La Jolla View Reservoir Project
Environmental Impact Report

SCH No. 2018041020 - Project No. 331101

Appendix D1

Biological Technical Report

February 2020

ROCKS
BIOLOGICAL CONSULTING



LA JOLLA VIEW RESERVOIR REPLACEMENT PROJECT BIOLOGICAL TECHNICAL REPORT

San Diego County, California

October 17, 2019

Prepared for:
HELIX Environmental Planning
7578 El Cajon Boulevard
La Mesa, CA 91942
(619) 462-1515

Prepared by:
Rocks Biological Consulting
2621 Denver Street, Ste. B
San Diego, CA 92110
(619) 701-6798

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1 SUMMARY

This report has been prepared in conformance with the City of San Diego Biology Guidelines (2012) and the California Environmental Quality Act (CEQA) for the proposed relocation of the La Jolla View Reservoir (Project) in the City of San Diego. This report was originally drafted in 2014; however has been updated to: 1) Reflect the revised project concept plan, including updated biological mapping and revised project impact analysis; 2) To include additional discussion of project conformance with federal regulations ('CEQA-plus analysis'); and 3) Incorporate jurisdictional delineation results. Though federal regulatory compliance was included in previous versions of the report, this discussion has been expanded in order to conform to Clean Water State Revolving Fund (SRF) application requirements.

The Project is within and adjacent to the Multi-Habitat Planning Area (MHPA) of the City's Multiple Species Conservation Program (MSCP). The proposed Project could result in significant impacts on southern maritime chaparral, Diegan coastal sage scrub, nesting birds, and the adjacent MHPA; however, it is anticipated that incorporation of mitigation measures outlined in Section 7 would avoid significant impacts on these resources.

Two small drainage features occur within the Project area. These areas do not support hydrophytic vegetation so do not meet City-jurisdictional wetland criteria; however, these features are potentially state and federally jurisdictional, and consultation with the California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (Corps), and the Regional Water Quality Control Board (RWQCB) will be required prior to Project construction.

Biological resources within the Project area and adjacent habitat and impacts on those resources were assessed and are described herein for the purpose of analyzing Project conformance with local, state, and federal biological regulations. Mitigation measures for potential biological impacts are also recommended pursuant to City of San Diego Biology Guidelines (2012).

2 INTRODUCTION

2.1 PROJECT PURPOSE

The La Jolla View Reservoir (LJVR) is an existing, above-ground enclosed reservoir. The primary purpose of the Project is re-location of the existing aboveground LJVR to a higher elevation to properly serve current water system hydraulics, to increase the volume to provide storage commensurate with current water system needs, and to bury the reservoir to minimize visual impacts within the Park. The majority of the Project site is located within the La Jolla Natural Open Space Park (Park) in the City of San Diego, east of Country Club Drive and north of Encelia Drive in the La Jolla community. Additionally, the Project includes demolition of the Exchange Place Reservoir and Pump Station, which is located west of LJVR and within a developed area (Figure 1). The City of San Diego is the lead agency for the Project.

2.2 BACKGROUND

The existing La Jolla View Reservoir is a 0.72 million gallon (MG) potable water storage facility that was constructed in 1949. The LJVR is located in the City's Coastal Overlay Zone (COZ) within the

La Jolla Natural Open Space Park, a City park managed by the Parks and Recreation Department (P&R). The City Public Utilities Department (PUD) operates the reservoir. A Memorandum of Understanding (MOU) between the two departments was developed to enumerate the responsibilities and expectations of each party throughout and subsequent to construction of the LJVR Project. The original MOU is dated November 22, 2002, with an amendment dated January 17, 2010.

Use of the existing LJVR has become very limited due to the higher-pressure zone and other water system changes. Water quality in the reservoir is also poor and requires supplemental chlorine treatment when in operation. In addition, the existing 16-inch diameter cast iron Muirlands Pipeline that supplies water to the existing LJVR is beyond its useful life, and is undersized for current water conveyance requirements. Based upon these factors, and as described in PUD's La Jolla View Reservoir Planning Study from November 2010 (2010 Planning Study), the PUD has determined that replacement of the existing facilities is necessary.

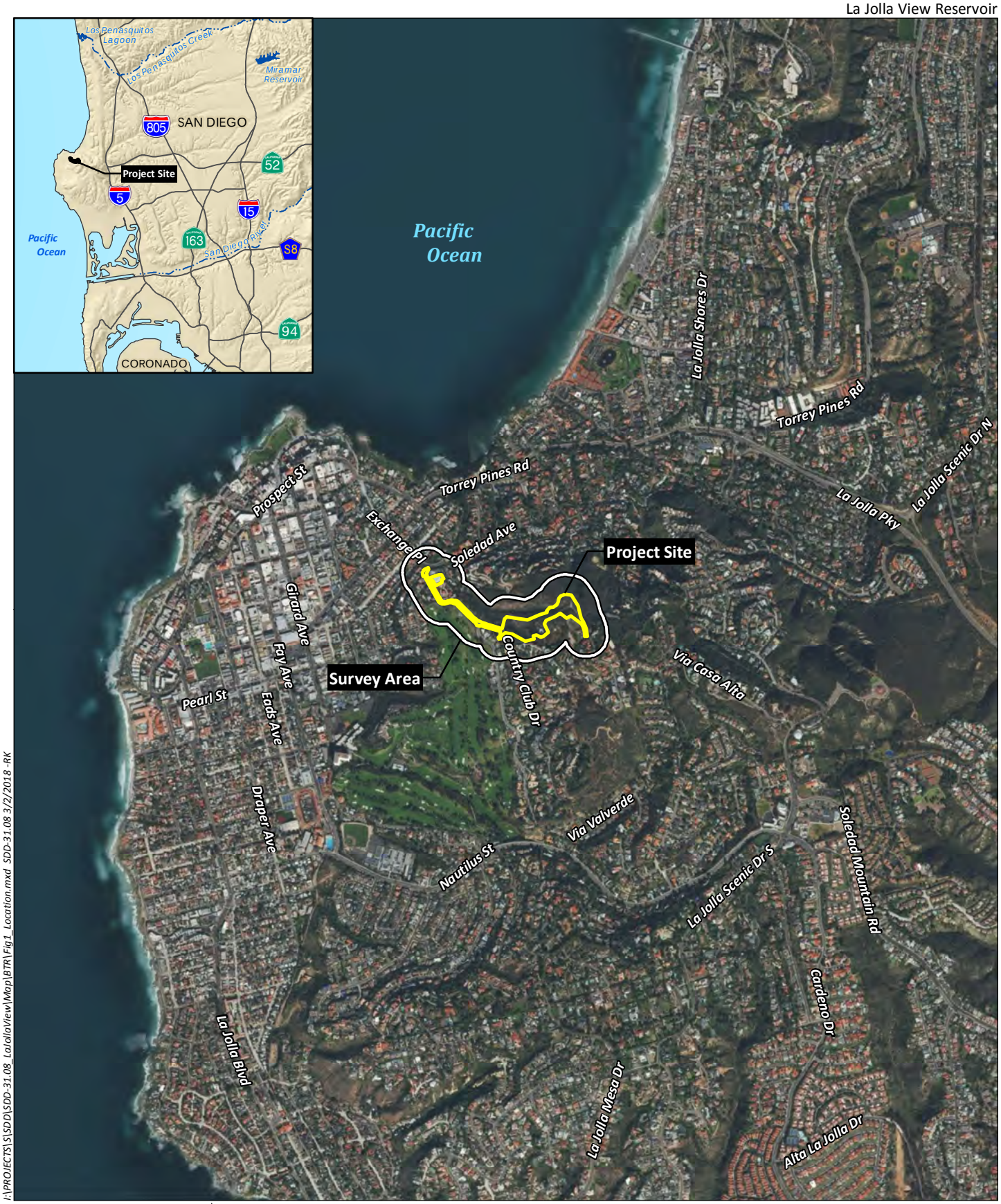
The existing La Jolla Exchange Place Reservoir and Pump Station (LJEPR) is located outside the Park in a residential area between Country Club Drive and Al Bahr Drive, south of Soledad Avenue. This reservoir is concrete-lined with a capacity of 0.99 MG and has a wood and metal roof with the dimensions of 120 ft by 118 ft. It was originally constructed in 1909, and was decommissioned in 2002. The City's System Operations Division has no future plans for this facility and the City has determined that it is to be demolished as part of the LJVR Project.

2.3 PROJECT DESCRIPTION

The Project to replace the existing LJVR and pipelines is expected to comprise the following (IEC, 2014 and 2016):

1) Construction of a new 3.1 MG pre-stressed concrete La Jolla View Reservoir (LJVR) in the Park with a base elevation of 550 feet, an overflow elevation of 590 feet, and diameter of approximately 120 feet. The structure will be completely buried except for reservoir access hatches and Supervisory Control and Data Acquisition (SCADA) equipment that will be visible at the surface. Following construction of the reservoir, the ground surface elevations will be restored to natural contours. The area of disturbance will be re-vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation. Disturbed areas will be re-vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation.

   The new reservoir would also include a buried 18" overflow pipe and outfall, as well as below-ground soil nails or tie-back anchors. The overflow pipe will extend approximately 160 feet southwest of the new reservoir with an at-grade outlet and energy dissipation structure. The outlet will be situated near the head of the north-central on-site drainage feature and within the impact footprint of the Project. The below-ground soil nails would be used in conjunction with the temporary excavation for the tank construction. To accommodate the potential length of these anchors, some portions of the reservoir boundary extend outside the Project limits defined on the plans. However, there would be no surface disturbance or biological impacts in any areas outside the work area limit.



I:\PROJECTS\S\SDD\SDD-31.08_LaJollaView\Map\BTR\Fig1_Location.mxd SDD-31.08 3/2/2018 -RK

0 2,000 Feet

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

HELIX Environmental Planning

Location Map

Figure 1

2) Construction of approximately 2,700 linear feet of new piping from the connection point at the 30-inch La Jolla Shores Pipeline at the intersection of Exchange Place and Soledad Avenue to the new LJVR. Approximately 1,050 linear feet of 30-inch new pipe will replace the existing sixteen-inch (16") Muirlands Pipeline in Country Club Drive up to the existing Muirlands Pump Station. The remaining piping, the proposed reservoir's single inlet/outlet pipeline, will extend through the Park to the new LJVR. At the reservoir, the single pipeline will be split into separate inlet and outlet pipelines that will be configured to promote circulation within the reservoir. An altitude valve vault will be located along the pipeline adjacent to Country Club Drive. The existing pipeline segment through the Park which connects the Muirlands Pipeline to the existing LJVR will be abandoned in place and grout filled. In addition, a utility water connection to the new reservoir will be provided from the existing water main (725 pressure zone) in Brodiaea Way. The area of disturbance within the Park as a result of pipeline construction will be re-vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation. An 8-inch distribution pipe will parallel the 30-inch pipeline approximately 780 feet along Country Club Drive to serve existing customers.
3) Creation of a temporary construction access road using approximately 56,000 cubic yards of soil that must be stored on-site. Excavation to install the new buried LJVR and pipeline would remove approximately 78,000 cubic yards of soil. Of this volume, approximately 22,000 cubic yards will have to be permanently disposed of offsite. The remaining 56,000 cubic yards that must be placed back on the site for the LJVR burial and site recontouring is too large to stockpile entirely within the disturbed sites of the former LJVR and LJEPR. Removing this the entire volume of material for offsite storage until it is needed is viewed as highly undesirable since the site can only be accessed via steep, narrow, and winding residential streets in this hillside neighborhood; the temporary disturbance and safety concerns associated with introducing such a large volume of heavy truck traffic would be substantial.

   To reduce the need for offsite storage and associated heavy truck traffic on residential streets, a combination approach would be used whereby approximately 56,000 cubic yards of soil would be temporarily stored and used onsite to construct a contractor access roadway from Country Club road to the reservoir site. This temporary roadway would substantially reduce (by almost half a mile) the distance that the earthwork trucks, material delivery trucks, and other construction vehicles would have to travel through the residential neighborhoods to access the site. This temporary access road would be removed with removal of the temporary stockpile material; there will be no permanent access road along the pipeline.
4) Reconstruction of the existing paved access road (Encelia Drive) through the Park from Brodiaea Way to the new LJVR. The road will be used for maintenance vehicle access and will terminate at the reservoir access hatches, where two parking spaces and a paved turn-around area will be provided. The remaining portion of the existing access road that extends to the existing LJVR will be demolished and the ground surface elevations restored to approximately match the surrounding land. The unpaved area of disturbance will be re-

vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation.

5) Installation of hydraulic monitoring equipment at the new reservoir site that will connect to the City's SCADA system. The data will be sent to the Chollas Water Operations Center at Caminito Chollas via radio communication. Security features to be included at the new reservoir site will be coordinated with the City Security Section. The existing microwave antenna on-site will be temporarily relocated during construction to remain in operation and will be incorporated into the new reservoir facilities.
6) Demolition of the existing steel LJVR and re-grading to restore the ground surface elevations to approximate the natural contours present prior to the original reservoir construction. Included in the removals at the existing LJVR site are some of the existing non-native trees, as determined necessary by grading and by the City. The area of disturbance will be re-vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation.
7) Demolition of the existing LJEPR including removal of the above-grade features associated with the reservoir and abandoning in place the remaining portions of the reservoir. The existing piping, pressure reducing station (PRS), and pump station at the LJEPR site will also be removed to below grade. The site will be re-graded to match the surrounding land and minimally landscaped with drought tolerant vegetation. Paved access from Al Bahr Drive will be maintained through the site to the existing PRS and pump station, including parking for two vehicles.
8) Staging for the project would occur within previously disturbed areas in the Project impact area and stockpile area identified in this report and on project site plans.

A preliminary construction schedule is included as Appendix J to the report; however, note that start date is dependent on permit issuance date.

2.4 REGULATORY CONTEXT

The Project would be subject to all City of San Diego biological regulations, as outlined herein, as well as relevant state and federal regulations. Note that compliance with the City's MSCP plan and implementing regulations (e.g., Biology Guidelines, MSCP Subarea Plan, etc.), would result in conformance with the state and federal endangered species acts for species deemed 'covered' under those plans. If any uncovered species occurred on-site, consultation and permitting through state and federal agencies would still be required. Conformance with all other regulations, such as jurisdictional non-wetland waters regulations, would be required and is separate from the City's permitting process. Conformance with all regulations, state, local and federal, is the responsibility of the Project applicant.

2.4.1 FEDERAL REGULATIONS

Several regulations have been established by federal agencies to protect and conserve biological resources. The descriptions below provide a brief overview of federal regulations that may be

applicable to the Project. The final determination of whether permits are required is made by the regulating agencies.

Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973, as amended, provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed animal species. ESA regulates the "taking" of any endangered fish or wildlife species, per Section 9 of the Act. As development is proposed, the responsible agency or individual landowner is required to consult with the U.S. Fish and Wildlife Service (USFWS) to assess potential impacts to listed species (including plants) or its critical habitat, pursuant to Sections 7 and 10 of the act. USFWS is required to make a determination as to the extent of impact to a particular species a project would have. If it is determined that potential impacts to a species would likely occur, measures to avoid or reduce such impacts must be identified. USFWS may issue an incidental take statement, following consultation and the issuance of a Biological Opinion. This allows for take of the species that is incidental to another authorized activity, provided that the action will not adversely affect the existence of the species. Section 10 of the federal ESA provides for issuance of incidental take permits to non-federal parties with the development of a habitat conservation plan (HCP); Section 7 of the act provides for permitting of federal projects.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 U.S. Code [U.S.C.] 703 *et seq.*) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed at 50 CFR 10.13. The MBTA is enforced by USFWS and prohibits "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act of 1899 prohibits discharge of any material into navigable waters, or tributaries thereof, of the United States without a permit. The act also makes it a misdemeanor to excavate, fill, or alter the course, condition, or capacity of any port, harbor, or channel; or to dam navigable streams without a permit.

Many activities originally covered by the Rivers and Harbors Act are now regulated under the Clean Water Act of 1972, discussed below. However, the 1899 Act retains relevance and created the structure under which the U.S. Army Corps of Engineers oversees Clean Water Act 404 permitting.

Fish and Wildlife Coordination Act

In its original 1934 form, the Fish and Wildlife Coordination Act authorized the Secretaries of Agriculture and Commerce to assist federal and state agencies in efforts related to the protection, rearing, and stocking of game and fur-bearing mammals; and the study of the effects of pollutants, such as domestic sewage and industrial waste, on wildlife. The Act in its original form also required consultation with the Bureau of Fisheries, a precursor to USFWS, prior to the construction of new

dams, and further required the Bureau of Fisheries to use impounded waters for fisheries culture and migratory bird habitat.

Several substantive amendments since the Act's original passage have expanded it to its present status as the cornerstone of the present USFWS and NMFS jurisdiction over the fish and wildlife impacts of projects that involve federal jurisdictional waters. In particular, amendments in 1946 require consultation with USFWS for any federal project that would divert, impound, or otherwise control or modify natural waters, with the explicit goal of avoiding loss and damage to wildlife resources. Additional amendments in 1958 gave the law its present name and added language recognizing the vital importance of the nation's wildlife resources, along with the requirement that wildlife conservation needs receive equal consideration in review and authorization of water resources development projects. The 1958 amendments also expanded the range of situations in which diversion or modification of natural water bodies requires consultation with USFWS.

At present, the Fish and Wildlife Coordination Act requires federal agencies that undertake, permit, or fund activities that would control or modify federal waters to consult with USFWS and/or NMFS and the state agency with similar jurisdiction; and to incorporate the agencies' recommendations for the protection, development, and improvement of wildlife resources into the project where feasible. For the purposes of the Act, *control* and *modification* are now understood to include construction of dams, levees, impoundments, and diversion structures; relocation of stream courses; placement of dredged and fill materials in federal jurisdictional waters; and discharge of pollutants, including municipal, industrial, and mining wastes into federal jurisdictional waters. This effectively gives USFWS and NMFS oversight responsibility over all projects requiring authorization from the Corps under Section 404 of the federal Clean Water Act and projects requiring authorization from the State Water Resources Board (through the Regional Water Quality Control Boards) under Section 402 of the Clean Water Act.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 CFR 328.3. USACE, with oversight from the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 permits.

A water quality certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. The Regional Water Quality Control Board (RWQCB), a division of the State Water Resources Control Board, provides oversight of the 401 permit process in California. The RWQCB is required to provide "certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards.

The NPDES is the permitting program for discharge of pollutants into surface waters of the U.S. under Section 402 of the CWA. Substantial impacts to wetlands may require an Individual Permit.

Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits.

2.4.2 STATE REGULATIONS

Several regulations have been established by state agencies to protect and conserve biological resources. The descriptions below provide a brief overview of state regulations that may be applicable to the Project. The final determination of whether permits are required is made by the regulating agencies.

California Endangered Species Act and Natural Community Conservation Planning Act

The California Endangered Species Act (CESA) of 1984, in combination with the California Native Plant Protection Act of 1977, regulates the listing and take of plant and animal species designated as endangered, threatened, or rare within the state. California also lists species of special concern based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. The California Department of Fish and Wildlife (CDFW; previously California Department of Fish and Game, CDFG) is responsible for assessing development projects for their potential to impact listed species and their habitats. State-listed special status species are addressed through the issuance of a 2081 permit (Memorandum of Understanding).

