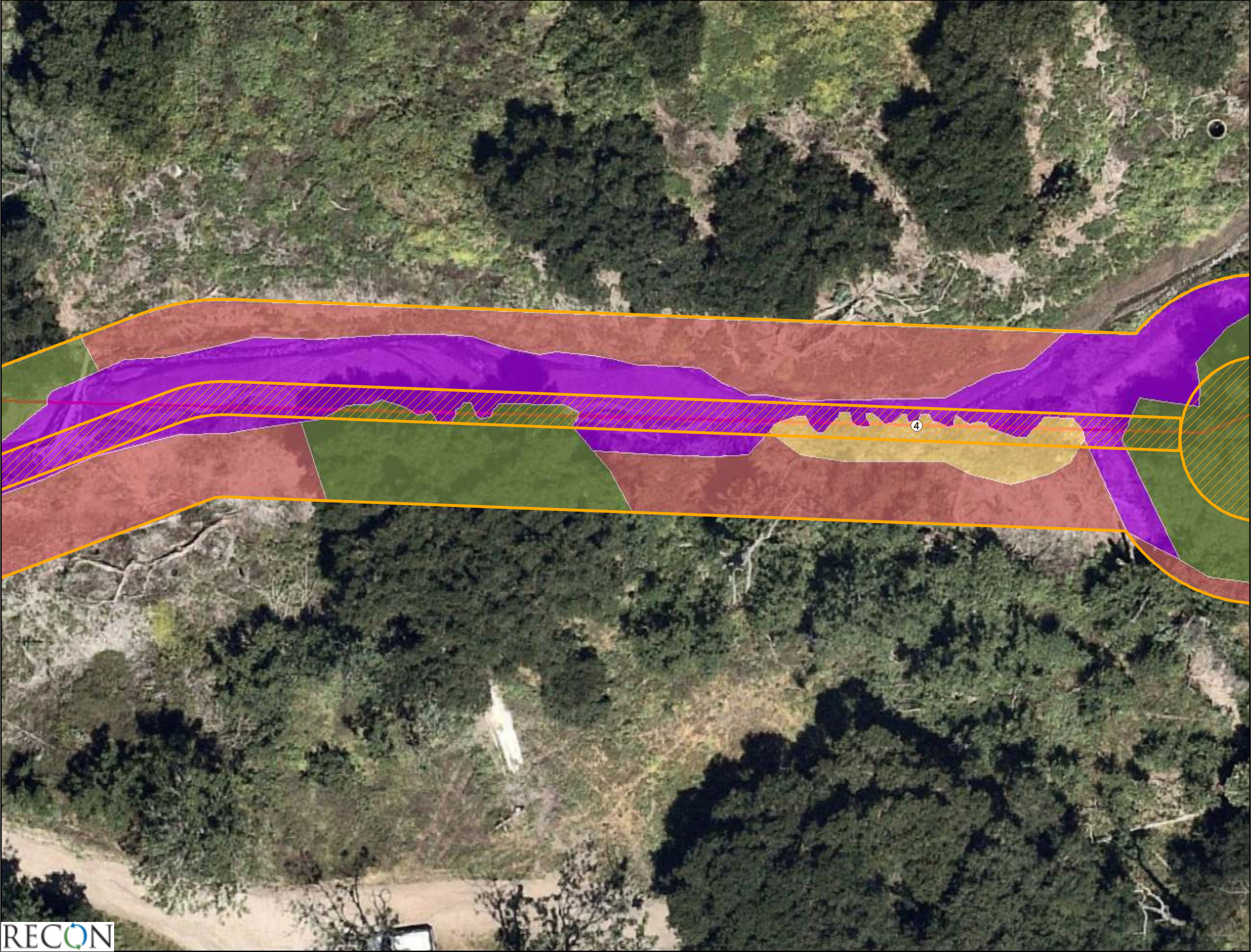


FIGURE 4
Existing Biological Resources

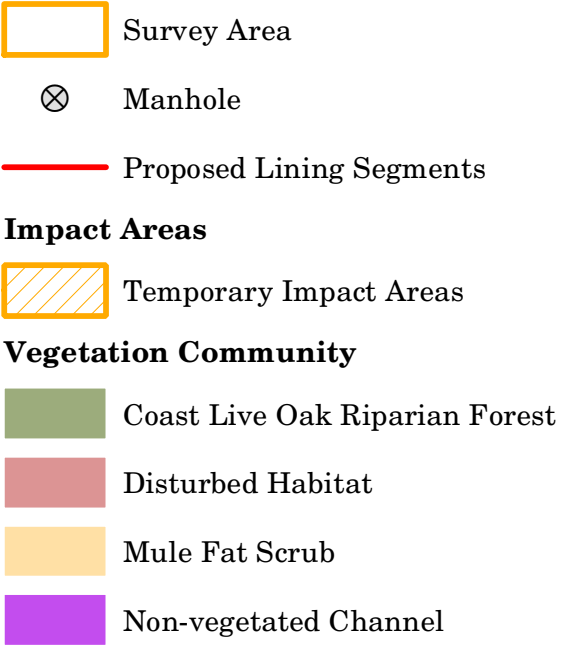
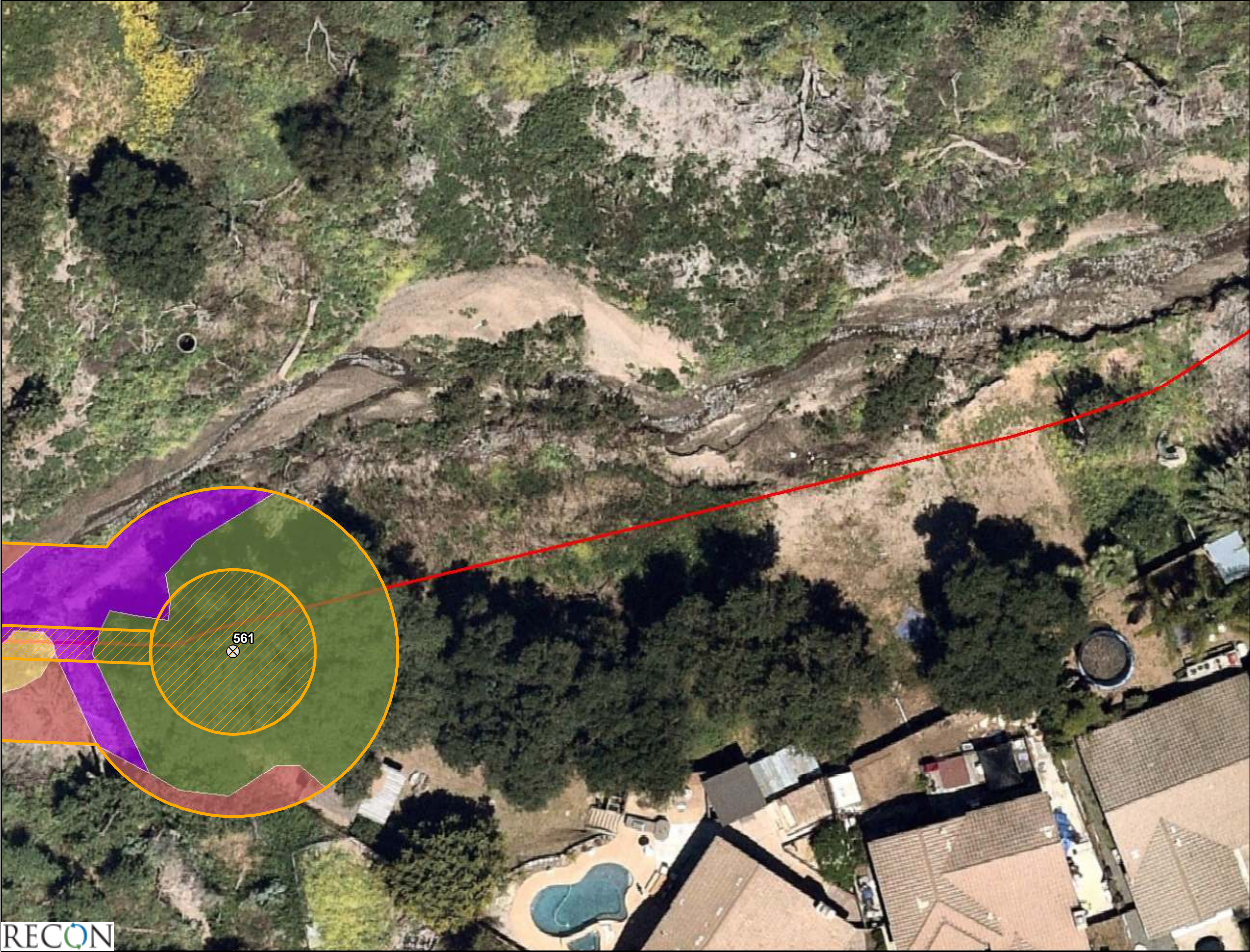


FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - No Impact Areas
- Vegetation Community**
 - Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments

Impact Areas

- No Impact Areas

Vegetation Community

- Disturbed Habitat
- Southern Riparian Forest
- Urban/Developed



FIGURE 4
Existing Biological Resources








-  Survey Area
-  Proposed Lining Segments
- Vegetation Community**
 -  Disturbed Habitat
 -  Southern Riparian Forest
 -  Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Disturbed Habitat
 - Non-vegetated Channel
 - Southern Riparian Forest
 - Urban/Developed



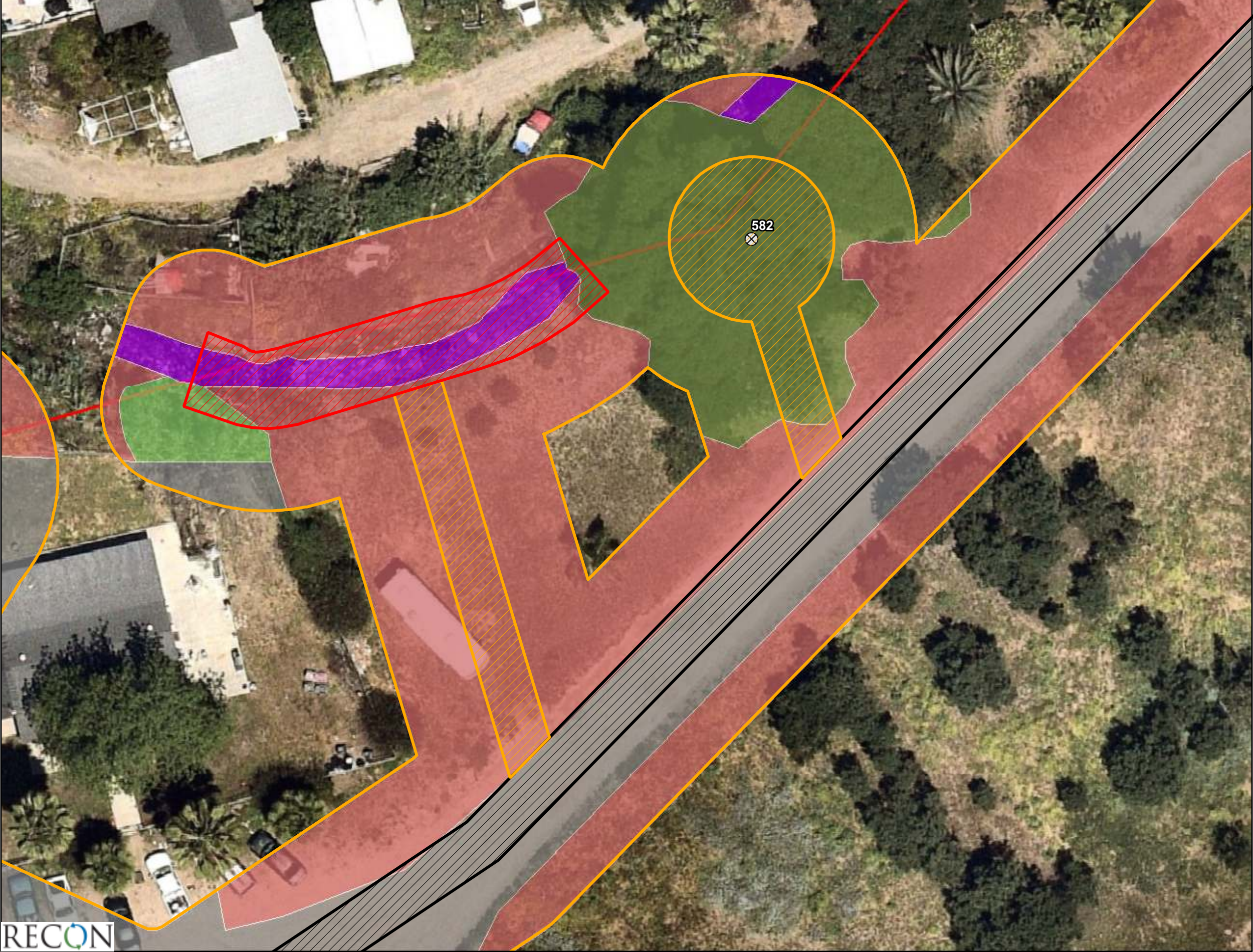
FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Permanent Impact Areas
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Disturbed Habitat
 - Non-vegetated Channel
 - Southern Riparian Forest
 - Urban/Developed



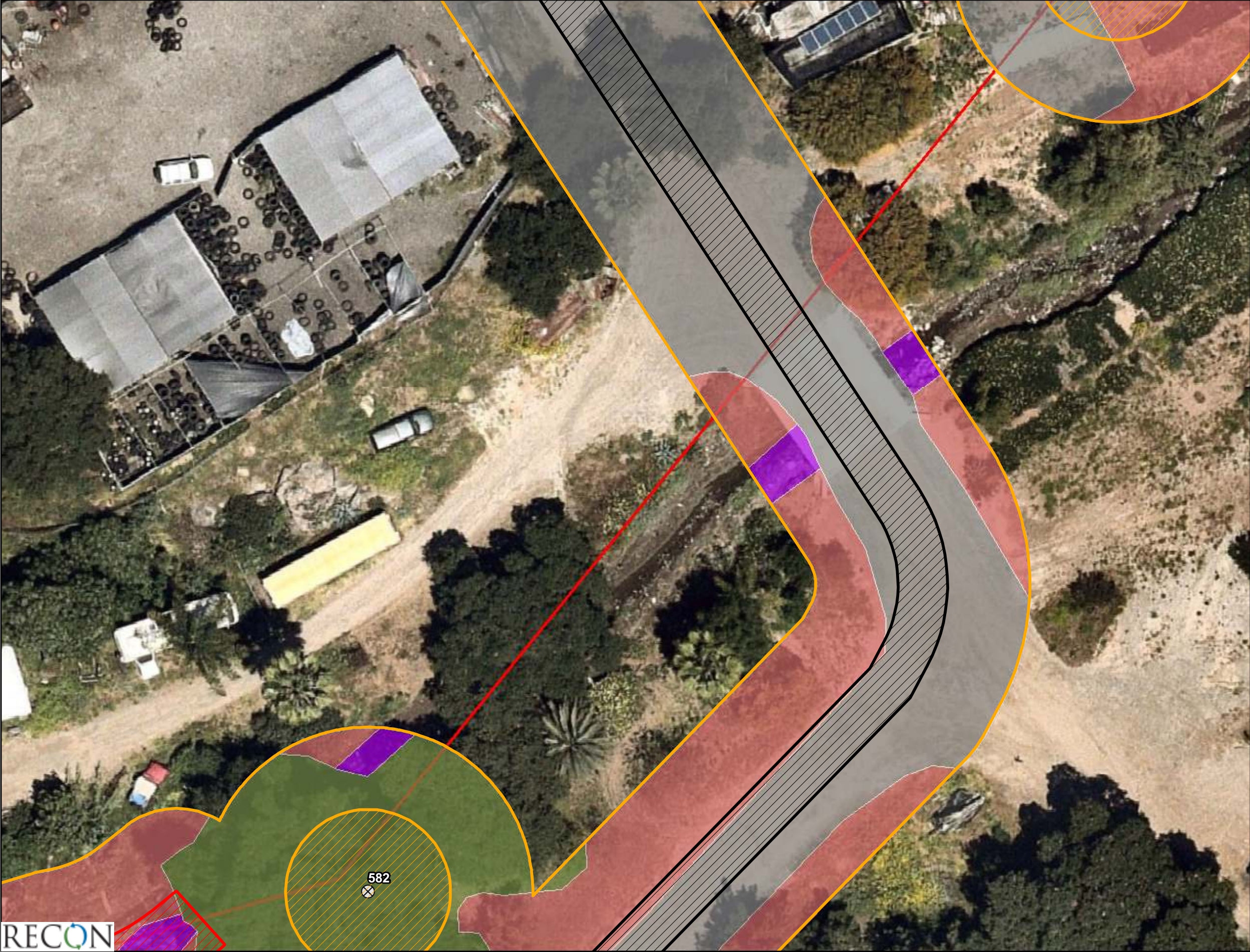
FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Permanent Impact Areas
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Coast Live Oak Riparian Forest
 - Disturbed Habitat
 - Non-vegetated Channel
 - Southern Riparian Forest
 - Urban/Developed



FIGURE 4
Existing Biological Resources



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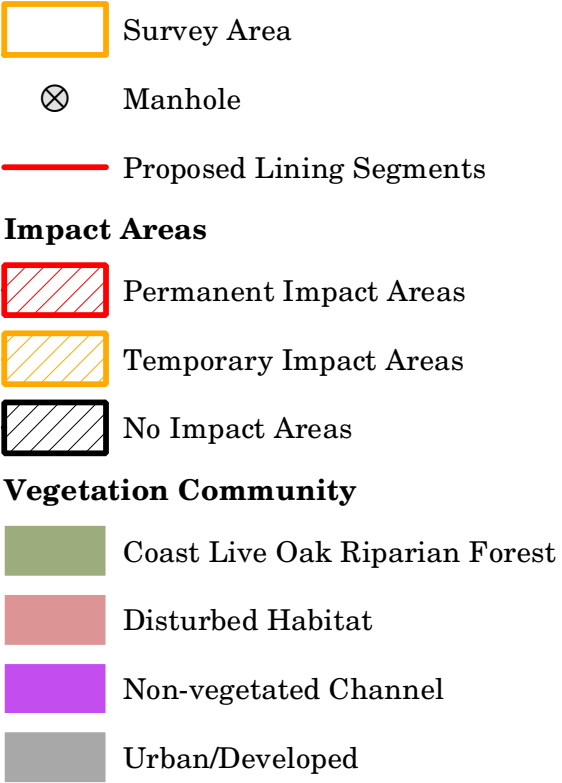


FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Disturbed Habitat
 - Urban/Developed



FIGURE 4
Existing Biological Resources

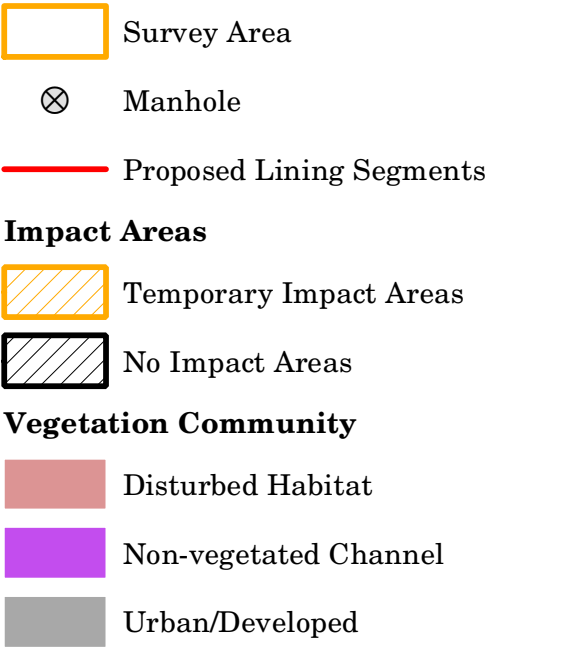
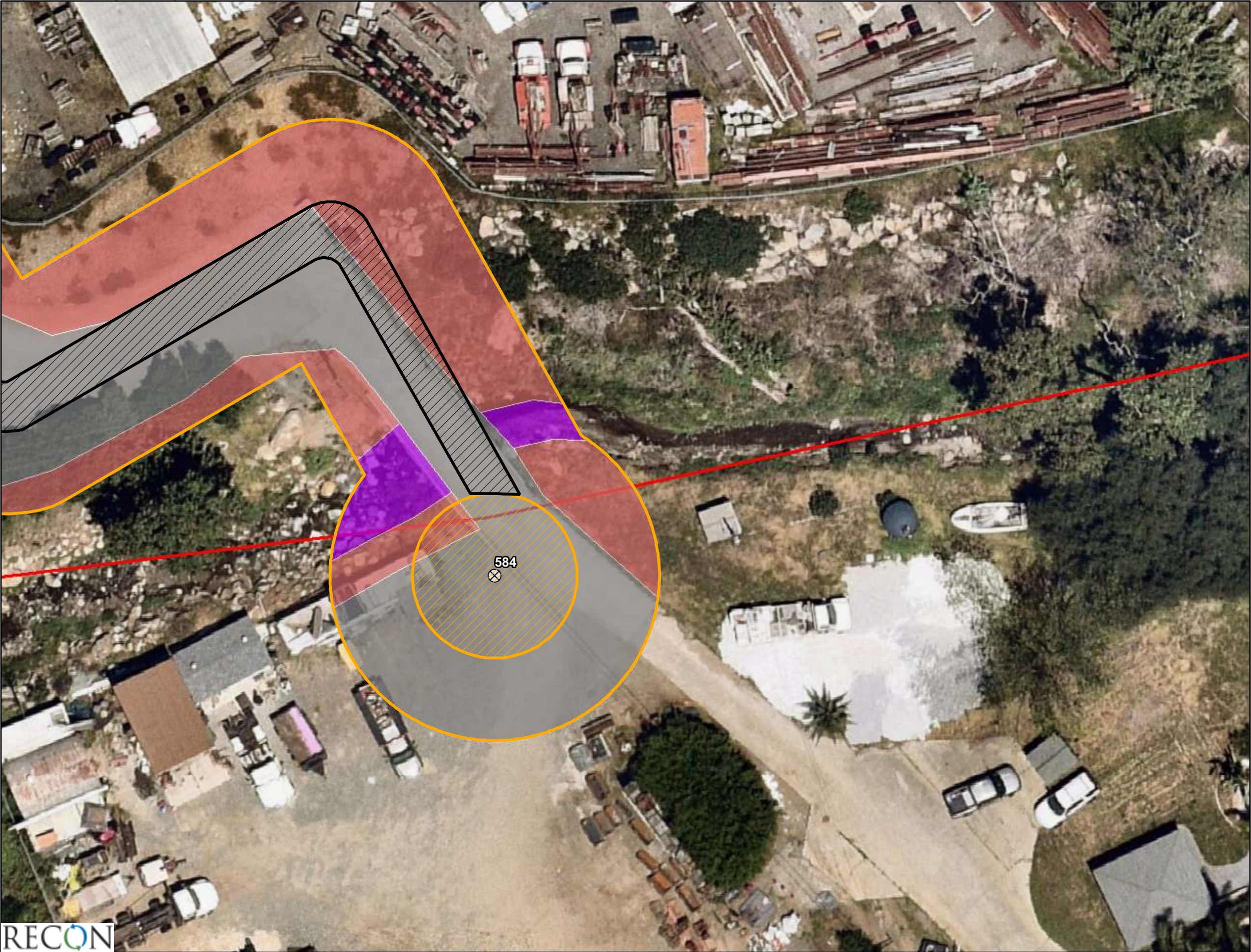
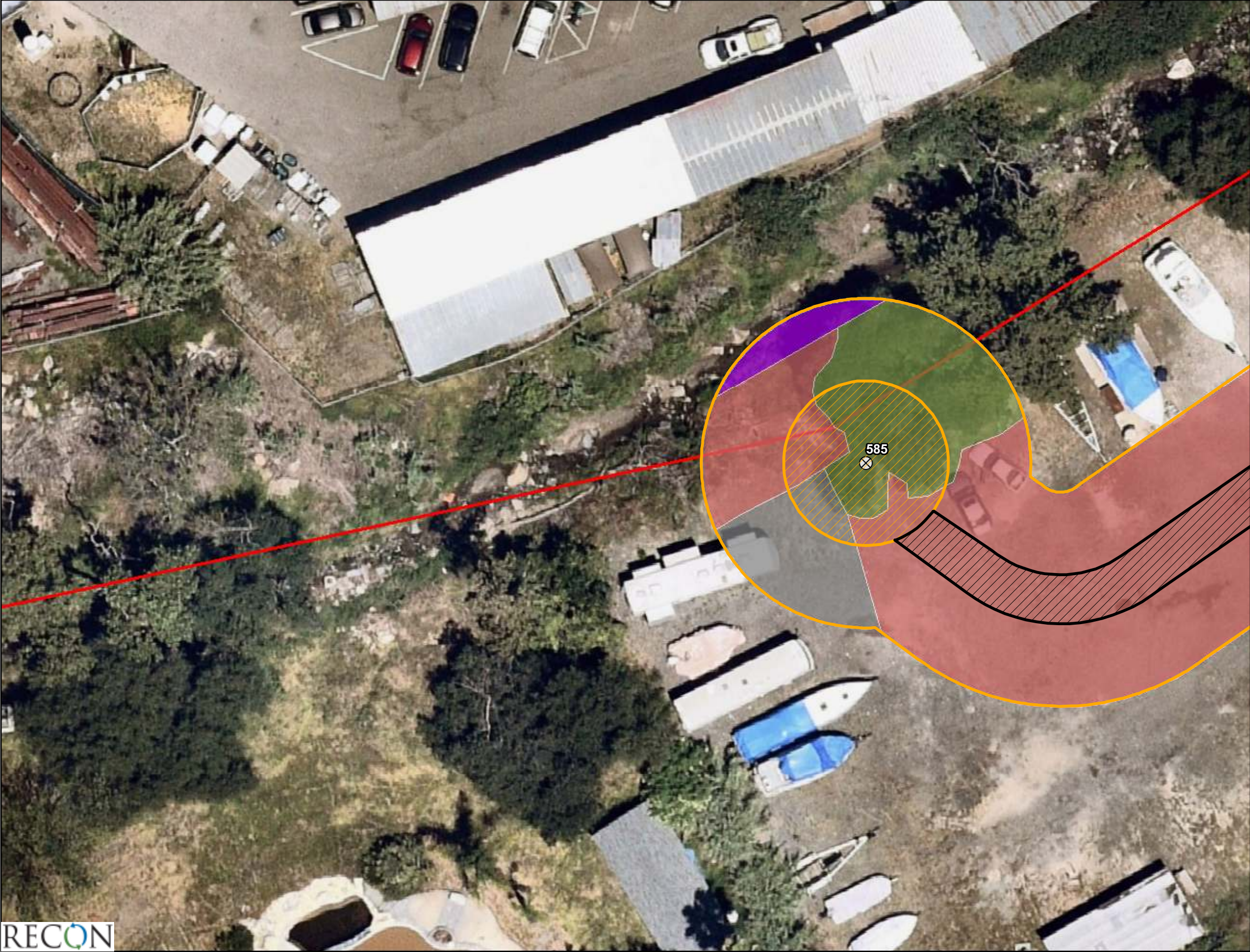