In 1991, the California NCCP Act was approved and the NCCP Coastal Sage Scrub program was initiated in Southern California. California law (Section 2800 *et seq.* of the California Fish and Game Code [CFGC]) established the NCCP program "to provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth." The NCCP Act encourages preparation of subarea plans such as the City's Draft Subarea Plan that address habitat conservation and management on an ecosystem basis rather than one species or habitat at a time.

California Coastal Act

The California Coastal Act of 1976 (California Public Resources Code 30000 et seq.) is administered by the California Coastal Commission (CCC). Among other requirements, the Act prohibits impacts on coastal zone wetlands except in eight specific situations. This section also requires that a proposed project be the least environmentally damaging feasible alternative, and that feasible and appropriate mitigation measures be imposed.

The California Coastal Act identifies the following goals for Coastal Zone lands:

1) Protection, maintenance and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
2) Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
3) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.

4) Assure priority for coastal-dependent and coastal-related development over other development on the coast.
5) Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

Under the Act, wetlands are defined as "lands within the coastal zone which may be covered periodically or permanently with shallow water" (California Public Resources Code Division 20, Section 30121).

Local jurisdiction (City and County) permit review is the principal regulatory tool under the Coastal Act. Each local jurisdiction is charged with developing and implementing a Local Coastal Program that lays out the types of projects it will approve within the Coastal Zone, consistent with general guidance in the Coastal Act. The Coastal Act also contains important provisions emphasizing the role of public participation in coastal planning and the right to public participation in review and decision-making relative to project applications within the Coastal Zone.

California Fish and Game Code Sections 1600-1602

Pursuant to Division 2, Chapter 6, Section 1602 of the California Fish and Game Code (CFGC), CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. A Lake or Streambed Alteration Agreement Application must be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources. CDFW reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and applicant is the Lake or Streambed Alteration Agreement.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) provides for statewide coordination of water quality regulations. The State Water Resources Control Board was established as the statewide authority and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis.

The RWQCB is the primary agency responsible for protecting water quality in California. As discussed above, the RWQCB regulates discharges to surface waters under the federal CWA. In addition, the RWQCB is responsible for administering the California Porter-Cologne Water Quality Control Act.

Pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a *Report of Waste Discharge* if Section 404 is not required for the

activity. "Waste" is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

2.4.3 LOCAL REGULATIONS

The Project would be subject to all City of San Diego biological regulations, as outlined below and analyzed in this report.

Environmentally Sensitive Lands Regulations

The City of San Diego Municipal Code's Environmentally Sensitive Lands Regulations (ESL; Chapter 14, Article 3, Division 1) guide development that has the potential to impact sensitive resources with the City. Impacts to biological resources within the City's MSCP preserve, the Multi-habitat Planning Area (MHPA), must comply with the ESL Regulations, which also serve as standards for the determination of biological impacts and mitigation under CEQA in the City. ESL include sensitive biological resources, steep hillsides, coastal beaches, sensitive coastal bluffs and 100-year floodplains (San Diego Municipal Code [SDMC] 143.0110). If ESL resources are present within a proposed development area, a Site Development Permit is typically required.

City Biology Guidelines

The City's Biology Guidelines (2012) have been formulated by the Development Services Department to aid in the implementation and interpretation of the ESL Regulations; San Diego Land Development Code, Chapter 14, Division 1, Section 143.0101 et seq; and the Open Space Residential (OR-1-2) Zone, Chapter 13, Division 2, Section 131.0201 et seq. Section III of the Biology Guidelines (Biological Impact Analysis and Mitigation Procedures) also provides guidance determination of impact and mitigation under CEQA. The Biology Guidelines are the baseline biological standards for processing permits issued pursuant to ESL Regulations.

City of San Diego MSCP

The City, USFWS, and CDFW, along with other local jurisdictions and stakeholders, developed the MSCP in the late 1990s. The MSCP is a comprehensive program to preserve a network of habitat and open space in the San Diego region and ensure the viability of native habitats and species, while still permitting necessary development. The City's MSCP Subarea Plan (1997a) was prepared pursuant to the outline developed by USFWS and CDFW to meet the requirements of the State Natural Communities Conservation Planning (NCCP) Act of 1992. Adopted by the City in March 1997, the City's Subarea Plan forms the basis for the MSCP Implementing Agreement, which is the contract between the City, USFWS, and CDFW (City 1997b). The Implementing Agreement ensures implementation of the City's Subarea Plan and thereby allows the City to issue "take" permits under the FESA and CESA to address impacts at the local level. Under the federal ESA, an Incidental Take Permit is required when non-federal activities would result in "take" of a threatened or endangered species. A Habitat Conservation Plan, such as the City's MSCP Subarea Plan, must accompany an application for a Federal Incidental Take Permit. In July 1997, the USFWS, CDFW, and City entered into the 50-year MSCP Implementing Agreement, wherein the City received its FESA Section 10(a) Incidental Take Permit (City 1997b). As such, projects that are

permitted through the City of San Diego and that comply with the MSCP implementing regulations can receive third party take authority through the City and need not go through federal or state ESA permit consultation for incidental impacts on certain federal and/or state-listed species, i.e., 'covered species'.

Pursuant to its MSCP, the City has incidental "take" authority over 85 rare, threatened, and endangered species including regionally sensitive species that it aims to conserve (i.e., "MSCP covered species"). "MSCP covered" refers to species that are covered by the City's Federal Incidental Take Permit and that are considered to be adequately protected within the MHPA. Special conditions apply to covered species that would be potentially impacted including, for example, designing a project to avoid impacts to covered species in the MHPA where feasible. Outside the MHPA, projects must incorporate measures (i.e., Area Specific Management Directives) for the protection of covered species; such requirement are outlined in Appendix A of the City's Subarea Plan. The City's ESL and Biology Guidelines, along with the City's MSCP Subarea Plan, are implementing regulations of the City's MSCP agreement with state and federal agencies.

The Project lies within the City's MSCP Subarea and a majority of the Project occurs within lands designated as MHPA under the MSCP (Figure 2); therefore, compliance with several MSCP Subarea Plan directives is required for the LJVR portion of the Project in addition to compliance with the City's other MSCP implementing regulations. The Exchange Place Reservoir and Pump Station are not within the MHPA. As such, the La Jolla View Reservoir portion of the Project will be required to comply with the MHPA Compatible Land Use, General Planning and Design, Land Use Adjacency, and General Management Guidelines, as generally described below and analyzed further in Section 6.

MHPA Compatible Land Uses (§1.4.1)

The Project is almost entirely within lands designated MHPA under the City's MSCP. The MSCP Subarea Plan (§1.4.1) precludes development within the MHPA except in limited circumstances that are considered "conditionally compatible with the biological objectives of the MSCP." The allowed uses are as follows:

- Passive recreation
- Utility lines and roads in compliance with policies 1.4.2 below
- Limited water facilities and other essential public facilities
- Limited low-density residential uses
- Brush Management (Zone 2)
- Limited agriculture

General Planning Policies and Design Guidelines (§1.4.2)

The proposed Project would be required to comply with guidelines regarding Roads and Utilities; Fencing, Lighting, and Signage; and Materials Storage, as follows:

Roads and Utilities – Construction and Maintenance

1. *All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, the lines should follow previously existing roads, easements, rights of way, and disturbed areas, minimizing habitat fragmentation.*
2. *All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP covered species, and wetlands. If avoidance is infeasible, mitigation will be required.*
3. *Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.*

Fencing, Lighting, and Signage

1. *Fencing, or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, use chain link or cattle wire to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing to direct public access to appropriate locations, and chain link to provide added protection of certain sensitive species or habitats (e.g., vernal pools).*
2. *Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting.*
3. *Signage will be limited to access and litter control and educational purposes.*

Materials Storage

1. *Prohibit storage of materials (e.g., hazardous or toxic, chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable in any areas that may impact the MHPA, especially due to leakage.*

Flood Control

The City's MSCP Subarea Plan's 'Compatible Land Uses: Flood Control' section includes the following guidance (City of San Diego, 1997):

> *No riprap, concrete, or other unnatural material shall be used to stabilize river, creek, tributary, and channel banks within the MHPA. River, stream, and channel banks shall be natural, and stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife movement.*

MHPA Land Use Adjacency Guidelines (§1.4.3)

The Project area occurs within and adjacent to MHPA land associated with the La Jolla Natural Open Space Park. Projects occurring adjacent to the City's MHPA, or preserve, must adhere to the City's MHPA land use adjacency guidelines as outlined in section 1.4.3 of City's MSCP Subarea Plan, including guidance regarding avoiding drainage and toxic runoff into the MHPA; avoiding lighting impacts on MHPA lands; avoiding noise impacts on special-status species; discouraging illegal trespass onto MHPA lands; avoiding invasive species plantings; and including all zone 1 brush management and grading within the project development footprint and outside the MHPA.

General Management Directives (§1.5.2)

Much of City's MSCP Subarea Plan General Management Directives (§1.5.2) apply to management of lands preserved under the program, which is the responsibility of the City of San Diego as set forth under the MSCP implementing agreement. Generally, the department with ownership of MHPA lands preserved under the MSCP has responsibility for management required under the MSCP. For the Project area, the land is owned by the City's Department of Parks and Recreation, so management would generally be under their domain. However, the MSCP general management directives but be evaluated for relevance to Project development to ensure conformance with the MSCP.

3 METHODS AND SURVEY LIMITATIONS

This study comprised the following activities:

- Analysis of existing Project area biological information
- General biological survey and vegetation mapping
- Analysis of potential Project impacts on biological resources
- Analysis of Project conformance with local, state, and federal biological regulations

Rocks Biological Consulting began preparations for surveys by creating field maps using Geographic Information System (GIS) and incorporating relevant data including a color aerial photograph and the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) information for the U.S. Geological Society 7.5' La Jolla Quadrangle.

On April 1, 2014 RBC conducted general surveys for flora and fauna on site and mapped vegetation communities/land uses within the preliminary Project area and within an approximately 100-foot mapping buffer. The general biological survey was conducted during morning hours under clear skies, calm winds and warm weather (70F). As such, faunal activity at the time was moderate and most spring season species would have been observable; however, late spring and summer flowering species would not have been present. Additionally, follow-up surveys were conducted on October 21, 2015, April 15, 2016, and February 23, 2018 to perform focused species surveys for San Diego thornmint (*Acanthomintha ilicifolia*), coast barrel cactus (*Ferocactus viridescens*) and Nuttall's scrub oak (*Quercus dumosa*), and to perform additional vegetation mapping and confirm original 2015 mapping. The additional area, approximately 0.2 acre located immediately south of the proposed new reservoir site, was added to the project plan area in order to account for required grading in this area. A jurisdictional delineation was originally performed for the project in 2015; a follow-up delineation was performed on July 5, 2018 in order to address 2017 US Army Corps of Engineers (Corps) updated report requirements and to assess all areas within the new easement boundaries.

U.S. Fish and Wildlife Service (USFWS) protocol surveys for the federally-listed threatened coastal California gnatcatcher (*Polioptila californica californica*) were performed in 2015 for the full Project area plus a 300-foot buffer (Appendix F).

Vegetation community classifications follow City of San Diego Biology Guidelines (2012), plant names follow Simpson and Rebman (2006), and animal names follow Laudenslayer (1991).

4 REGULATORY COMPLIANCE

4.1 MSCP COMPLIANCE

The Project lies within the City's MSCP Subarea and a majority of the Project occurs within lands designated as MHPA under the MSCP (Figure 2), therefore compliance with several MSCP Subarea Plan directives is required for the LJVR portion of the Project in addition to compliance with the City's other MSCP implementing regulations. The Exchange Place Reservoir and Pump Station are not within the MHPA.

4.1.1 MHPA COMPATIBLE LAND USES (§1.4.1)

The Project is almost entirely within lands designated MHPA under the City's MSCP. The MSCP Subarea Plan (§1.4.1) precludes development within the MHPA except in limited circumstances that are considered "conditionally compatible with the biological objectives of the MSCP." The allowed uses are as follows:

- Passive recreation
- Utility lines and roads in compliance with policies 1.4.2 below
- Limited water facilities and other essential public facilities
- Limited low-density residential uses
- Brush Management (Zone 2)
- Limited agriculture

As a water reservoir and associated utility lines, the Project would qualify as a 'limited water facility' and 'utility lines' and are conditionally compatible allowed uses within the MHPA, when design and construction are performed in conformance with relevant planning and design guidelines as outlined below.

4.1.2 GENERAL PLANNING POLICIES AND DESIGN GUIDELINES (§1.4.2)

The proposed Project would be required to comply with guidelines regarding Roads and Utilities; Fencing, Lighting, and Signage; and Materials Storage. A discussion of each guideline is provided below.

Roads and Utilities – Construction and Maintenance Policies

Following are the Project-relevant requirements from the 'Roads and Utilities – Construction and Maintenance Policies' discussion of Section 1.4.2 of the City's MSCP Subarea Plan, along with an analysis of Project compliance with each requirement.

1. *All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, the lines should follow previously existing roads, easements, rights of way, and disturbed areas, minimizing habitat fragmentation.*

The existing reservoir was built prior to Project lands being classified as MHPA lands. According to input from the City Public Works Department and Project engineers, alternative routing of the utility line through non-MHPA lands was not feasible (personal communication, 2016). Placement of the new reservoir was restricted due to elevation requirements, with highly limited ability for replacement site selection. No developed areas are available nearby that the reservoir could be relocated to. As such, the new reservoir is considered to be in compliance with limitations on utilities within the MHPA. The associated utility lines must branch off from the reservoir so have limited placement options. Please see Section 5.2.2 for additional information regarding project location and impact avoidance.

2. *All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP covered species, and wetlands. If avoidance is infeasible, mitigation will be required.*

Please see 5.2.2 above for a discussion of the approach taken to reduce impacts on MHPA lands, MSCP covered species, and other sensitive resources. Mitigation for unavoidable impacts is discussed in Section 7 *Mitigation and Monitoring* below.

3. *Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.*

Construction staging areas would occur in developed areas or within the LJVR and LJEPR project footprint. There would be no additional disturbance, beyond the areas identified as Project impact areas (Figure 2) for construction staging.

The Project includes a temporary construction access road using reservoir excavation soil stockpiles. The temporary road would run from Country Club Road to the reservoir site. This road would impact native habitats within the MHPA. Based on input from the Project design team, these impacts are not avoidable due to the need to temporarily stockpile soils on-site. Excavation to install the new buried LJVR and pipeline would generate approximately 78,000 cubic yards of soil. Of this volume, approximately 22,000 cubic yards will have to be permanently disposed of offsite. The 56,000 cubic yards that must be placed back on the site for the LJVR burial and site recontouring is too large a volume to stockpile at the disturbed sites of the demolished LJVR and LJEPR. Removing the entire volume of material for offsite storage until it is needed is viewed as highly undesirable since the site can only be accessed via steep, narrow, and winding residential streets in this hillside neighborhood. Disturbance of residents and safety concerns associated with introducing such a large volume of heavy truck traffic would be substantial. To reduce the need for offsite storage and the associated heavy truck traffic on residential streets, a combination approach would be used whereby approximately 56,000 cubic yards would be temporarily stored and used onsite to construct a contractor access roadway. This temporary roadway would substantially reduce (by almost half a mile) the distance that the earthwork trucks, material delivery

trucks, and other construction vehicles would have to travel through the residential neighborhoods to access the site.

Impacts from the proposed temporary construction roadway would be significant (see Section 6.2.1). All habitat areas impacted by the roadway would be restored upon completion of reservoir relocation, and all Project impacts would be mitigated in accordance with the City's Biology Guidelines (2012). Land grades would be returned to their approximate pre-construction levels.

Permanent access to the new reservoir is proposed to occur via a new paved road that replaces a portion of the existing Encelia Drive. This approach offers the shortest/most direct permanent access route to the new facility from existing paved streets.

Fencing, Lighting, and Signage

Following are the Project-relevant requirements from the 'Fencing, Lighting, and Signage' discussion of Section 1.4.2 of the City's MSCP Subarea Plan, along with an analysis of Project compliance with each requirement.

1. *Fencing, or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, use chain link or cattle wire to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing to direct public access to appropriate locations, and chain link to provide added protection of certain sensitive species or habitats (e.g., vernal pools).*

The new facility would be buried and no need for fencing or other barriers is anticipated.

2. *Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting.*

No permanent lighting is currently proposed in association with the Project. Temporary night lighting may be used during construction on the limited number of days when work extends for longer hours (e.g., tank floor concrete pour). Based on input from the project engineering team, the floor of the tank would be constructed in an excavated bowl that is up to 60 feet deep relative to the surrounding ground surface. This setting would provide some measure of light shielding. Additional requirements would include using an illumination level commensurate with the nature of the work (e.g., use high illumination levels only in areas where detailed work is taking place), using shielded light fixtures, directing light fixtures to shine downward mainly on the area of work, avoiding glare, and using a lighting system that illuminates the work area without spilling over to adjoining property.

3. *Signage will be limited to access and litter control and educational purposes.*

Signage will be limited and will primarily be aimed at discouraging public access into the MHPA and reservoir vicinity, similar to the No Trespassing and No Parking signage currently present at the existing LJVR facility.

Materials Storage

Following are the Project-relevant requirements from the 'Materials Storage' discussion of Section 1.4.2 of the City's MSCP Subarea Plan, along with an analysis of Project compliance with each requirement.

> *Prohibit storage of materials (e.g., hazardous or toxic, chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable in any areas that may impact the MHPA, especially due to leakage.*

No storage or hazardous or toxic materials is proposed within the MHPA. Any necessary storage for construction or operation of the new LJVR would be done in accordance with relevant materials safety regulations. This requirement seems to apply primarily to hazardous waste or equipment that could leak hazardous substances; however, the language is not entirely clear. Temporary stockpiling of soils on-site for use as an access road may not be consistent with this requirement. Further discussion with MSCP and DSD leads should be pursued regarding soils storage within the MHPA.

Flood Control

The City's MSCP Subarea Plan's 'Compatible Land Uses: Flood Control' section includes the following guidance (City of San Diego, 1997):

> *No riprap, concrete, or other unnatural material shall be used to stabilize river, creek, tributary, and channel banks within the MHPA. River, stream, and channel banks shall be natural, and stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife movement.*

The MSCP guideline regarding riprap material being used to stabilize banks is provided in the Subarea Plan's 'Compatible Land Uses: Flood Control' section. However, this guidance is intended for flood control projects rather than small facility outfalls; as such, the project would be in compliance with the guidance.

The reservoir would include an emergency overflow pipe and outfall that would occur immediately adjacent a small on-site drainage feature. The outflow structure would have a small (approximately 8-feet long) area of riprap in order to dissipate water energy prior to release into the canyon. The dissipator riprap at the outfall would not be within the drainage feature itself but would be part of the reservoir dissipator located adjacent to the drainage feature. The riprap is not being used to stabilize the existing drainage feature but to slow flows that could go into the drainage feature in the event of an emergency or reservoir tank clearing. Note that the MSCP guidance does allow for the use of rock gabions for flood control purposes, presumably to ensure that riprap would not be carried downstream. In the case of the outflow, water velocities have been calculated and would not result in riprap erosion or carrying rocks downstream. Unlike natural streams, the dissipator outflow velocities would not increase with exceptionally heavy rains but are based on the reservoir volumes.

The maximum potential overflow rate is slightly less than the flow rate that is estimated to result from the natural storm water runoff generated by a 2-year storm event in the Park area (11.9 cfs at a concentration point at the loop along Crespo Street). Though riprap is not allowed for stream stabilization within the MHPA, the proposed small area of riprap would not be out of compliance with MSCP regulations as it is: 1) At the outflow feature, not within the drainage feature or stabilizing the feature itself, and 2) Because it is very small area of riprap, not a large area stabilizing a streambank.

4.1.3 MHPA LAND USE ADJACENCY GUIDELINES REQUIREMENTS (§1.4.3)

The Project area occurs within and adjacent to MHPA land associated with the La Jolla Natural Open Space Park. Projects occurring adjacent to the City's MHPA, or preserve, must adhere to the City's MHPA land use adjacency guidelines as outlined in section 1.4.3 of City's MSCP Subarea Plan. The guidelines and analyses of Project conformance are as follows; additionally, these requirements will become conditions of project approval. Please see section 6.2.1 for a discussion of area-specific management directives for MSCP covered species that have been documented on-site.

The MHPA land use adjacency guidelines will become conditions of project approval.

Drainage

The Subarea Plan states:

All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. These systems should be maintained approximately once a year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g., clay compounds) when necessary and appropriate.

The Project would install a new small area of hardscape (approximately 4,000 square feet), but would remove a substantially larger area (approximately 25,000 square feet), representing a substantial net removal of existing hardscape and associated storm water runoff in and near MHPA lands.

Demolition of the existing LJVR and a portion of the existing paved Encelia Drive would accomplish the removal of approximately 14,000 square feet of impervious surface area within, and currently draining to, the MHPA (the reservoir roof, the roadway paving, and a paved parking area). These areas would be graded and revegetated to reflect approximately the historical terrain.

To accommodate reservoir operations and maintenance, the new reservoir facility would include a small parking area (approximately 4,000 square feet, suitable for parking and turnaround of medium-sized maintenance trucks) located adjacent to the top of the buried reservoir. The parking area would be paved and would be graded to match the existing topography. To match existing

conditions, drainage off the new parking area would be in the form of sheet flow that matches runoff from the existing terrain. The new reservoir facility would be accessed via a portion of the existing Encelia Drive that is proposed to be repaved to the same width and cross-slope as the existing roadway, thereby preserving approximately the same sheet flow drainage pattern that currently exists. Replacement of the LJVR would thus accomplish a net removal of 10,000 square feet of hardscape within the MHPA.

At the LJEPR site, the demolition of the existing reservoir would remove approximately 11,000 square feet of additional impervious surface (the reservoir roof) that will be replaced with soil and vegetation. The site would be graded to match the surrounding ground elevations and drainage patterns would match existing conditions with surface runoff directed to existing curbs and gutters.

During project construction activities, grading and fill for the temporary roadway have the potential to create erosion and sedimentation. A project-specific Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the project. Through development and implementation of a SWPPP, impacts associated with runoff, water quality, and erosion will be minimized.

Toxics

The Subarea Plan requires:

Land uses, such as recreation and agriculture, that use chemicals or generate by-products such as manure, that are potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. Such measures should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials. Regular maintenance should be provided. Where applicable, this requirement should be incorporated into leases on publicly owned property as leases come up for renewal.

Please see the prior item for discussion of drainage. Additionally, the operations of the reservoir would not generate any potentially toxic materials.

Lighting

The Subarea Plan states:

Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.

No permanent lighting is currently proposed as part of the Project. MHPA land use adjacency guidelines regarding lighting will be part of the Project requirements to ensure conformance during the construction process. No night lighting is proposed during Project operation. Temporary night lighting may be used during construction on the limited number of days when work extends for longer hours (e.g. tank floor concrete pour), with potential for light overspill minimized as previously described.

Noise

The Subarea Plan states:

Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.

Protocol surveys for the coastal California gnatcatcher were performed in 2015. Surveys were negative (Appendix D); however, because the surveys have expired, potential presence is assumed. Preconstruction surveys and noise attenuation measures would be implemented accordingly (see Section 7).

Barriers

The Subarea Plan states:

New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.

As identified above, the new facility would be buried and no need for fencing or other barriers is anticipated.

Invasives

The Subarea Plan states:

No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.

No ornamental landscaping is proposed as part of Project development. Per the terms of the governing MOU, once the existing LJVR and appurtenances are removed, the site will be restored to approximate prior (historic) contours and revegetated with appropriate native species. Except for the small paved parking area described above, the area disturbed for construction of the new LJVR facility would also be revegetated with native species. The new facility is not proposed to include landscape plantings of any type. The LJEPR site will be minimally landscaped with drought tolerant vegetation; no species listed as 'most invasive' or 'moderately invasive' by the *San Diego County Invasive Ornamental Plant Guide* [San Diego Chapter of the American Society of the Landscape Architects (SD/ASLA) and the San Diego Chapter of the California Native Plant Society (CNPS), 2005] will be included in the LJEPR plant palette based on its proximity to the open space park.

Brush Management

The Subarea Plan states:

New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management

areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size that is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party. For existing and approved Projects, the brush management zones, standards and locations, and clearing techniques will not change from those required under existing regulations.

The Project would not require brush management as it would not include any flammable structures requiring fire protection.

Grading/Land Development

The Subarea Plan states:

Manufactured slopes associated with site development shall be included within the development footprint for Projects within or adjacent to the MHPA.

All Project features and grading have been included in the Project impact area included in this analysis. The existing LJVR would be removed and the site returned to the approximate pre-existing grade. Following construction, the new LJVR site would also be returned to approximate natural topography and would be revegetated with native species appropriate for the area. In one area, directly above the new LJVR, some of the final grading would be slightly lower than the original terrain (by up to 12 feet) in order to reduce the excessive soil loading on top of the new tank. All impact areas are included in the development footprint shown in the figures that accompany this report.

4.1.4 GENERAL MANAGEMENT DIRECTIVES (§1.5.2)

Much of City's MSCP Subarea Plan General Management Directives (§1.5.2) apply to management of lands preserved under the program, which is the responsibility of the City of San Diego as set forth under the MSCP implementing agreement. Generally, the department with ownership of MHPA lands preserved under the MSCP has responsibility for management required under the MSCP. For the Project area, the land is owned by the City's Department of Parks and Recreation, so management would generally be under their domain.

Pursuant to the MOU for the reservoir replacement, revegetation and habitat restoration for the project is the responsibility of PUD; however, most ongoing management directives are the responsibility of the Parks and Recreation Department and are not project-specific directives. Section §1.5.2 does include directives regarding mitigation and restoration that would be applicable to the Project, however. Each directive and analysis of each is provided below.

Mitigation

Mitigation, when required as part of project approvals, shall be performed in accordance with the City of San Diego Environmentally Sensitive Lands Regulations (ESL) and Biology Guidelines.

Project mitigation shall be performed in accordance with all City of San Diego ESL Regulations, as outlined in Section 7, below. The draft restoration plan is included as Appendix H to this report and has been prepared in conformance with the regulations.

Restoration

Restoration or revegetation undertaken in the MHPA shall be performed in a manner acceptable to the City. Where covered species status identifies the need for reintroduction and/or increasing the population, the covered species will be included in restoration/revegetation plans, as appropriate. Restoration or revegetation proposals will be required to prepare a plan that includes elements addressing financial responsibility, site preparation, planting specifications, maintenance, monitoring, and success criteria, and remediation and contingency measures. Wetland restoration/revegetation proposals are subject to permit authorization by federal and state agencies.

All coast barrel cactus within the Project impact area shall be collected and salvaged by the qualified Project restoration contractor prior to any clearing, grubbing, or grading. These individuals will be maintained by the restoration contractor during Project construction, then planted as part of the Project restoration effort. Planting areas will generally be in the areas where the individuals were salvaged and/or south and southwest-facing slopes with open Diegan coastal sage scrub and/or southern maritime chaparral habitat. Please see the *La Jolla View Reservoir Replacement Project Conceptual On-Site Upland and Ephemeral Drainage Restoration and Revegetation Plan* (HELIX, 2019) for additional information.

Nuttall's scrub oak does not transfer well; therefore, salvage is not being pursued for this species but will be planted through implementation of the Project restoration plan (Appendix H).

4.2 COMPLIANCE WITH FEDERAL REGULATIONS SUMMARY

The following analysis of project conformance with federal regulations is included in order to meet Project funding requirements. For an analysis of Project conformance with local and state laws, please see section 6.

The Project would be implemented in conformance with all applicable federal biological regulations. Relevant laws and a discussion of how each is addressed are provided below.

Federal Endangered Species Act (ESA)

The federal Endangered Species Act (ESA) of 1973, as amended, provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed animal species. ESA regulates the "taking" of any endangered fish or wildlife species, per Section 9 of the Act.

As development is proposed, the responsible agency or individual landowner is required to consult with the USFWS to assess potential impacts to listed species (including plants) or its critical

habitat, pursuant to Sections 7 and 10 of the act. USFWS is required to make a determination as to the extent of impact to a particular species a project would have. If it is determined that potential impacts to a species would likely occur, measures to avoid or reduce such impacts must be identified. USFWS may issue an incidental take statement, following consultation and the issuance of a Biological Opinion. This allows for take of the species that is incidental to another authorized activity, provided that the action will not adversely affect the existence of the species. Section 10 of the federal ESA provides for issuance of incidental take permits to non-federal parties with the development of a habitat conservation plan (HCP); Section 7 of the act provides for permitting of federal projects.

The proposed Project occurs within an area covered under the MSCP, which is a Natural Communities Conservation Program (NCCP). The NCCP program began in 1991 as a cooperative effort to protect habitats and species. It is broader in its orientation and objectives than the California and federal Endangered Species Acts, as these laws are designed to identify and protect individual species that have already declined in number significantly. NCCPs take a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity through regional planning of habitat preserves and for wildlife linkages. In exchange for setting aside lands required for species preservation, participating agencies receive an ESA Section 10 take permit for species 'covered' under their NCCP.

Projects permitted through the City of San Diego must comply with the City's MSCP implementing regulations (e.g., Biology Guidelines, ESL, and City of San Diego MSCP Subarea Plan). This includes mitigation of habitat impacts through preservation of habitats of equal or greater value. In exchange, the applicant receives third party take authority for special-status species under the City's ESA Section 10 permit. Thus, through conformance with MSCP implementing regulations, the Project would be in conformance with the ESA for all MSCP 'covered' species. In San Diego County, the MSCP covers nearly all species that are listed as threatened or endangered under the ESA, including those that have the potential to occur in the Project area. The project will conform with the City's MSCP implementing regulations and no 'non-covered' federally-listed species occur on-site; as such, the Project would be implemented in compliance with the federal ESA.

Federal Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the Corps is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 CFR 328.3. Corps, with oversight from the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 permits.

A water quality certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. The RWQCB, a division of the State Water Resources Control Board, provides oversight of the 401 permit process in California. The RWQCB is required to provide "certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards.

The project area includes drainages that are potential non-wetland, ephemeral waters of the U.S. jurisdictional by the Corps and RWQCB; both 404 and 401 permits would be acquired prior to project implementation. With such permits, the project would comply with the federal Clean Water Act.

Executive Order 11990

The purpose of Executive Order (EO) 11990 is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands". To meet these goals, EO 11990 requires that federal agencies consider alternatives to wetland impacts and limit impacts on wetlands if an activity affecting a wetland cannot be avoided.

The project includes potential non-wetland waters of the U.S. but does not include federally jurisdictional wetlands. As such, no impacts on federal wetlands would occur with project implementation and the project would be in conformance with EO 11990.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 U.S. Code [U.S.C.] 703 *et seq.*) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed at 50 CFR 10.13. The MBTA is enforced by USFWS and prohibits “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory bird, or attempt such actions, except as permitted by regulation.

The project would comply with the MBTA and State of California Fish and Game Code protections for nesting birds. Further, the proposed project occurs within the City’s MSCP planning area. The City’s MSCP Section 10(a) Permit “constitutes a Special Purpose Permit under 50 C.F.R section 21.27 for the Take of those Covered Species Subject to Incidental Take which are listed as threatened or endangered under the ESA and which are also protected by the Migratory Bird Treaty Act, except for the Bald Eagle. The Take of such species in conjunction with any public or private land development project authorized and approved by the City of San Diego in accordance with this Agreement will not constitute a violation of the MBTA.” (City of San Diego MSCP Implementing Agreement, 1997).

As such, the project will be implemented in conformance with the MBTA.

Executive Order 13112 – Invasive Species

Compliance with Executive Order 13112 is required to prevent and control the introduction and spread of invasive species. The project will incorporate best management practices (BMPs) prior to construction to reduce erosion and therefore prevent the spread of invasive plant species. Project revegetation will include only native, non-invasive plant species. Further, due to its location within and adjacent the MHPA, the project must comply with the MSCP’s MHPA land use adjacency guidelines, which prohibit the planting or introduction of invasive species in the MHPA. Please see Section 4 of this report for a full discussion of project conformance with the Land Use Adjacency Guidelines.

5 SURVEY RESULTS

5.1 GENERAL PHYSICAL CHARACTERISTICS

The Project area is part of a 42-acre open space park that is owned and operated by the City of San Diego's Parks and Recreation Department. The site slopes westward from Brodiaea Drive, overlooking the community of La Jolla. Areas immediately south of the Project area are developed with residential housing, areas to the north and east are undeveloped open space park, and areas to the west are developed by residential units and a golf course. The La Jolla Exchange Place Reservoir Project area occurs in a more developed area west of the La Jolla reservoir. That site is entirely developed and includes only reservoir development and associated ornamental landscaping.

An east-northwest trending drainage enters the site at the southeastern corner of the property, and runs for approximately 1,000 feet within the park, with smaller tributaries entering from the east and west. Additionally, a swale occurs at the east end of the Project site in an area that would be within the new reservoir easement. A formal delineation of each of these areas was performed pursuant to Corps guidelines (Appendix D).

There are three wetland parameters analyzed during a formal jurisdictional delineation: 1) presence of hydrophytic plants; 2) hydric soils; and 3) wetland hydrology. The City's wetland definition hinges on the presence of wetland (hydrophytic) plants. According to the San Diego Municipal Code §113.0103:

> *Wetlands are defined as areas which are characterized by any of the following conditions:*
>
> 1. *All areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation, including but not limited to salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools;*
> 2. *Areas that have hydric soils or wetland hydrology and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation or catastrophic or recurring natural events or processes have acted to preclude the establishment of wetland vegetation as in the case of salt pannes and mudflats;*
> 3. *Areas lacking wetland vegetation communities, hydric soils and wetland hydrology due to non-permitted filling of previously existing wetlands;*
> 4. *Areas mapped as wetlands on Map No. C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone).*

On-site drainages support primarily unvegetated lands and upland vegetation. The channel appears to have some increased water conveyance due to runoff from nearby residences and roadways; at one point a concrete-lined feature re-directs roadway runoff flows from Country Club Drive directly into the channel. No obligate wetland indicator species or preponderance of hydric plant species were observed. One small patch of invasive giant reed (*Arundo donax*) was observed

in the drainage. Giant reed is classified as a 'facultative wetland (FACW)' species, which is defined as a species that usually occurs in wetlands but occasionally occurs in uplands. This species does not constitute a dominant species within the drainage; its occurrence is likely the result of increased urban runoff and nearby residential indirect impacts. For instance, Country Club road runoff drains directly into the channel via a small concrete ditch; such diversion creates an increased flow within the channel. Also, development of the impervious roadways and homes above the channel likely increased flows to this area. However, the presence of giant reed does not indicate that the feature is a vegetation community 'characteristically dominated by hydrophytic vegetation', as the remainder of the drainage feature is unvegetated or supports uplands species such as lemonade berry (*Rhus integrifolia*). The presence of giant reed is incongruent with the remaining natural portions of the drainage feature, which do not support any FACW or obligate (OBL) wetland species. Thus, the feature is not dominated by nor does it support significant areas of wetland plant species and therefore does not constitute a City wetland.

On-site drainage features support only upland habitats and do not meet the three parameters required for a federally jurisdictional wetland. Within the on-site drainage features (Appendix D; Features 1, 1A, 1B and 2), an ordinary high water mark and bed and bank were observed. As such, these features are potential non-wetland, ephemeral waters of the U.S./State jurisdictional by the Corps and RWQCB, and potential ephemeral streambed jurisdictional by CDFW.

The swale to the immediate east of the project, which would be partially within the reservoir easement (Appendix D; Feature 3) is primarily unvegetated does not meet the three parameters required for a federally jurisdictional wetland. Furthermore, RBC did not observe indicators of wetland hydrology, an ordinary high water mark, or bed and bank along this drainage within the Project survey area. Per the Corps' Regulatory Guidance Letter No. 05-05 (Subject: Ordinary High Water Mark Identification), generally two or more of the physical characteristics listed in Paragraph 3.b. should be identified for final OHWM determination. The only consistent potential ordinary high water mark indicator observed within this swale was change was a change in plant community (i.e., lowest topographic area was unvegetated vs. southern maritime chaparral on slopes), thus further supporting the determination that this area does not have an ordinary high water mark. In summary, this feature exhibits swale-like characteristics and therefore should not be considered jurisdictional by the Corps, RWQCB, or CDFW.

5.2 BIOLOGICAL RESOURCES

5.2.1 BOTANICAL RESOURCES

The Project area is primarily southern maritime chaparral habitat (Figure 2) within the La Jolla View Reservoir portion (see below), and the Exchange Place reservoir is entirely developed (Figure 3). Ashy spike moss (*Selaginella cinerascens*), coast barrel cactus (*Ferocactus viridescens*), and Nuttall's scrub oak (*Quercus dumosa*) were documented on-site during Project biological surveys (see section 5.2.3). Vegetation was mapped based on species occurrence within the survey area and site locality; classifications follow the City of San Diego Biology Guidelines (Guidelines Table 3). Note that 'Tiers' cited within each upland habitat/land use description are from the Biology

Guidelines as well and represent the sensitivity of the habitat, with Tier I being highest sensitivity and Tier IV being low/no sensitivity.