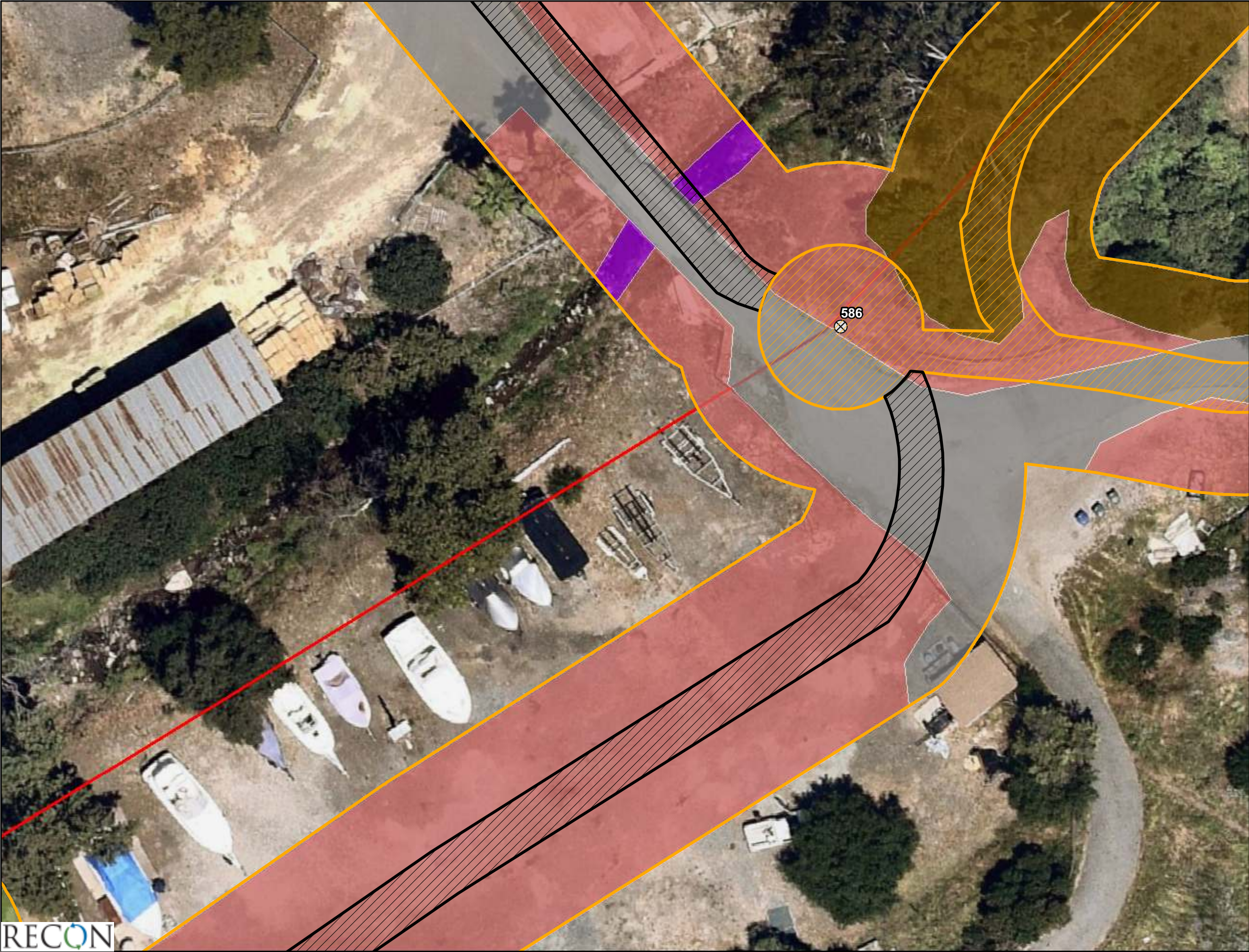
FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Coast Live Oak Riparian Forest
 - Disturbed Habitat
 - Non-vegetated Channel
 - Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Coast Live Oak Riparian Forest
 - Disturbed Habitat
 - Eucalyptus Woodland
 - Non-vegetated Channel
 - Urban/Developed



FIGURE 4
Existing Biological Resources

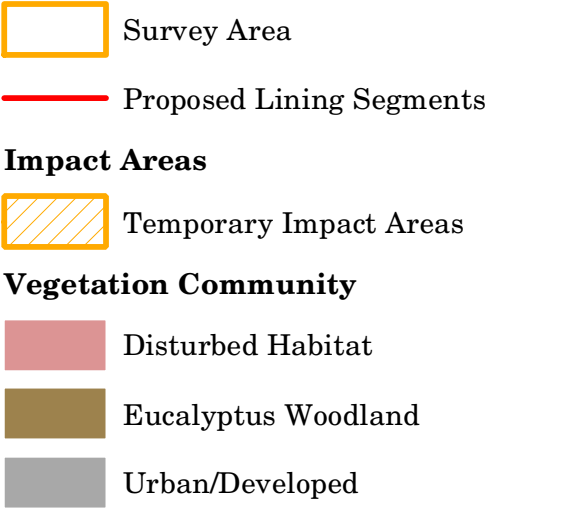
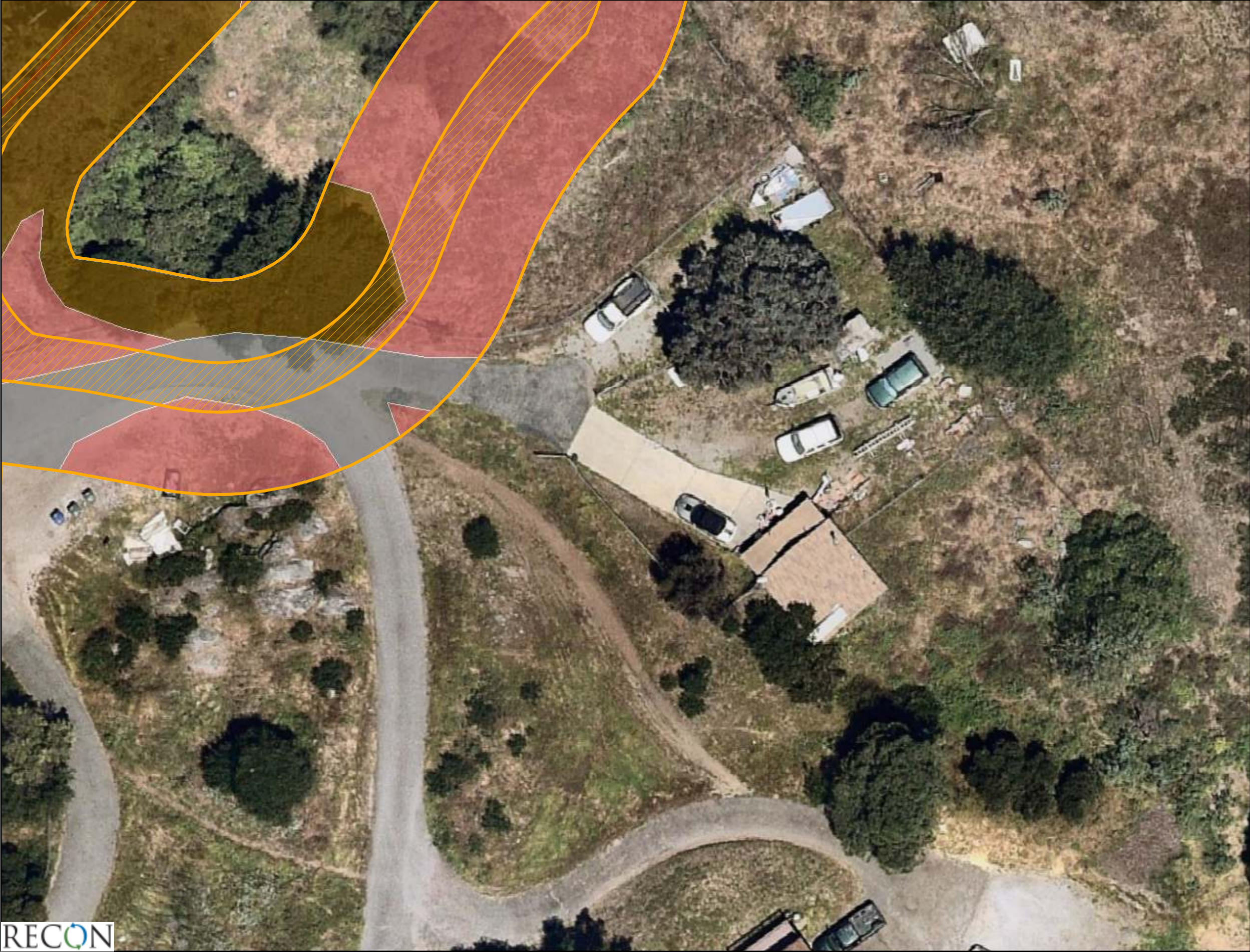


FIGURE 4
Existing Biological Resources

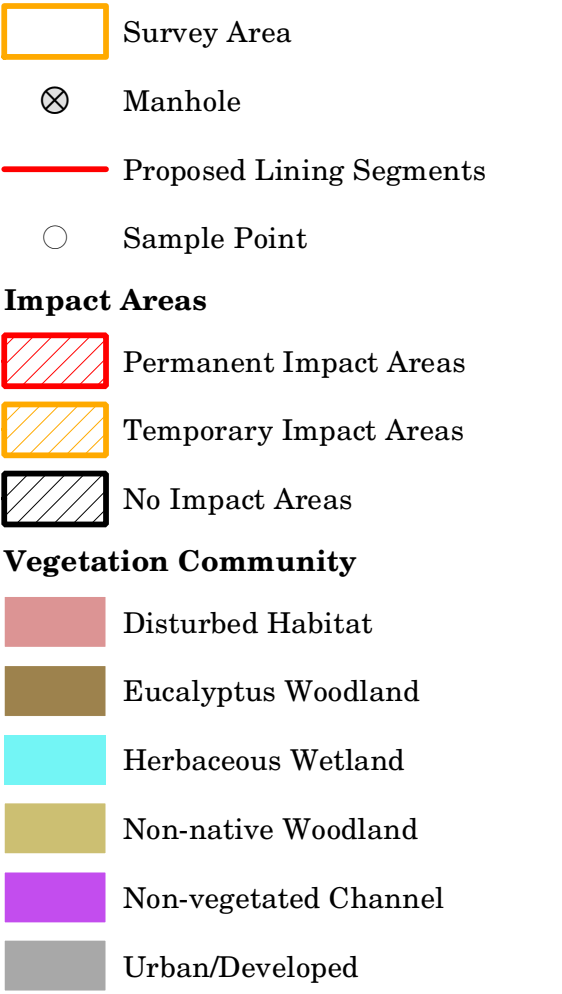
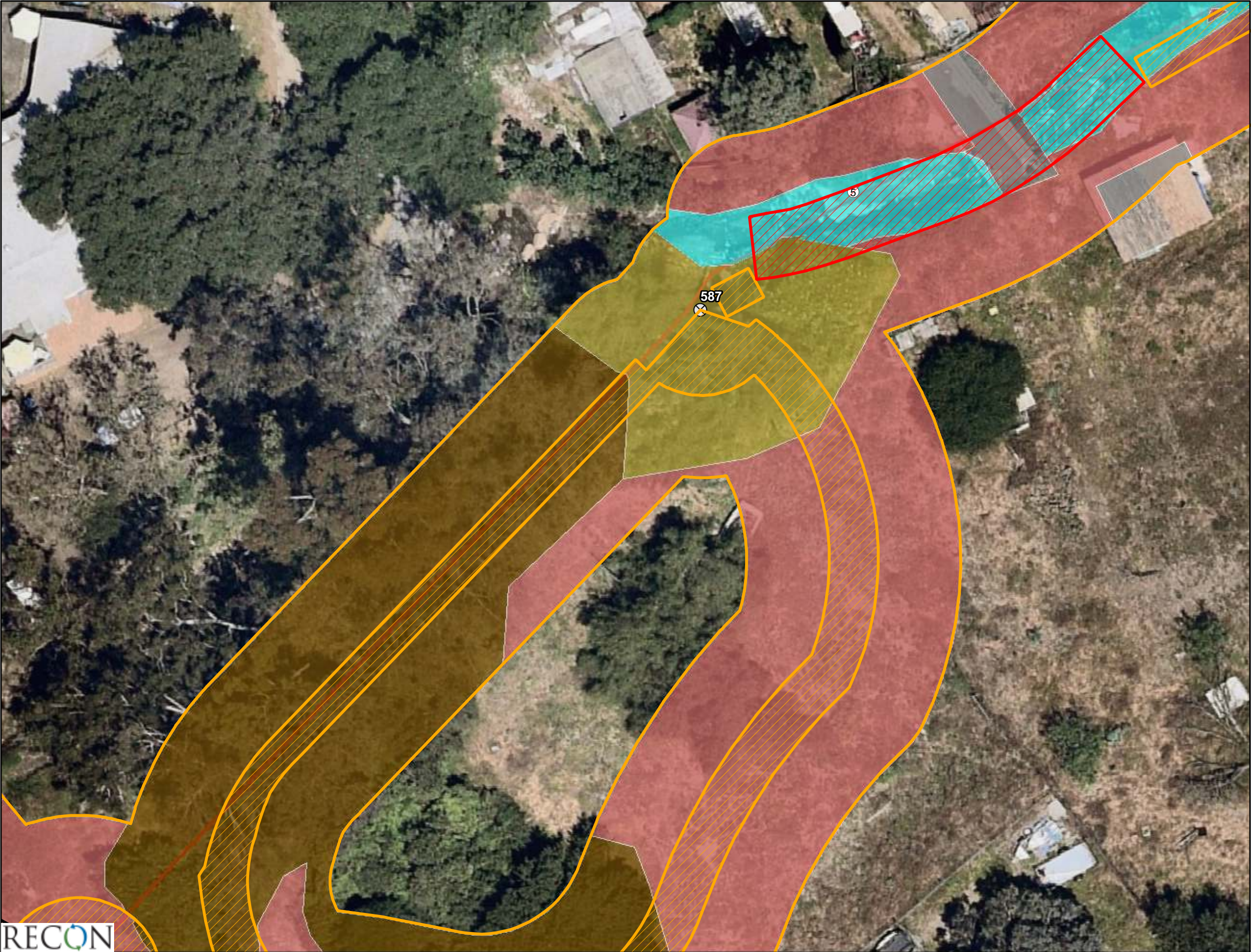


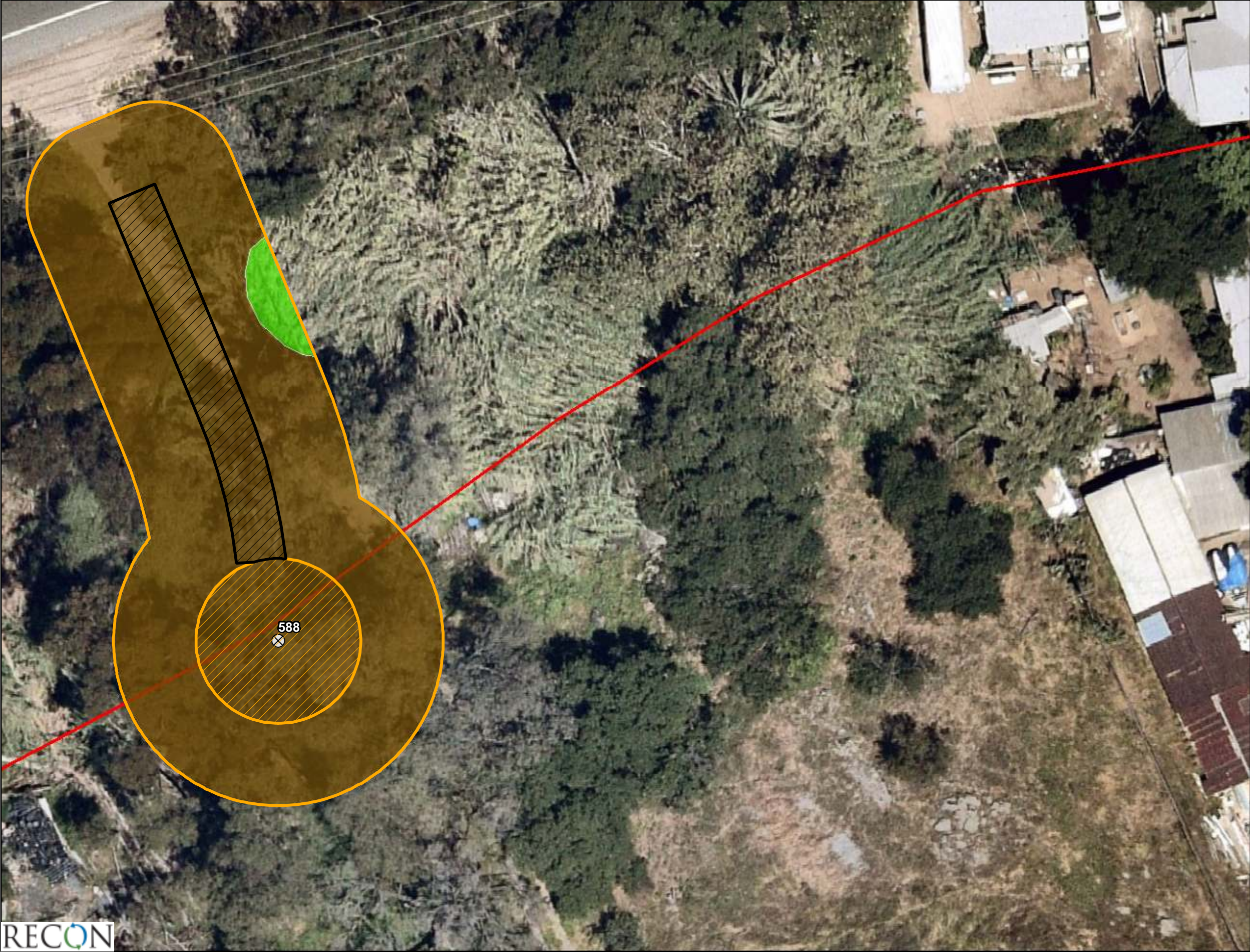
FIGURE 4
Existing Biological Resources



- Survey Area
- Proposed Lining Segments
- Sample Point
- Impact Areas**
 - Permanent Impact Areas
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Disturbed Habitat
 - Eucalyptus Woodland
 - Herbaceous Wetland
 - Non-native Woodland
 - Southern Riparian Forest
 - Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments

- Impact Areas**
- Temporary Impact Areas
 - No Impact Areas

- Vegetation Community**
- Eucalyptus Woodland
 - Non-native Riparian

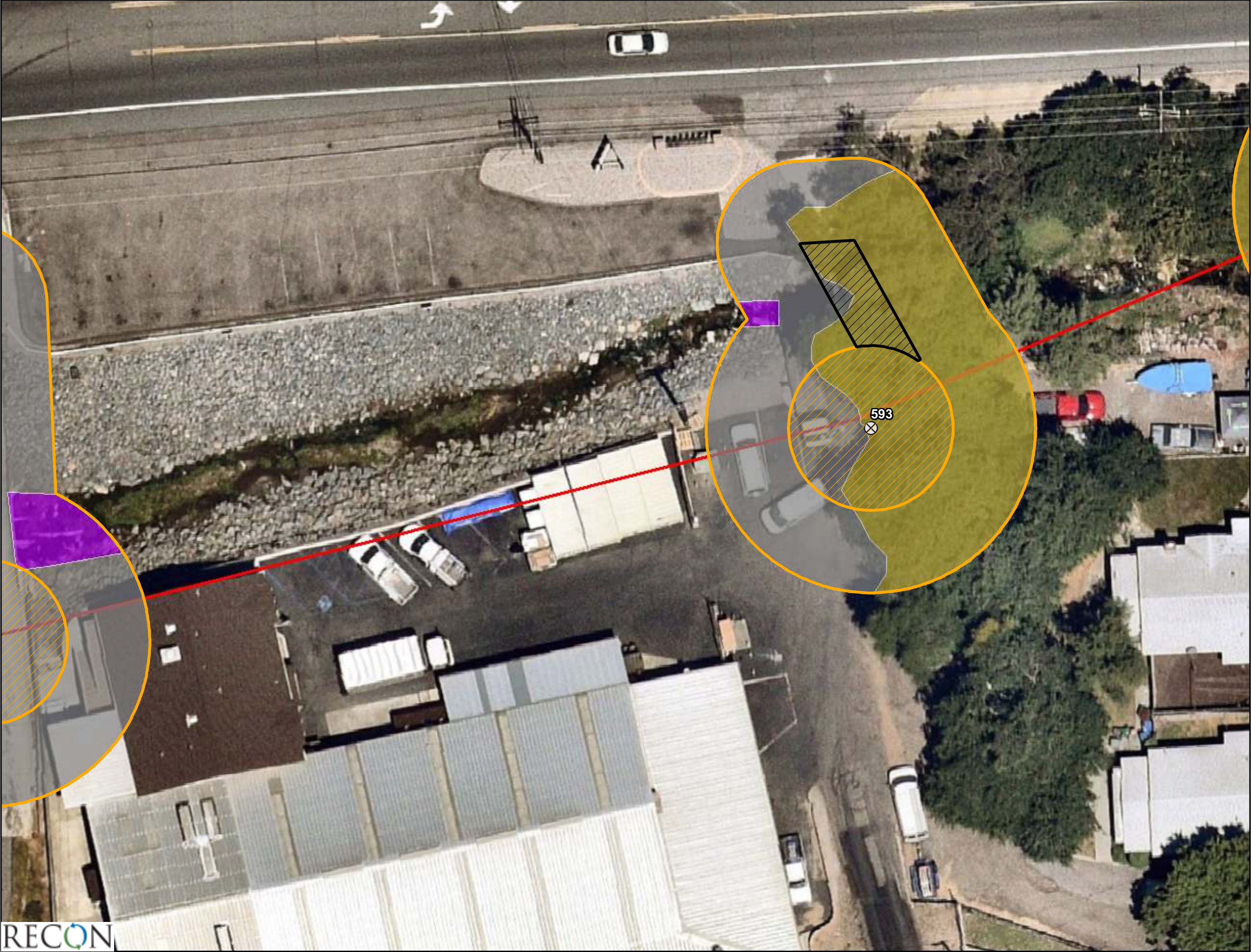


FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Sample Point
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Disturbed Habitat
 - Non-native Woodland
 - Non-vegetated Channel
 - Southern Riparian Forest
 - Urban/Developed

FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Non-native Woodland
 - Non-vegetated Channel
 - Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
- Temporary Impact Areas
- Vegetation Community**
- Disturbed Habitat
- Herbaceous Wetland
- Non-native Woodland
- Non-vegetated Channel
- Urban/Developed



FIGURE 4
Existing Biological Resources

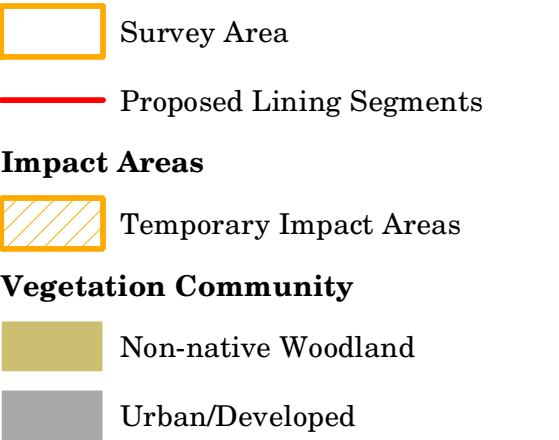
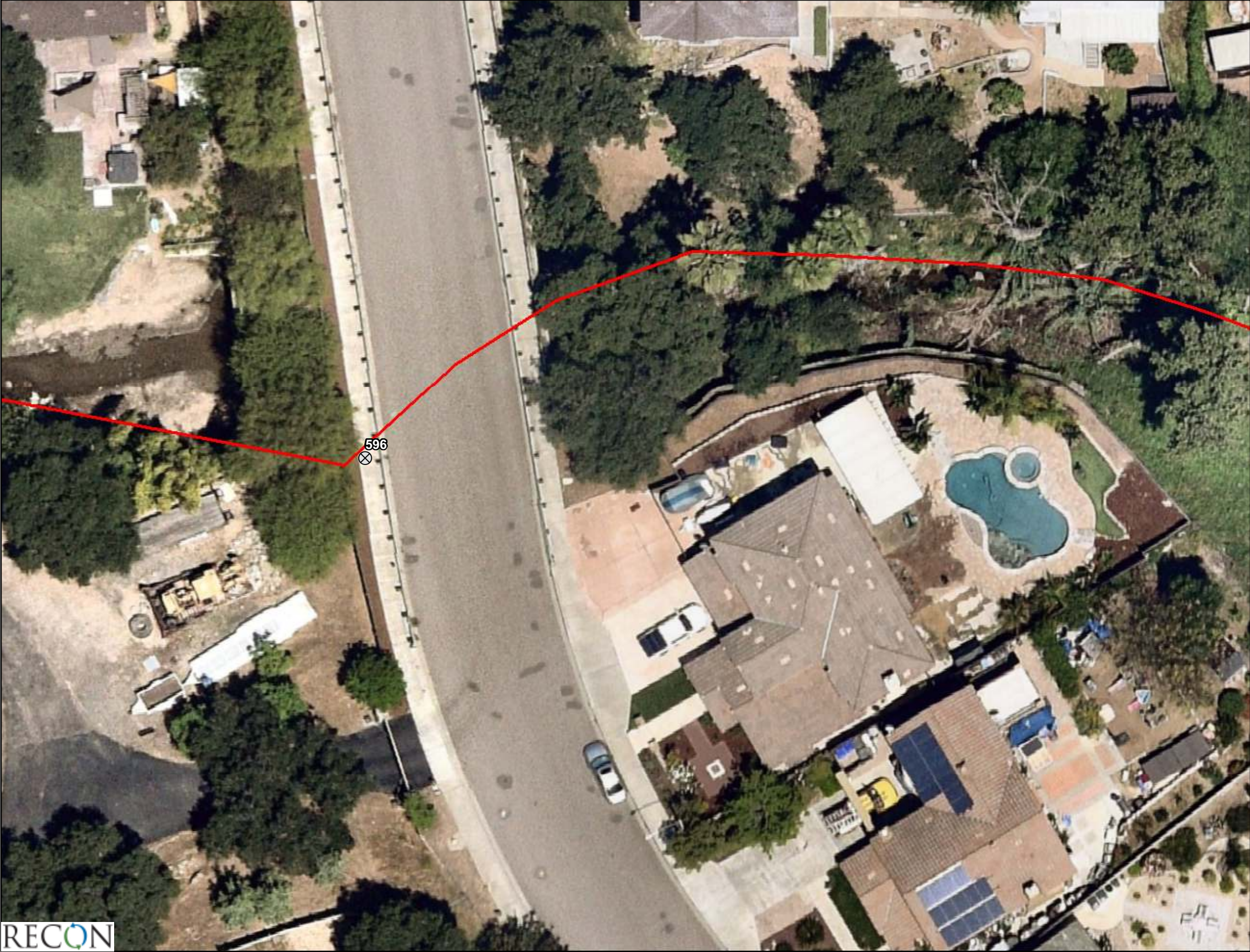