Vegetation Communities

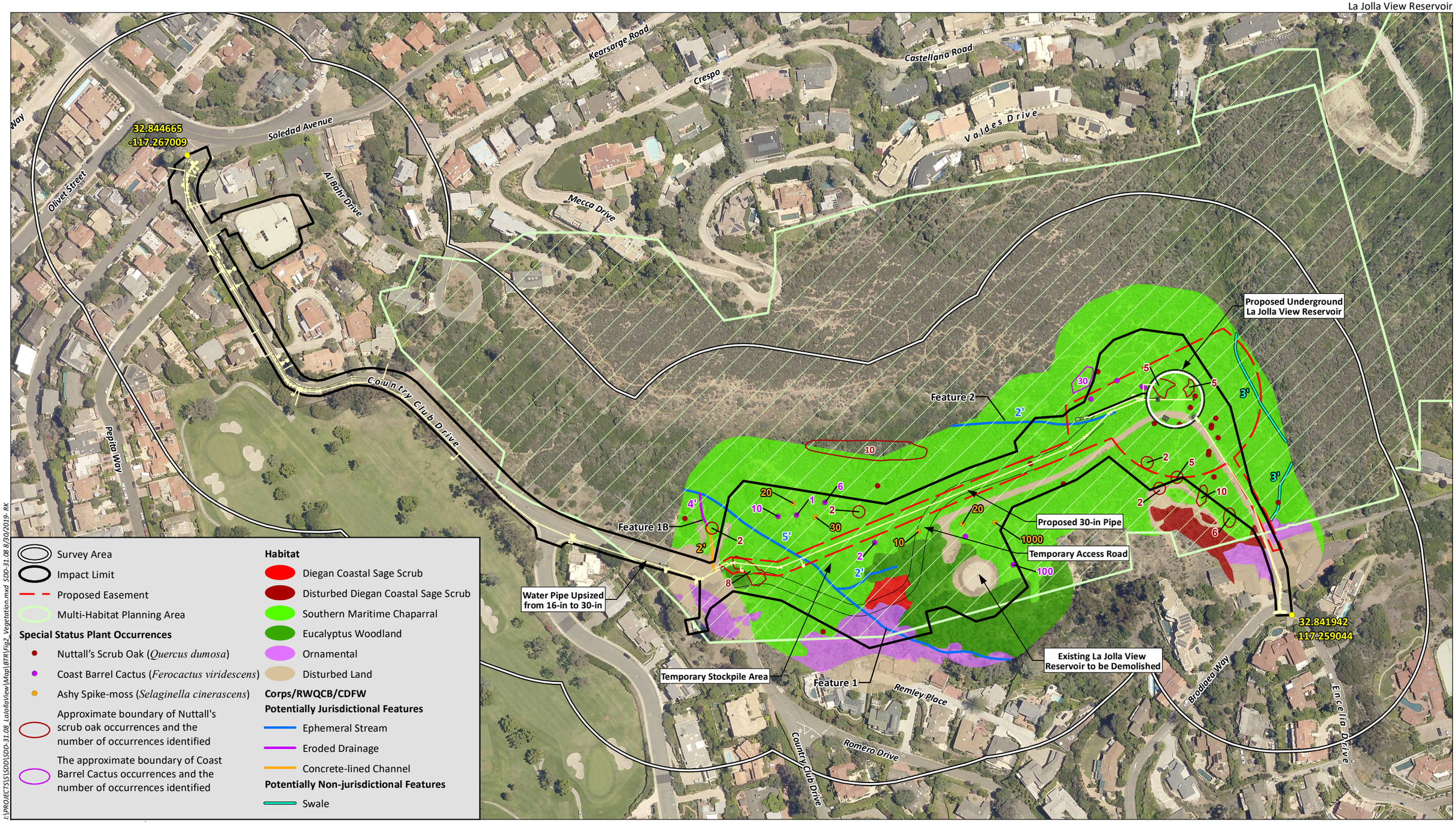
Southern Maritime Chaparral (Tier I, rare uplands) is a low, relatively open chaparral that occurs on weathered sands within the coastal fog belt. This habitat is typically dominated by such species as wart-stemmed ceanothus (*Ceanothus verrucosus*), Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), and summer-holly (*Comarostaphylis diversifolia* ssp. *diversifolia*). Other species that commonly occur in this habitat are chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), and toyon (*Heteromeles arbutifolia*). As with other chaparral associations, fire appears to be necessary for continued reproduction of many of the characteristic species within southern maritime chaparral (Holland 1986).

Distinguishing between southern maritime chaparral and southern mixed chaparral can be difficult, especially in coastal areas where ecotonal or transitional associations between the two types often occur. Important differences between these habitat types include the number and dominance of characteristic southern maritime chaparral species (some of which are listed above), the structural characteristics of the vegetation, and the range of soil types and geographic areas over which these habitats occur.

Species such as Del Mar manzanita, wart-stemmed ceanothus, summer-holly, and others tend to be more frequent and have increased dominance in southern maritime chaparral, while species such as chamise, toyon, and mission manzanita typically dominate southern mixed chaparral. Species richness (the number of species per unit area) also seems to be higher in southern maritime than in southern mixed chaparral. Southern maritime chaparral is also often more open and lower growing, possibly as a result of its apparent restriction to relatively infertile, weathered sandstone soils. Geographically, southern maritime chaparral is restricted primarily to the coastal fog belt. In contrast, southern mixed chaparral is more wide ranging and occurs on a variety of soil types.

On the Project site, this community was mapped as southern maritime chaparral based on Attachment II(A)(2) of the City of San Diego Guidelines for Conducting Biological Surveys (2012), which states that "Southern Maritime Chaparral is a rare vegetation community associated with the fog belt along the coastal areas…" and is associated with sandstone soils. The site occurs in close proximity to the Pacific Ocean and is marine-influenced. Nuttall's scrub oak was observed within this habitat on-site; this species is identified as an indicator of southern maritime chaparral per Attachment II(A)(2). A list of all plant species observed on-site is included as Appendix B to this report.

Diegan Coastal Sage Scrub and *Disturbed Diegan Coastal Sage Scrub* (Tier II, uncommon uplands) is comprised of low, soft-woody subshrubs to about 1 meter (3 feet (ft)) high, many of which are facultatively drought-deciduous. This association is typically found on dry sites, such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. Dominant shrub species in this vegetation type vary, depending on local site factors and levels of disturbance.



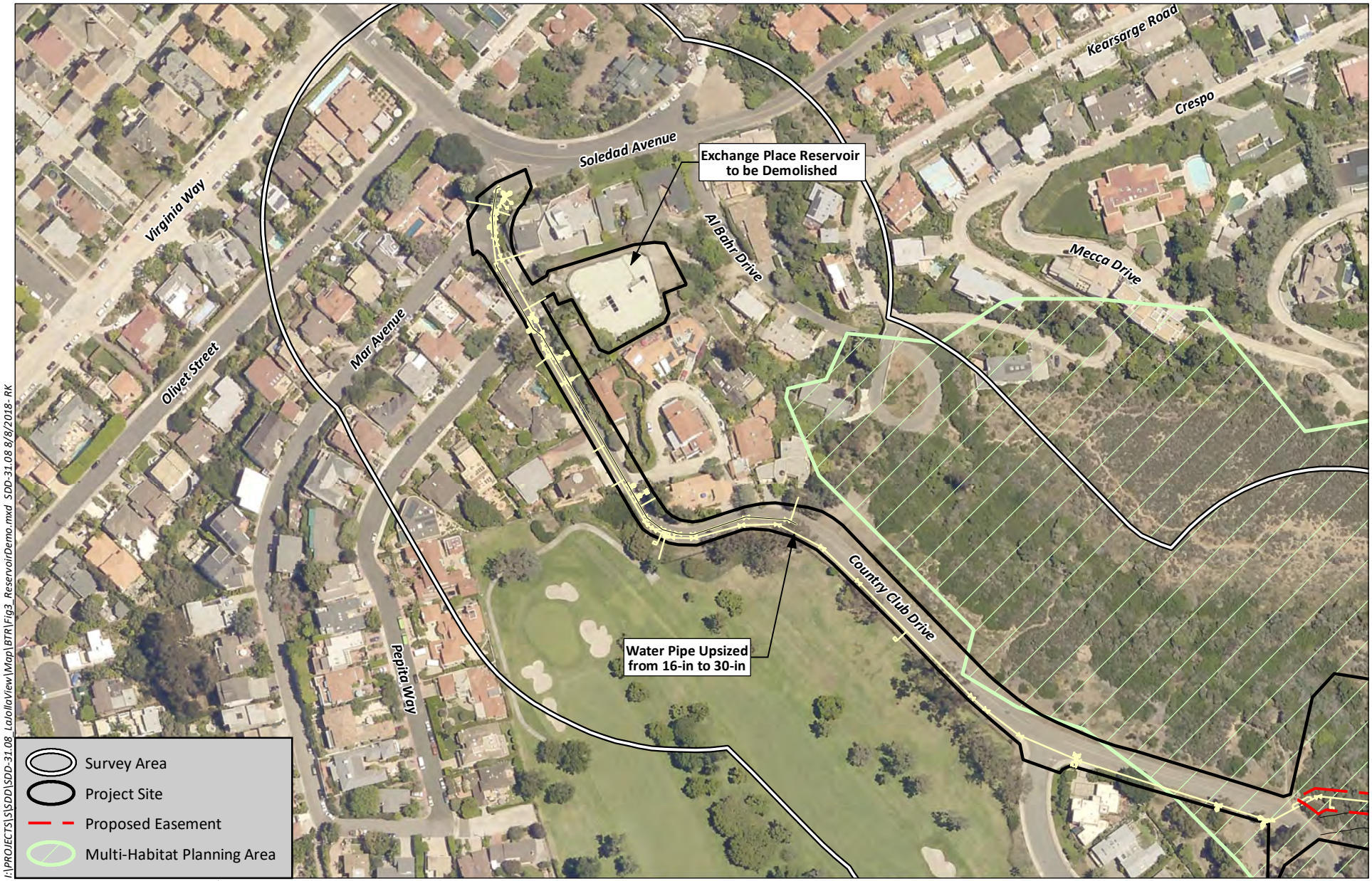
I:\PROJECTS\SD\SDD\SDD-31.08_LaJollaView\Map\BTR\Fig2_Vegetation.mxd SDD-31.08 8/30/2019- RK

Source: Aerial (SanGIS 2017); Project Limits (IEC December 2016); Vegetation and Species (IEC 2016)

HELIX Environmental Planning

Vegetation/Project Features

Figure 2



I:\PROJECTS\S\SDD\SDD-31.08_LaJollaView\Map\BTR\Fig3_ReservoirDemo.mxd SDD-31.08 8/8/2018- RK

Source: Aerial (SanGIS 2017); Project Features (IEC December 2016)

HELIX Environmental Planning

Exchange Place Reservoir Demolition Location and Land Uses

Figure 3

The Diegan coastal sage scrub within the survey area consists of small patches of shrubs including broom baccharis (*Baccharis sarothroides*), coastal sagebrush (*Artemisia californica*), and California encelia (*Encelia californica*). The disturbed Diegan coastal sage scrub vegetation within the survey area supports an overstory of Diegan coastal sage scrub species but a groundcover of invasive *Carpobrotus edulis* (hottentot fig/highway iceplant). This habitat was treated as Tier II habitat for the purposes of this analysis, but the invasive iceplant information has been included here to better support potential future restoration/revegetation.

Disturbed Land (Tier IV, other uplands) are either developed lands or areas that have been previously disturbed by development, agricultural activities, or are lands supporting only ruderal vegetation. It includes lands generally cleared of vegetation such that little or no natural habitat remains, and lands disturbed such that at least 50 percent of plant cover is broad-leaved non-native vegetation.

Disturbed lands within the survey area are primarily areas that are developed with residential housing and associated driveways, the water facilities access road, and roadways/road shoulders.

Eucalyptus Woodland (Tier IV, other uplands) denotes an area dominated by eucalyptus trees (*Eucalyptus* spp.). The trees are not native and were planted and/or became naturalized in these areas. Species within the survey area included river red gum (*Eucalyptus camaldulensis*) and blue gum (*Eucalyptus globulus*).

Ornamental Vegetation (Tier IV, other uplands) such as hottentot fig (*Carpobrotus edulis*), Perez's Marsh Rosemary (*Limonium perezii*) and bottlebrush (*Callistemon* sp.), and ornamental pittosporum (*Pittosporum* sp.) were observed within the survey area and are typically associated with adjacent residential housing. These species are not native and were planted and/or became naturalized in these areas.

5.2.2 ZOOLOGICAL RESOURCES

Animal species noted within the survey area were primarily common species typical of an urbanized canyon including California towhee (*Pipilo crissalis*), western scrub jay (*Aphelocoma californica*), house finch (*Carpodacus mexicanus*), red-shouldered hawk (*Buteo lineatus*), and western fence lizard (*Sceloporus occidentalis*). Notably, a least Bell's vireo (*Vireo bellii pusillus*; federally and state listed endangered) was observed in the northeastern portion of the survey area within southern maritime chaparral habitat. A list of all wildlife species observed on-site is included as Appendix C to this report.

The least Bell's vireo is a migratory species that breeds in southern California, where it typically inhabits willow-dominated riparian habitats. Based on the lack of appropriate breeding habitat in the park and the early spring timing of the observation, the individual was determined to be migrating through the area and not a resident of the Project site or immediately surrounding area.

5.2.3 RARE, THREATENED, ENDANGERED, ENDEMIC AND/OR SENSITIVE SPECIES OR MSCP–COVERED SPECIES

Sensitive plants, animals and habitats are defined here as rare and/or endangered, or depleted or declining according to the USFWS, CDFW, California Native Plant Society (CNPS) and/or the City

of San Diego. General surveys were conducted for plant and animal species and habitats that are considered sensitive according to the USFWS, CNPS and the CDFW's Natural Diversity Database (CNDDB) record for the La Jolla 7.5' minute quadrangle. Each of these species was assessed for its potential to occur within the Project area (Appendix E).

5.2.3.1 Animal Species

California gnatcatcher (*Polioptila californica californica*) Focused (protocol-level) surveys for the federally-listed threatened and MSCP-covered coastal California gnatcatcher were performed in 2015 for the full Project area plus a 300-foot buffer (Appendix F). Results were negative; the species was not observed on-site. Further, limited surveys were conducted in spring 2014 as part of the Project geological survey effort; results of that survey were also negative. Note that surveys are now considered expired, however, and the species is considered potentially present.

Coast horned lizard (*Phrynosoma blainvilli*) has a moderate potential for occurrence on-site based on the presence of suitable habitats in the project area and the site's location within this species range.

Least Bell's vireo (*Vireo bellii pusillus*) As noted above, a least Bell's vireo (federally and state listed as endangered) was observed in the northeastern portion of the survey area within southern maritime chaparral habitat. Based on the lack of appropriate breeding habitat in the park and the early spring timing of the observation, the individual was likely migrating through and not a resident of the immediate area; no additional surveys for this species are recommended.

Orange-throated whiptail (*Aspidoscelis hyperythyra*) has a moderate potential for occurrence on-site based on the presence of suitable habitats in the project area and the site's location within this species range.

5.2.3.2 Plant Species

Ashy spike moss, coast barrel cactus, and Nuttall's scrub oak were documented on-site during Project biological surveys. Focused surveys and mapping of these species was conducted, and locations of these species are depicted on Figure 2. Table 1 summarizes the potential for Narrow Endemic Species (City of San Diego 1997) to occur within or immediately adjacent to the Project. Narrow endemic species are those with a very restricted habitat that occur only in the San Diego region. Specific protections apply to Narrow Endemic species pursuant to the MSCP. The potential for occurrence on-site was assessed by assessing the species-specific habitat requirements and occurrence of such conditions on-site and a review of species occurrences in CNDDB records and the San Diego Plant Atlas.

Table 1. Potential for Narrow Endemic Plant Species to Occur Within or Immediately Adjacent the Project Impact Area

Species	**Potential to Occur/Comments**
San Diego Thornmint (*Acanthomintha ilicifolia*)	None. Species occurs on clay lenses (often gray in color) in open, generally grassland areas. Suitable habitat for this species occurs in the Project area near the proposed reservoir site; however, the species was not observed during general biological surveys in April 2013 nor during focused surveys on April 12, 2016 (for additional information, please see survey report, Appendix K).
Shaw's Agave (*Agave shawii*)	None. Species occurs exclusively on coastal bluffs. Would have been observed if present.
San Diego Ambrosia (*Ambrosia pumila*)	None. Species occurs in disturbed areas, seasonally dry drainages and broad floodplains. The Project area does not have suitable floodplain habitat and generally supports dense vegetation that would preclude *A. pumila.*
Aphanisma (*Aphanisma blitoides*)	None. Species occurs on coastal bluffs and dunes.
Coastal Dunes Milk Vetch (*Astragalus tener* var. *titi*)	None. Species occurs on coastal dunes.
Encinitas Baccharis (*Baccharis vanessae*)	None. Species occurs in southern maritime and southern mixed chaparrals on sandstone soils, typically in north San Diego County. Would have been observed if present.
Short-leaf Dudleya (*Dudleya blochmaniae* ssp *brevifolia*)	Low. Sandstone bluff soil formation habitat of species does not occur within the Project.
Variegated Dudleya (*Dudleya variegata*)	None. Habitat is typically openings in coastal sage scrub or grasslands. There is no suitable habitat for this species within the Project.
San Diego Button-Celery (*Eryngium aristulatum* var. *parishii*)	None. Vernal pool species; no vernal pool habitat within the Project.
Otay Tarplant (*Deinandra conjugens*)	None. Species occurs in grasslands and coastal sage scrub in clay soils in southern San Diego County. The Project does not support clay lenses characteristic of Otay Tarplant habitat.
Prostrate Navarretia (*Navarretia fossalis*)	None. Vernal pool species; no vernal pool habitat within the Project.
Snake Cholla (*Opuntia parryi* var. *serpentina*)	None. Species occurs in chaparral and coastal sage scrub in southern San Diego County. Would have been observed if present.
Orcutt Grass (*Orcuttia californica*)	None. Vernal pool species; no vernal pool habitat within the Project.
San Diego Mesa Mint (*Pogogyne abramsii*)	None. Vernal pool species; no vernal pool habitat within the Project.
Otay Mesa Mint (*Pogogyne nudiuscula*)	None. Vernal pool species; no vernal pool habitat within the Project.

Ashy Spike Moss was documented on-site (Figure 2) and is a California Rare Plant Rank (CRPR) 4.1 species, which means it is on a watch list and has a "limited distribution in California." Sometimes called club moss, this species occurs in Diegan coastal sage scrub and chaparral habitat and is native to Baja California and San Diego County. It grows in dry habitats, typically on clay soil. The plant is often gray or brown in color, forming a dull-colored carpet on the substrate.

Coast barrel cactus was documented on-site (Figure 2) and is a California Rare Plant Rank (CRPR) 2B.1 species, which means it is considered "seriously threatened in California but more common elsewhere" and is an MSCP-covered species. It is a stem succulent in the Cactaceae family that typically blooms from May to June. This species typically is found on dry west- and south-facing slopes in chaparral, coastal sage scrub, grassland, and adjacent to vernal pools. Coast barrel cactus is known from Riverside and San Diego counties as well as from Baja California, Mexico, at elevations between 10 and 1,480 feet above mean sea level (amsl). This species is threatened by development, non-native plant species, trampling by foot traffic, road maintenance, agricultural practices, grazing, vehicle activity, and illegal dumping (CNPS 2014).

Nuttall's scrub oak was documented on-site (Figure 2) and is a CRPR 1B.1 species, which means it is "seriously threatened in California and elsewhere." It is an evergreen shrub in the Fagaceae family that typically blooms from February to April. This species is found in sandy or clay loam soils in chaparral, coastal sage scrub, and closed-cone coniferous forest. Nuttall's scrub oak is known from southern California from Orange, Santa Barbara, San Diego, and Ventura counties as well as from Baja California, Mexico, at elevations between 45 and 1,315 feet amsl. This species is threatened by development, fire suppression, and vegetation/fuels management (CNPS 2014).

6 PROJECT IMPACT ANALYSIS

6.1 SIGNIFICANCE CRITERIA

California Environmental Quality Act (CEQA) regulations generally define a significant effect on the environment as a substantial or potentially substantial adverse change in the physical environment (CEQA Guidelines Sections 15064 and 15126.2). The City of San Diego's *California Environmental Quality Act Significance Determination Thresholds* provides the following guidance regarding impacts on biological resources. These thresholds assure conformance with CEQA as well as identify federal biological regulation conformance requirements ('CEQA-plus'), e.g., wetlands, threatened/ endangered species permits, etc. Projects are considered to have a significant impact on the environment if they would result in any of the following:

1) A substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS)
2) A substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development manual or other sensitive natural community identified in local or regional plans, policies or regulations, or by the CDFG or USFWS
3) A substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means
4) Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impedance of the use of native wildlife nursery sites
5) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region
6) Introduction of a land use within an area adjacent to the MHPA that would result in adverse edge effects
7) Conflict with any local policies or ordinances protecting biological resources
8) Introduction of invasive species of plants into a natural open space area

6.2 PROJECT IMPACTS

6.2.1 BIOLOGICAL IMPACTS

6.2.1.1 Vegetation Communities/Land Uses

The La Jolla View reservoir replacement is anticipated to result in impacts on 9.18 acres of land, 2.27 acres of which is development of the new reservoir and pipeline and 6.91 acres of which is for soil stockpiling and development of a temporary construction roadway, as well as impacts along Country Club Road. Of this total, 5.67 acres are considered sensitive upland habitat. The

Exchange Place demolition would result in impacts on 0.51 acre of developed land, which are not sensitive habitats (Tables 2a-b). Pursuant to the City of San Diego's *Significance Determination Guidelines Under the California Environmental Quality Act* (2012), impacts on Tier IV habitats are not considered significant and do not require mitigation. Impacts on Tier I-III upland habitats, however, are considered significant and require mitigation.