FIGURE 4
Existing Biological Resources



- ⊗ Manhole
- Proposed Lining Segments



FIGURE 4
Existing Biological Resources

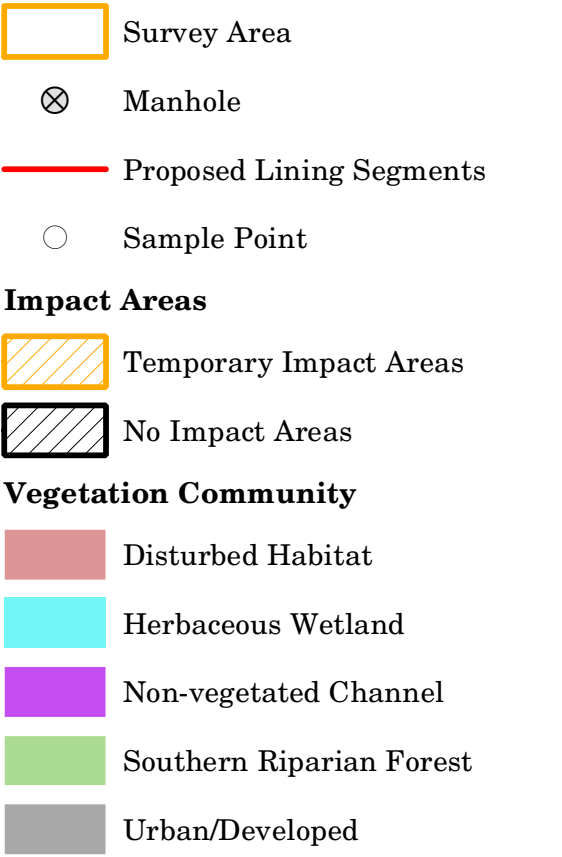
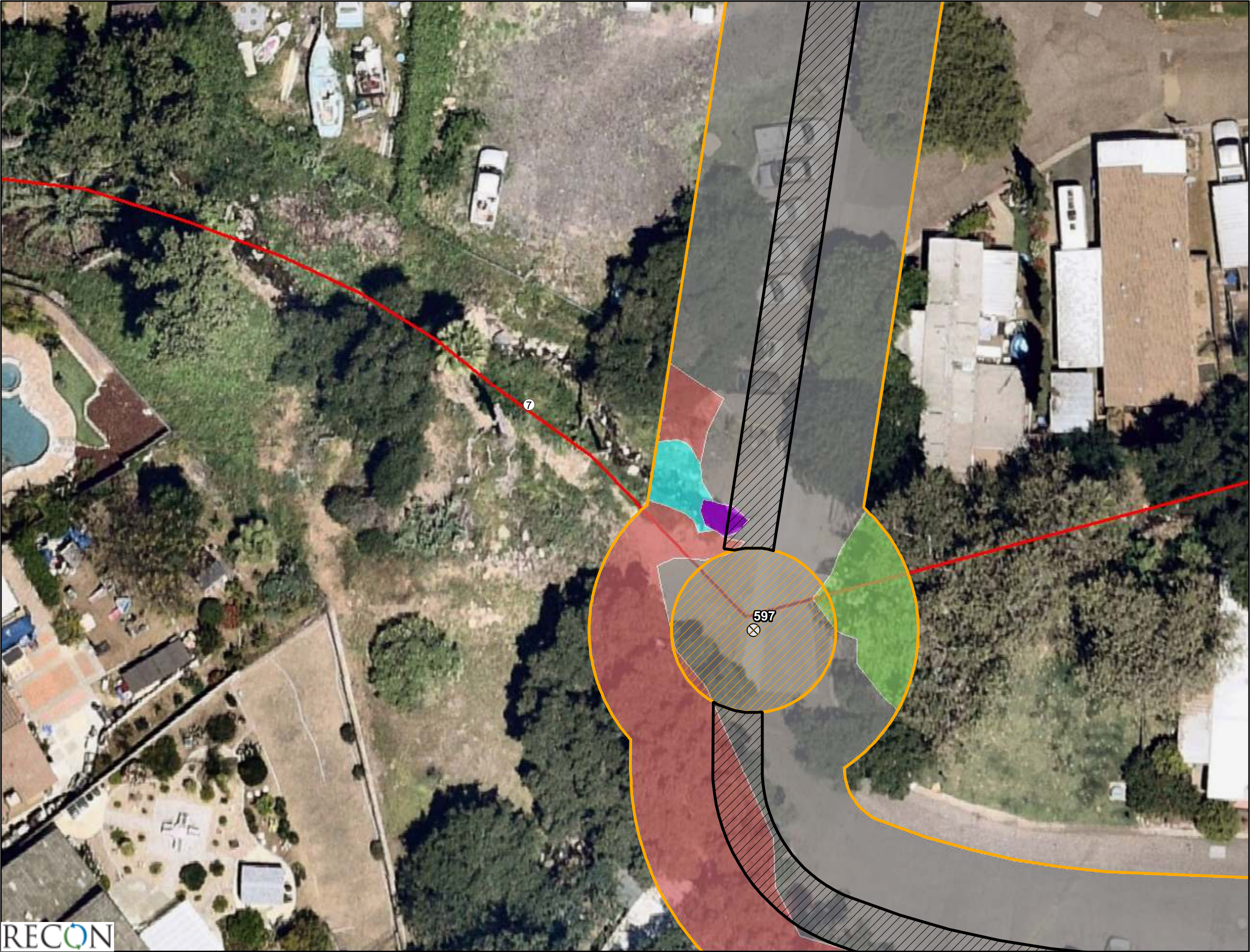





FIGURE 4
Existing Biological Resources



-  Survey Area
-  Proposed Lining Segments

Impact Areas

-  No Impact Areas

Vegetation Community


-  Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Coast Live Oak Riparian Forest
 - Disturbed Habitat
 - Southern Riparian Forest
 - Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Manhole
- Proposed Lining Segments
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Vegetation Community**
 - Coast Live Oak Riparian Forest
 - Disturbed Habitat
 - Non-vegetated Channel
 - Southern Riparian Forest
 - Urban/Developed



FIGURE 4
Existing Biological Resources



- Survey Area
- Impact Areas**
 - No Impact Areas
 - Proposed Lining Segments
- Jurisdictional Resources**
 - CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
 - Manhole
 - Proposed Lining Segments
- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
 - CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources

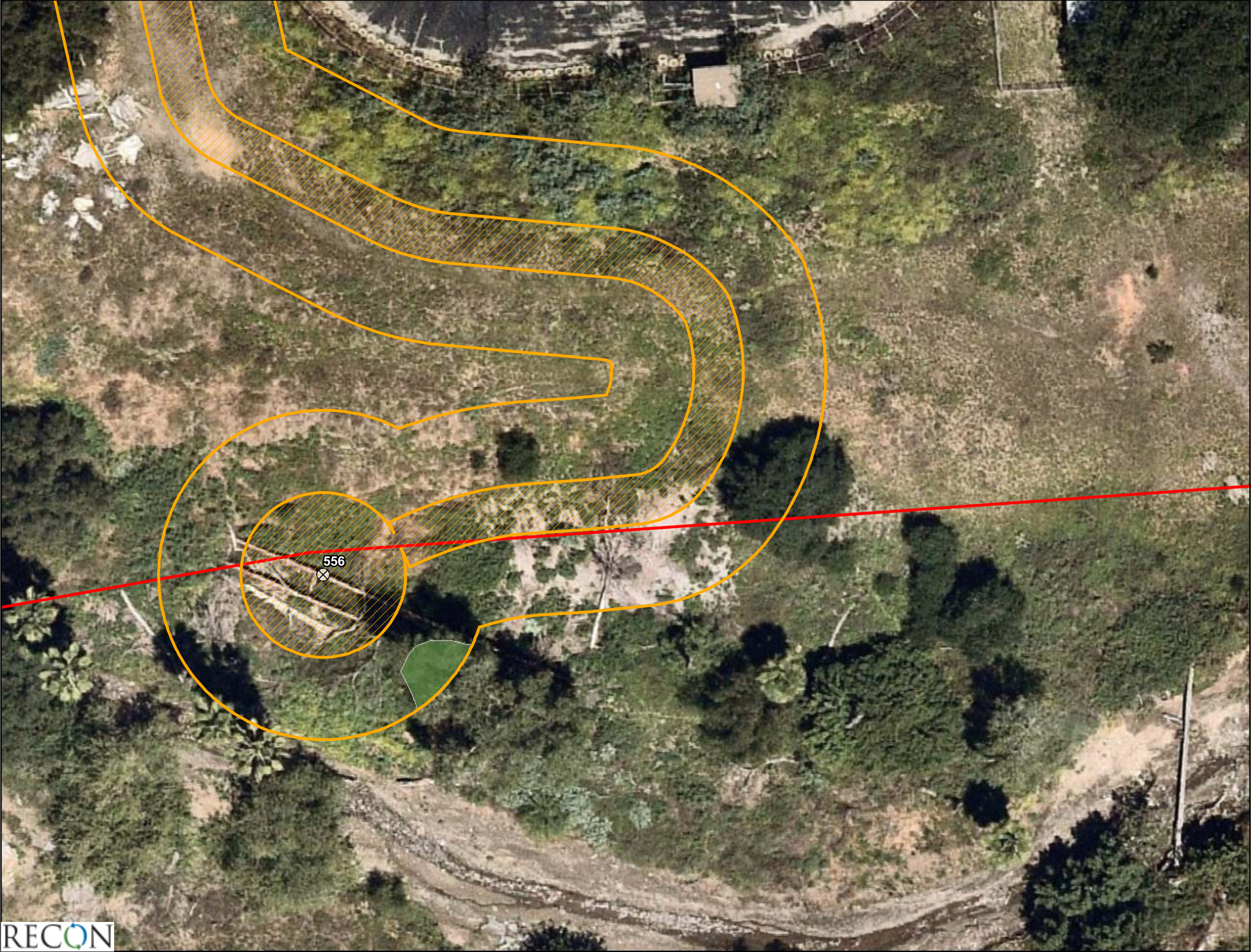


- Survey Area
- Impact Areas**
- Temporary Impact Areas
- Sample Transect
- Manhole
- Proposed Lining Segments

- Jurisdictional Resources**
- USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
- CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
- Temporary Impact Areas
- Manhole
- Proposed Lining Segments
- Jurisdictional Resources**
- CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources





-  Survey Area
- Impact Areas**
-  Temporary Impact Areas



FIGURE 5
Existing Jurisdictional Resources





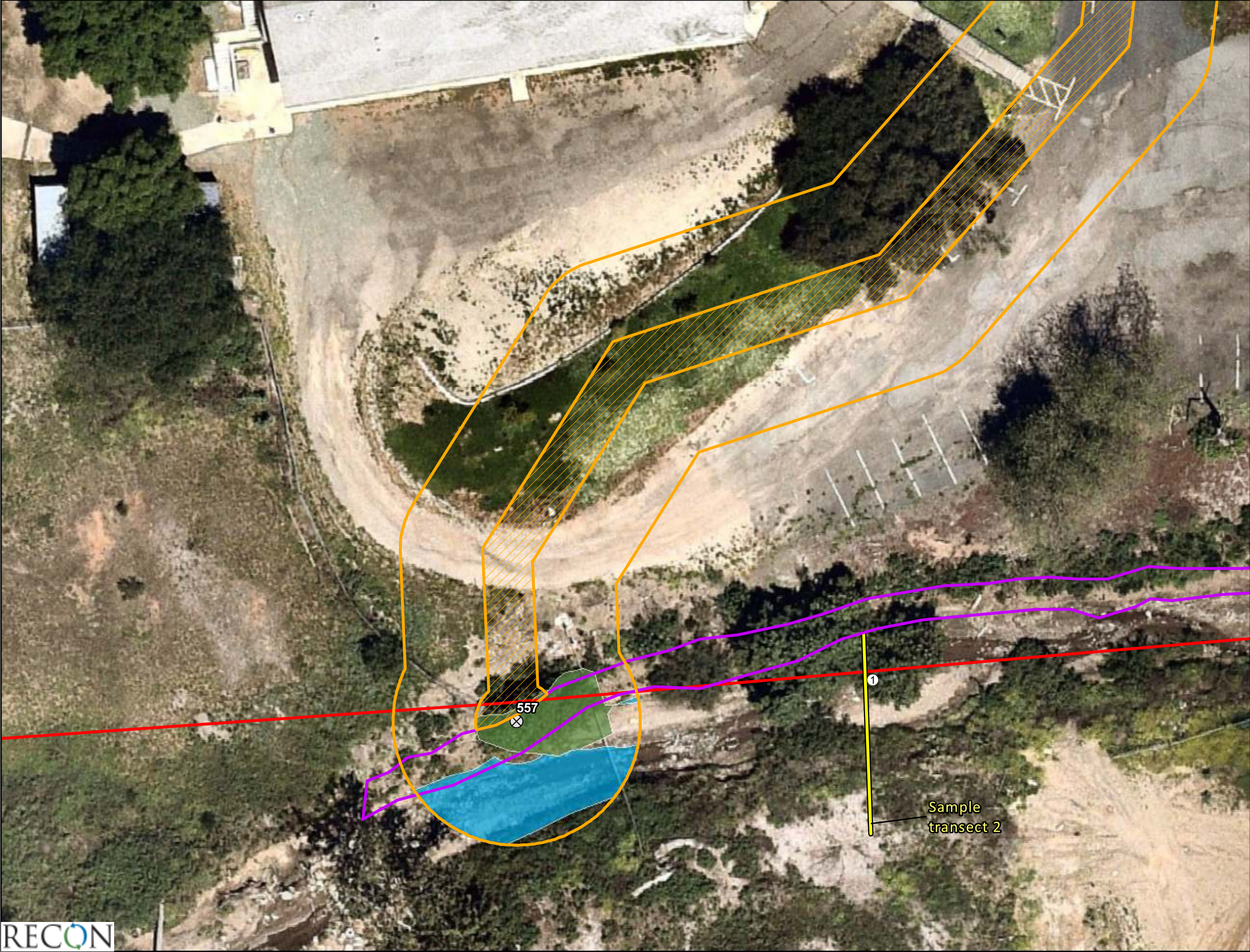
-  Survey Area
- Impact Areas**
-  Temporary Impact Areas



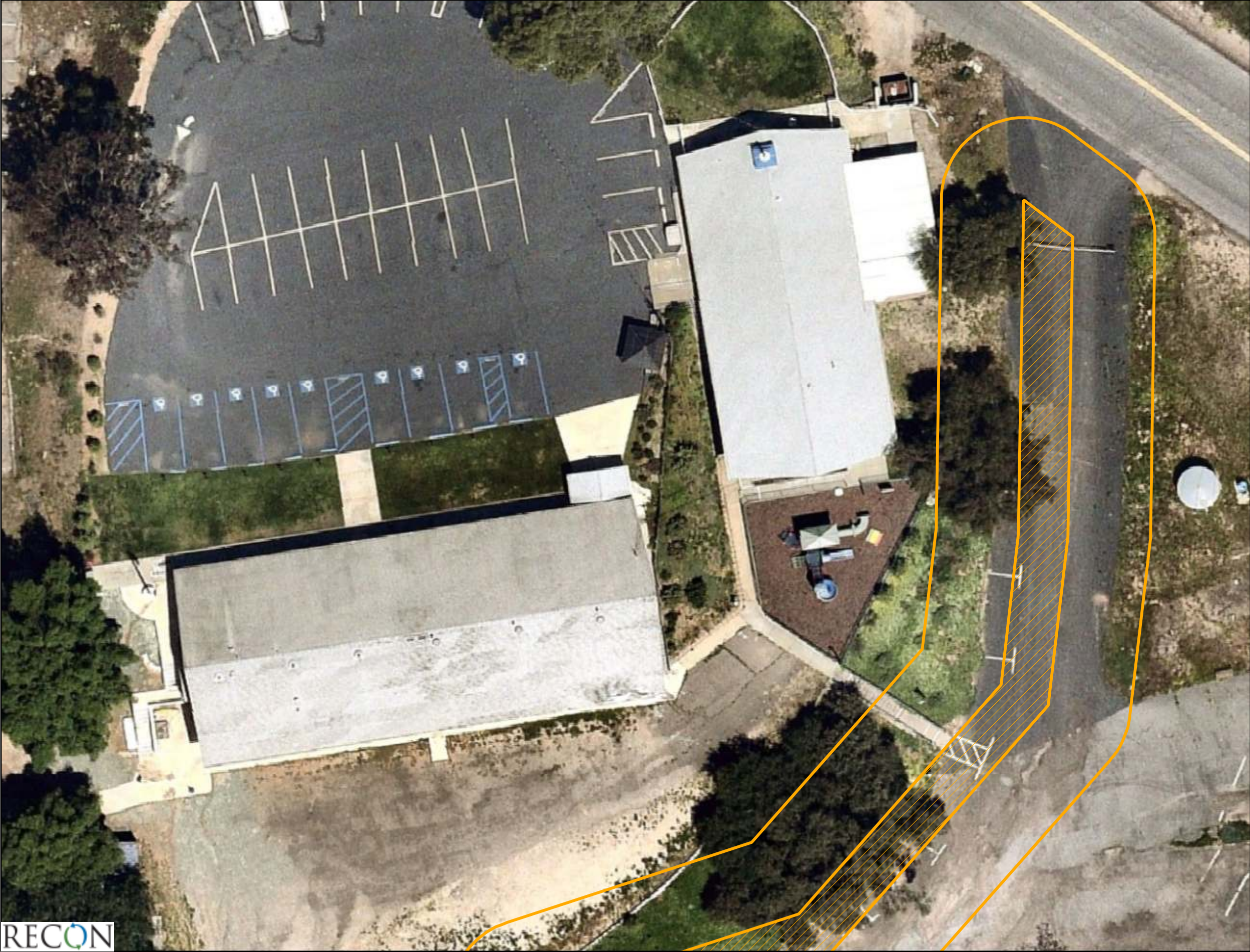
FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
- Temporary Impact Areas
- Mitigation Areas**
- Mitigation Area 2
- Sample Point
- Sample Transect
- Manhole
- Proposed Lining Segments

- Jurisdictional Resources**
- USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
- CDFW Riparian, RWQCB Wetland Waters of the State

FIGURE 5
Existing Jurisdictional Resources





-  Survey Area
- Impact Areas**
-  Temporary Impact Areas



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
- Mitigation Areas**
 - Mitigation Area 1
 - Mitigation Area 2
 - Sample Point
 - Manhole
 - Proposed Lining Segments
- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
 - USACE Wetland Waters of the U.S., CDFW Wetland, RWQCB Wetland
 - CDFW Riparian, RWQCB Wetland Waters of the State



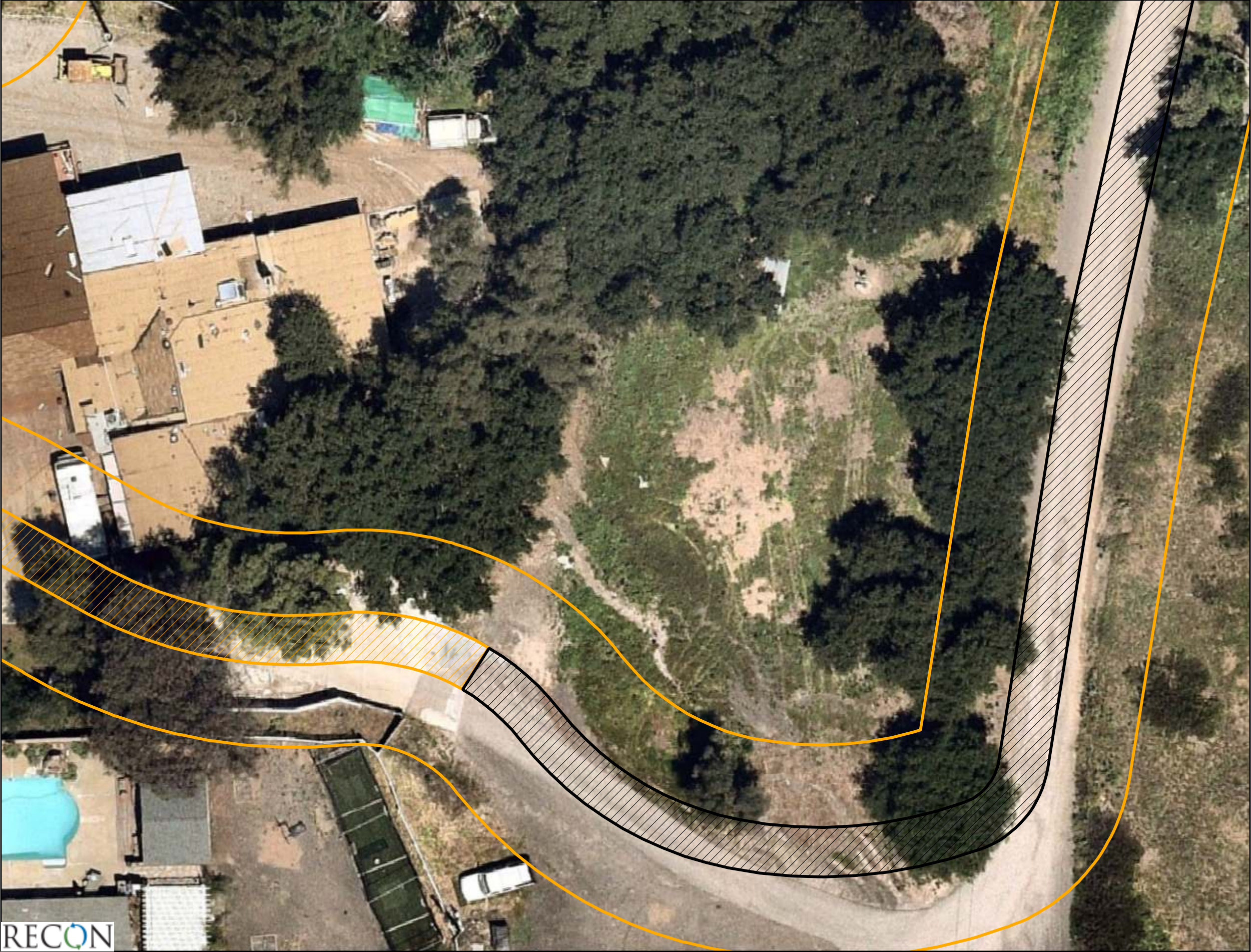
FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
- Temporary Impact Areas



FIGURE 5
Existing Jurisdictional Resources






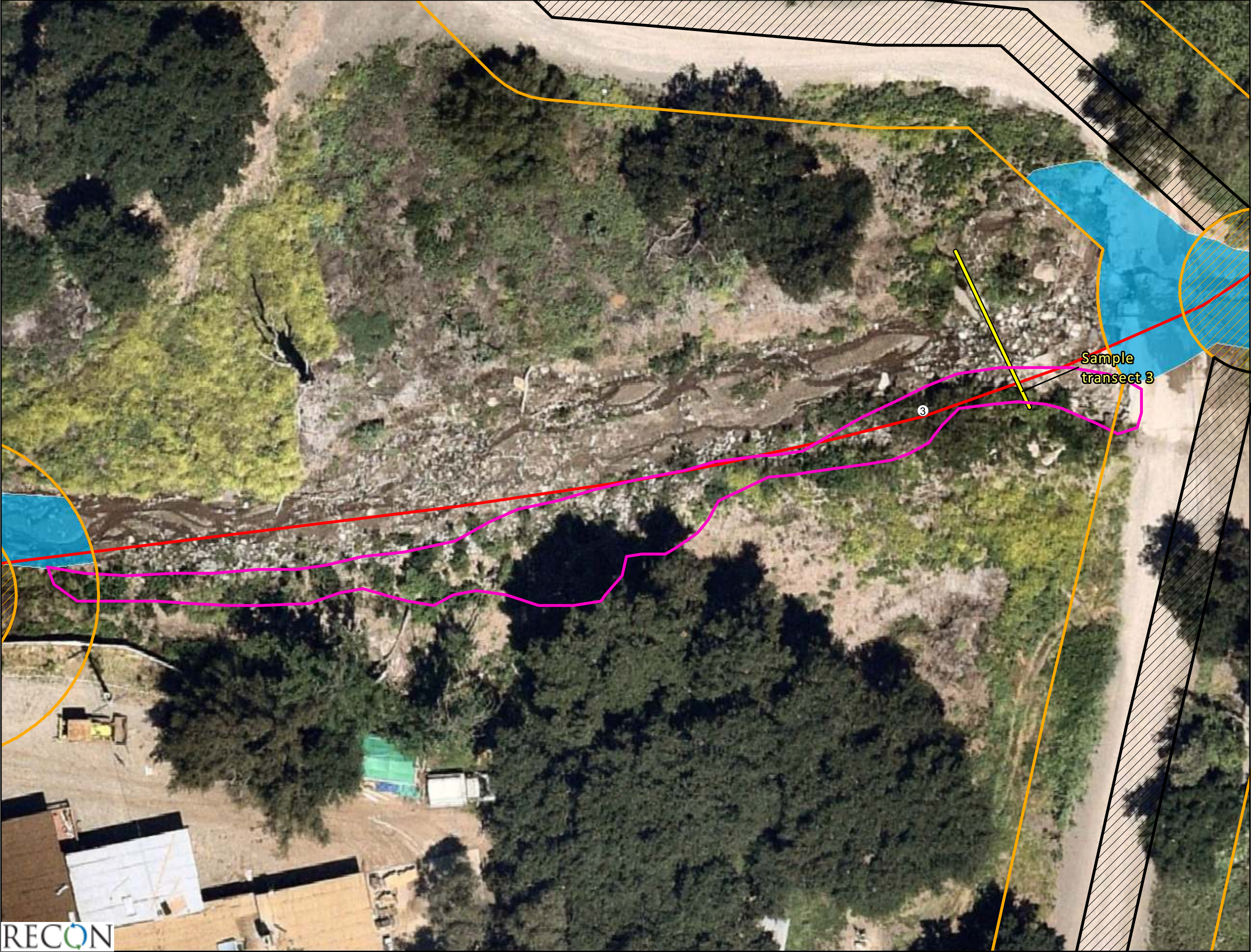
-  Survey Area
- Impact Areas**
-  Temporary Impact Areas
-  No Impact Areas



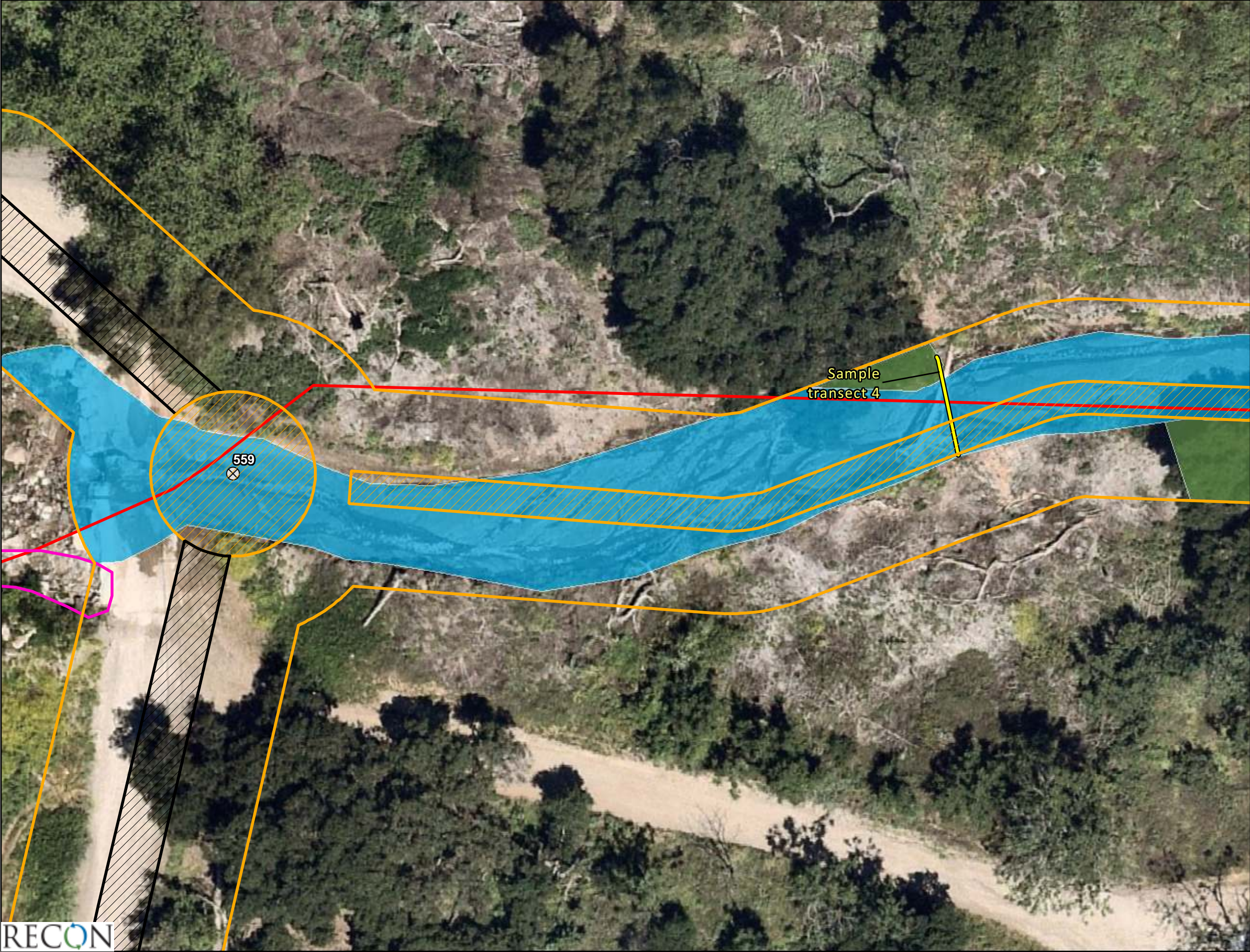
FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Mitigation Areas**
 - Mitigation Area 1
 - Sample Point
- Sample Transect
- Proposed Lining Segments
- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB
 - Non-Wetland Waters of the State



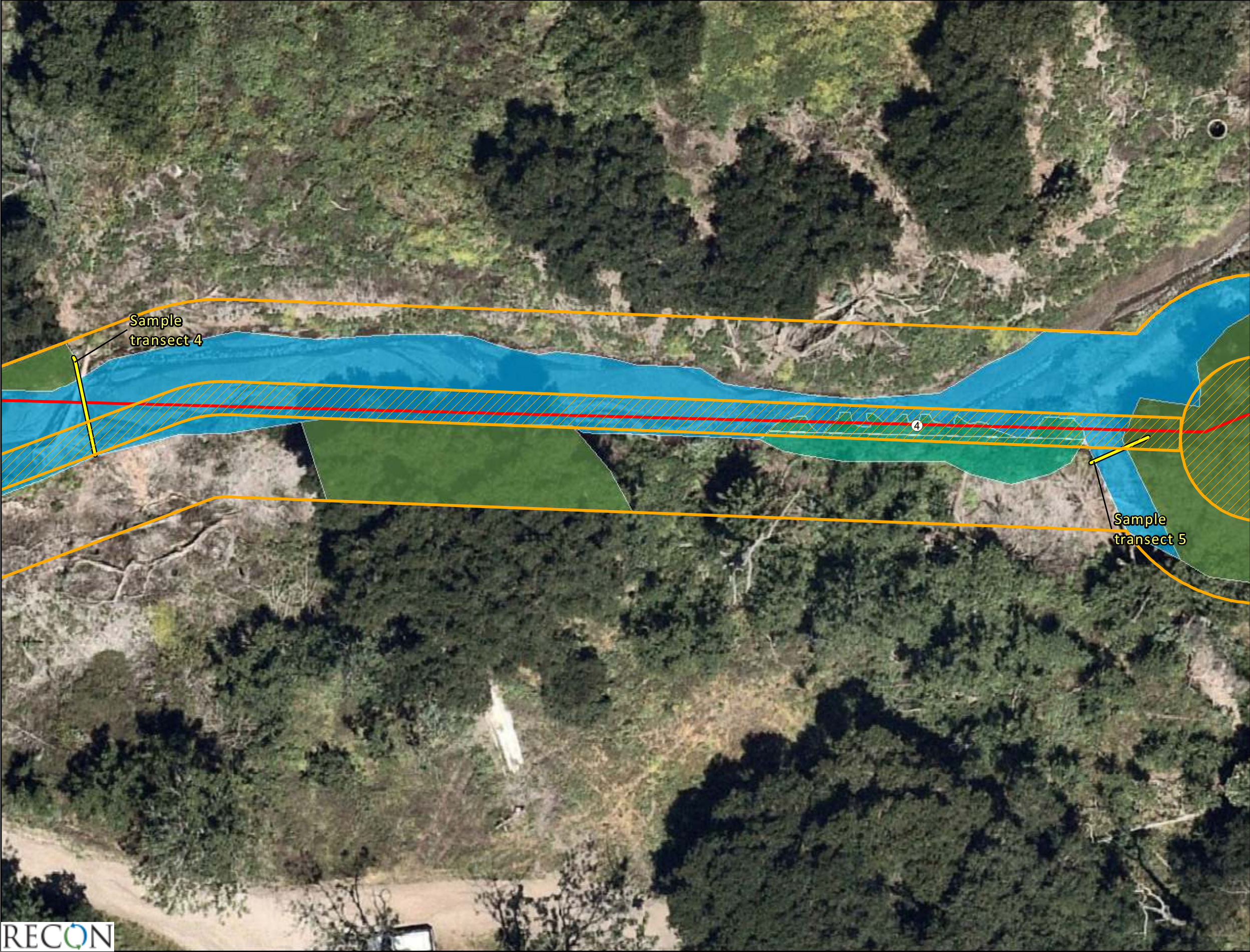
FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Mitigation Areas**
 - Mitigation Area 1
- Sample Transect
- Manhole
- Proposed Lining Segments
- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
 - CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources

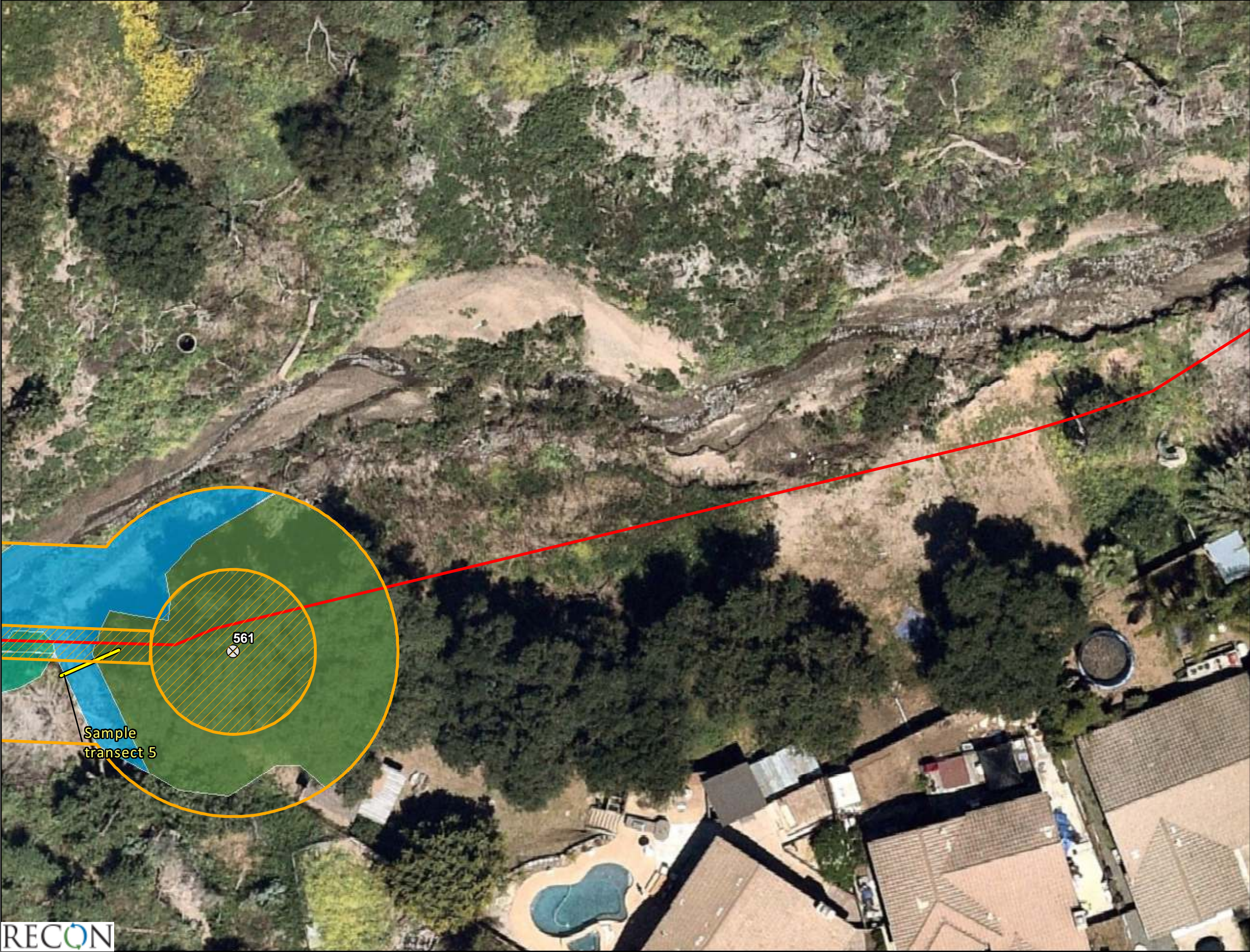


- Survey Area
- Impact Areas**
- Temporary Impact Areas
- Sample Point
- Sample Transect
- Proposed Lining Segments

- Jurisdictional Resources**
- USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
- USACE Wetland Waters of the U.S., CDFW Wetland, RWQCB Wetland
- CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
 - Sample Transect
 - Manhole
 - Proposed Lining Segments
- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
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FIGURE 5
Existing Jurisdictional Resources







-  Survey Area
- Impact Areas**
-  No Impact Areas
-  Manhole
-  Proposed Lining Segments



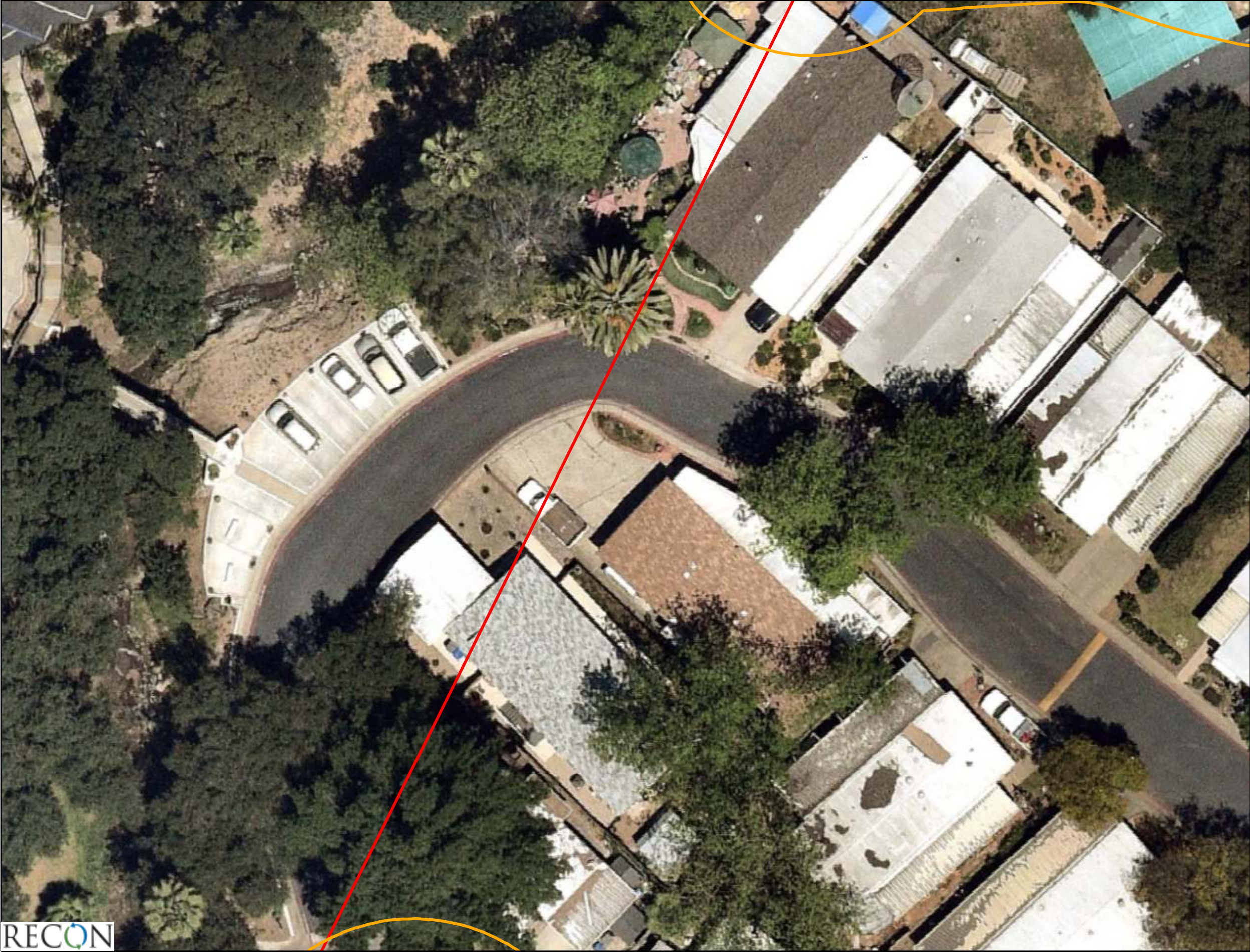
FIGURE 5
Existing Jurisdictional Resources





- Survey Area
- Impact Areas**
 - No Impact Areas
 - Manhole
 - Proposed Lining Segments
- Jurisdictional Resources**
 - CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



-  Survey Area
-  Proposed Lining Segments

0 Feet 20



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Manhole
- Proposed Lining Segments
- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources

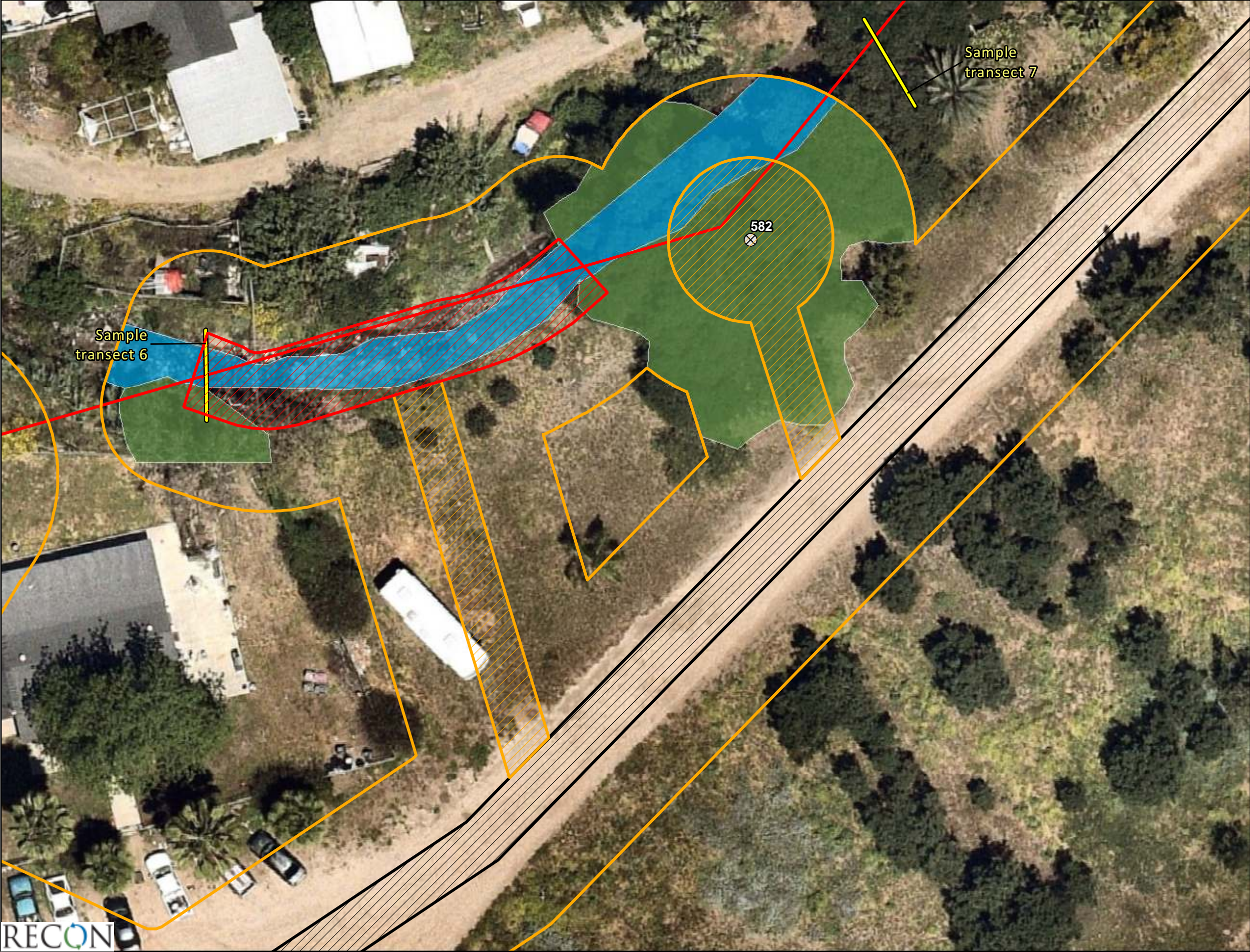


- Survey Area
- Impact Areas**
 - Permanent Impact Areas
 - Temporary Impact Areas
 - No Impact Areas
- Sample Transect
- Manhole
- Proposed Lining Segments

- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
 - CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources

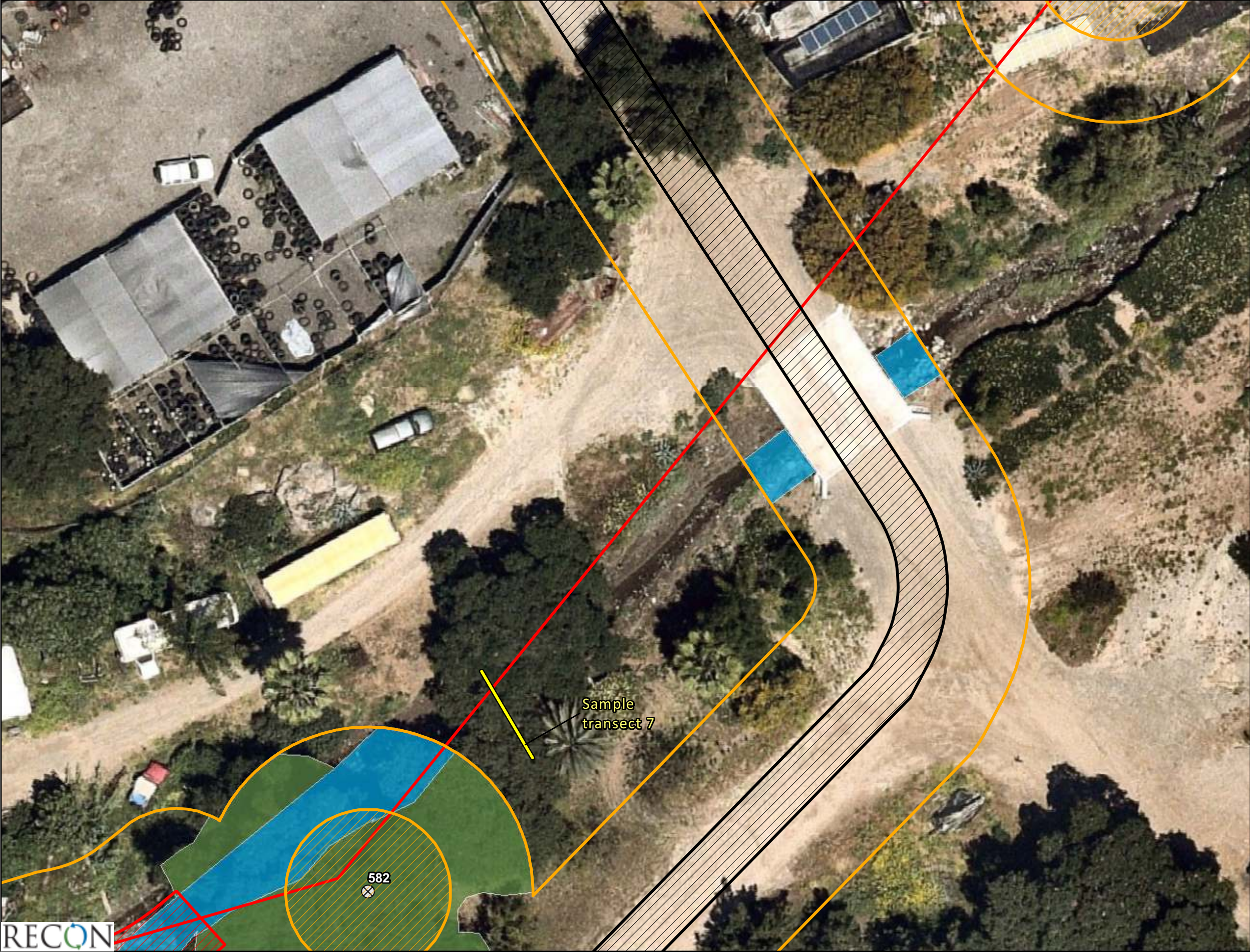


- Survey Area
- Impact Areas**
 - Permanent Impact Areas
 - Temporary Impact Areas
 - No Impact Areas
- Sample Transect
- Manhole
- Proposed Lining Segments

- Jurisdictional Resources**
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 - CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
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 - Temporary Impact Areas
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- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
 - CDFW Riparian, RWQCB Wetland Waters of the State



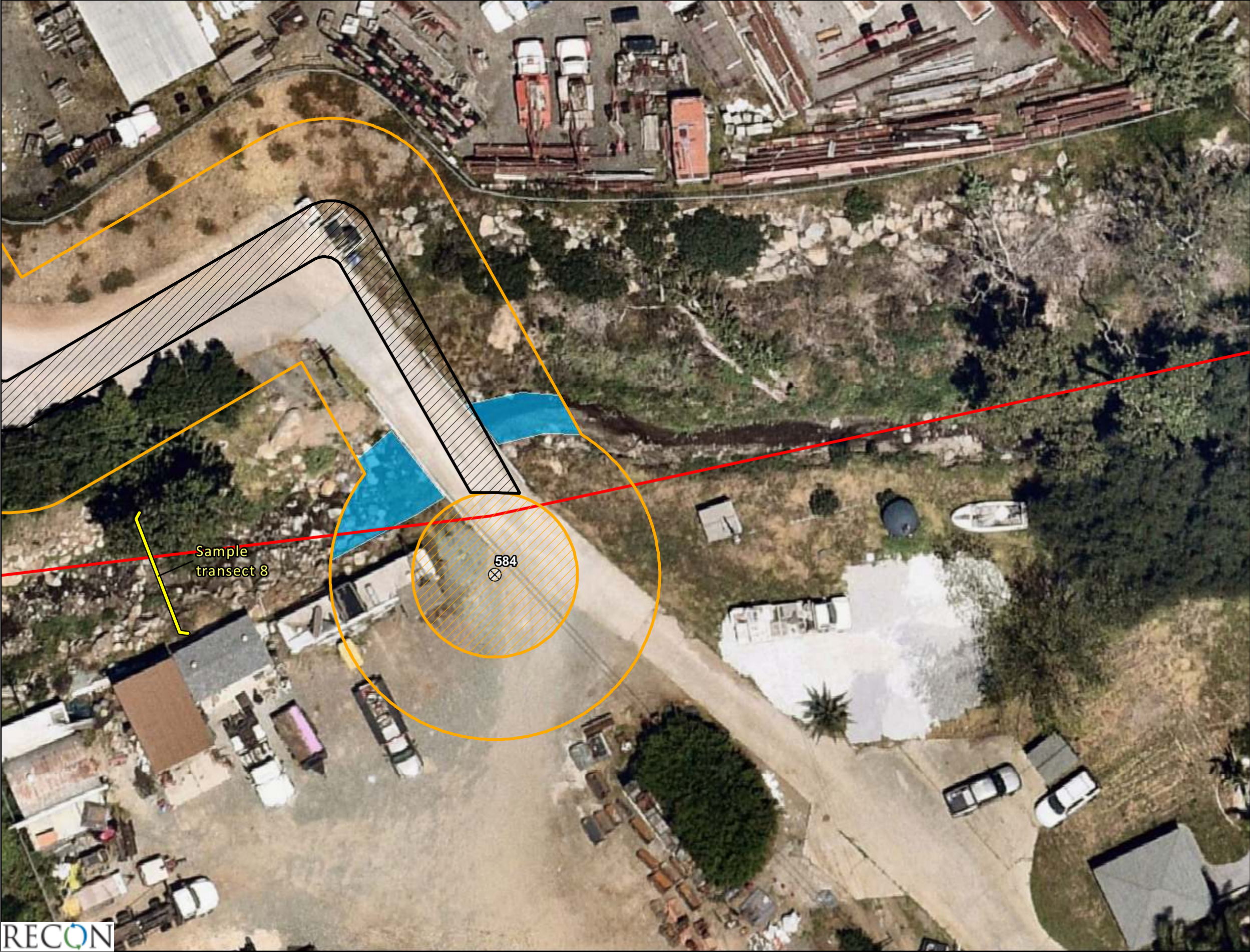
FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
- Temporary Impact Areas
- No Impact Areas
- Sample Transect
- Manhole
- Proposed Lining Segments