Table 2a. Project impacts on vegetation communities/land uses for the La Jolla Reservoir Replacement

Habitat Type (Tier)	Impacts				
	Reservoir and Pipeline Easement		Temporary Stockpile and Construction Access Road		Total Impact
	MHPA	Non-MHPA	MHPA	Non-MHPA	
Southern Maritime Chaparral (Tier I)	2.13	-	3.40	-	5.53
Diegan coastal sage scrub (Tier II)	-	-	0.13	0.01	0.14
Eucalyptus Woodland (Tier IV)	0.01	-	0.73	0.05	0.79
Ornamental (Tier IV)	0.01	0.01	0.23	0.06	0.31
Disturbed Land (Tier IV)	0.10	0.01	0.80	1.50	2.41
TOTAL	2.25	0.02	5.29	1.62	9.18

**Impact calculations provided by HELIX Environmental Planning. Impacts within the Country Club Road portion of the impact area are included within the Reservoir and Pipeline Easement acreages.*

Table 2b. Project impacts on vegetation communities/land uses for the Exchange Place Reservoir demolition

Habitat Type (Tier)	Impact (acres; all outside MHPA)
Disturbed Land (Tier IV)	0.51
TOTAL	0.51

6.2.1.2 Sensitive Species

Ashy spike moss, coast barrel cactus, and Nuttall's scrub oak were documented within the Project impact area. These individuals would be impacted with implementation of the Project with the currently envisioned disturbance footprint. Additionally, orange-throated whiptail (*Aspidoscelis hyperythyra*) and coast horned lizard (*Phrynosoma blainvilli*) have a moderate potential for occurrence on-site (Appendix E), and suitable habitat for the coastal California gnatcatcher is present. Details for each species are provided below.

Ashy Spike Moss

This species is a California Rare Plant Rank (CRPR) 4.1 species. CNPS List 4 is a watch list for species that have a limited distribution. This species is still relatively common in San Diego County. Species on CNPS lists 1 or 2 must be considered in Project CEQA analysis; lists 3 and 4 have no such mandates, but CNPS recommends that they be disclosed. This species occurs throughout San Diego. Ashy spike moss is not an MSCP covered species; the primary targets of the MSCP were high sensitivity plants and animals, most with listing under state and federal endangered species acts. However, as a regional conservation program the MSCP also protects 'non-target' and non-covered species such as ashy spike moss through habitat acquisition and preservation efforts. Pursuant to the City's Biology Guidelines, "In general, it is accepted that securing comparable habitat at the required ratio will mitigate for the direct impact to most sensitive species… Species specific analysis for sensitive species not covered by the MSCP may be required as part of the CEQA process. It is expected that the majority of CEQA sensitive species not covered by the MSCP will be adequately mitigated through the habitat-based mitigation described in Section III of these Guidelines." Because ashy spike moss occurs throughout San Diego and is being conserved incidentally through the habitat-based mitigation requirements of the City Biology Guidelines, Project impacts on this species would not be significant.

Coast Barrel Cactus

Coast barrel cactus is an MSCP covered species; thus, take of the species is allowed for projects that comply with the City's MSCP implementing regulations. Following is the MSCP condition of coverage for this species (Subarea Plan Appendix A):

Area specific management directives must include measures to protect this species from edge effects, unauthorized collection, and include appropriate fire management/control practices to protect against a too frequent fire cycle.

Area specific management directives refer to management plans prepared for MHPA preserve areas. No management plan has been prepared for the Project area; if and when a plan is prepared, it would need to have protection measures for this species. This condition does not apply to the Project as it is not a management plan. Also, the project would not create any edge effects as it is replacement of an existing reservoir with an underground reservoir; no new urban edges would be created.

The Project complies with MSCP implementing regulations and coast barrel cactus is a covered species under the plan; as such, Project impacts on the species would be less than significant. All coast barrel cactus within the Project impact area shall be collected and salvaged by the qualified Project restoration contractor prior to any clearing, grubbing, or grading. These individuals will be maintained by the restoration contractor during Project construction, then planted as part of the Project restoration effort. Planting areas will generally be in the areas where the individuals were salvaged and/or south and southwest-facing slopes with open Diegan coastal sage scrub and/or southern maritime chaparral habitat. Please see the *La Jolla View Reservoir Replacement Project Conceptual On-Site Upland and Ephemeral Drainage Restoration and Revegetation Plan* (HELIX, 2019) for additional information.

Coast Horned Lizard (aka San Diego Horned Lizard)

Coast horned lizard, a CDFW species of special concern, was not documented on-site but has a moderate potential for occurrence. Coast horned lizard is an MSCP covered species; thus take of the species is allowed for projects that comply with the City's MSCP implementing regulations. Following is the MSCP condition of coverage for this species (Subarea Plan Appendix A):

Area specific management directives must include measures to maintain native ant species, discourage the Argentine ant, and protect against detrimental edge effects to this specie.

Area specific management directives refer to management plans prepared for MHPA preserve areas. No management plan has been prepared for the Project area; if and when a plan is prepared, it would need to have protection measures for this species. The project is replacement of an existing reservoir with an underground reservoir; no new urban edges would be created. The project revegetation would require temporary watering which could encourage Argentine ant population increases; however, irrigation would be removed upon successful revegetation of the area. As such, no significant impacts on coast horned lizard would occur with project implementation.

Coastal California Gnatcatcher

Focused (protocol-level) surveys for the federally-listed threatened and MSCP-covered coastal California gnatcatcher were performed in 2015 for the full Project area plus a 300-foot buffer (Appendix F). Results were negative; the species was not observed on-site. Further, limited surveys were conducted in spring 2014 as part of the Project geological survey effort; results of that survey were also negative. Note that surveys are now considered expired, however, and the species is considered potentially present.

Coastal California gnatcatcher is an MSCP covered species; thus take of the species is allowed for projects that comply with the City's MSCP implementing regulations. Following is the MSCP condition of coverage for this species (Subarea Plan Appendix A):

Area specific management directives must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat quality including vegetation structure. No clearing of occupied habitat within the cities' MHPAs and within the County's Biological Core Areas may occur between March 1 and August 15.

Area specific management directives refer to management plans prepared for MHPA preserve areas. No management plan has been prepared for the Project area; if and when a plan is prepared, it would need to have protection measures for this species. The project is replacement of an existing reservoir with an underground reservoir; no new urban edges would be created. No clearing of occupied habitat would be allowed with project implementation, as the project will be required to comply with the City's MHPA adjacency guidelines and the avian protection measures outlined in Section 7. As such, impacts would be less than significant.

Nuttall's Scrub Oak

Nuttall's scrub oak is not an MSCP covered species; the primary targets of the MSCP were high sensitivity plants and animals, most with listing under state and federal endangered species acts. However, as a regional conservation program the MSCP also protects 'non-target' and non-covered species such as Nuttall's scrub oak through habitat acquisition and preservation efforts. Pursuant to the City's Biology Guidelines, "In general, it is accepted that securing comparable habitat at the required ratio will mitigate for the direct impact to most sensitive species… Species specific analysis for sensitive species not covered by the MSCP may be required as part of the CEQA process. It is expected that the majority of CEQA sensitive species not covered by the MSCP will be adequately mitigated through the habitat-based mitigation described in Section III these Guidelines." Nuttall's scrub oak is being conserved incidentally through the habitat-based (Tier I) mitigation requirements of the City Biology Guidelines. Additionally, like coast barrel cactus, Nuttall's scrub oak is included in the Project revegetation species palette, substantially offsetting the loss. Therefore, although potentially adverse, the loss of 45 Nuttall's scrub oak individuals within the Project area would not be considered significant.

Orange-throated Whiptail

Orange-throated whiptail, a CDFW species of special concern, was not documented on-site but has a moderate potential for occurrence. Orange-throated whiptail is an MSCP covered species; thus, take of the species is allowed for projects that comply with the City's MSCP implementing regulations. Following is the MSCP condition of coverage for this species (Subarea Plan Appendix A):

Area specific management directives must address edge effects.

Area specific management directives refer to management plans prepared for MHPA preserve areas. No management plan has been prepared for the Project area; if and when a plan is prepared, it would need to address potential edge effects for this species. The Project would not create any edge effects as it is replacement of an existing reservoir with an underground reservoir; no new urban edges would be created. Implementation of the measures contained in Section 6.2, Biological Resource Protection During Construction, would preclude impacts to the species during construction activities.

The Project complies with MSCP implementing regulations and orange-throated whiptail is a covered species under the plan; as such, Project impacts on the species would be less than significant.

6.2.1.3 Jurisdictional Habitats

The on-site drainages do not support a dominance of hydrophytic vegetation; therefore, the drainages do not qualify as a City jurisdictional wetland, and no wetland buffers are present/required (see Section 5.1). As such, no significant adverse impact to City jurisdictional wetlands or wetland buffers would occur with implementation of the Project.

Similarly, no federal wetlands occur on site, but the site does support drainages that are potential non-wetland, ephemeral waters of the U.S./State jurisdictional by the Corps and RWQCB and potential ephemeral streambed jurisdictional by CDFW.

Impacts associated with the Project are provided in Table 3, below, and additional information is provided in the Project jurisdictional delineation report (Appendix D). Therefore, consultation with federal and state wetland permitting agencies is required prior to Project implementation.

Table 3. Proposed Impacts on Potential Corps, RWQCB, and CDFW Jurisdictional Resources

Feature Name	Reservoir and Pipeline Easement (Acres/Linear Feet)	Temporary Stockpile and Construction Access Road (Acres/Linear Feet)	Total Impacts: Acreage	Total Impacts: Linear Feet
Feature 1	0.004/39	0.053/460	0.057	499
Feature 1A	0	0.007/147	0.007	147
Feature 1B	0	0.001/20	0.001	20
Feature 2	0.005/109	0.004/79	0.009	188
Total	0.009/148	0.065/706	0.074	854

**Impact calculations provided by HELIX Environmental Planning; please note that impacts have been rounded to 1,000th place rather than 100th due to small features and impact acreages.*

6.2.1.4 Wildlife Corridors

The Project area is not identified as an MSCP regional wildlife corridor. The open space park is isolated, with no adjacent native habitats. However, the habitat is a large, intact area of native habitat and serves as a local wildlife corridor and a 'stepping stone' corridor for avian species. The Project does not propose any new barriers such as fencing or development that would preclude wildlife movement. Further, the Project would put the existing above-grade reservoir below ground so would result in fewer obstructions through this area. As such, no impacts on wildlife corridors would occur with Project implementation.

6.2.2 OR–1–2 ZONE DEVELOPMENT AREA REGULATION

The City's regulations include specific directives related to development within the MHPA, or OR-1-2 zone. For projects within the coastal zone, the following regulation applies:

> *Development Area within the Coastal Overlay Zone. There are specific and discretionary encroachment limitations into steep hillsides containing sensitive biological resources established in Section 143.0142(a)(4) of the ESL. These restrictions are designed to assure that development onto steep hillsides containing sensitive biological resources is minimized. Additionally, development within wetlands shall be avoided to the maximum extent possible. In the event impacts to wetlands are unavoidable, only uses identified in Section 143.0130(d), which include aquaculture, wetlands-related scientific research and education uses, wetland restoration projects and incidental public service projects shall be permitted within wetlands. These uses are permitted only where it has been demonstrated that there is no less environmentally damaging feasible alternative and*

mitigation has been provided. In case of conflict with the OR-1-2 Zone and/or other regulations, these regulations shall supercede and apply.

[Note: The Development Regulations of the OR-1-2 Zone apply to all property within the MHPA. In some cases, parcels may be zoned other than OR-1-2, but would still be subject to the OR-1-2 development area regulations pursuant to the ESL (Sec. 143.0141(d)]

Section 143.0142(a)(4) of the City's Environmentally Sensitive Lands Regulations (ESL) states:

Within the Coastal Overlay Zone, steep hillsides shall be preserved in their natural state and coastal development on steep hillsides containing sensitive biological resources or mapped as Viewshed or Geologic Hazard on Map C-720 shall avoid encroachment into such steep hillsides to the maximum extent possible.

Additionally, Section III(B)(1)(b)(3) 'Upland Impacts Within the Coastal Overlay Zone', states:

Within the Coastal Overlay Zone, encroachment into steep hillsides containing sensitive biological resources shall be avoided to the maximum extent possible, and permitted only when in conformance with the encroachment limitations set forth in Section 143.0142(a)(4). Mitigation for permitted impacts shall be required pursuant to Section III.B.1.b(1) and (2) above.

Based on input from the City Public Works Department and Project engineers, the Project has been designed to avoid sensitive resources to the maximum extent possible. The existing LJVR is a critical potable water storage facility that has outlived its useful life and is no longer capable of meeting the requirements of the local water supply system. According to the La Jolla View Reservoir Study (2010), alternative sites within the Park were evaluated for a new reservoir, as well as the possibility of not replacing the existing LJVR, which was found to be infeasible.

According to the La Jolla View Reservoir Study (2010), the existing reservoir site was reviewed as a potential replacement site. The study indicated that re-use of the existing La Jolla View reservoir site "may have the following problems":

- *Located on a possible landslide*
- *Susceptible to collapse of the overstep and poorly retained uphill slope*
- *Susceptible to instability of the filled pad west of the reservoir, and*
- *In close proximity to the potentially active Country Club Fault*

According to the report, "these items, along with the fact that the reservoir is located above several residential properties, suggest that the existing LJV Reservoir site may present significant risks to the Public Utilities Department. The cost of mitigating the existing site, combined with the hydraulic disadvantages, and physical deterioration of the existing reservoir as described earlier, led to the search for a higher elevation site within the 42-acre La Jolla Natural Park where the existing tank is located" (Public Utilities Department, 2010).

Planning studies also found that to meet system needs, the new facility must have a larger volume than the existing facility and be situated at a higher elevation than the current reservoir but within a

limited band of acceptable elevation. Because of this, the location of the new facility is further constrained by the topography and geomorphology in the Project area. The existing reservoir is at a relatively high elevation, therefore the need to site the new reservoir at a higher elevation significantly limits locations for the new reservoir.

The selected site satisfies the conditions needed to meet water system operational requirements and also allows for the reservoir to be fully buried thereby minimizing visual impacts in the Park, consistent with the governing MOU (Appendix I). Because of the multiple disparate constraints, there is limited opportunity to modify the new facility's siting and configuration. Nonetheless, to better understand environmental constraints, and assess whether impacts could be avoided by minor adjustments in placement and footprint, one of the first steps in the conceptual design process was to conduct vegetation mapping, including documentation of the locations of special-status plants, in the vicinity of the proposed Project site. The team also completed a cultural resources technical report, including records search and pedestrian survey, consistent with City guidelines. This information has been used to the extent feasible in placing and configuring the proposed new facilities; for instance, the permissible area of ground disturbance in the vicinity of special-status plants has been reduced. Where possible, the Project limit was also tailored to avoid impacting archaeological resources.

No impacts on City of San Diego-jurisdictional wetlands are proposed as part of the Project (see Section 5.1 and 6.2.1.3). As such, the Project would be consistent with wetlands-related requirements of the Biology Guidelines.

Lastly, MSCP regulations restrict development to 25 percent or less of a parcel that is entirely MHPA; for essential public facility projects, "up to an additional 5% development area inside the MHPA is permitted in order to accommodate essential public facilities as identified in an adopted Land Use Plan (e.g., Community Plan, Specific Plan)." Replacement of the La Jolla View Reservoir is on the City's facilities improvement list and is a public potable water reservoir. As such the Project likely qualifies as an essential public facility; however, the additional 5% development area is not necessary for development.

The La Jolla View Reservoir and associated pipeline work area is almost entirely contained within the 42.6-acre parcel owned by the City (APN 350-680-05). Of the parcel's 42.6 acres, nearly all (37 acres, or 87%) are MHPA lands (Table 4).

Table 4. Development within MHPA/OR-1-2 Zone within the Project Site

Project Component / Parcel #	Total Parcel Area (Acres)	Total MHPA Area (Acres)	Project Impacts within MHPA (Acres)	Project Impacts within non-MHPA (Acreage)	% of Parcel Being Developed
La Jolla View Reservoir - Open Space Park Area (350-68-005)	42.60	37.10	7.25	0.27	18%

La Jolla View Reservoir - Country Club Road	N/A	N/A	0.29	1.37	N/A
La Jolla Exchange Place Reservoir (350-51-206)	0.94	0	0	0.51	54%

[1] The portion of Country Club Road within the project impact area is included in La Jolla View Reservoir impact calculations but is listed separately here as it is a separate parcel; the regulation applies to parcels that are entirely MHPA; however, the Country Club Road area and Exchange Place parcels are included here for informational purposes.

The Project would impact 7.52 acres of land within the parcel, 96% of which are MHPA lands. As such, Project development constitutes approximately 18% of the total parcel, and less than the 25-30% MHPA development limit (Table 4, Figure 4). The Exchange Place Reservoir and Pump Station that are to be demolished are located entirely on a separate 0.94-acre parcel owned by the City (APN 350-512-06). None of this parcel is designated MHPA. As such, the Project would be compliant with the MHPA encroachment regulations.

6.2.4 NESTING BIRD IMPACTS

No impacts to nesting birds are anticipated as the project would comply with the MBTA and California Fish and Game Code 3503.

6.2.5 INDIRECT IMPACTS

The Project would entail extensive demolition, earthwork, and facilities construction activities with the potential to generate dust and noise. Ground disturbance during construction also has the potential to result in accelerated erosion. However, the Project will incorporate measures to address and reduce these types of impacts.

Project contractors will be required to implement standard dust control measures, and with these in place, and given the temporary nature of dust-generating activities, construction dust is not expected to result in significant impacts on biological resources.

The Project will require a SWPPP, which will include measures to control erosion during and following construction. With the SWPPP in place, significant impacts associated with accelerated erosion of disturbed ground are not expected.

Additionally, the project will be conditioned to comply with MHPA land use adjacency guidelines, which helps ensure the avoidance of indirect impacts associated with drainage, toxins, lighting, etc. to MHPA lands.