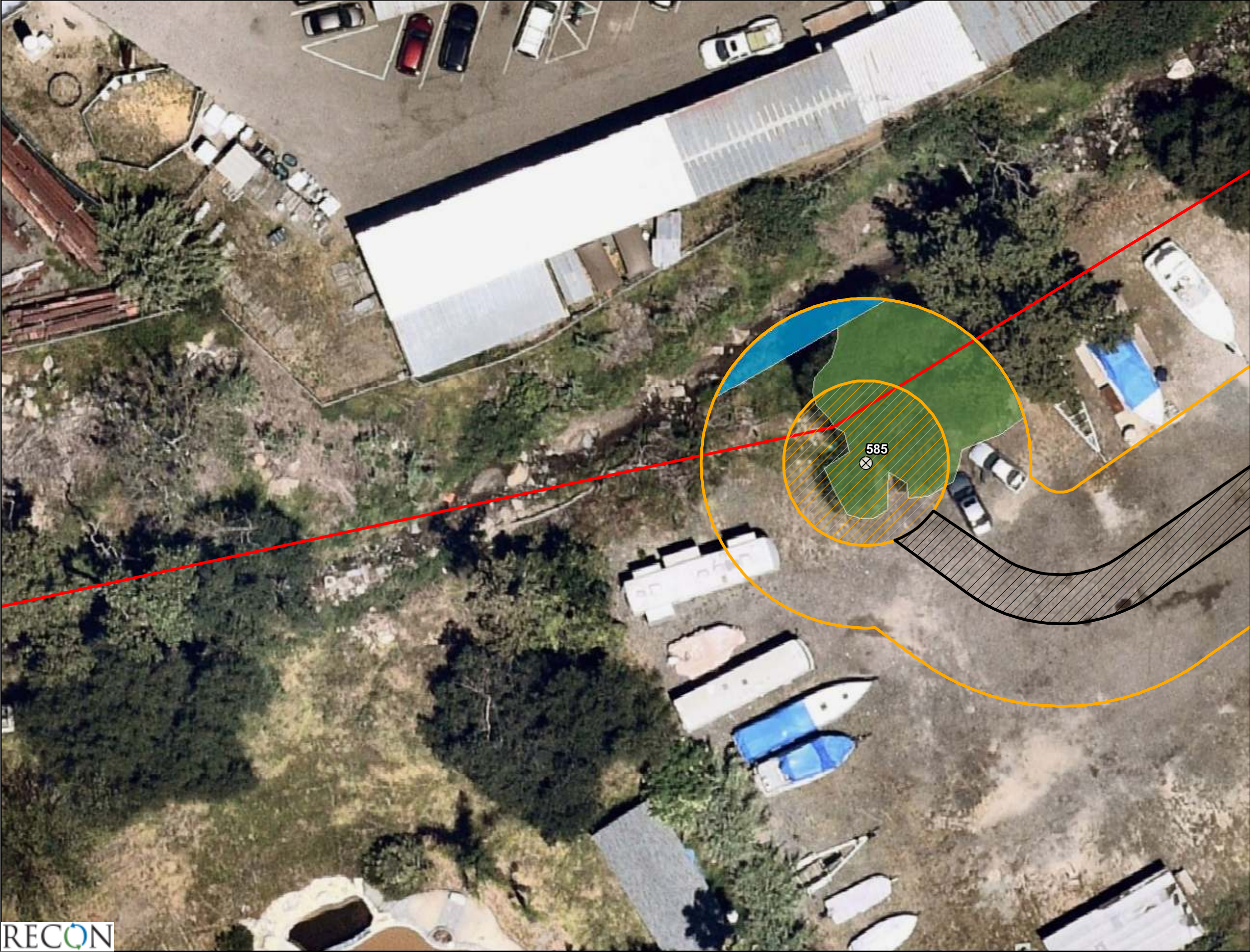
FIGURE 5
Existing Jurisdictional Resources



- Survey Area
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- Sample Transect
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- Proposed Lining Segments
- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State



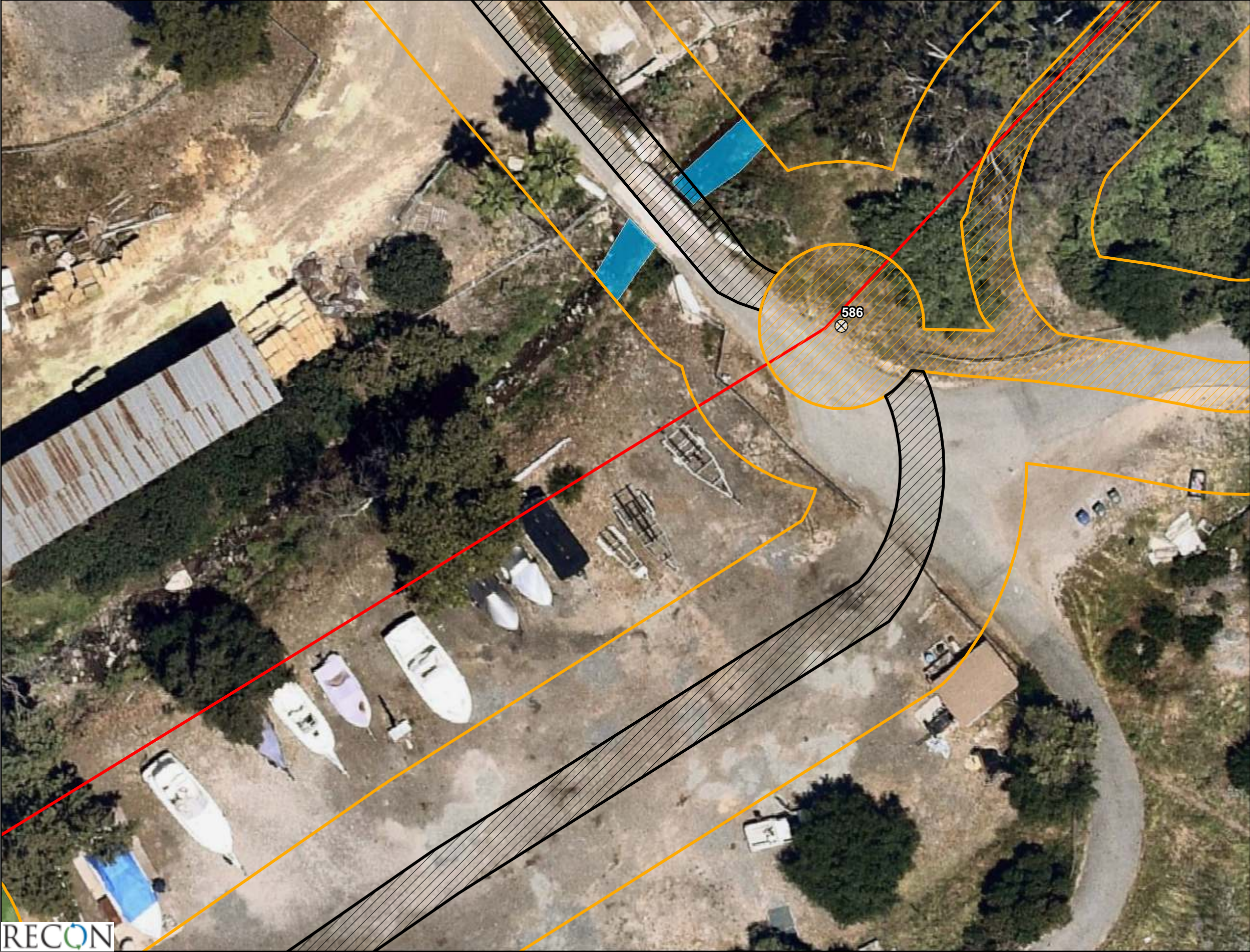
FIGURE 5
Existing Jurisdictional Resources



- Survey Area
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- Jurisdictional Resources**
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 - CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
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- Temporary Impact Areas
- No Impact Areas
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- Jurisdictional Resources**
- USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
- CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
- Temporary Impact Areas
- Proposed Lining Segments



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Permanent Impact Areas
 - Temporary Impact Areas
 - No Impact Areas
- Sample Point
- Manhole
- Proposed Lining Segments

- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
 - USACE Wetland Waters of the U.S., CDFW Wetland, RWQCB Wetland



FIGURE 5
Existing Jurisdictional Resources



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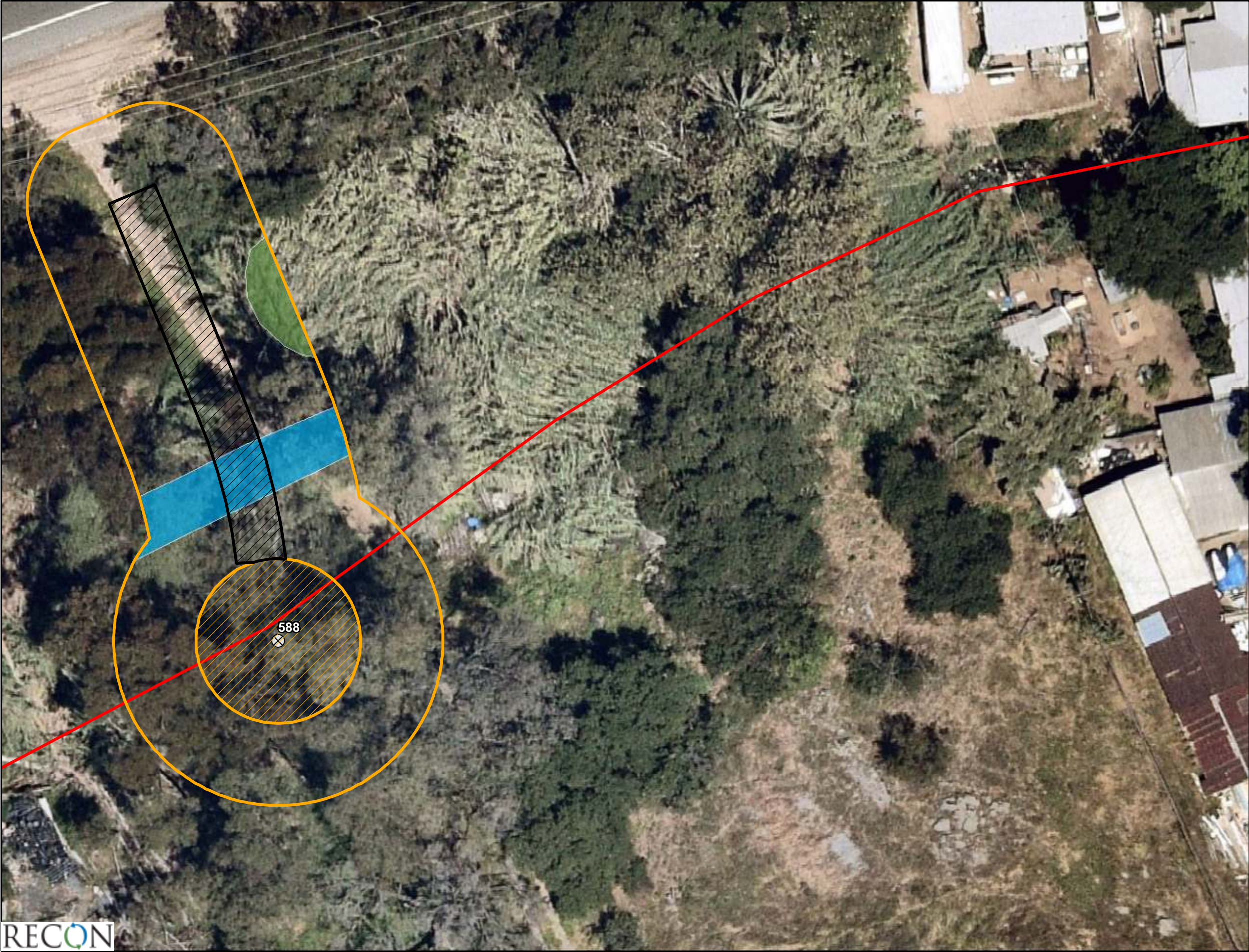


- Survey Area
- Impact Areas**
 - Permanent Impact Areas
 - Temporary Impact Areas
 - No Impact Areas
 - Sample Point
- Proposed Lining Segments

- Jurisdictional Resources**
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 - USACE Wetland Waters of the U.S., CDFW Wetland, RWQCB Wetland
 - CDFW Riparian, RWQCB Wetland Waters of the State



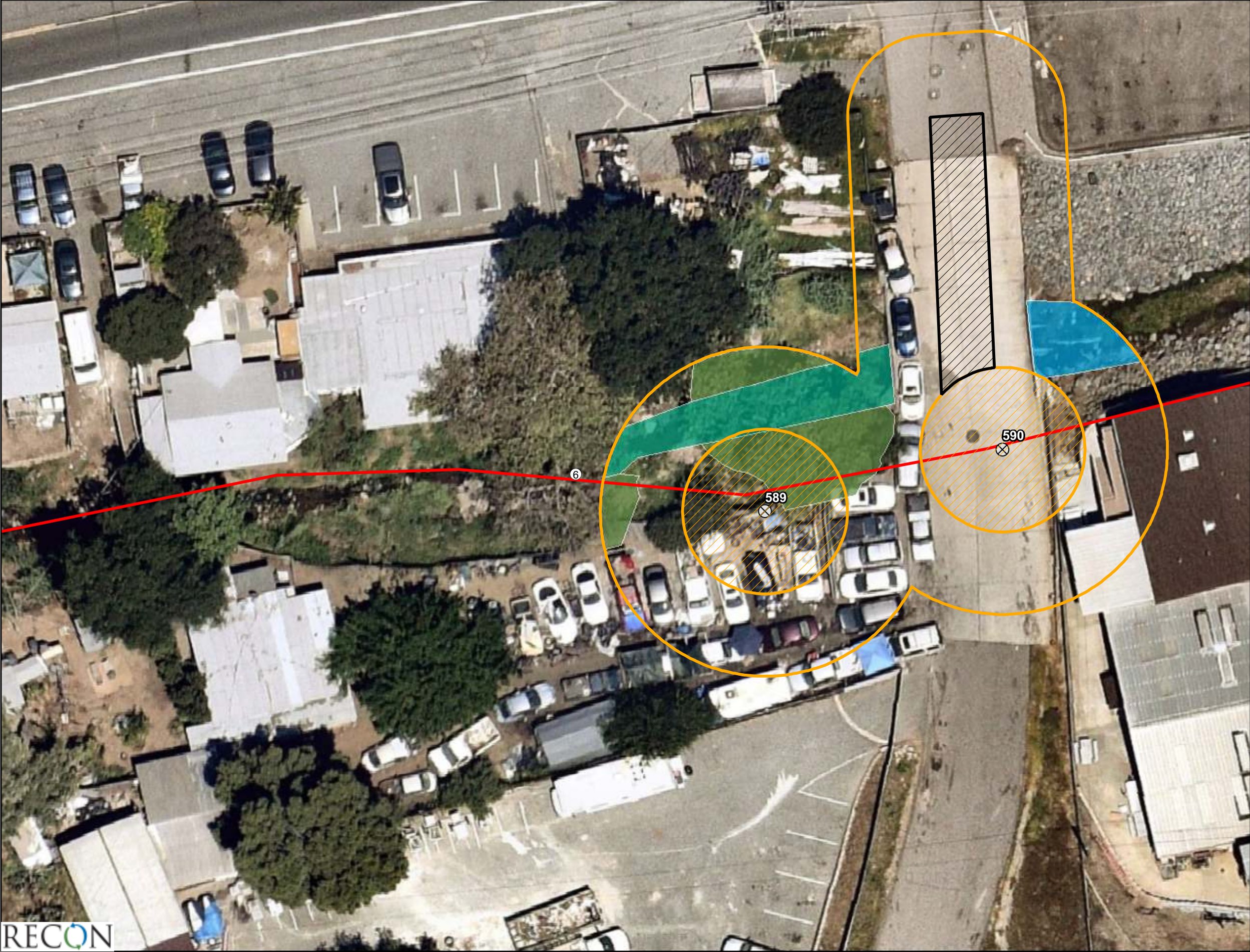
FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
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 - Proposed Lining Segments
- Jurisdictional Resources**
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FIGURE 5
Existing Jurisdictional Resources

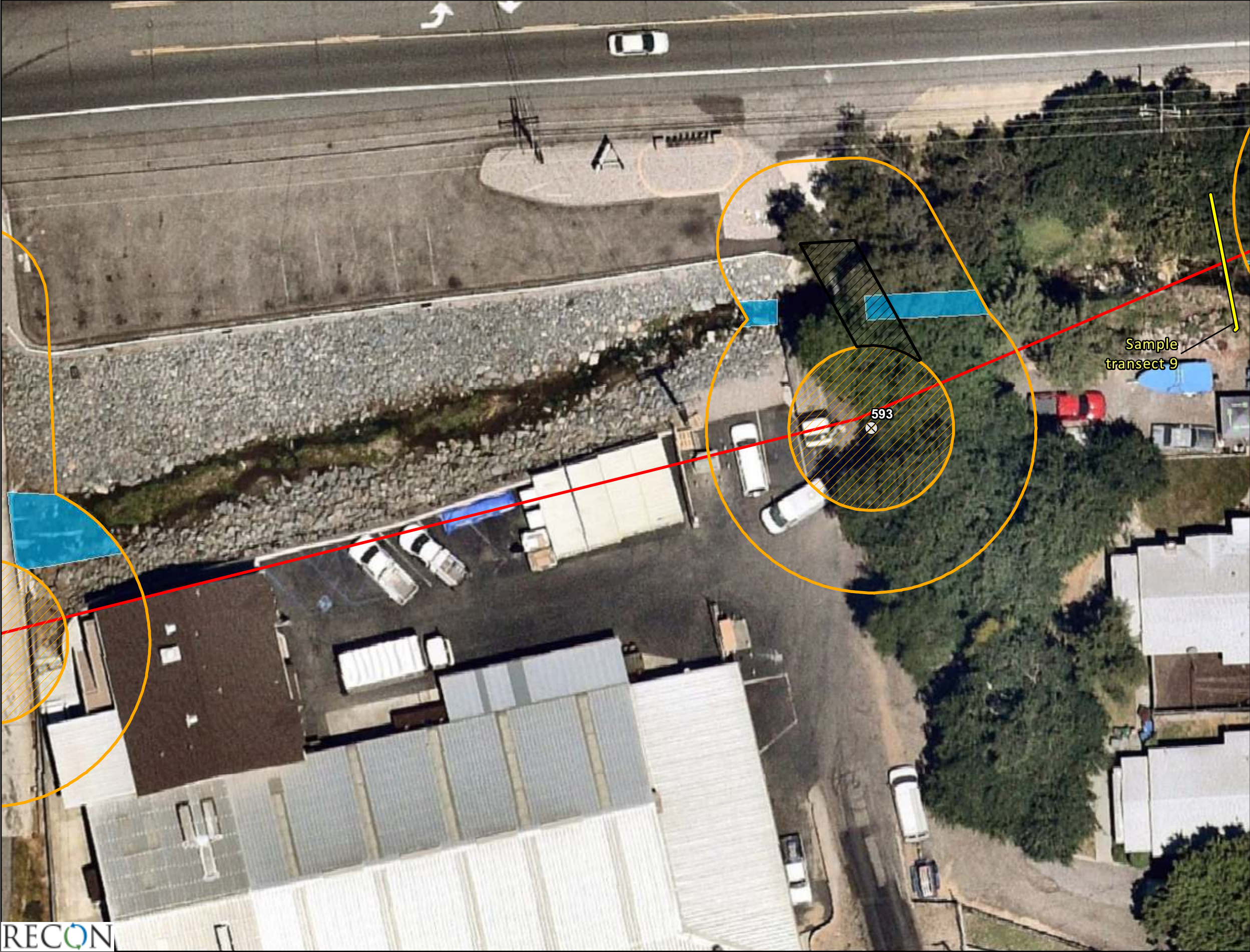


- Survey Area
- Impact Areas**
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 - Sample Point
 - Manhole
 - Proposed Lining Segments

- Jurisdictional Resources**
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 - USACE Wetland Waters of the U.S., CDFW Wetland, RWQCB Wetland
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FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Sample Transect
- Manhole
- Proposed Lining Segments
- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
- Temporary Impact Areas
- Sample Transect
- Manhole
- Proposed Lining Segments
- Jurisdictional Resources**
- USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
- USACE Wetland Waters of the U.S., CDFW Wetland, RWQCB Wetland



FIGURE 5
Existing Jurisdictional Resources







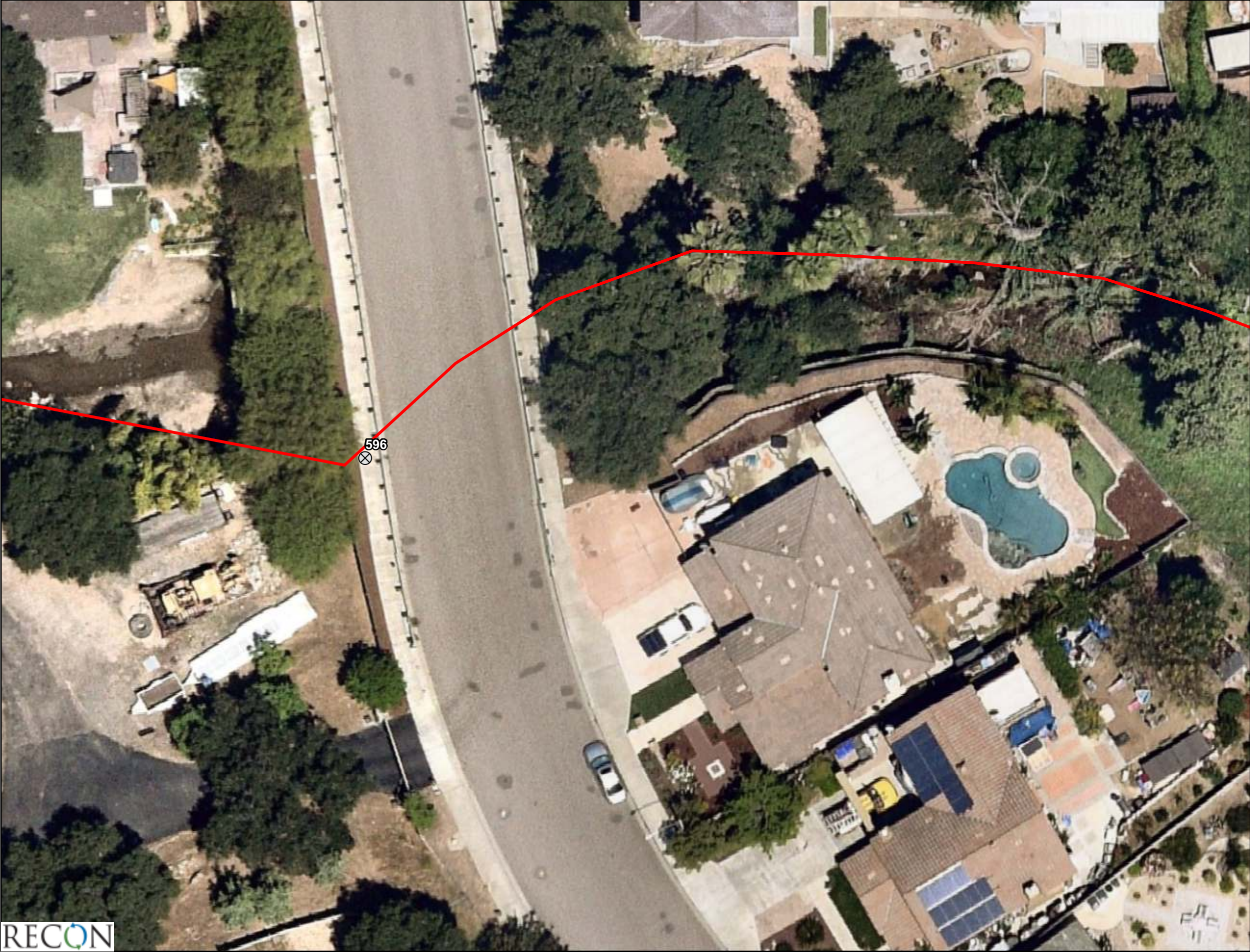
-  Survey Area
- Impact Areas**
-  Temporary Impact Areas
-  Proposed Lining Segments
- Jurisdictional Resources**
-  USACE Wetland Waters of the U.S.,
CDFW Wetland, RWQCB Wetland



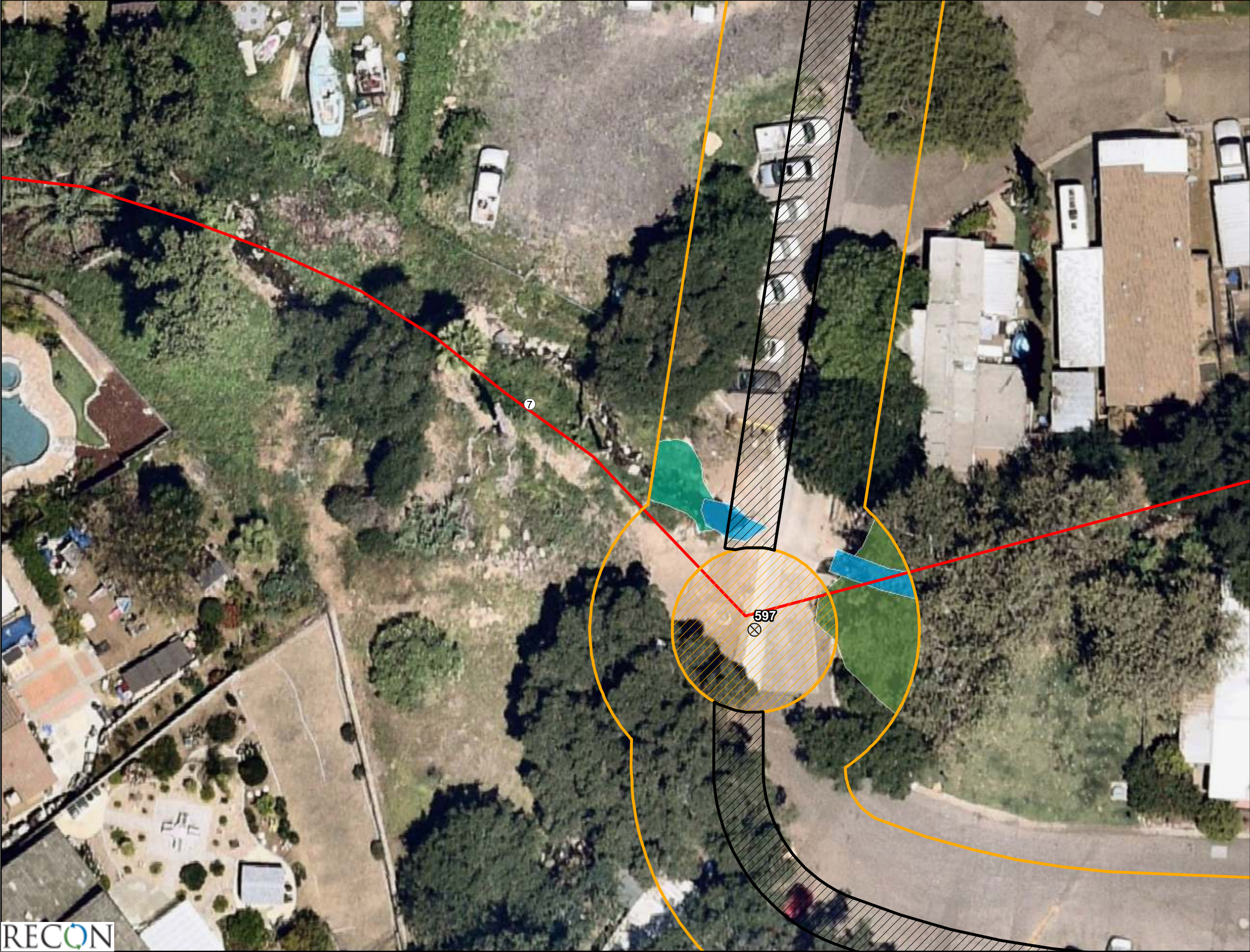
FIGURE 5
Existing Jurisdictional Resources



- ⊗ Manhole
- Proposed Lining Segments



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Sample Point
- Manhole
- Proposed Lining Segments

- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
 - USACE Wetland Waters of the U.S., CDFW Wetland, RWQCB Wetland
 - CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
- No Impact Areas
- Sample Transect
- Proposed Lining Segments



FIGURE 5
Existing Jurisdictional Resources



- Survey Area
- Impact Areas**
 - Temporary Impact Areas
 - No Impact Areas
- Sample Transect
- Manhole
- Proposed Lining Segments
- Jurisdictional Resources**
 - USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
 - CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources



RECON

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- Survey Area
- Impact Areas**
- Temporary Impact Areas
- No Impact Areas
- Manhole
- Proposed Lining Segments
- Jurisdictional Resources**
- USACE Non-Wetland Waters of the U.S., CDFW Streambed, RWQCB Non-Wetland Waters of the State
- CDFW Riparian, RWQCB Wetland Waters of the State



FIGURE 5
Existing Jurisdictional Resources

ATTACHMENT 2

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Coches Creek Sewer Improvements Project City/County: Lakeside, San Diego County Sampling Date: 9/19/2019
 Applicant/Owner: County of San Diego Sanitation District State: CA Sampling Point: 1
 Investigator(s): Andrew Smisek Section, Township, Range: El Cajon Landgrant
 Landform (hillslope, terrace, etc.): creek bed Local relief (concave, convex, none): none Slope (%): 0-5
 Subregion (LRR): C - Mediterranean California Lat: 32.84200761870 Long: -116.88170526700 Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: freshwaterforestshrubwet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: This sample point occurs within the creek bed beneath the canopy of southern riparian forest. The vegetation is only rooted above the active channel leaving the active floodplain unvegetated. Therefore, this sample point does not meet the hydrophytic vegetation standard. No hydric soils were observed. Therefore, this area does not meet the wetland criteria.					

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>Platanus racemosa</i>	60	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)			
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7 %</u> (A/B)			
4. _____							
Total Cover: <u>60 %</u>							
Sapling/Shrub Stratum				Prevalence Index worksheet:			
1. _____				Total % Cover of: _____ Multiply by: _____			
2. _____				OBL species	x 1 =	<u>0</u>	
3. _____				FACW species	x 2 =	<u>0</u>	
4. _____				FAC species	x 3 =	<u>183</u>	
5. _____				FACU species	x 4 =	<u>4</u>	
Total Cover: _____ %				UPL species	x 5 =	<u>0</u>	
				Column Totals:	<u>62</u> (A)	<u>187</u> (B)	
				Prevalence Index = B/A = <u>3.02</u>			
Herb Stratum				Hydrophytic Vegetation Indicators:			
1. <i>Dysphania ambrosioides</i>	1	Yes	FAC	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. <i>Erigeron canadensis</i>	1	Yes	FACU	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5. _____							
6. _____							
7. _____							
8. _____							
Total Cover: <u>2 %</u>							
Woody Vine Stratum				Hydrophytic Vegetation Present?			
1. _____				Yes <input type="radio"/> No <input checked="" type="radio"/>			
2. _____							
Total Cover: _____ %							
% Bare Ground in Herb Stratum _____ %			% Cover of Biotic Crust _____ %				
Remarks: This area is mapped as southern riparian forest and occurs as a small patch of <i>Platanus racemosa</i> , which is rooted in the bank of the creek. Although it meets the hydrophytic vegetation standard, no vegetation is rooted within this portion of the creek bed where hydrology indicators occur. Therefore, this sample point does not meet the hydrophytic vegetation standard.							

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-18	10YR 4/3	100					sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils:⁴

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

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: No redox features observed. This sandy soil was likely deposited during previous flow events in spring of 2019.

HYDROLOGY

Wetland Hydrology Indicators:**Primary Indicators (any one indicator is sufficient)**

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes ☒ No ☐

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

Remarks: Drift and sediment deposits observed within the active creek channel only. No hydrology indicators observed on the banks above the active channel where the hydrophytic vegetation is rooted. The creek channel here would likely be considered a non-wetland water.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Coches Creek Sewer Improvements Project City/County: Lakeside, San Diego County Sampling Date: 9/19/2019
 Applicant/Owner: County of San Diego Sanitation District State: CA Sampling Point: 2
 Investigator(s): Andrew Smisek Section, Township, Range: El Cajon Landgrant
 Landform (hillslope, terrace, etc.): southern creek bank Local relief (concave, convex, none): none Slope (%): 0-5
 Subregion (LRR): C - Mediterranean California Lat: 32.84206769890 Long: -116.88105312100 Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: freshwaterforestshrubwet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Wetland Hydrology Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>			
Remarks: This sample point occurs on the southern bank of the creek beneath the canopy of southern willow scrub, where the sewer alignment extends along this southern bank. Although the willows here are rooted in the bed of the creek, this sample point occurs on the bank above the active floodplain of the creek. No hydrology or hydric soils indicators were observed.					

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>Salix gooddingii</i>	100	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)			
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7 %</u> (A/B)			
4. _____							
Total Cover: <u>100%</u>							
Sapling/Shrub Stratum				Prevalence Index worksheet:			
1. _____				Total % Cover of: _____ Multiply by: _____			
2. _____				OBL species	<u>100</u>	x 1 =	<u>0</u>
3. _____				FACW species	<u>3</u>	x 2 =	<u>200</u>
4. _____				FAC species	<u>2</u>	x 3 =	<u>9</u>
5. _____				FACU species	<u>1</u>	x 4 =	<u>8</u>
Total Cover: _____ %				UPL species	<u>106</u>	x 5 =	<u>5</u>
				Column Totals:	<u>106</u>	(A)	<u>222</u> (B)
				Prevalence Index = B/A = <u>2.09</u>			
Herb Stratum				Hydrophytic Vegetation Indicators:			
1. <i>Xanthium strumarium</i>	2	Yes	FAC	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. <i>Erigeron canadensis</i>	2	Yes	FACU	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. <i>Hirschfeldia incana</i>	1	No	NI	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4. <i>Helminthotheca echioides</i>	1	No	FAC	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present.			
6. _____							
7. _____							
8. _____							
Total Cover: <u>6 %</u>							
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>			
1. _____							
2. _____							
Total Cover: _____ %							
% Bare Ground in Herb Stratum _____ %			% Cover of Biotic Crust _____ %				
Remarks: This area is mapped as southern willow scrub. It occurs as a dense thicket of <i>Salix gooddingii</i> that is rooted within the active channel and meets the hydrophytic vegetation standard.							

SOIL

Sampling Point: 2**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc ²	Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-18	10YR 4/3	100					sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils:⁴

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

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: No redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (any one indicator is sufficient)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☐ No ☐ Depth (inches): _____Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes ☐ No ☒

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

Remarks: Although some indicators, such as drift and sediment deposits, were observed within the active creek channel. No hydrology indicators were observed along the slope of the creek bank where this sample point occurs. This sample point occurs above the active floodplain of the creek.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Coches Creek Sewer Improvements Project City/County: Lakeside, San Diego County Sampling Date: 9/19/2019
 Applicant/Owner: County of San Diego Sanitation District State: CA Sampling Point: 3
 Investigator(s): Andrew Smisek Section, Township, Range: El Cajon Landgrant
 Landform (hillslope, terrace, etc.): creek bed Local relief (concave, convex, none): none Slope (%): 0-5
 Subregion (LRR): C - Mediterranean California Lat: 32.84219461940 Long: -116.88003870900 Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: freshwaterforestshrubwet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="radio"/>	No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: This sample point occurs within the creek bed beneath the canopy of mule fat scrub where the sewer alignment crosses Los Coches Creek.					

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)			
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)			
4. _____							
Total Cover: <u>50</u> %							
<u>Sapling/Shrub Stratum</u>				Prevalence Index worksheet:			
1. <i>Baccharis salicifolia</i>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	Total % Cover of:		Multiply by:	
2. _____				OBL species	<u>55</u>	x 1 =	<u>0</u>
3. _____				FACW species		x 2 =	<u>0</u>
4. _____				FAC species		x 3 =	<u>165</u>
5. _____				FACU species		x 4 =	<u>0</u>
Total Cover: <u>50</u> %				UPL species		x 5 =	<u>0</u>
				Column Totals:	<u>55</u>	(A)	<u>165</u> (B)
				Prevalence Index = B/A = <u>3.00</u>			
<u>Herb Stratum</u>				Hydrophytic Vegetation Indicators:			
1. <i>Xanthium strumarium</i>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5. _____							
6. _____							
7. _____							
8. _____							
Total Cover: <u>5</u> %							
<u>Woody Vine Stratum</u>				¹ Indicators of hydric soil and wetland hydrology must be present.			
1. _____				Hydrophytic Vegetation Present?			
2. _____				Yes <input checked="" type="radio"/> No <input type="radio"/>			
Total Cover: _____ %							
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %					
Remarks: This area is mapped as mule fat scrub that is rooted within the active channel and meets the hydrophytic vegetation standard.							

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 3/3	100					sand	no redox observed
7-18	10YR 3/2	95	5YR 4/6	5	C	M	sandy loam	many redox features observed

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:⁴

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

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Soil meets hydric soil criteria for depleted matrix

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: Sediment and drift deposits observed beneath canopy of mule fat shrubs.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Coches Creek Sewer Improvements Project City/County: Lakeside, San Diego County Sampling Date: 9/19/2019
 Applicant/Owner: County of San Diego Sanitation District State: CA Sampling Point: 4
 Investigator(s): Andrew Smisek Section, Township, Range: El Cajon Landgrant
 Landform (hillslope, terrace, etc.): creek bed Local relief (concave, convex, none): concave Slope (%): 0-5
 Subregion (LRR): C - Mediterranean California Lat: 32.84231491210 Long: -116.87854853400 Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: freshwaterforestshrubwet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☒ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="radio"/>	No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: This sample point occurs within the creek bed beneath the canopy of mule fat scrub. No hydric soils indicators were observed. However, the soil situation is naturally problematic soil because it occurs in a vegetated portion of an active floodplain. Therefore, hydric soils are assumed and this sampled area meets the wetland criteria.					

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)			
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)			
4. _____							
Total Cover: _____ %							
<u>Sapling/Shrub Stratum</u>				Prevalence Index worksheet:			
1. <i>Baccharis salicifolia</i>	70	Yes	FAC	Total % Cover of:		Multiply by:	
2. _____				OBL species	x 1 =	0	
3. _____				FACW species	x 2 =	0	
4. _____				FAC species	75 x 3 =	225	
5. _____				FACU species	1 x 4 =	4	
Total Cover: <u>70 %</u>				UPL species	x 5 =	0	
				Column Totals:	76 (A)	229 (B)	
				Prevalence Index = B/A = <u>3.01</u>			
<u>Herb Stratum</u>				Hydrophytic Vegetation Indicators:			
1. <i>Xanthium strumarium</i>	5	Yes	FAC	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. <i>Erigeron canadensis</i>	1	No	FACU	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5. _____							
6. _____							
7. _____							
8. _____							
Total Cover: <u>6 %</u>							
<u>Woody Vine Stratum</u>				¹ Indicators of hydric soil and wetland hydrology must be present.			
1. _____				Hydrophytic Vegetation Present?			
2. _____				Yes <input checked="" type="radio"/> No <input type="radio"/>			
Total Cover: _____ %							
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %					
Remarks: This area is mapped as mule fat scrub that is rooted within the active channel and meets the hydrophytic vegetation standard.							

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 3/3	100					sand	no redox observed

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils:⁴

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

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Soils here are naturally problematic because they occur in a vegetated portion of an active floodplain. Although no hydric soil indicators were observed, hydric soils are assumed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)
☒ Sediment Deposits (B2) (Riverine)
☒ Drift Deposits (B3) (Riverine)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Thin Muck Surface (C7)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: Sediment and drift deposits observed beneath canopy of mule fat shrubs.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Coches Creek Sewer Improvements Project City/County: Lakeside, San Diego County Sampling Date: 9/19/2019
 Applicant/Owner: County of San Diego Sanitation District State: CA Sampling Point: 5
 Investigator(s): Andrew Smisek Section, Township, Range: El Cajon Landgrant
 Landform (hillslope, terrace, etc.): creek bed Local relief (concave, convex, none): none Slope (%): 0-5
 Subregion (LRR): C - Mediterranean California Lat: 32.84650858200 Long: -116.87117758800 Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: freshwaterforestshrubwet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☒ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="radio"/>	No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: This sample point occurs within the creek bed within herbaceous wetland vegetation. No hydric soils indicators were observed. However, the soil situation is naturally problematic soil because it occurs in a vegetated portion of an active floodplain. Therefore, hydric soils are assumed and this sampled area meets the wetland criteria.					

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)			
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)			
4. _____							
Total Cover: <u> </u> %							
Sapling/Shrub Stratum				Prevalence Index worksheet:			
1. _____				Total % Cover of: _____ Multiply by: _____			
2. _____				OBL species	<u>5</u>	x 1 =	<u>5</u>
3. _____				FACW species	<u>20</u>	x 2 =	<u>40</u>
4. _____				FAC species	<u>36</u>	x 3 =	<u>108</u>
5. _____				FACU species	<u>10</u>	x 4 =	<u>40</u>
Total Cover: <u> </u> %				UPL species		x 5 =	<u>0</u>
				Column Totals:	<u>71</u>	(A)	<u>193</u> (B)
				Prevalence Index = B/A = <u>2.72</u>			
Herb Stratum				Hydrophytic Vegetation Indicators:			
1. <i>Xanthium strumarium</i>	<u>30</u>	Yes	FAC	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. <i>Persicaria lapathifolia</i>	<u>20</u>	Yes	FACW	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. <i>Ricinus communis</i>	<u>10</u>	No	FACU	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4. <i>Helminthotheca echioides</i>	<u>5</u>	No	FAC	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5. <i>Nasturtium officinale</i>	<u>5</u>	No	OBL	¹ Indicators of hydric soil and wetland hydrology must be present.			
6. <i>Paspalum dilatatum</i>	<u>1</u>	No	FAC				
7. _____							
8. _____							
Total Cover: <u>71 %</u>							
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>			
1. _____							
2. _____							
Total Cover: <u> </u> %							
% Bare Ground in Herb Stratum <u> </u> %		% Cover of Biotic Crust <u> </u> %					
Remarks: Vegetation at this sample point has been mapped as herbaceous wetland, occurs within the creek bed, and meets the hydrophytic vegetation standard.							

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 3/3	100					sand	no redox features observed

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils:⁴

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

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Soils here are naturally problematic because they occur in a vegetated portion of an active floodplain. Although no hydric soil indicators were observed, hydric soils are assumed.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (any one indicator is sufficient)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
☒ Sediment Deposits (B2) (**Riverine**)
☒ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Thin Muck Surface (C7)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☐ No ☒

Depth (inches): _____

Water Table Present? Yes ☒ No ☐

Depth (inches): 19

Saturation Present? Yes ☐ No ☒
(includes capillary fringe)

Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: Sediment and drift deposits observed throughout the sampled area. Soil moist, but not saturated at the time of the survey.
Water table observed at 19 inches.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Coches Creek Sewer Improvements Project City/County: Lakeside, San Diego County Sampling Date: 9/19/2019
 Applicant/Owner: County of San Diego Sanitation District State: CA Sampling Point: 6
 Investigator(s): Andrew Smisek Section, Township, Range: El Cajon Landgrant
 Landform (hillslope, terrace, etc.): creek bed Local relief (concave, convex, none): none Slope (%): 0-5
 Subregion (LRR): C - Mediterranean California Lat: 32.84727807650 Long: -116.86917042500 Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☒ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="radio"/>	No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: This sample point occurs within the creek bed within herbaceous wetland vegetation. No hydric soils indicators were observed. However, the soil situation is naturally problematic soil because it occurs in a vegetated portion of an active floodplain. Therefore, hydric soils are assumed and this sampled area meets the wetland criteria.					

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)			
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)			
4. _____							
Total Cover: _____ %							
Sapling/Shrub Stratum				Prevalence Index worksheet:			
1. _____				Total % Cover of: _____ Multiply by: _____			
2. _____				OBL species	<u>10</u>	x 1 =	<u>10</u>
3. _____				FACW species	<u>2</u>	x 2 =	<u>4</u>
4. _____				FAC species	<u>30</u>	x 3 =	<u>90</u>
5. _____				FACU species	<u>2</u>	x 4 =	<u>8</u>
Total Cover: _____ %				UPL species		x 5 =	<u>0</u>
				Column Totals:	<u>44</u>	(A)	<u>112</u> (B)
				Prevalence Index = B/A = <u>2.55</u>			
Herb Stratum				Hydrophytic Vegetation Indicators:			
1. <i>Cyperus eragrostis</i>	<u>30</u>	Yes	FAC	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. <i>Nasturtium officinale</i>	<u>10</u>	Yes	OBL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. <i>Persicaria lapathifolia</i>	<u>2</u>	No	FACW	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4. <i>Ricinus communis</i>	<u>2</u>	No	FACU	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present.			
6. _____							
7. _____							
8. _____							
Total Cover: <u>44 %</u>							
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>			
1. _____							
2. _____							
Total Cover: _____ %							
% Bare Ground in Herb Stratum _____ %			% Cover of Biotic Crust _____ %				
Remarks: Vegetation at this sample point has been mapped as herbaceous wetland, occurs within the creek bed, and meets the hydrophytic vegetation standard.							

SOIL

Sampling Point: 6**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc ²	Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-18	10YR 3/3	100					sand	no redox features observed

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils:⁴

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

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Soils here are naturally problematic because they occur in a vegetated portion of an active floodplain. Although no hydric soil indicators were observed, hydric soils are assumed.

HYDROLOGY

Wetland Hydrology Indicators:**Primary Indicators (any one indicator is sufficient)**

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
☒ Sediment Deposits (B2) (**Riverine**)
☒ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Thin Muck Surface (C7)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☒ No ☐ Depth (inches): 2Water Table Present? Yes ☒ No ☐ Depth (inches): 0Saturation Present? Yes ☒ No ☐ Depth (inches): 0
(includes capillary fringe)**Wetland Hydrology Present?** Yes ☒ No ☐

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

Remarks: Sediment and drift deposits observed throughout the sampled area. This sample area contains a small amount of flowing water, as the water table is at the ground surface within the creek bed and soils within the creek are saturated.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Coches Creek Sewer Improvements Project City/County: Lakeside, San Diego County Sampling Date: 9/19/2019
 Applicant/Owner: County of San Diego Sanitation District State: CA Sampling Point: 7
 Investigator(s): Andrew Smisek Section, Township, Range: El Cajon Landgrant
 Landform (hillslope, terrace, etc.): creek bed Local relief (concave, convex, none): none Slope (%): 0-5
 Subregion (LRR): C - Mediterranean California Lat: 32.84711170850 Long: -116.86557339000 Datum: WGS84
 Soil Map Unit Name: _____ NWI classification: riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☒ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="radio"/>	No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>			
Remarks: This sample point occurs within the creek bed within herbaceous wetland vegetation. No hydric soils indicators were observed. However, the soil situation is naturally problematic soil because it occurs in a vegetated portion of an active floodplain. Therefore, hydric soils are assumed and this sampled area meets the wetland criteria.					

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)			
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)			
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0 %</u> (A/B)			
4. _____							
Total Cover: <u> </u> %							
Sapling/Shrub Stratum				Prevalence Index worksheet:			
1. _____				Total % Cover of: _____ Multiply by: _____			
2. _____				OBL species	<u>10</u>	x 1 =	<u>10</u>
3. _____				FACW species		x 2 =	<u>0</u>
4. _____				FAC species	<u>35</u>	x 3 =	<u>105</u>
5. _____				FACU species	<u>20</u>	x 4 =	<u>80</u>
Total Cover: <u> </u> %				UPL species		x 5 =	<u>0</u>
				Column Totals:	<u>65</u>	(A)	<u>195</u> (B)
				Prevalence Index = B/A = <u>3.00</u>			
Herb Stratum				Hydrophytic Vegetation Indicators:			
1. <i>Cyperus eragrostis</i>	<u>30</u>	Yes	FAC	<input type="checkbox"/> Dominance Test is >50%			
2. <i>Cynodon dactylon</i>	<u>20</u>	Yes	FACU	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. <i>Nasturtium officinale</i>	<u>10</u>	No	OBL	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4. <i>Xanthium strumarium</i>	<u>5</u>	No	FAC	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present.			
6. _____							
7. _____							
8. _____							
Total Cover: <u>65 %</u>							
Woody Vine Stratum				Hydrophytic Vegetation Present?			
1. _____				Yes <input checked="" type="radio"/> No <input type="radio"/>			
2. _____							
Total Cover: <u> </u> %							
% Bare Ground in Herb Stratum <u> </u> %			% Cover of Biotic Crust <u> </u> %				
Remarks: Vegetation at this sample point has been mapped as herbaceous wetland, occurs within the creek bed, and meets the hydrophytic vegetation standard.							

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-18	10YR 3/3	100					sand	no redox features observed

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils:⁴

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

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: Soils here are naturally problematic because they occur in a vegetated portion of an active floodplain. Although no hydric soil indicators were observed, hydric soils are assumed.

HYDROLOGY

Wetland Hydrology Indicators:**Primary Indicators (any one indicator is sufficient)**

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☒ No ☐ Depth (inches): 1Water Table Present? Yes ☒ No ☐ Depth (inches): 0Saturation Present? Yes ☒ No ☐ Depth (inches): 0
(includes capillary fringe)**Wetland Hydrology Present?** Yes ☒ No ☐

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

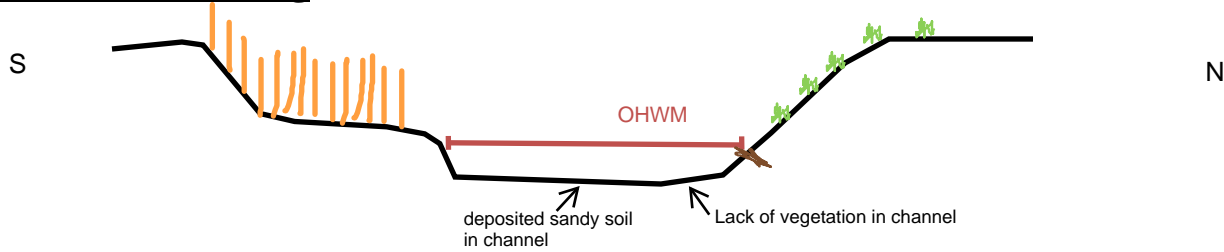
Remarks: Sediment and drift deposits observed throughout the sampled area. This sample area contains a small amount of flowing water, as the water table is at the ground surface within the creek bed and soils within the creek are saturated.

ATTACHMENT 3

Arid West Ephemeral and Intermittent Streams
Ordinary High Water Mark Datasheets

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Los Coches Creek Transect 1 Investigator(s): Andrew Smisek	Date: 9/4/2019 Town: Lakeside Photo begin file#:	Time: 1030 State: CA Photo end file#:
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?	Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84181302270, -116.88354589900	
Potential anthropogenic influences on the channel system: This portion of the creek contains scattered trash and is mostly surrounded by developed or disturbed areas.		
Brief site description: This sample point taken where the sewer line crosses the creek. The creek channel is incised with steep banks.		
Checklist of resources (if available): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>		
Hydrogeomorphic Floodplain Units 		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHW M and record the indicators. Record the OHW M position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 		

Cross section drawing:**OHWM**

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

No vegetation occurs within the channel below the OHWM. The bed of the channel contains newly deposited sandy sediment. The break in slope is obvious with the banks of the channel being steep. A small terrace occurs above the southern bank above the OHWM.

Floodplain unit:☒ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:Average sediment texture: sandyTotal veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- ☒ NA
☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☒ Drift and/or debris
☒ Presence of bed and bank
☐ Benches

- ☐ Soil development
☒ Surface relief
☒ Other: lack of vegetation
☐ Other: _____
☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is clearly defined by a lack of vegetation, the presence of a bed and bank, and the presence of drift deposits.

Project ID: 8762

Cross section ID: Sample Transect 1

Date: 9/4/2019

Time: 1030

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy

Total veg cover: 50 % Tree: _____ % Shrub: 80 % Herb: 50 %

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input checked="" type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Mudcracks | <input checked="" type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Vegetation present on the small terrace and slopes above the creek channel. The soils above the active channel are developed, containing organic matter and no signs of sediment deposition.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

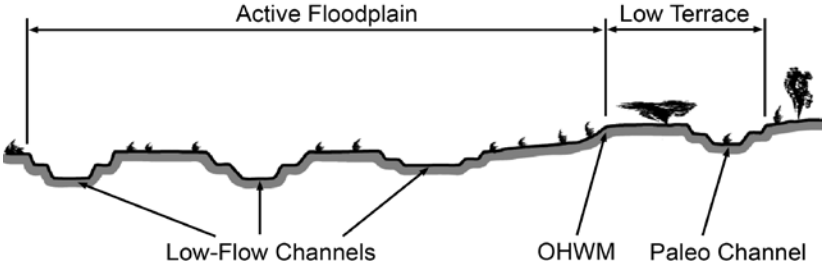
- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

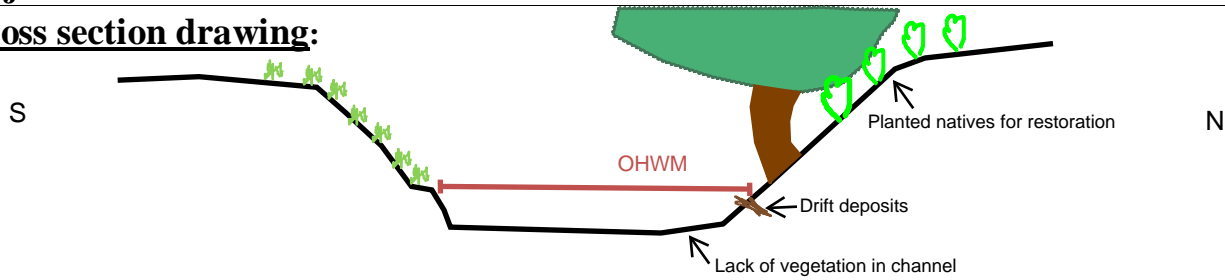
Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Los Coches Creek Transect 2 Investigator(s): Andrew Smisek	Date: 9/4/2019 Town: Lakeside Photo begin file#:	Time: 1100 State: CA Photo end file#:
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?	Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84197175020, -116.88170926100	
Potential anthropogenic influences on the channel system: An active restoration site occurs along the northern bank. A dense stand of arundo was removed from this area, historically. The surrounding land is comprised mainly of developed or disturbed areas.		
Brief site description: Sample location occurs where the sewer line crosses the creek. The channel here is incised, containing steep banks and a stand of native sycamore trees.		
Checklist of resources (if available): <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 45%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>		
Hydrogeomorphic Floodplain Units 		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHW M and record the indicators. Record the OHW M position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 		

Project ID: 8762

Cross section ID: Sample Transect 2 Date: 9/4/2019

Time: 1100

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

Very little vegetation occurs within the channel below the OHWM. The bed of the channel contains newly deposited sandy sediment. The break in slope is obvious with the banks of the channel being steep.