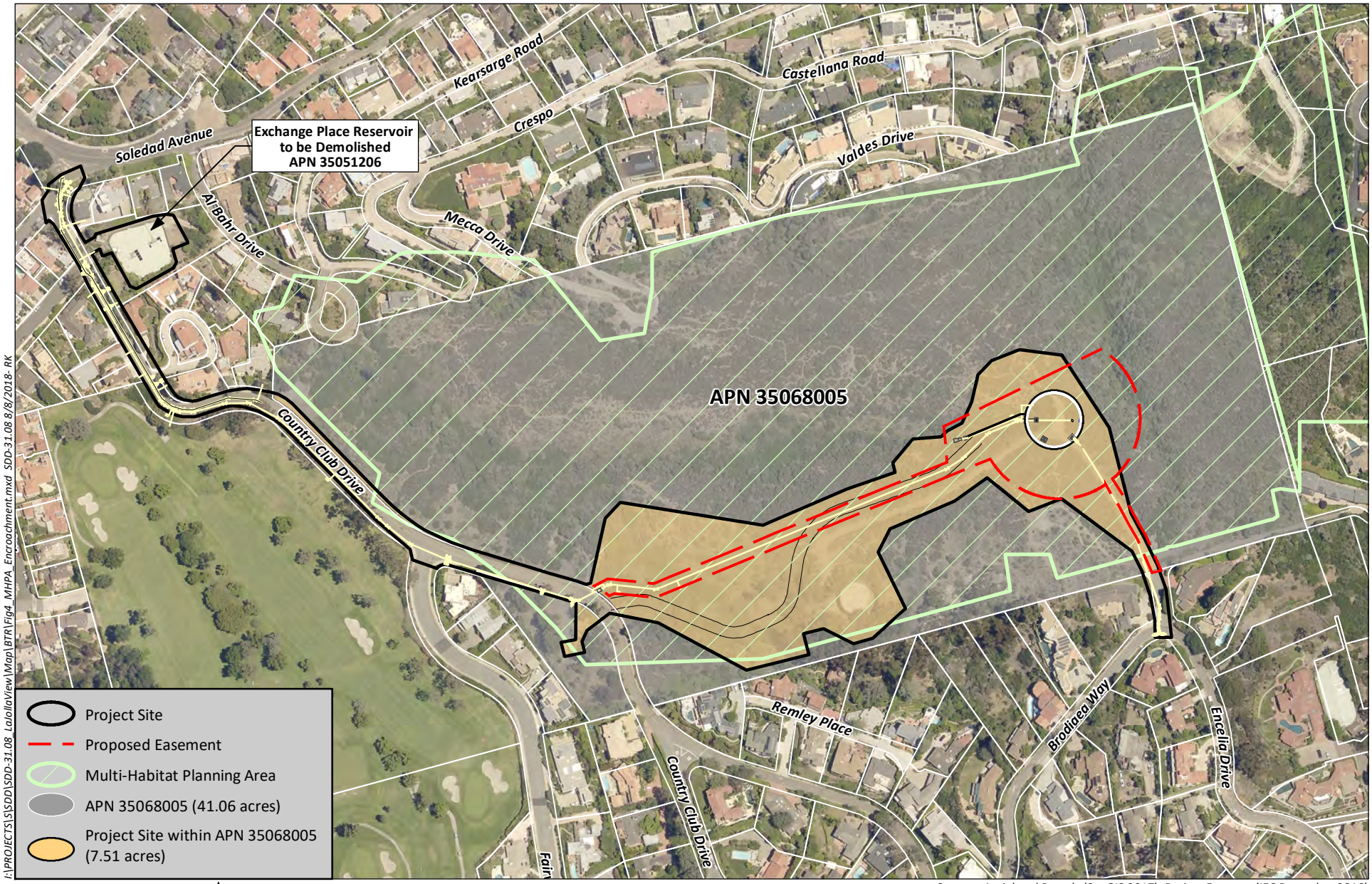
6.2.6 CUMULATIVE IMPACTS

Cumulative impacts include both the potential regional (long-term, additive) effects of a project and the ways a project, in combination with other Projects and conditions in a region, may affect an ecosystem or one of its components beyond the Project limits and on a regional scale. Because the Project would be consistent with the City of San Diego's MSCP, a regional conservation plan, there would be no cumulatively significant biological impacts.

6.2.7 STEEP SLOPES

The Project occurs within a natural open space park with steep hillsides which are subject to the City's Steep Hillside Guidelines (Municipal Code Section 143.01). Though not a biological impact per se, information on steep slopes is provided herein for informational purposes.

According to City Steep Hillside Guidelines, any areas of a site that are not steep hillsides may be developed. If the existing development area is less than 25% of the total site area, then encroachment into steep hillsides is allowed as necessary to achieve a total development area equal to 25 percent of the site.



I:\PROJECTS\S\SDD\SDD-31.08_LaJollaView\Map\BTR\Fig4_MHPA_Encroachment.mxd SDD-31.08 8/8/2018- RK

Source: Aerial and Parcels (SanGIS 2017); Project Features (IEC December 2016)

HELIX Environmental Planning

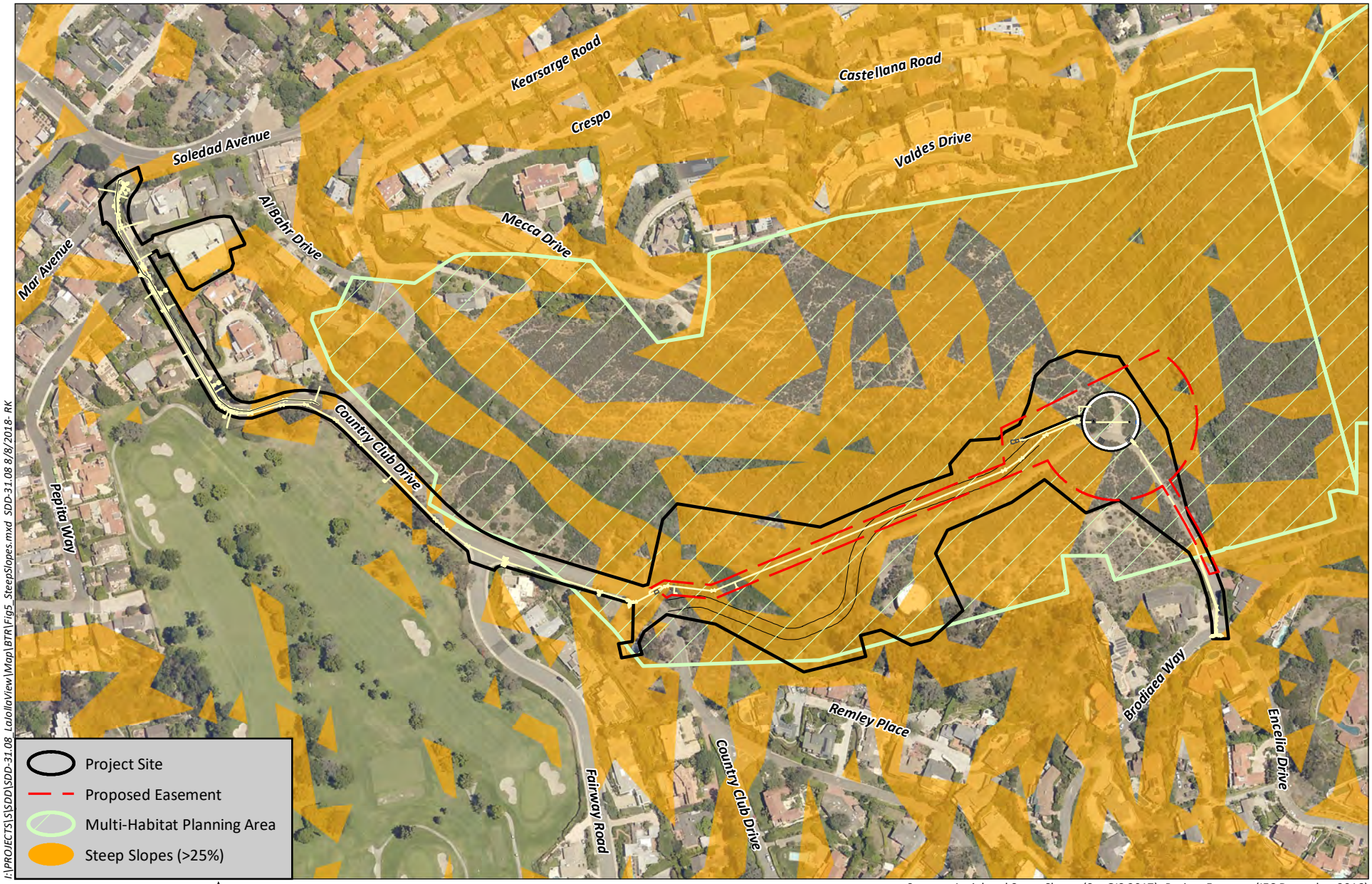
MHPA Encroachment

Figure 4

The La Jolla View Reservoir and associated pipeline work occurs almost entirely within the 42.6-acre parcel owned by the City (APN 350-680-05). Within the parcel, approximately 66% (28 acres) are steep slopes. The Project development area occurring on steep slopes is 5.50 acres or approximately 17% of the total parcel, and less than 25% development of the parcel. The 0.094 Exchange Place Reservoir site supports 0.36 acre of steep slope areas. Development at this site would constitute 60% of the site, 0.16 of which is steep slopes; however, this site is an existing developed reservoir so would not constitute a new encroachment into steep slopes (Table 5; Figure 5). As such, the Project would be compliant with City Steep Hillside Guidelines.

Table 5. Steep Slopes within the Project Site

Parcel #	Total Parcel Area (Acres)	Total Steep Slope Area (Acres)	Project Impacts on Steep Slopes (Acreage)	Project Total Impact Area (Acres)	% of Parcel Being Developed
350-68-005 (La Jolla View Reservoir and Open Space Park Area)	42.6	28.26	5.40	7.25	17%
350-51-206 (La Jolla Exchange Place Reservoir)	0.94	0.36	0.16	0.56	60% (site previously developed)



I:\PROJECTS\S\SDD\SDD-31.08_LaJollaView\Map\BTR\Fig5_SteepSlopes.mxd SDD-31.08 8/8/2018- RK

Source: Aerial and Steep Slopes (SanGIS 2017); Project Features (IEC December 2016)

HELIX Environmental Planning

Steep Slopes

Figure 5

7 MITIGATION, REGULATORY COMPLIANCE, AND MONITORING

The following mitigation requirements are required in conformance with City of San Diego biological regulations. Conformance with these requirements also achieves project conformance with most state and federal biological regulations, with the exception of potential state and federally-jurisdictional wetlands and waters permitting.

As described in Sections 1 and 6.2.1.3, consultation with the Corps, RWQCB, and CDFW will be required prior to Project implementation in conformance with state and federal biological regulations.

7.1 HABITAT MITIGATION

Under the City's Biology Guidelines (City of San Diego, 2012), Project impacts to Tiers I-III habitats must be mitigated. Project mitigation must occur at ratios outlined in Table 6, which also itemizes the impacts anticipated in each habitat type, and the resulting mitigation requirement. Lands designated as Tier IV, such as Ornamental and Eucalyptus vegetation, are not considered to have significant habitat value and, as discussed above, impacts would not be considered significant, subsequently the impacts to Tier IV lands would not require mitigation.

Table 6. Mitigation Requirements for Project Impacts on Sensitive Upland Vegetation Communities

	Project Impact		Mitigation Requirement		On-Site Mitigation		Off-Site Mitigation (acres)[4]
Habitat Type (Tier)	**Inside MHPA (acres)**	**Outside-MHPA (acres)**	**Inside MHPA (acres)**	**Outside MHPA (acres)**	**Inside MHPA (acres)**	**Outside MHPA (acres)**	
Southern Maritime Chaparral (TIER I)	5.53	-	11.06 (2:1 ratio)	16.59 (3:1 ratio)	4.53[2]	0.04[3]	6.50[5]
Diegan coastal sage scrub (TIER II)	0.13	0.01	0.14 (1:1 ratio)	0.28 (2:1/1:5:1 ratio[1])	-	-	0.14
TOTALS	**5.66**	**0.01**	**11.20**	**16.87**	**4.53**	**0.04**	**6.64**

[1] Mitigation for impacts inside the MHPA is 2:1; mitigation for impacts outside the MHPA is 1.5:1.

[2] Based on a 2:1 mitigation ratio, 4.53 acres of on-site restoration provides mitigation for 2.27 acres of project impact.

[3] Based on a 3:1 mitigation ratio, 0.04 acre of on-site restoration provides mitigation for 0.01 acre of project impact.

[4] All off-site mitigation will be achieved within the MHPA; see discussion re: off-site mitigation below.

[5] Based on 2.28 acres of southern maritime chaparral mitigated on-site (see footnotes 1 and 2, above) and a 2:1 mitigation ratio for off-site mitigation within the MHPA [(5.53-2.28) x 2 = 6.50].

No impacts on City wetlands would occur with project implementation; therefore, no City wetland mitigation is required. Please note that impacts on federal and state jurisdictional waters have not yet been permitted; however, initial consultation with the agencies is being pursued by the applicant. Final mitigation requirements to offset impacts on federal and state jurisdictional waters

will be determined as part of the consultation with the Corps, CDFW, and RWQCB and will depend on mitigation type (creation, restoration, etc.), mitigation location, and quality of mitigation proposed; a 1:1 to 3:1 mitigation ratio is a reasonable estimate for planning purposes. For additional information regarding state and federally jurisdictional areas please see Appendix D.

Based on the ratios outlined in the City's Biology Guidelines and Table 6, above, the following mitigation for upland habitat impacts is required:

- 11.06 acres of southern maritime chaparral (Tier I) are preserved inside the MHPA *OR* 16.59 acres of southern maritime chaparral are preserved outside the MHPA;

  AND
- 0.14 acres of Diegan coastal sage scrub (Tier II) or higher tiered habitat inside the MHPA *OR* 0.28 acres of Coastal Sage Scrub (Tier II) or higher tiered habitat are preserved outside the MHPA

Portions of the Project area that will be used for temporary soil stockpiling and construction access will be restored once construction activities are complete. With the exception of the reservoir facility, utility easement lines, and required brush management areas (for adjacent homeowners), all Project areas will be restored for mitigation purposes (Appendix H). As native habitat restoration (versus revegetation), these areas will require a five-year mitigation and monitoring program. It is anticipated that on-site restoration will achieve the following mitigation for impacts on sensitive upland habitats and state and federally jurisdictional aquatic habitats:

- 4.57 acres of Tier I southern maritime chaparral habitat
- 0.074 acre (854 linear feet) of ephemeral drainages (state/federal mitigation)

The project applicant will be responsible for ensuring compliance with all revegetation and restoration performance standards as outlined in the project restoration plan. The City's Mitigation, Monitoring, Coordination (MMC) group will review project revegetation/restoration progress reports and will have final sign off authority on the project revegetation and restoration sites. Please refer to the *La Jolla View Reservoir Replacement Project Conceptual On-Site Upland and Ephemeral Drainage Restoration and Revegetation Plan* (HELIX, 2019) for additional details regarding on-site mitigation plantings and requirements.

With 4.57 acres of Tier I habitat land available for mitigation through on-site restoration, the balance of 6.50 acres of Tier I habitat and 0.14 acre of Tier II habitat will need to be mitigated off-site.

Mitigation for the remaining 6.50 acres of Tier I mitigation and 0.14 acre of Tier II mitigation for Project upland impacts will occur on City-owned lands in the Los Peñasquitos Canyon Preserve. At this site, 7.01 acres of combined Tier IIIB disturbed non-native grassland will be converted and Tier II disturbed Diegan coastal sage scrub will be enhanced to Tier I maritime succulent scrub. This approach to mitigation for Tier I impacts associated with the proposed project is acceptable considering the current condition of existing habitat and the presence of similar Tier I vegetation in the vicinity of the proposed mitigation site. The proposed conversion/enhancement of existing disturbed non-native grassland/Diegan coastal sage scrub to Tier I habitat likewise provides a benefit by restoring habitat that used to be more common in coastal areas historically, and was

more abundant within Los Peñasquitos canyon prior to recent fires that favored an expansion of non-native grasses. The proposed mitigation site is within the MHPA and near existing maritime succulent scrub habitat.

Vegetation communities currently present on the site include disturbed Diegan coastal sage scrub and non-native grassland. The disturbed Diegan coastal sage scrub is dominated by sparse to moderate cover of only two native shrubs - California sagebrush and buckwheat (*Eriogonum fasciculatum*) – as well as scattered individuals of bladderpod (*Peritoma arborea*), coastal cholla (*Cylindropuntia prolifera*), and prickly pear (*Opuntia littoralis*). The presence of the latter two cactus species suggests that this area may have previously been, and is suitable for, maritime succulent scrub habitat that typically supports a higher proportion of cacti and succulents than Diegan coastal sage scrub habitat. Non-native vegetation is common within the disturbed DCSS, particularly Russian thistle (*Salsola tragus*), tocalote (*Centaurea melitensis*), and annual non-native grasses (*Bromus* spp.). Dominant species within disturbed NNG include Russian thistle and black mustard (*Brassica nigra*) along with non-native grasses.

The enhancement of disturbed Diegan coastal sage scrub to maritime succulent scrub is not expected to result in a loss of functions of the existing habitat or impact/reduce habitat for MSCP Covered/sensitive species; rather, it is anticipated that increasing the density and species richness of native vegetation will provide higher quality habitat to facilitate improved use of the site by coastal California gnatcatcher. Based on the presence of appropriate soils and slope aspect within the proposed mitigation area, and existing maritime succulent scrub located nearby on similar soils and slope aspect, target maritime succulent scrub habitat is expected to be self-sustaining at the selected mitigation site. To ensure long-term sustainability, the site will be maintained and monitored for five years, and remedial measures such as re-planting and removal of invasive vegetation will be implemented as the target species establish.

Pursuant to the *Off-Site Tier I Maritime Succulent Scrub Restoration Plan for the La Jolla View Reservoir Replacement Project* (HELIX, 2019), final approval of the mitigation effort will be provided by the City MMC when sustained success of the community is achieved. The mitigation area is located within the MHPA on land owned by the City in fee title and managed by the Parks and Recreation Department. Upon successful completion and final approval of the mitigation effort, the Parks and Recreation Department would again be responsible for provision of long-term management in accordance with the MSCP Framework Management Plan and applicable area-specific management directives as part of their Open Space management program.

Restoration of 7.01 acres of maritime succulent scrub will exceed the requirement for 6.50 acres of Tier I and 0.14 acre Tier II off-site habitat mitigation by 0.37 acre. For additional detail regarding off-site restoration, please see the *Off-Site Tier I Maritime Succulent Scrub Restoration Plan for the La Jolla View Reservoir Replacement Project* (HELIX, 2019).

7.2 BIOLOGICAL RESOURCE PROTECTION DURING CONSTRUCTION

I. Prior to Construction

A. Biologist Verification – The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist)

as defined in the City of San Diego's Biological Guidelines (2012), has been retained to implement the project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project.

B. Preconstruction Meeting – The Qualified Biologist shall attend the preconstruction meeting, discuss the project's biological monitoring program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring, restoration or revegetation, and additional fauna/flora surveys/salvage.

C. Biological Documents – The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or scheduled per City Biology Guidelines, Multiple Species Conservation Program (MSCP), Environmentally Sensitive Lands Ordinance (ESL), project permit conditions; California Environmental Quality Act (CEQA); endangered species acts (ESAs); and/or other local, state or federal requirements.

D. BCME – The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME) which includes the biological documents in C above. In addition, include: restoration/revegetation plans, plant salvage/relocation requirements (e.g., coastal cactus wren plant salvage, burrowing owl exclusions, etc.), avian or other wildlife surveys/survey schedules (including general avian nesting and USFWS protocol), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/ barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City ADD/MMC. The BCME shall include a site plan, written and graphic depiction of the project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.

E. Avian Protection Requirements – To avoid any direct impacts to the coastal California gnatcatcher and avian species identified as a listed, candidate, sensitive, or special status species in the MSCP, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to City Development Services Department for review and approval prior to initiating any construction activities. If nesting coastal California gnatcatcher, sensitive or MSCP-covered birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and

implemented to the satisfaction of the City. The City's MMC Section and Qualified Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

F. Resource Delineation – Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize attraction of nest predators to the site.