Floodplain unit:

☒ Low-Flow Channel

☒ Active Floodplain

☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: sandy

Total veg cover: 1 % Tree: 0 % Shrub: 0 % Herb: 1 %

Community successional stage:

- ☐ NA
☒ Early (herbaceous & seedlings)
☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☒ Drift and/or debris
☒ Presence of bed and bank
☐ Benches

- ☐ Soil development
☒ Surface relief
☒ Other: lack of vegetation
☐ Other: _____
☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is clearly defined by a lack of vegetation (not including the overhanging canopy of the sycamore trees), the presence of a bed and bank, and the presence of drift deposits.

Project ID: 8762

Cross section ID: Sample Transect 2

Date: 9/4/2019

Time: 1100

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy

Total veg cover: 53 % Tree: 50 % Shrub: 0 % Herb: 5 %

Community successional stage:

☐ NA

☒ Early (herbaceous & seedlings)

☐ Mid (herbaceous, shrubs, saplings)

☒ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☒ Soil development

☐ Surface relief

☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

Vegetation present on the slopes above the creek channel, including large trees and herbaceous species. The soils above the active channel are developed, containing organic matter and no signs of sediment or drift deposition.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

☐ NA

☐ Early (herbaceous & seedlings)

☐ Mid (herbaceous, shrubs, saplings)

☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☐ Soil development

☐ Surface relief

☐ Other: _____

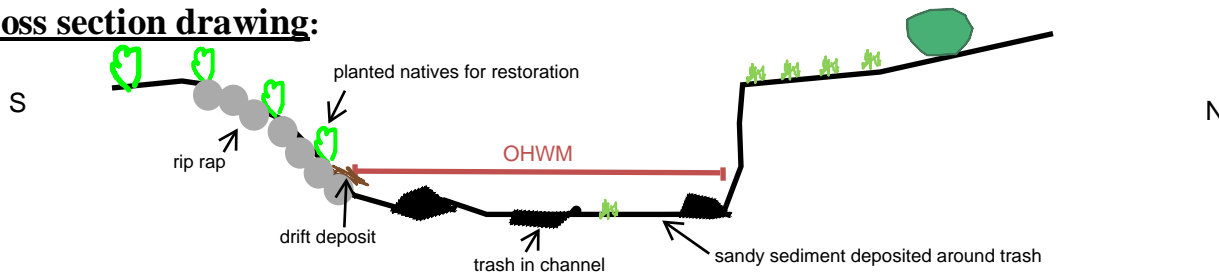
☐ Other: _____

☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Los Coches Creek Transect 3 Investigator(s): Andrew Smisek	Date: 9/4/2019 Town: Lakeside Photo begin file#:	Time: 1130 State: CA Photo end file#:
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?	Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84224935260, -116.87998419600	
Potential anthropogenic influences on the channel system: An active restoration site occurs along the southern bank. A dense stand of arundo was removed from this area, historically. The surrounding land is comprised mainly of developed or disturbed areas. Large items of trash occur within this portion of the creek bed just downstream of the AZ crossing.		
Brief site description: The creek is very wide and incised here due to bank erosion. Rip rap has been installed on the south bank where native habitat restoration is occurring as well.		
Checklist of resources (if available): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>		
Hydrogeomorphic Floodplain Units 		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHW M and record the indicators. Record the OHW M position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 		

Cross section drawing:**OHWM**

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

Very little vegetation occurs within the channel below the OHWM. The bed of the channel contains newly deposited sandy sediment among the items of trash. Although the southern bank is manufactured with rip rap, the OHWM is detected where drift deposits occur.

Floodplain unit:☒ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:Average sediment texture: sandyTotal veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 1 %

Community successional stage:

- ☒ NA
☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☒ Drift and/or debris
☒ Presence of bed and bank
☐ Benches
- ☐ Soil development
☒ Surface relief
☒ Other: lack of vegetation
☐ Other: _____
☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is clearly defined by mostly lacking vegetation, the presence of a bed and bank, and the presence of drift deposits.

Project ID: 8762

Cross section ID: Sample Transect 3

Date: 9/4/2019

Time: 1130

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy

Total veg cover: 20 % Tree: 0 % Shrub: 10 % Herb: 10 %

Community successional stage:

- | | |
|--|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input checked="" type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Mudcracks | <input checked="" type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Vegetation present on the slopes above the creek channel includes naturally occurring herbaceous species and the planted natives for the restoration site. The soils above the active channel are developed, containing organic matter and no signs of sediment or drift deposition.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

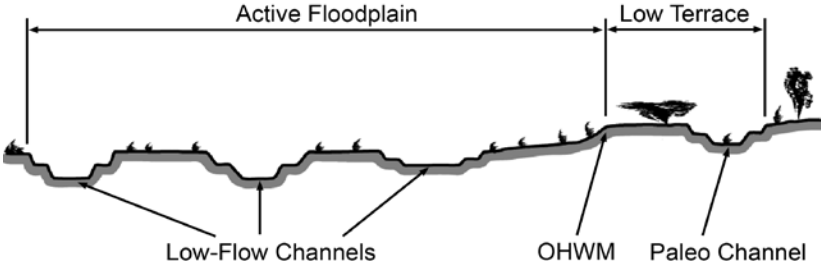
- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

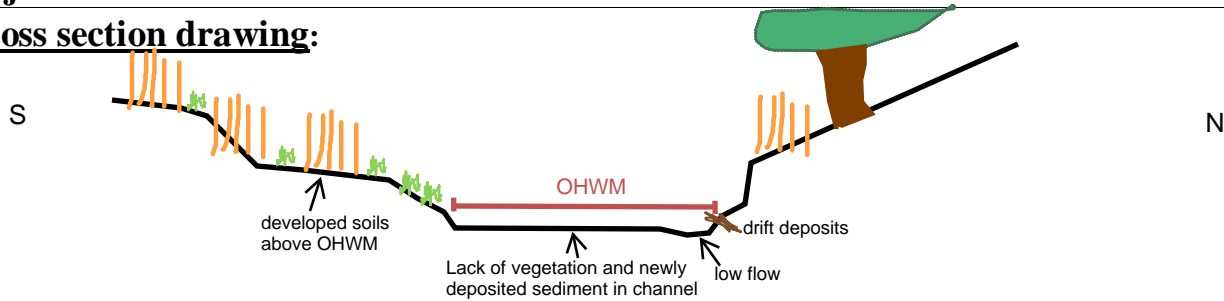
Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Los Coches Creek Transect 4 Investigator(s): Andrew Smisek		Date: 9/19/2019 Town: Lakeside Photo begin file#: Time: 0930 State: CA Photo end file#:	
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84232703290, -116.87920702700	
Potential anthropogenic influences on the channel system: This portion of the creek occurs in a small patch of undeveloped land containing mostly natural habitats along the creek.			
Brief site description: This sample point taken where the sewer line crosses the creek.			
Checklist of resources (if available): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>			
Hydrogeomorphic Floodplain Units 			
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHW M and record the indicators. Record the OHW M position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 			

Cross section drawing:**OHWM**

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

No vegetation occurs within the channel below the OHWM. The bed of the channel contains newly deposited sandy sediment. The break in slope is obvious with the banks of the channel being steep. A small low flow channel occurs within the active floodplain.

Floodplain unit:☒ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:Average sediment texture: sandTotal veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- ☒ NA
☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☒ Drift and/or debris
☒ Presence of bed and bank
☐ Benches

- ☐ Soil development
☒ Surface relief
☒ Other: lack of vegetation
☐ Other: _____
☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is clearly defined by a lack of vegetation, the presence of a bed and bank, and the presence of sediment and drift deposits.

Project ID: 8762

Cross section ID: Sample Transect 4

Date: 9/19/2019

Time: 0930

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy

Total veg cover: 50 % Tree: 20 % Shrub: 0 % Herb: 30 %

Community successional stage:

☐ NA

☒ Early (herbaceous & seedlings)

☐ Mid (herbaceous, shrubs, saplings)

☒ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☒ Soil development

☐ Surface relief

☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

Vegetation present on slopes above the OHWM and includes herbaceous species and mature oaks trees. The soils above the active channel are developed, containing organic matter and no signs of sediment deposition.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

☐ NA

☐ Early (herbaceous & seedlings)

☐ Mid (herbaceous, shrubs, saplings)

☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☐ Soil development

☐ Surface relief

☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Transect 5, small tributary to Los Coches Creek Investigator(s): Andrew Smisek		Date: 9/19/2019 Town: Lakeside Photo begin file#: Time: 1000 State: CA Photo end file#:	
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84229939270, -116.87838830800	
Potential anthropogenic influences on the channel system: This small tributary to Los Coches Creek occurs adjacent to developed land.			
Brief site description: This is a small tributary to Los Coches creek connecting along the southern creek bank and where the sewer line crosses the creek.			
Checklist of resources (if available): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>			
Hydrogeomorphic Floodplain Units 			
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHW M and record the indicators. Record the OHW M position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 			

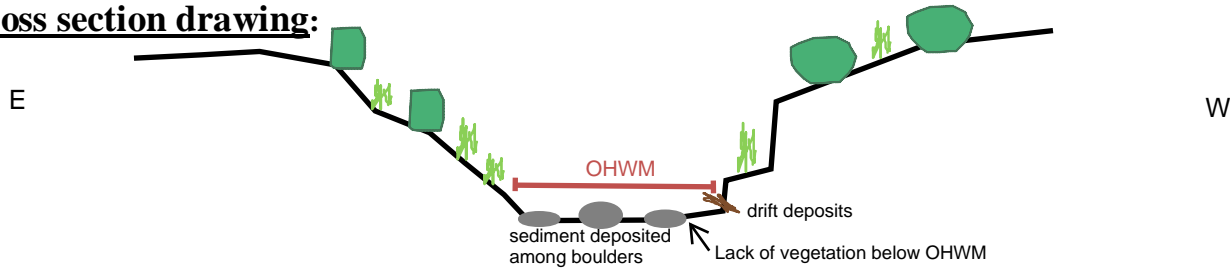
Project ID: 8762

Cross section ID: Sample Transect 5

Date: 9/19/2019

Time: 1000

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

No vegetation occurs within the channel below the OHWM. The bed of the channel contains newly deposited sandy sediment among large boulders. The break in slope is obvious with the banks of the channel being steep.

Floodplain unit:

☒ Low-Flow Channel

☒ Active Floodplain

☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: sandy/bouldery

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- ☒ NA
☐ Early (herbaceous & seedlings)
☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☒ Drift and/or debris
☒ Presence of bed and bank
☐ Benches
☐ Soil development
☒ Surface relief
☒ Other: lack of vegetation
☐ Other: _____
☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is clearly defined by a lack of vegetation, the presence of a bed and bank, and the presence of sediment and drift deposits.

Project ID: 8762

Cross section ID: Sample Transect 5

Date: 9/19/2019

Time: 1000

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy

Total veg cover: 22 % Tree: 0 % Shrub: 2 % Herb: 20 %

Community successional stage:

- | | |
|--|--|
| <input type="checkbox"/> NA | <input checked="" type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input checked="" type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Mudcracks | <input checked="" type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Vegetation present on slopes above the OHWM and includes herbaceous species and small shrubs. The soils above the active channel are developed, containing organic matter and no signs of sediment deposition.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

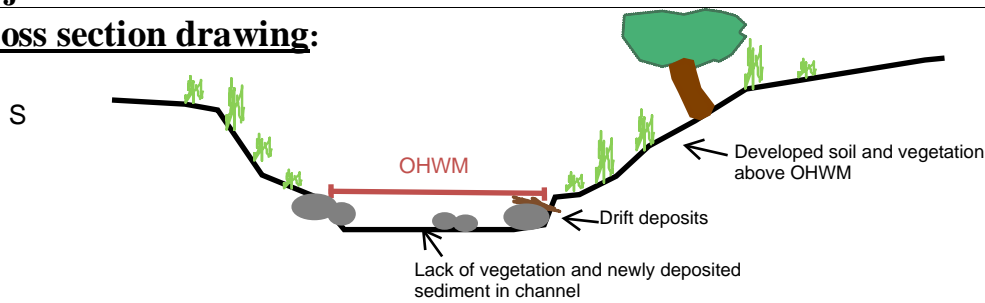
Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Los Coches Creek Transect 6 Investigator(s): Andrew Smisek		Date: 9/19/2019 Town: Lakeside Photo begin file#: Time: 1030 State: CA Photo end file#:	
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84455853790, -116.87536550200	
Potential anthropogenic influences on the channel system: This portion of Los Coches Creek is surrounded by mostly developed areas.			
Brief site description: This sample point taken where the sewer line crosses the creek, which contains natural banks and bottom.			
Checklist of resources (if available): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>			
Hydrogeomorphic Floodplain Units 			
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 			

Cross section drawing:**OHWM**

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

No vegetation occurs within the channel below the OHWM. The bed of the channel contains newly deposited sandy sediment. The break in slope is obvious and occurs where boulders have been exposed. Drift deposits occur at the OHWM.

Floodplain unit:☒ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:Average sediment texture: sandy/boulderyTotal veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- ☒ NA ☐ Mid (herbaceous, shrubs, saplings)
☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks ☐ Soil development
☐ Ripples ☒ Surface relief
☒ Drift and/or debris ☒ Other: lack of vegetation
☒ Presence of bed and bank ☐ Other: _____
☐ Benches ☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is clearly defined by a lack of vegetation, the presence of a bed and bank, and the presence of sediment and drift deposits.

Project ID: 8762

Cross section ID: Sample Transect 6

Date: 9/19/2019

Time: 1030

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy

Total veg cover: 60 % Tree: 20 % Shrub: 0 % Herb: 40 %

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input checked="" type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Mudcracks | <input checked="" type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Vegetation present on slopes above the OHWM and includes herbaceous species and riparian trees. The soils above the active channel are developed, containing organic matter and no signs of sediment deposition.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

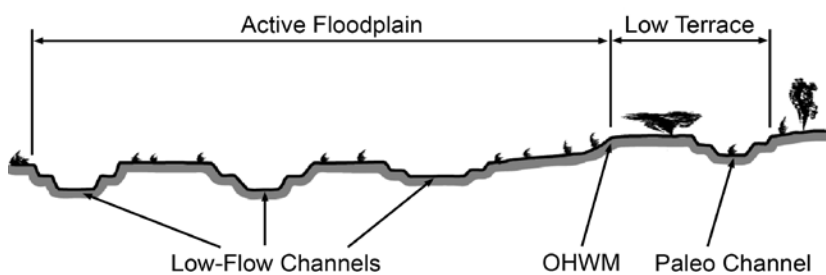
- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Los Coches Creek Transect 7 Investigator(s): Andrew Smisek		Date: 9/19/2019 Town: Lakeside Photo begin file#: Time: 1100 State: CA Photo end file#:	
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84476984940, -116.87482676600	
Potential anthropogenic influences on the channel system: This portion of Los Coches Creek is surrounded by mostly developed areas.			
Brief site description: This sample point taken where the sewer line crosses the creek, which contains natural banks and bottom.			
Checklist of resources (if available): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>			
Hydrogeomorphic Floodplain Units 			
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHW M and record the indicators. Record the OHW M position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 			

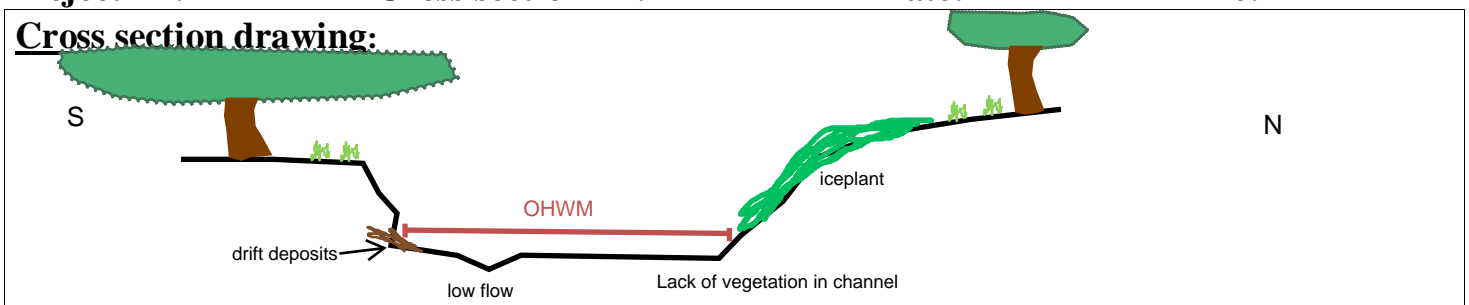
Project ID: 8762

Cross section ID: Sample Transect 7

Date: 9/19/2019

Time: 1100

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

No vegetation occurs within the channel below the OHWM. The bed of the channel contains newly deposited sandy sediment and a low flow channel. The break in slope is obvious with the south bank being very steep. Drift deposits occur at the OHWM.

Floodplain unit:

☒ Low-Flow Channel

☒ Active Floodplain

☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: sandy

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- ☒ NA
☐ Early (herbaceous & seedlings)
☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☒ Drift and/or debris
☒ Presence of bed and bank
☐ Benches
☐ Soil development
☒ Surface relief
☒ Other: lack of vegetation
☐ Other: _____
☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is clearly defined by a lack of vegetation, the presence of a bed and bank, and the presence of sediment and drift deposits.

Project ID: 8762

Cross section ID: Sample Transect 7

Date: 9/19/2019

Time: 1100

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy

Total veg cover: 90 % Tree: 80 % Shrub: 0 % Herb: 10 %

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input checked="" type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Mudcracks | <input checked="" type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Vegetation present on slopes above the OHWM and includes herbaceous species and oak trees. Iceplant occurs along the northern bank above the OHWM. The soils above the active channel are developed, containing organic matter and no signs of sediment deposition.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

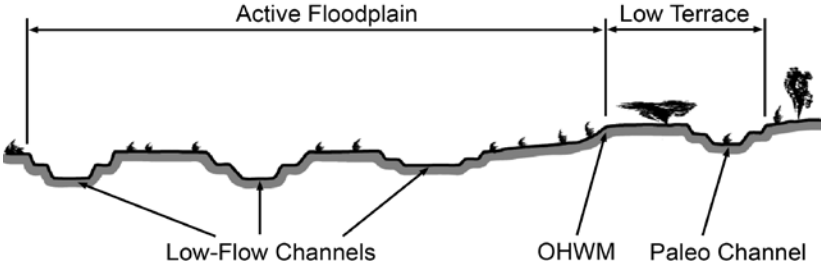
- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

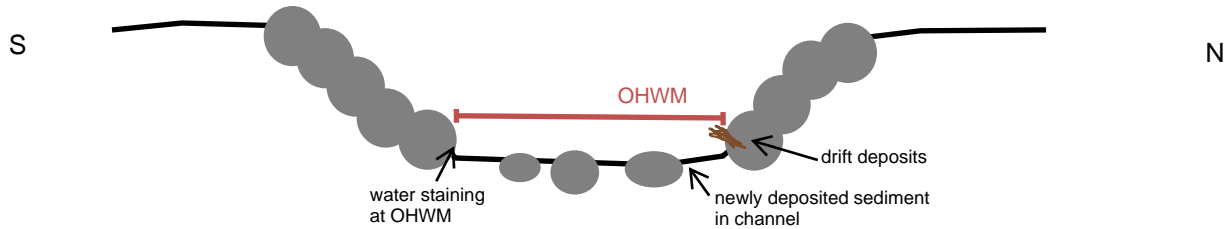
Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Los Coches Creek Transect 8 Investigator(s): Andrew Smisek		Date: 9/19/2019 Town: Lakeside Photo begin file#: Time: 1130 State: CA Photo end file#:	
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84532489390, -116.87391402200	
Potential anthropogenic influences on the channel system: This portion of Los Coches Creek has been manufactured with rip rap on both banks. This area is also surrounded by developed and disturbed land.			
Brief site description: This sample point taken where the sewer line crosses the creek. rip rap occurs on both banks.			
Checklist of resources (if available): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>			
Hydrogeomorphic Floodplain Units 			
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 			

Cross section drawing:**OHWM**

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☐ Change in vegetation species
☐ Change in vegetation cover

- ☒ Break in bank slope
☒ Other: drift deposits and water staining
☐ Other: _____

Comments:

No vegetation occurs within the channel or on the banks and above the OHWM. Vegetation has likely been removed. The bed of the channel contains newly deposited sandy sediment. Drift deposits and water staining on the rip rap occur at the OHWM.

Floodplain unit:☒ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:Average sediment texture: sandy/boulderyTotal veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- ☒ NA
☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☒ Drift and/or debris
☒ Presence of bed and bank
☐ Benches
- ☐ Soil development
☒ Surface relief
☒ Other: drift deposits and water staining
☐ Other: _____
☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is defined by the presence of water staining on the rip rap and drift deposits. Newly deposited sediment occurs within the bed of the channel below the OHWM.

Project ID: 8762

Cross section ID: Sample Transect 8

Date: 9/19/2019

Time: 1130

Floodplain unit:

☐ Low-Flow Channel

☐ Active Floodplain

☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: rip rap and loam soil

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

☐ NA

☐ Early (herbaceous & seedlings)

☒ Mid (herbaceous, shrubs, saplings)

☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☐ Soil development

☐ Surface relief

☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

No drift deposits or water staining occurs above the OHWM. Vegetation has likely been removed.

Floodplain unit:

☐ Low-Flow Channel

☐ Active Floodplain

☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

☐ NA

☐ Early (herbaceous & seedlings)

☐ Mid (herbaceous, shrubs, saplings)

☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☐ Soil development

☐ Surface relief

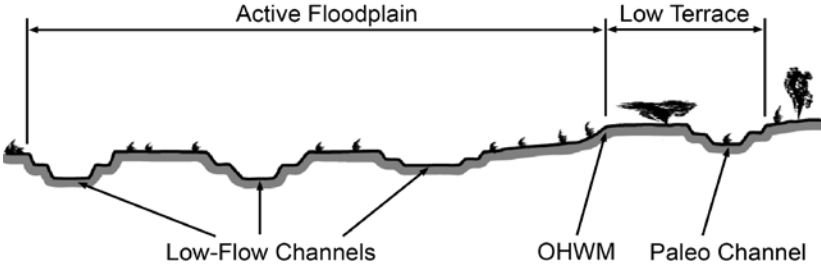
☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

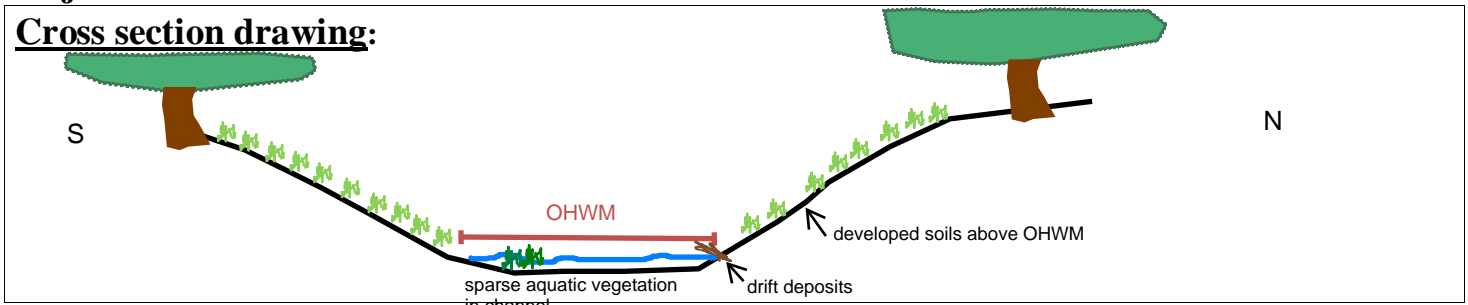
Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Los Coches Creek Transect 9 Investigator(s): Andrew Smisek	Date: 9/19/2019 Town: Lakeside Photo begin file#:	Time: 1200 State: CA Photo end file#:
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?	Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84755527360, -116.86785568900	
Potential anthropogenic influences on the channel system: This portion of the creek is surrounded by developed land, the vegetation surrounding the channel is non-native and likely planted.		
Brief site description: Flowing water occurs in this portion of the creek. The sample point occurs where the sewer line crosses the creek.		
Checklist of resources (if available): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>		
Hydrogeomorphic Floodplain Units 		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHW M and record the indicators. Record the OHW M position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 		

Project ID: 8762

Cross section ID: Sample Transect 9

Date: 9/19/2019

Time: 1200

Cross section drawing:**OHWM**

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

Only sparse aquatic vegetation occurs within the channel below the OHWM. Above the OHWM, the vegetation is comprised of dense cover of upland species. Water was flowing at the time of the survey. This portion of the creek is likely perennial due to runoff. Drift deposits occur at the OHWM.

Floodplain unit:☒ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:Average sediment texture: sandy/cobblyTotal veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 1 %

Community successional stage:

- ☐ NA
☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☒ Drift and/or debris
☒ Presence of bed and bank
☐ Benches

- ☐ Soil development
☒ Surface relief
☒ Other: aquatic vegetation in channel
☐ Other: _____
☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is clearly defined by a change in vegetation species and cover, the presence of a bed and bank, and the presence of drift deposits.

Project ID: 8762

Cross section ID: Sample Transect 1

Date: 9/19/2019

Time: 1200

Floodplain unit:

☐ Low-Flow Channel

☐ Active Floodplain

☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy

Total veg cover: 100 % Tree: 80 % Shrub: 0 % Herb: 20 %

Community successional stage:

☐ NA

☒ Early (herbaceous & seedlings)

☐ Mid (herbaceous, shrubs, saplings)

☒ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☒ Soil development

☐ Surface relief

☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

Above the OHWM, the vegetation is comprised of upland species, mostly non-native trees and grasses. No aquatic species, drift deposits or flowing water occurs above the OHWM.