G. Education – Prior to commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

II. During Construction

A. Monitoring – All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed as shown on "Exhibit A" and/or the BCME. The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys. In addition, the Qualified Biologist shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR shall be e-mailed to MMC on the 1st day of monitoring, the 1st week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.

B. Subsequent Resource Identification – The Qualified Biologist shall note/act to prevent any new disturbances to habitat, flora, and/or fauna onsite (e.g., flag plant specimens for avoidance during access, etc). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the Qualified Biologist.

III. Post Construction Measures

In the event that impacts exceed previously allowed amounts, additional impacts shall be mitigated in accordance with City Biology Guidelines, ESL and MSCP, State CEQA, and other applicable local, state and federal law. The Qualified Biologist shall submit a final BCME/report to the satisfaction of the City ADD/MMC within 30 days of construction completion.

7.3 SITE REVEGETATION AND RESTORATION REQUIREMENTS

Prior to the issuance of a Notice to Proceed (NTP) or any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits the ADD environmental designee of the City's LDR Division shall incorporate the following mitigation measures into the project design and include them verbatim on all appropriate construction documents. Note that these requirements apply to both on-site and off-site restoration activities.

Prior to Permit Issuance

A. Land Development Review (LDR) Plan Check

1) Prior to NTP or issuance for any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits, whichever is applicable, the ADD environmental designee shall verify that the requirements for the revegetation/restoration plans and specifications, including mitigation of direct impacts to southern maritime chaparral have been shown and noted on the appropriate landscape construction documents. The landscape construction documents and specifications must be found to be in conformance with the La Jolla View Reservoir Replacement Project Conceptual On-Site Upland and Ephemeral Drainage Restoration and Revegetation Plan prepared by HELIX Environmental Planning (2019), the requirements of which are summarized below.

B. Revegetation/Restoration Plan(s) and Specifications

1) Landscape Construction Documents (LCD) shall be prepared on D-sheets and submitted to the City of San Diego Development Services Department, Landscape Architecture Section (LAS) for review and approval. LAS shall consult with Mitigation Monitoring Coordination (MMC) and obtain concurrence prior to approval of LCD. The LCD shall consist of revegetation/restoration, planting, irrigation and erosion control plans; including all required graphics, notes, details, specifications, letters, and reports as outlined below.

2) Landscape Revegetation/Restoration Planting and Irrigation Plans shall be prepared in accordance with the San Diego Land Development Code (LDC) Chapter 14, Article 2, Division 4, the LDC Landscape Standards submittal requirements, and Attachment "B" (General Outline for Revegetation/Restoration Plans) of the City of San Diego's LDC Biology Guidelines (July 2002). The Principal Qualified Biologist (PQB) shall identify and adequately document all pertinent information concerning the revegetation/restoration goals and requirements, such as but not limited to, plant/seed palettes, timing of installation, plant installation specifications, method of watering, protection of adjacent habitat, erosion and sediment control, performance/success criteria, inspection schedule by City staff, document submittals, reporting schedule, etc. The LCD shall also include comprehensive graphics and notes addressing the ongoing maintenance requirements (after final acceptance by the City).

3) The Revegetation Installation Contractor (RIC), Revegetation Maintenance Contractor (RMC), Construction Manager (CM) and Grading Contractor (GC), where applicable shall be responsible to insure that for all grading and contouring, clearing and grubbing, installation of plant materials, and any necessary maintenance activities or remedial actions required during

installation and the 120 day plant establishment period are done per approved LCD. The following procedures at a minimum, but not limited to, shall be performed:

a. The RMC shall be responsible for the maintenance of the upland mitigation area for a minimum period of 120 days. Maintenance visits shall be conducted on a weekly basis throughout the plant establishment period.

b. At the end of the 120-day period the PQB shall review the mitigation area to assess the completion of the short-term plant establishment period and submit a report for approval by MMC.

c. MMC will provide approval in writing to begin the five-year long-term establishment/maintenance and monitoring program.

d. Existing indigenous/native species shall not be pruned, thinned or cleared in the revegetation/mitigation area.

e. The revegetation site shall not be fertilized.

f. The RIC is responsible for reseeding (if applicable) if weeds are not removed, within one week of written recommendation by the PQB.

g. Weed control measures shall include the following: (1) hand removal, (2) cutting, with power equipment, and (3) chemical control. Hand removal of weeds is the most desirable method of control and will be used wherever possible.

h. Damaged areas shall be repaired immediately by the RIC/RMC. Insect infestations, plant diseases, herbivory, and other pest problems will be closely monitored throughout the five-year maintenance period. Protective mechanisms such as metal wire netting shall be used as necessary. Diseased and infected plants shall be immediately disposed of off-site in a legally-acceptable manner at the discretion of the PQB or Qualified Biological Monitor (QBM) (City approved). Where possible, biological controls will be used instead of pesticides and herbicides.

4) If a Brush Management Program is required the revegetation/restoration plan shall show the dimensions of each brush management zone and notes shall be provided describing the restrictions on planting and maintenance and identify that the area is impact neutral and shall not be used for habitat mitigation/credit purposes.

C. Letters of Qualification Have Been Submitted to ADD

1) The applicant shall submit, for approval, a letter verifying the qualifications of the biological professional to MMC. This letter shall identify the PQB, Principal Restoration Specialist (PRS), and QBM, where applicable, and the names of all other persons involved in the implementation of the revegetation/restoration plan and biological monitoring program, as they are defined in the City of San Diego Biological Review References. Resumes and the biology worksheet should be updated annually.

2) MMC will provide a letter to the applicant confirming the qualifications of the PQB/PRS/QBM and all City Approved persons involved in the revegetation/restoration plan and biological monitoring of the project.

3) Prior to the start of work, the applicant must obtain approval from MMC for any personnel changes associated with the revegetation/restoration plan and biological monitoring of the project.

4) PBQ must also submit evidence to MMC that the PQB/QBM has completed Storm Water Pollution Prevention Prevention Program (SWPPP) training.

Prior to Start of Construction

A. PQB/PRS Shall Attend Preconstruction (Precon) Meetings

1) Prior to beginning any work that requires monitoring:

a. The owner/permittee or their authorized representative shall arrange and perform Precon Meeting that shall include the PQB or PRS, Construction Manager (CM) and/or Grading Contractor (GC), Landscape Architect (LA), Revegetation Installation Contractor (RIC), Revegetation Maintenance Contractor (RMC), Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC.

b. The PQB shall also attend any other grading/excavation related Precon Meetings to make comments and/or suggestions concerning the revegetation/restoration plan(s) and specifications with the RIC, CM and/or GC.

c. If the PQB is unable to attend the Precon Meeting, the owner shall schedule a focused Precon Meeting with MMC, PQB/PRS, CM, BI, LA, RIC, RMC, RE and/or BI, if appropriate, prior to the start of any work associated with the revegetation/ restoration phase of the project, including site grading preparation.

2) Where Revegetation/Restoration Work Will Occur

a. Prior to the start of any work, the PQB/PRS shall also submit a revegetation/restoration monitoring exhibit (RRME) based on the appropriate reduced LCD (reduced to 11”x 17” format) to MMC, and the RE, identifying the areas to be revegetated/restored including the delineation of the limits of any disturbance/grading and any excavation.

b. PQB shall coordinate with the construction superintendent to identify appropriate Best Management Practices (BMP’s) on the RRME.

3) When Biological Monitoring Will Occur

a. Prior to the start of any work, the PQB/PRS shall also submit a monitoring procedures schedule to MMC and the RE indicating when and where biological monitoring and related activities will occur.

4) PQB Shall Contact MMC to Request Modification

a. The PQB may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the revegetation/restoration plans and specifications. This request shall be based on relevant information (such as other sensitive species not listed by federal and/or state agencies and/or not covered by the MSCP and to

which any impacts may be considered significant under CEQA) which may reduce or increase the potential for biological resources to be present.

During Construction

A. PQB or QBM Present During Construction/Grading/Planting

1) The PQB or QBM shall be present full-time during construction activities including but not limited to, site preparation, cleaning, grading, excavation, landscape establishment in association with restoration or revegetation activities which could result in impacts to sensitive biological resources as identified in the LCD and on the RRME. The RIC and/or QBM are responsible for notifying the PQB/PRS of changes to any approved construction plans, procedures, and/or activities. The PQB/PRS is responsible to notify the CM, LA, RE, BI and MMC of the changes.

2) The PQB or QBM shall document field activity via the Consultant Site Visit Record Forms (CSVR). The CSVR's shall be faxed by the CM the first day of monitoring, the last day of monitoring, monthly, and in the event that there is a deviation from conditions identified within the LCD and/or biological monitoring program. The RE shall forward copies to MMC.

3) The PQB or QBM shall be responsible for maintaining and submitting the CSVR at the time that CM responsibilities end (i.e., upon the completion of construction activity other then that of associated with biology).

4) All construction activities (including staging areas) shall be restricted to the development areas as shown on the LCD. The PQB/PRS or QBM staff shall monitor construction activities as needed, with MMC concurrence on method and schedule. This is to ensure that construction activities do not encroach into biologically sensitive areas beyond the limits of disturbance as shown on the approved LCD.

5) The PQB or QBM shall supervise the placement of orange construction fencing or City approved equivalent, along the limits of potential disturbance adjacent to (or at the edge of) all sensitive habitats, including southern maritime chaparral and Diegan coastal sage scrub, as shown on the approved LCD.

6) The PBQ shall provide a letter to MMC that limits of potential disturbance has been surveyed, staked and that the construction fencing is installed properly

7) The PQB or QBM shall oversee implementation of BMP's, such as gravel bags, straw logs, silt fences or equivalent erosion control measures, as needed to ensure prevention of any significant sediment transport. In addition, the PQB/QBM shall be responsible to verify the removal of all temporary construction BMP's upon completion of construction activities. Removal of temporary construction BMP's shall be verified in writing on the final construction phase CSVR.

8) PQB shall verify in writing on the CSVR's that no trash stockpiling or oil dumping, fueling of equipment, storage of hazardous wastes or construction equipment/material, parking or other construction related activities shall occur adjacent to sensitive habitat. These activities shall

occur only within the designated staging area located outside the area defined as biological sensitive area.

9) The long-term establishment inspection and reporting schedule per LCD must all be approved by MMC prior to the issuance of the Notice of Completion (NOC) or any bond release.

B. Disturbance/Discovery Notification Process

1) If unauthorized disturbances occurs or sensitive biological resources are discovered that where not previously identified on the LCD and/or RRME, the PQB or QBM shall direct the contractor to temporarily divert construction in the area of disturbance or discovery and immediately notify the RE or BI, as appropriate.

2) The PQB shall also immediately notify MMC by telephone of the disturbance and report the nature and extent of the disturbance and recommend the method of additional protection, such as fencing and appropriate Best Management Practices (BMP's). After obtaining concurrence with MMC and the RE, PQB and CM shall install the approved protection and agreement on BMP's.

3) The PQB shall also submit written documentation of the disturbance to MMC within 24 hours by fax or email with photos of the resource in context (e.g., show adjacent vegetation)

C. Determination of Significance

1) The PQB shall evaluate the significance of disturbance and/or discovered biological resource and provide a detailed analysis and recommendation in a letter report with the appropriate photo documentation to MMC to obtain concurrence and formulate a plan of action which can include fines, fees, and supplemental mitigation costs.

2) MMC shall review this letter report and provide the RE with MMC's recommendations and procedures.

Post Construction

A. Mitigation Monitoring and Reporting Period

1) Five-Year Mitigation Establishment/Maintenance Period

a. The RMC shall be retained to complete maintenance monitoring activities throughout the five-year mitigation monitoring period.

b. Maintenance visits will be conducted twice per month for the first six months, once per month for the remainder of the first year, and quarterly thereafter.

c. Maintenance activities will include all items described in the LCD.

d. Plant replacement will be conducted as recommended by the PQB (note: plants shall be increased in container size relative to the time of initial installation or establishment or maintenance period may be extended to the satisfaction of MMC.

2) Five-Year Biological Monitoring

a. All biological monitoring and reporting shall be conducted by a PQB or QBM, as appropriate, consistent with the LCD.

b. Monitoring shall involve both qualitative horticultural monitoring and quantitative monitoring (i.e., performance/success criteria). Horticultural monitoring shall focus on soil conditions (e.g., moisture and fertility), container plant health, seed germination rates, presence of native and non-native (e.g., invasive exotic) species, any significant disease or pest problems, irrigation repair and scheduling, trash removal, illegal trespass, and any erosion problems.

c. After plant installation is complete, qualitative monitoring surveys will occur monthly during year one and quarterly during years two through five.

d. Upon the completion of the 120-days short-term plant establishment period, quantitative monitoring surveys shall be conducted at 0, 6, 12, 24, 36, 48 and 60 months by the PQB or QBM. The revegetation/restoration effort shall be quantitatively evaluated once per year (in spring) during years three through five, to determine compliance with the performance standards identified on the LCD. All plant material must have survived without supplemental irrigation for the last two years.

e. Quantitative monitoring shall include the use of fixed transects and photo points to determine the vegetative cover within the revegetated habitat. Collection of fixed transect data within the revegetation/restoration site shall result in the calculation of percent cover for each plant species present, percent cover of target vegetation, tree height and diameter at breast height (if applicable) and percent cover of non-native/non-invasive vegetation. Container plants will also be counted to determine percent survivorship. The data will be used determine attainment of performance/success criteria identified within the LCD.

f. Biological monitoring requirements may be reduced if, before the end of the fifth year, the revegetation meets the fifth-year criteria and the irrigation has been terminated for a period of the last two years.

g. The PQB or QBM shall oversee implementation of post-construction BMP's, such as gravel bags, straw logs, silt fences or equivalent erosion control measure, as needed to ensure prevention of any significant sediment transport. In addition, the PBQ/QBM shall be responsible to verify the removal of all temporary post-construction BMP's upon completion of construction activities. Removal of temporary post-construction BMPs shall be verified in writing on the final post-construction phase CSVR.

B. Submittal of Draft Monitoring Report

1) A draft monitoring letter report shall be prepared to document the completion of the 120-day plant establishment period. The report shall include discussion on weed control, horticultural treatments (pruning, mulching, and disease control), erosion control, trash/debris removal, replacement planting/reseeding, site protection/signage, pest management, vandalism, and irrigation maintenance. The revegetation/restoration effort shall be visually assessed at the end of 120-day period to determine mortality of individuals.

2) The PQB shall submit two copies of the Draft Monitoring Report which describes the results, analysis, and conclusions of all phases of the Biological Monitoring and Reporting Program (with appropriate graphics) to MMC for review and approval within 30 days following the completion of monitoring. Monitoring reports shall be prepared on an annual basis for a period of five years. Site progress reports shall be prepared by the PQB following each site visit and provided to the owner, RMC and RIC. Site progress reports shall review maintenance activities, qualitative and quantitative (when appropriate) monitoring results including progress of the revegetation relative to the performance/success criteria, and the need for any remedial measures.

3) Draft annual reports (three copies) summarizing the results of each progress report including quantitative monitoring results and photographs taken from permanent viewpoints shall be submitted to MMC for review and approval within 30 days following the completion of monitoring.

4) MMC shall return the Draft Monitoring Report to the PQB for revision or, for preparation of each report.

5) The PQB shall submit revised Monitoring Report to MMC (with a copy to RE) for approval within 30 days.

6) MMC will provide written acceptance of the PQB and RE of the approved report.

C. Final Monitoring Report(s)

1) PQB shall prepare a Final Monitoring upon achievement of the fifth-year performance/success criteria and completion of the five-year maintenance period.

a. This report may occur before the end of the fifth year if the revegetation meets the fifth-year performance /success criteria and the irrigation has been terminated for a period of the last two years.

b. The Final Monitoring report shall be submitted to MMC for evaluation of the success of the mitigation effort and final acceptance. A request for a pre-final inspection shall be submitted at this time, MMC will schedule after review of report.

c. If at the end of the five years any of the revegetated area fails to meet the project's final success standards, the applicant must consult with MMC. This consultation shall take place to determine whether the revegetation effort is acceptable. The applicant understands that failure of any significant portion of the revegetation/restoration area may result in a requirement to replace or renegotiate that portion of the site and/or extend the monitoring and establishment/maintenance period until all success standards are met.

8 REFERENCES

Baldwin, B.G., Goldman, D.H., Keil, D.J., Patterson, R., Rosatti, T.J. (eds). 2012. *The Jepson Manual: Vascular Plants of California, Second Edition, Thoroughly Revised and Expanded.* University of California Press, Berkeley, California. 1400 pp.

California Department of Fish and Game (CDFG). 2014. California Department of Fish and Game Natural Diversity Data Base – Electronic Format.

California Native Plant Society (CNPS). 2014. Inventory of Rare and Endangered Plants (online edition, v7-14jun). California Native Plant Society. Sacramento, CA. Accessed on June 16, 2014 from http://www.cnps.org/inventory.

City of San Diego, USFWS, and CDFW. 1997. *Implementing Agreement by and between United States Fish and Wildlife Service, California Department of Fish and Game, and the City of San Diego.* http://www.sandiego.gov/planning/programs/mscp/pdf/ImplementingAgreement_MSCP.pdf

City of San Diego. 2012. *Significance Determination Guidelines Under the California Environmental Quality Act.*

City of San Diego. 2012. *Biology Guidelines of the San Diego Municipal Code's Land Development Code*. City of San Diego.

City of San Diego. 1997. *City of San Diego MSCP Subarea Plan*.

City of San Diego Public Utilities Department. 2010. La Jolla View Reservoir Planning Study. November 2010. WBS #B-11070.

City Public Works Department and IEC. 2016. Personal communication re: alternative project siting feasibility. November 21, 2016.

Fisher, R.N. and Case, T.J. 1997. *A Field Guide to the Reptiles and Amphibians of Coastal Southern California*. United States Geological Service. San Mateo, CA.

HELIX Environmental Planning. 2019. La Jolla View Reservoir Replacement Project Conceptual On-Site Upland and Ephemeral Drainage Restoration and Revegetation Plan.

HELIX Environmental Planning. 2019. Off-Site Tier I Maritime Succulent Scrub Restoration Plan for the La Jolla View Reservoir Replacement Project.

Holland, R.F. 1986. *Preliminary descriptions of the terrestrial natural communities of California*. State of California, The Resources Agency.

Laudenslayer, William F., Jr., W. E. Grenfell, Jr. and D. Zeiner. 1991. A check-list of the amphibians, reptiles, birds, and mammals of California. The Resources Agency: 77(3): 109-141.

Oberbauer, T. 1991. *Terrestrial vegetation communities in San Diego County based on Holland's descriptions*. December.

San Diego Chapter of the American Society of the Landscape Architects (SD/ASLA) and the San Diego Chapter of the California Native Plant Society (CNPS). 2005.

Sibley, D.A. 2000. *The Sibley Guide to Birds, National Audubon Society.* Chanticleer Press, Inc. New York.

Simpson, M.G. and J.P. Rebman. 2006. *Checklist of the Vascular Plants of San Diego County*, 4th Edition. 100 pp.

Unitt, P. 2004. *San Diego County Bird Atlas.* San Diego Natural History Museum. 645 pp.

Appendix A

Site Photos

Appendix A
La Jolla View Reservoir Project Site Photos
April 2013, February 2014, November 2015

Photo 1. View of Encelia Drive access road at southeast end of site, off Brodiaea Way (facing northwest).

Photo 2. View of proposed below-ground reservoir site (facing north).