Floodplain unit:

☐ Low-Flow Channel

☐ Active Floodplain

☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

☐ NA

☐ Early (herbaceous & seedlings)

☐ Mid (herbaceous, shrubs, saplings)

☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☐ Soil development

☐ Surface relief

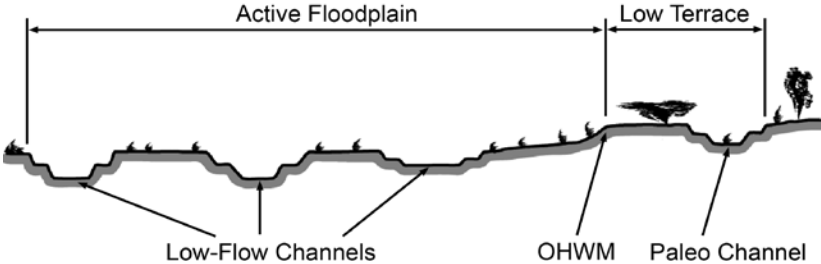
☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

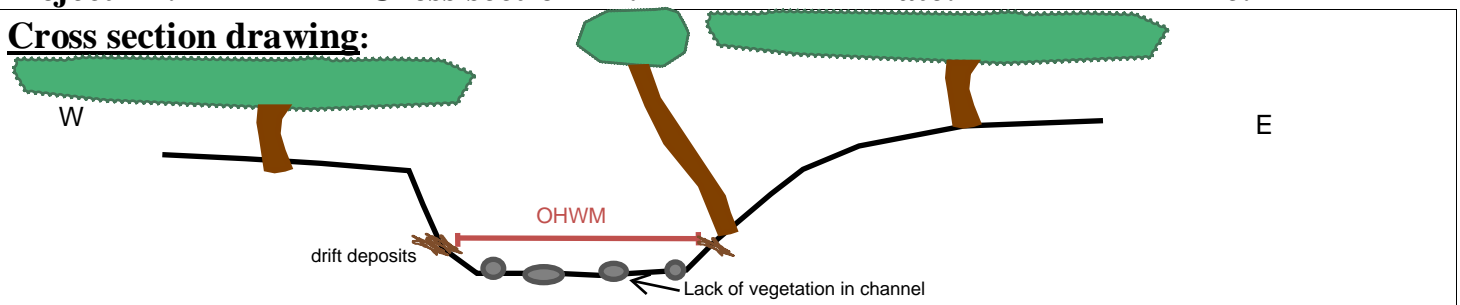
Project: Los Coches Creek Sewer Improvements Project Project Number: 8762 Stream: Los Coches Creek Transect 10 Investigator(s): Andrew Smisek		Date: 9/19/2019 Town: Lakeside Photo begin file#: Time: 1300 State: CA Photo end file#:	
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Location Details: Southwest and downstream of concrete stream crossing. Projection: Mercator Datum: WGS84 Coordinates: 32.84721191160, -116.86436138600	
Potential anthropogenic influences on the channel system: This portion of Los Coches Creek is surrounded by mostly developed areas. The flowing water is likely due to runoff from the surrounding developed land.			
Brief site description: This sample point taken where the sewer line crosses the creek, which contains natural banks and bottom.			
Checklist of resources (if available): <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input checked="" type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </div> <div style="width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </div> </div>			
Hydrogeomorphic Floodplain Units 			
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHW M and record the indicators. Record the OHW M position via: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <input checked="" type="checkbox"/> Mapping on aerial photograph <input checked="" type="checkbox"/> Digitized on computer </div> <div> <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Other: </div> </div> 			

Project ID: 8762

Cross section ID: Sample Transect 10

Date: 9/19/2019

Time: 1300

Cross section drawing:**OHWM**

GPS point: _____

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

Flowing water, but no vegetation, occurs within the channel. The OHWM is defined by a clear break in slope and the presence of drift deposits. Above the OHWM, the vegetation is comprised of riparian trees on developed soil. This portion of the creek is likely perennial due to runoff.

Floodplain unit:☒ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:Average sediment texture: sandy/cobblyTotal veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 1 %

Community successional stage:

- ☒ NA
☐ Early (herbaceous & seedlings)

- ☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☒ Drift and/or debris
☒ Presence of bed and bank
☐ Benches

- ☐ Soil development
☒ Surface relief
☒ Other: lack of vegetation
☐ Other: _____
☐ Other: _____

Comments:

The active floodplain occurs below the OHWM, which is defined by a clear break in slope, the lack of vegetation within the channel, and the presence of drift deposits. Flowing water occurred within the channel at the time of the survey.

Project ID: 8762

Cross section ID: Sample Transect 11

Date: 9/19/2019

Time: 1300

Floodplain unit:

☐ Low-Flow Channel

☐ Active Floodplain

☒ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: loamy

Total veg cover: 100 % Tree: 80 % Shrub: 0 % Herb: 20 %

Community successional stage:

☐ NA

☐ Early (herbaceous & seedlings)

☒ Mid (herbaceous, shrubs, saplings)

☒ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☒ Soil development

☐ Surface relief

☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

Above the OHWM, the vegetation is comprised of upland species, including a mix of native and non-native trees, on developed soils. No aquatic species, drift deposits or flowing water occurs above the OHWM.

Floodplain unit:

☐ Low-Flow Channel

☐ Active Floodplain

☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

☐ NA

☐ Early (herbaceous & seedlings)

☐ Mid (herbaceous, shrubs, saplings)

☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☐ Soil development

☐ Surface relief

☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

ATTACHMENT 4

Plant Species Observed

**Attachment 4
Plant Species Observed**

Scientific Name	Common Name	Habitat	Origin
GYMNOSPERMS			
PINACEAE	PINE FAMILY		
<i>Pinus</i> sp.	pine	NNW	I
ANGIOSPERMS: MONOCOTS			
AGAVACEAE	AGAVE FAMILY		
<i>Agave americana</i> L.	American century plant	EW, DEV	I
ARECACEAE	PALM FAMILY		
<i>Syagrus romanzoffiana</i> (Cham.) Glassman	queen palm	DEV	I
<i>Washingtonia robusta</i> H. Wendl.	Mexican fan palm	NNW, SRF, CLORF, EW, DEV	I
CYPERACEAE	SEDGE FAMILY		
<i>Cyperus eragrostis</i> Lam.	tall flatsedge	NNW, HW, SRF	N
POACEAE (GRAMINEAE)	GRASS FAMILY		
<i>Arundo donax</i> L.	giant reed	NNR, MFS, SRF, NNW, CLORF	I
<i>Avena</i> sp.	oats	EW	I
<i>Bromus</i> sp.	brome	EW, DH, NNW	I
<i>Stipa miliacea</i> (L.) Hoover var. <i>miliacea</i> [= <i>Piptatherum miliaceum</i> ssp. <i>miliaceum</i> and <i>Oryzopsis miliacea</i>]	smilo grass	SRF, EW, NNW, CLORF, HW	I
STRELITZIACEAE	BIRD OF PARADISE FLOWER FAMILY		
<i>Strelitzia</i> sp.	bird of paradise flower	DEV	I
ANGIOSPERMS: DICOTS			
ADOXACEAE	ADOXA FAMILY		
<i>Sambucus nigra</i> L. ssp. <i>caerulea</i> (Raf.) Bolli [= <i>Sambucus mexicana</i>]	blue elderberry	EW	N
AIZOACEAE	FIG-MARIGOLD FAMILY		
<i>Carpobrotus edulis</i> (L.) N.E. Br.	freeway iceplant	DH, CLORF, DEV	I
ANACARDIACEAE	SUMAC OR CASHEW FAMILY		
<i>Schinus molle</i> L.	Peruvian pepper tree	NNW, EW, DEV	I
<i>Schinus terebinthifolius</i> Raddi	Brazilian pepper tree	NNW	I
ASTERACEAE	SUNFLOWER FAMILY		
<i>Baccharis salicifolia</i> (Ruiz & Pav.) Pers. ssp. <i>salicifolia</i>	mule fat, seep-willow	MFS, SRF, NVC	N

**Attachment 4
Plant Species Observed**

Scientific Name	Common Name	Habitat	Origin
<i>Baccharis sarothroides</i> A. Gray	broom baccharis	DH	N
<i>Erigeron</i> [=Conyza] <i>canadensis</i> L.	horseweed	SRF, DH, CLORF, SWS, MFS, NNW, EW, HW	N
<i>Helminthotheca</i> [=Picris] <i>echioides</i> (L.) Holub	bristly ox-tongue	HW	I
<i>Lactuca serriola</i> L.	prickly lettuce	NNW, DH, EW, HW	I
<i>Xanthium strumarium</i> L.	cocklebur	MFS, SWS, HW, NVC, SRF, NNW, CLORF	N
BIGNONIACEAE	BIGNONIA FAMILY		
<i>Jacaranda mimosifolia</i> D. Don	blue jacaranda	DEV	I
BRASSICACEAE (CRUCIFERAE)	MUSTARD FAMILY		
<i>Hirschfeldia incana</i> (L.) Lagr.-Fossat	short-pod mustard	SRF, SWS, DH, EW, CLORF	I
<i>Nasturtium officinale</i> [=Rorippa <i>nasturtium-aquaticum</i>] W.T. Aiton	water cress	HW	N
CHENOPODIACEAE	GOOSEFOOT FAMILY		
<i>Dysphania</i> [=Chenopodium] <i>ambrosioides</i> (L.) Mosyakin & Clemants	Mexican tea	SRF, DH, NVC	I
CUCURBITACEAE	GOURD FAMILY		
<i>Marah macrocarpa</i> (Greene) Greene	wild cucumber	EW	N
EUPHORBIACEAE	SPURGE FAMILY		
<i>Croton</i> [=Eremocarpus] <i>setiger</i> Hook.	turkey-mullein, dove weed	DH	N
<i>Ricinus communis</i> L.	castor bean	NNW, HW, EW, MFS, CLORF	I
<i>Quercus agrifolia</i> Née	coast live oak, encina	CLORF, SRF	N
JUGLANDACEAE	WALNUT FAMILY		
<i>Carya illinoensis</i>	pecan	EW, NNW	I
MYRTACEAE	MYRTLE FAMILY		
<i>Eucalyptus citriodora</i> Hook.	lemon-scented gum	EW	I
<i>Eucalyptus globulus</i> Labill.	blue gum	EW	I
NYCTAGINACEAE	FOUR O'CLOCK FAMILY		
<i>Bougainvillea</i> sp. Comm. ex Juss.	bougainvillea	DEV	I

**Attachment 4
Plant Species Observed**

Scientific Name	Common Name	Habitat	Origin
OLEACEAE	OLIVE FAMILY		
<i>Fraxinus uhdei</i> (Wenz.) Lingelsh.	shamel ash	DEV, NNW	I
PLATANACEAE	PLANE TREE OR SYCAMORE FAMILY		
<i>Platanus racemosa</i> Nutt.	western sycamore	SRF, CLORF, EW	N
POLYGONACEAE	BUCKWHEAT FAMILY		
<i>Persicaria</i> [=Polygonum] <i>lapathifolia</i> (L.) Delarbe	willow weed	MFS, HW, NVC, NNW, SRF, DH, EW	N
<i>Rumex crispus</i> L.	curly dock	EW	I
SALICACEAE	WILLOW FAMILY		
<i>Populus fremontii</i> S. Watson ssp. <i>fremontii</i>	Fremont cottonwood, alamo	SRF, CLORF	N
<i>Salix gooddingii</i> C.R. Ball.	Goodding's black willow	SWS, SRF, CLORF	N
<i>Salix lasiolepis</i> Benth.	arroyo willow	SRF, SWS	N
SOLANACEAE	NIGHTSHADE FAMILY		
<i>Datura wrightii</i> Regel	western Jimson weed	DH	N
ULMACEAE	ELM FAMILY		
<i>Ulmus parvifolia</i> Jacq.	Chinese elm, lacebark elm	NNW, DEV	I
VITACEAE	GRAPE FAMILY		
<i>Vitis girdiana</i> Munson	desert wild grape	NNW	N

Notes: Scientific and common names were primarily derived from the Jepson Online Interchange (University of California 2020). In instances where common names were not provided in this resource, common names were obtained from Rebman and Simpson (2014).

HABITATS

CLORF = coast live oak riparian forest
DEV = urban/developed
DH = disturbed habitat
EW = eucalyptus woodland
HW = herbaceous wetland
MFS = mule fat scrub
NNR = non-native riparian
NNW = non-native woodland
NVC = non-vegetated channel
SRF = southern riparian forest
SWS = southern willow scrub

ORIGIN

N = Native to locality
I = Introduced species from outside locality

ATTACHMENT 5

Wildlife Species Observed/Detected

Attachment 5
Wildlife Species Observed

Scientific Name	Common Name	Occupied Habitat	On-Site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
INVERTEBRATES (Nomenclature for butterflies from San Diego Natural History Museum 2002)				
NYMPHALIDAE	BRUSH-FOOTED BUTTERFLIES			
<i>Vanessa cardui</i>	painted lady	DH		O
BIRDS (Nomenclature from Chesser et al. 2018 and Unitt 2004)				
COLUMBIDAE	PIGEONS & DOVES			
<i>Zenaida macroura marginella</i>	mourning dove	DH, SRF, EW, DEV	C / Y	O, V
PICIDAE	WOODPECKERS & SAPSUCKERS			
<i>Dryobates [=Picoides] nuttallii</i>	Nuttall's woodpecker	CLORF	U / Y	V
CORVIDAE	CROWS, JAYS, & MAGPIES			
<i>Corvus brachyrhynchos hesperis</i>	American crow	SRF, CLORF	C / Y	O, V
MIMIDAE	MOCKINGBIRDS & THRASHERS			
<i>Mimus polyglottos polyglottos</i>	northern mockingbird	SRF, CLORF, DEV	F / Y	V
EMBERIZIDAE	EMBERIZIDS			
<i>Melospiza [=Pipilo] crissalis</i>	California towhee	SRF, EW, DH	F / Y	V, O
<i>Pipilo maculatus</i>	spotted towhee	NNW, EW	U / Y	V
FRINGILLIDAE	FINCHES			
<i>Spinus [=Carduelis] psaltria hesperophilus</i>	lesser goldfinch	SRF, CLORF, DEV	C / Y	V
MAMMALS (Nomenclature from Baker et al. 2003)				
SCIURIDAE	SQUIRRELS & CHIPMUNKS			
<i>Spermophilus beecheyi</i>	California ground squirrel	DH		B, O

Attachment 5
Wildlife Species Observed

Scientific Name	Common Name	Occupied Habitat	On-Site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
HABITATS CLORF = Coast Live Oak Riparian Forest DEV = Urban/developed DH = Disturbed Habitat EW = Eucalyptus Woodland NNW = Non-native Woodland SRF = Southern Riparian Forest		ABUNDANCE (birds only; based on Garrett and Dunn 1981) C = Common to abundant; almost always encountered in proper habitat, usually in moderate to large numbers F = Fairly common; usually encountered in proper habitat, generally not in large numbers U = Uncommon; occurs in small numbers or only locally SEASONALITY (birds only) Y = Year-round resident; probable breeder on-site or in vicinity EVIDENCE OF OCCURRENCE B = Burrow O = Observed V = Vocalization		

ATTACHMENT 6

Sensitive Plant Species
Observed or with the Potential for Occurrence

Attachment 6 Sensitive Plant Species Observed or with the Potential for Occurrence							
Scientific Name Common Name	Sensitivity Code & Status			Habitat Preference/ Requirements	Verified On-Site Yes/No (direct/indirect evidence)	Potential to Occur On-Site (Observed or L/M/H/U)	Factual Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	County of San Diego				
ANGIOSPERMS: DICOTS							
ASTERACEAE SUNFLOWER FAMILY							
Artemisia palmeri San Diego sagewort	—/—	4.2	List B	Perennial deciduous shrub; coastal sage scrub, chaparral, riparian, mesic, sandy areas; blooms May–September; elevation less than 3,000 feet.	No	U	This species has been observed within 2 miles of the project site in riparian habitat (CDFW 2019a). Although the survey area supports suitable habitat, this species would have been apparent at the time of the survey, if present.
Isocoma menziesii var. decumbens decumbent goldenbush	—/—	1B.2	List A	Perennial shrub; chaparral, coastal sage scrub; sandy soils, often in disturbed areas; blooms April–November; elevation less than 500 feet.	No	U	This species has been observed within 2 miles of the project site (CDFW 2019a). Although the survey area supports potentially suitable habitat, this species would have been apparent at the time of the survey, if present.
ONAGRACEAE EVENING-PRIMROSE FAMILY							
Clarkia delicata delicate clarkia	—/—	1B.2	List B	Annual herb; cismontane woodland; blooms April–June; elevation 780–3,300 feet.	No	L	This species has been observed within 2 miles of the project site in riparian habitat (CDFW 2019a). The survey area contains few areas of suitably undisturbed mesic woodland habitat to support this species. Therefore, this species has a low potential to occur.

Attachment 6

Sensitive Plant Species Observed or with the Potential for Occurrence

CALIFORNIA NATIVE PLANT SOCIETY (CNPS): CALIFORNIA RARE PLANT RANKS (CRPR)

- 1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
- 4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.
- .2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).

COUNTY OF SAN DIEGO

- List A = Plants rare, threatened or endangered in California and elsewhere
- List B = Plants rare, threatened or endangered in California but more common elsewhere

POTENTIAL TO OCCUR ON-SITE

- L = Low
- U = Unexpected

ATTACHMENT 7

Sensitive Wildlife Species
Occurring or with the Potential to Occur

Attachment 7						
Sensitive Wildlife Species Occurring or with the Potential to Occur						
Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-site?	Potential to Occur On-site?	Basis for Determination of Occurrence Potential	
REPTILES (Nomenclature from Crother et al. 2017)						
SCINCIDAE SKINKS						
Coronado skink <i>Plestiodon [=Eumeces] skiltonianus interparietalis</i>	CSC, Group 2	Grasslands, open woodlands and forest, broken chaparral. Rocky habitats near streams.	No	Moderate	This species has been observed within two miles of the project site in Diegan coastal sage scrub (CDFW 2019a). Although the survey area does not contain sage scrub habitat, the on-site woodland and forest habitats near Los Coches Creek may support this species.	
TEIIDAE WHIPTAIL LIZARDS						
Orange-throated [=Belding's orange-throated] whiptail <i>Aspidoscelis hyperythra</i>	CSC, MSCP, Group 2	Chaparral, coastal sage scrub with coarse sandy soils and scattered brush.	No	Low	This species has been observed within two miles of the project site in Diegan coastal sage scrub (CDFW 2019a). Sage scrub habitat does not occur within the survey area, and there is a low potential for this species to utilize the on-site disturbed habitat or woodlands.	
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	CSC, Group 2	Coastal sage scrub, chaparral, woodlands, and streamsides where plants are sparsely distributed.	No	Moderate	This species has been observed within two miles of the project site in riparian habitats (CDFW 2019a). Although the project occurs adjacent to many developed areas, there is a moderate potential for this species to utilize the woodland and forest habitats within the survey area.	

Attachment 7 Sensitive Wildlife Species Occurring or with the Potential to Occur					
Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-site?	Potential to Occur On-site?	Basis for Determination of Occurrence Potential
ANNIELLIDAE LEGLESS LIZARDS					
San Diegan [=Silvery] legless lizard <i>Anniella stebbensi</i> . [=pulchra <i>pulchra</i>]	CSC, Group 2	Herbaceous layers with loose soil in coastal scrub, chaparral, and open riparian. Prefers dunes and sandy washes near moist soil.	No	Moderate	This species has been observed within two miles of the project site in scrub and chaparral habitats (CDFW 2019a). Although the survey area does not contain suitable scrub or chaparral, there is a moderate potential for this species to utilize the loose soils in the woodland and forest habitats within the survey area.
COLUBRIDAE COLUBRID SNAKES					
San Diego ring-necked snake <i>Diadophis punctatus similis</i>	*, Group 2	Rocky areas in wet locales, such as swamps, damp forests, or riparian woodlands.	No	Low	This species has been observed within two miles of the project site (CDFW 2019a). The areas of rocky moist habitat within the survey area are limited. Therefore, there is a low potential for this species to utilize portions of the survey area.
Two-striped gartersnake <i>Thamnophis hammondi</i>	CSC, *, Group 1	Permanent freshwater streams with rocky bottoms. Mesic areas.	No	Low	Although the upstream portions of Los Coches Creek within the survey area contain permanent water flow, these areas are limited and mostly surrounded by development. Therefore, there is a low potential for this species to utilize portions of the survey area.

Attachment 7					
Sensitive Wildlife Species Occurring or with the Potential to Occur					
Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-site?	Potential to Occur On-site?	Basis for Determination of Occurrence Potential
BIRDS (Nomenclature from Chesser et al. 2018 and Unitt 2004)					
ACCIPITRIDAE HAWKS, KITES, & EAGLES					
Cooper's hawk (nesting) <i>Accipiter cooperii</i>	WL, MSCP, Group 1	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas.	No	High	This species has been observed within two miles of the project site (CDFW 2019a). There is a high potential for this species to nest in the mature riparian trees in the areas of southern riparian forest and southern coast live oak riparian forests, or within the eucalyptus woodland within the survey area.
White-tailed kite (nesting) <i>Elanus leucurus</i>	CFP, *, Group 1	Nest in riparian woodland, oaks, sycamores. Forage in open, grassy areas. Year-round resident.	No	Low	Although the survey area contains suitably mature oak and sycamore trees for nesting, the areas of open grassy habitat for this species to use for foraging are limited. The survey area occurs in a network of undisturbed and developed land. Therefore, there is a low potential for this species to occur on-site.
VIREONIDAE VIREOS					
Least Bell's vireo (nesting) <i>Vireo bellii pusillus</i>	FE, CE, MSCP, Group 1	Willow riparian woodlands. Summer resident.	No	Low	Although portions of the survey area contain southern willow scrub, these areas are very limited and not connected to any other suitable habitat types for this species. The riparian forest habitats on-site do not contain the dense willow thickets preferred by this species. Therefore, there is a low potential for this species to occur.

Attachment 7 Sensitive Wildlife Species Occurring or with the Potential to Occur					
Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-site?	Potential to Occur On-site?	Basis for Determination of Occurrence Potential
ALAUDIDAE LARKS					
California horned lark <i>Eremophila alpestris actia</i>	WL, Group 2	Sandy shores, mesas, disturbed areas, grasslands, agricultural lands, sparse creosote bush scrub.	No	Low	Although the survey area contains large areas of disturbed habitat, it is mostly dominated by tall and dense forbs. This species prefers open habitats with a substantial amount of bare ground or low vegetation. Therefore, there is a low potential for this species to occur.
PARULIDAE WOOD WARBLERS					
Yellow warbler (nesting) <i>Setophaga [=Dendroica] petechia</i>	CSC, Group 2	Breeding restricted to riparian woodland. Spring and fall migrant, localized summer resident, rare winter visitor.	No	Moderate	The survey area contains mature riparian trees, particularly cottonwood and willow trees, in the areas of southern riparian forest and southern coast live oak riparian forests that may be utilized for nesting by this species. However, a number of these mature native trees are exposed and occur adjacent to developed areas. Therefore, there is a moderate potential for this species to occur in the survey area.
Yellow-breasted chat (nesting) <i>Icteria virens</i>	CSC, Group 2	Dense riparian woodland. Localized summer resident.	No	Low	Although the survey area contains riparian forest habitats, most of these areas do not contain the dense shrubby understory that is preferred by this species. Therefore, there is a low potential for this species to occur.

Attachment 7					
Sensitive Wildlife Species Occurring or with the Potential to Occur					
Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-site?	Potential to Occur On-site?	Basis for Determination of Occurrence Potential
MAMMALS (Nomenclature from Baker et al. 2003)					
VESPERTILIONIDAE VESPER BATS					
Western red bat <i>Lasiurus blossevillii</i>	CSC, Group 2	Ranges from California, Arizona, western Nevada, and southern Utah, south through South America. In California, most reproductive activity is in Central Valley. Occurs in riparian habitats. Roosts in foliage of trees and large shrubs in habitats bordering forests, rivers, cultivated fields, and urban areas.	No	Moderate (foraging and roosting)	The survey area contains suitable trees and shrubs to support roosting and the habitat edges offer moderately suitable foraging habitat, although they occur adjacent to developed areas in many portions of the survey area. Therefore, there is a moderate potential for this species to roost and forage in the survey areas.
Western small-footed myotis <i>Myotis ciliolabrum</i>	Group 2, *	Distributed from western Canada, through western U.S., and into central Mexico. It is found throughout the rural areas of San Diego County, as far west as Escondido, El Cajon, and Rancho San Diego. Occurs primarily in chaparral habitats, where it roosts in rocky crevices, mines, caves, bridges, and disused buildings.	No	Low (unlikely to roost)	The survey area contains suitable foraging habitat for this species. However, limited suitable rock outcrops to support roosting occur in the surrounding undeveloped areas. Therefore, there is a low potential for this species to forage and it is unlikely to roost within the survey area.

Attachment 7 Sensitive Wildlife Species Occurring or with the Potential to Occur					
Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-site?	Potential to Occur On-site?	Basis for Determination of Occurrence Potential
Long-eared myotis <i>Myotis evotis</i>	Group 2, *	Distributed in mountainous areas of North America from British Columbia south in to Baja California. In San Diego County, it has been found in the inland valleys, but is more common in the foothills and mountains. Occurs in chaparral, oak woodlands, and pine forests. Roosts in rock and tree crevices. Feeds on a variety of flying insects.	No	Low (unlikely to roost)	The survey area contains suitable foraging habitat for this species. However, limited suitable rock outcrops to support roosting occur in the surrounding undeveloped areas and much of the survey area occurs within a network of developed and undeveloped land. Therefore, there is a low potential for this species to forage and it is unlikely to roost within the survey area.
CERVIDAE DEER					
Southern mule deer <i>Odocoileus hemionus fuliginata</i>	MSCP, Group 2	Many habitats.	No	Moderate	This species may utilize portions of the survey area. Although the survey area does not function as a wildlife corridor, it occurs in close proximity to an expanse of undeveloped land south and east of the survey area as part of the Crestridge Ecological Reserve.

Attachment 7					
Sensitive Wildlife Species Occurring or with the Potential to Occur					
Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-site?	Potential to Occur On-site?	Basis for Determination of Occurrence Potential
<p>STATUS CODES</p> <p><u>Listed/Proposed</u></p> <p>FE = Listed as endangered by the federal government</p> <p>CE = Listed as endangered by the CDFW</p> <p><u>Other</u></p> <p>CSC = California Department of Fish and Wildlife species of special concern</p> <p>WL = California Department of Fish and Wildlife watch list species</p> <p>MSCP = City and County of San Diego Multiple Species Conservation Program covered species</p> <p>Group 1 = County of San Diego Sensitive Animal List Group 1</p> <p>Group 2 = County of San Diego Sensitive Animal List Group 2</p> <p>CDFW * = Taxa listed with an asterisk fall into one or more of the following categories:</p> <ul style="list-style-type: none"> • Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines • Taxa that are biologically rare, very restricted in distribution, or declining throughout their range • Population(s) in California that may be peripheral to the major portion of a taxon's range but which are threatened with extirpation within California • Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands) 					