Appendix A
La Jolla View Reservoir Project Site Photos
April 2013, February 2014, November 2015

Photo 2. View of existing, above-ground reservoir and surrounding Eucalyptus woodland (facing south on Encelia Drive access road).

Photo 4. View from Encelia Drive access path near existing reservoir (facing west across canyon that would be traversed by underground lines).

Appendix A
La Jolla View Reservoir Project Site Photos
April 2013, February 2014, November 2015

Photo 5. View of Project area from Country Club Drive (facing southeast).

Photo 6. View of on-site channel ('Primary Drainage'). Note presence of upland, non-native species *Cortaderia selloana*, *Oxalis pes-caprae*, and *Myoporum laetum*.

Appendix A
La Jolla View Reservoir Project Site Photos
April 2013, February 2014, November 2015

Photo 7. The start of the weak flow path within the Secondary Drainage.

Photo 8. View of the non-jurisdictional ravine, facing west. This may drain a small amount of water from surrounding areas but it lacks soils, vegetation, and hydrology and is not shown in the USFWS wetlands inventory.

Appendix B

Plant Species List

Appendix B
La Jolla View Reservoir Project
Plant List

Family	Scientific Name	Common Name	Status	Habitat
Agavaceae	*Chlorogalum parviflorum*	Small-Flower Soap-Plant/Amole		SMC
Agavaceae	*Yucca schidigera*	Mohave Yucca		SMC
Aizoaceae	**Carpobrotus edulis*	Hottentot-Fig		DIST/ORN
Aizoaceae	**Tetragonia tetragonoides*	New Zealand Spinich		DIST/ORN
Alliaceae	*Allium praecox*	Early Onion		SMC
Anacardiaceae	*Malosma laurina*	Laurel Sumac		SMC/DCSS
Anacardiaceae	*Rhus integrifolia*	Lemonadeberry		SMC/DCSS
Apiaceae	**Foeniculum vulgare*	Sweet Fennel		SMC
Apiaceae	*Lomatium dasycarpum ssp. dasycarpum*	Woolly-Fruit Lomatium		SMC
Asparagaceae	*Asparagus asparagoides*	Florist's-Smilax		DIST/ORN
Asteraceae	**Hedypnois cretica*	Crete Hedypnois		DIST
Asteraceae	**Sonchus asper ssp. asper*	Prickly Sow-Thistle		DIST/ORN
Asteraceae	*Artemisia californica*	Coastal Sagebrush		DCSS
Asteraceae	*Baccharis pilularis*	Coyote Brush		SMC/DIST
Asteraceae	*Baccharis sarothroides*	Broom Baccharis		SMC/DIST
Asteraceae	**Centaurea melitensis*	Tocalote		DIST
Asteraceae	*Deinandra fasciculata*	Fascicled Tarweed		SMC/DCSS
Asteraceae	*Encelia californica*	California Encelia		DCSS
Asteraceae	*Eriophyllum confertiflorum var. confertiflorum*	Long-Stem Golden-Yarrow		DCSS
Asteraceae	*Hazardia squarrosa var. grindelioides*	Southern Sawtooth Goldenbush		DCSS
Asteraceae	*Isocoma menziesii var. menziesii*	Spreading Goldenbush		DCSS
Asteraceae	*Logfia gallica*	Narrow-Leaf Cottonrose		DCSS/DIST
Asteraceae	*Pseudognaphalium biolettii*	Bicolor Cudweed		SMC/DCSS
Asteraceae	*Pseudognaphalium californicum*	California Everlasting		SMC/DCSS
Asteraceae	*Uropappus lindleyi*	Silver Puffs		SMC
Brassicaceae	*Athysanus pusillus*	Common Sandwee		SMC
Cactaceae	*Ferocactus viridescens*	Coast Barrel Cactus	CRPR 2B.1	SMC
Cactaceae	*Opuntia littoralis*	Coast Prickly-Pear		SMC
Caprifoliaceae	*Lonicera subspicata var. denudata*	Johnston's Honeysuckle		SMC
Chenopodiaceae	**Salsola australis*	Australian Tumbleweed		DIST
Cistaceae	*Crocanthemum scoparium var. scoparium*	Peak Rush-rose		SMC
Convolvulaceae	*Calystegia macrostegia*	San Diego Morning-Glory		SMC
Convolvulaceae	*Cuscuta californica var. californica*	Chaparral Dodder		SMC
Crassulaceae	*Dudleya edulis*	Ladies' Fingers		SMC
Crassulaceae	*Dudleya lanceolata*	Lance-Leaf Dudleya		SMC
Crassulaceae	*Dudleya pulverulenta*	Chalk Dudleya		SMC
Cucurbitaceae	*Marah macrocarpa*	Manroot, Wild-Cucumber		SMC
Ericaceae	*Xylococcus bicolor*	Mission Manzanita		SMC/DCSS
Euphorbiaceae	**Euphorbia peplus*	Petty Spurge		DIST/ORN
Fabaceae	*Acmispon glaber var. glaber*	Coastal Deerweed		SMC/DIST
Fabaceae	*Astragalus trichopodus var. lonchus*	Ocean Locoweed		SMC

Fagaceae	*Quercus dumosa*	Nuttall's Scrub Oak	CRPR 1B.1	SMC
Geraniaceae	**Erodium cicutarium*	Red-Stem Filaree/Storksbill		SMC/DIST
Iridaceae	*Sisyrinchium bellum*	Blue-Eyed-Grass		SMC
Lamiaceae	*Salvia mellifera*	Black Sage		DCSS
Liliaceae	*Calochortus splendens*	Splendid Mariposa Lily		SMC
Melanthiaceae	*Toxicoscordion fremontii*	Death camas		SMC
Myrsinaceae	**Anagallis arvensis*	Scarlet Pimpernel, Poor Man's Weatherglass		SMC/DIST
Myrtaceae	**Callistemon sp.*	Bottlebrush		ORN
Myrtaceae	**Eucalyptus camaldulensis*	River Red Gum		EUC
Myrtaceae	**Eucalyptus globulus*	Blue Gum		EUC
Orobanchaceae	*Cordylanthus rigidus*	Bird's Beak		SMC/DCSS
Oxalidaceae	*Oxalis pes-caprae*	Bermuda-Buttercup		DIST/EUC
Phrymaceae	*Diplacus puniceus*	Coast Monkey Flower		SMC/DCSS
Phrymaceae	*Mimulus aurantiacus var. puniceus*	Coast Monkey Flower		SMC/DCSS
Pittosporaceae	**Pittosporum sp.*	Ornamental Pittosporum		ORN
Plantaginaceae	*Antirrhinum nuttallianum ssp. subsessile*	Big-Gland Nuttall's Snapdragon		SMC
Plumbaginaceae	**Limonium perezii*	Perez's Marsh-Rosemary		SMC/DIST
Poaceae	**Avena barbata*	Slender Wild Oat		SMC/DIST
Poaceae	**Brachypodium distachyon*	Purple Falsebrome		SMC/DIST
Poaceae	**Bromus diandrus*	Ripgut Grass		SMC/DIST/EUC
Poaceae	**Bromus madritensis ssp. rubens*	Foxtail Chess, Red Brome		SMC/DIST/EUC
Poaceae	**Cortaderia selloana*	Selloa Pampas Grass		DIST/ORN
Poaceae	*Stipa lepida*	Foothill Needlegrass		SMC
Polemoniaceae	*Navarretia hamata subsp. leptantha*	Hooked Pincushion Plant		SMC/DCSS
Polygonaceae	*Chorizanthe fimbriata var. fimbriata*	Fringed Spineflower		SMC
Polygonaceae	*Eriogonum fasciculatum var. fasciculatum*	Coast California Buckwheat		DCSS
Primulaceae	*Primula clevelandii ssp. clevelandii*	Padre's Shooting Star		SMC
Pteridaceae	*Pellaea mucronata ssp. mucronata*	Bird's Foot Cliff-Brake		SMC
Rosaceae	*Adenostoma fasciculatum*	Chamise		SMC
Rosaceae	*Heteromeles arbutifolia*	Toyon, Christmas Berry		SMC
Rubiaceae	*Galium nuttallii ssp. nuttallii*	San Diego Bedstraw		SMC
Saxifragaceae	*Jepsonia parryi*	Coast Jepsonia		SMC
Scrophulariaceae	**Myoporum laetum*	Ngaio		ORN
Selaginellaceae	*Selaginella cinerascens*	Mesa Spike-Moss	CRPR 4.1	SMC
Selaginellaceae	*Sellaginella cinerascens*	Ashy Spike Moss		SMC
Themidaceae	*Dichelostemma capitatum ssp. capitatum*	Blue Dicks, School Bells		SMC

Species observations based on initial general biological surveys; as well as October 2015 and February 2018 follow-up surveys

Nomenclature from Baldwin (2012), Simpson and Rebman (2006)
* Non-native species

Habitat Codes
DCSS-Diegan Coastal Sage Scrub
DIST-Disturbed Habitat
EUC-Eucalyptus Woodland
ORN-Ornamental
SMC-Southern Mixed Chaparral

California Native Plant Society California Rare Plant Rank (CRPR)
1B-rare, threatened, and endangered in California and elsewhere
2B- rare, threatened, or endangered in California but more common elsewhere
California Native Plant Society CRPR threat codes
0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

Appendix C

Wildlife Species List

Appendix C
La Jolla View Reservoir Project
Wildlife List

Birds

Allen's Hummingbird- *Selasphorus sasin*
American Crow- *Corvus brachyrhynchos*
Anna's Hummingbird- *Calypte anna*
^Barn Swallow- *Hirundo rustica*
Bewick's Wren- *Thryomanes bewickii*
Black Phoebe- *Sayornis nigricans*
^Blue-gray Gnatcatcher- *Polioptila caerulea*
Bushtit- *Psaltriparus* minimus
California Thrasher- *Toxostoma redivivum*
California Towhee- *Melozone crissalis*
Cassin's Kingbird- *Tyrannus vociferans*
Common Raven- *Corvus corax*
Cooper's Hawk (WL)- *Accipiter cooperii*
Dark-eyed Junco- *Junco hyemalis*
^Hermit Thrush- *Catharus guttatus*
House Finch- *Carpodacus mexicanus*
^House Wren- *Troglodytes aedon*
Least Bell's Vireo (FE, SE)- *Vireo bellii pusillus*
Lesser Goldfinch- *Spinus psaltria*
Mourning Dove- *Zenaida macroura*
Northern Flicker- *Colaptes auratus*
Northern Mockingbird- *Mimus polyglottos*
Nuttall's Woodpecker- *Picoides nuttallii*
^Orange-crowned Warbler- *Oreothlypis celata*
Pacific-slope Flycatcher- *Empidonax difficilis*
Ruby-crowned Kinglet- *Regulus calendula*
Red-shouldered Hawk- *Buteo lineatus*
^Say's Phoebe – *Sayornis saya*
Spotted Towhee- *Pipilo maculatus*
Western Scrub-jay- *Aphelocoma californica*
White-crowned Sparrow- *Zonotrichia leucophrys*
Wrentit- *Chamaea fasciata*
Yellow-rumped Warbler- *Setophaga coronata*

Insects

Anise Swallowtail- *Papilio zelicaon*
^Western Tiger Swallowtail – *Papilio rutulus*
^Monarch – *Danaus plexippus*
^Cabbage White – *Pieris rapae*

Herptofauna

Western Fence Lizard- *Sceloporus occidentalis*

Mammals

^California Ground-squirrel- *Otospermophilus beecheyi*

---

^ Indicates species observed during focused coastal California gnatcatcher surveys and/or additional vegetation mapping; all other species noted were observed during original general biological survey

FE: Listed as Endangered by USFWS
SE: Listed as Endangered by California Department of Fish and Wildlife
WL: California Department of Fish and Wildlife Watch List
SSC: California Department of Fish and Wildlife Species of Special Concern

Appendix D

Jurisdictional Determination Report for the La Jolla View Reservoir Replacement Project, San Diego, California

ROCKS
BIOLOGICAL CONSULTING



LA JOLLA VIEW RESERVOIR REPLACEMENT PROJECT JURISDICTIONAL DELINEATION REPORT

San Diego County, California

October 2, 2018
(with minor revisions on December 6, 2019)

Prepared for:
HELIX Environmental Planning
7578 El Cajon Boulevard
La Mesa, CA 91942
(619) 462-1515

Prepared by:
Rocks Biological Consulting
2621 Denver Street, Ste. B
San Diego, CA 92110
(619) 701-6798

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1 INTRODUCTION

Rocks Biological Consulting (RBC) conducted a formal jurisdictional delineation for the La Jolla View Reservoir Replacement Project (project) to identify areas potentially jurisdictional under the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act; the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Act; the California Department of Fish and Wildlife (CDFW) pursuant to California Fish and Game Code (§1602); the California Coastal Commission (CCC) pursuant to the California Coastal Act; and the City of San Diego pursuant to the City's municipal code (§113.0103). This information is necessary to evaluate jurisdictional impacts and permit requirements associated with the project, can be used by the agencies to assess project conformance with state and federal regulations, and serves as a request for the Corps to complete a Preliminary Jurisdictional Determination (PJD) based on the information provided in this report. Furthermore, Appendix A provides a checklist of the information contained in this report in compliance with the Corps Los Angeles District's Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (Corps 2017). RBC initially completed this report in October 2018 and added minor revisions per the City's request in December 2019. This report has not been updated to address September 2019 guidance from the Corps' Carlsbad Regulatory Field Office on jurisdictional delineation report submittals.

1.1 PROJECT LOCATION

The majority of the project study area is located within La Jolla Natural Park (Park) in the City of San Diego, California. The study area is east of Country Club Drive and north of Encelia Drive in the La Jolla community (Figure 1). The project area is dominated by native plant communities. The project area occurs within the U.S. Geological Survey (USGS) 7.5-minute La Jolla quadrangle with a center point latitude and longitude of 32.842994, -117.262664.

1.2 PROJECT DESCRIPTION

The Project to replace the existing LJVR and pipelines is expected to comprise the following (IEC, 2014 and 2016):

1) Construction of a new 3.1 MG pre-stressed concrete La Jolla View Reservoir (LJVR) in the Park with a base elevation of 550 feet, an overflow elevation of 590 feet, and diameter of approximately 120 feet. The structure will be completely buried except for reservoir access hatches and Supervisory Control and Data Acquisition (SCADA) equipment that will be visible at the surface. Following construction of the reservoir, the ground surface elevations will be restored to natural contours. The area of disturbance will be re-vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation. Disturbed areas will be re-vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation.

   The new reservoir would also include a buried 18-inch overflow pipe and outfall, as well as below-ground soil nails or tie-back anchors. The overflow pipe will extend approximately 160 feet southwest of the new reservoir with an at-grade outlet and energy dissipation

structure. The outlet will be situated near the head of the north-central on-site drainage and within the impact footprint of the project. The below-ground soil nails would be used in conjunction with the temporary excavation for the tank construction. To accommodate the potential length of these anchors, some portions of the reservoir boundary extend outside the project limits defined on the plans. However, there would be no surface disturbance or biological impacts in any areas outside the work area limit.

2) Construction of approximately 2,700 linear feet of new piping from the connection point at the 30-inch La Jolla Shores Pipeline at the intersection of Exchange Place and Soledad Avenue to the new LJVR. Approximately 1,050 linear feet of 30-inch new pipe will replace the existing 16-inch Muirlands Pipeline in Country Club Drive up to the existing Muirlands Pump Station. The remaining piping, the proposed reservoir's single inlet/outlet pipeline, will extend through the Park to the new LJVR. At the reservoir, the single pipeline will be split into separate inlet and outlet pipelines that will be configured to promote circulation within the reservoir. An altitude valve vault will be located along the pipeline adjacent to Country Club Drive. The existing pipeline segment through the Park which connects the Muirlands Pipeline to the existing LJVR will be abandoned in place and grout filled. In addition, a utility water connection to the new reservoir will be provided from the existing water main (725 pressure zone) in Brodiaea Way. The area of disturbance within the Park as a result of pipeline construction will be re-vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation. An eight-inch distribution pipe will parallel the 30-inch pipeline approximately 780 feet along Country Club Drive to serve existing customers.

3) Creation of a temporary construction access road using approximately 56,000 cubic yards of soil that must be stored on-site. Excavation to install the new buried LJVR and pipeline would remove approximately 78,000 cubic yards of soil. Of this volume, approximately 22,000 cubic yards will have to be permanently disposed of offsite. The remaining 56,000 cubic yards that must be placed back on the site for the LJVR burial and site recontouring is too large to stockpile entirely within the disturbed sites of the former LJVR and LJEPR. Removing this the entire volume of material for offsite storage until it is needed is viewed as highly undesirable since the site can only be accessed via steep, narrow, and winding residential streets in this hillside neighborhood; the temporary disturbance and safety concerns associated with introducing such a large volume of heavy truck traffic would be substantial.

   To reduce the need for offsite storage and associated heavy truck traffic on residential streets, a combination approach would be used whereby approximately 56,000 cubic yards of soil would be temporarily stored and used onsite to construct a contractor access roadway from Country Club road to the reservoir site. This temporary roadway would substantially reduce (by almost half a mile) the distance that the earthwork trucks, material delivery trucks, and other construction vehicles would have to travel through the residential neighborhoods to access the site. This temporary access road would be removed with removal of the temporary stockpile material; there will be no permanent access road along the pipeline.

4) **Reconstruction of the existing paved access road (Encelia Drive)** through the Park from Brodiaea Way to the new LJVR. The road will be used for maintenance vehicle access and will terminate at the reservoir access hatches, where two parking spaces and a paved turn-around area will be provided. The remaining portion of the existing access road that extends to the existing LJVR will be demolished and the ground surface elevations restored to approximately match the surrounding land. The unpaved area of disturbance will be re-vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation.
5) **Installation of hydraulic monitoring equipment** at the new reservoir site that will connect to the City's SCADA system. The data will be sent to the Chollas Water Operations Center at Caminito Chollas via radio communication. Security features to be included at the new reservoir site will be coordinated with the City Security Section. The existing microwave antenna on site will be temporarily relocated during construction to remain in operation and will be incorporated into the new reservoir facilities.
6) **Demolition of the existing steel LJVR** and re-grading to restore the ground surface elevations to approximate the natural contours present prior to the original reservoir construction. Included in the removals at the existing LJVR site are some of the existing non-native trees, as determined necessary by grading and by the City. The area of disturbance will be re-vegetated with native plant species and temporary irrigation provided to support re-establishment of the vegetation.
7) **Demolition of the existing LJEPR** including removal of the above-grade features associated with the reservoir and abandoning in place the remaining portions of the reservoir. The existing piping, pressure reducing station (PRS), and pump station at the LJEPR site will also be removed to below grade. The site will be re-graded to match the surrounding land and minimally landscaped with drought tolerant vegetation. Paved access from Al Bahr Drive will be maintained through the site to the existing PRS and pump station, including parking for two vehicles.
8) **Staging** for the project would occur within previously disturbed areas in the project impact area and stockpile area identified in this report and on project site plans.

1.3 REGULATORY BACKGROUND

Several regulations have been established by federal, state, and local agencies to protect and conserve aquatic resources. The descriptions below provide a brief overview of agency regulations that may be applicable to the project. The applicable regulatory agencies make the final determination of whether permits would be required for the proposed project.

1.3.1 APPLICABLE AQUATIC RESOURCE PROTECTION REGULATIONS

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the Corps is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 Code of Federal Regulations (CFR) 328.3 in light

of pertinent supreme court decisions (i.e., Solid Waste Agency of Northern Cook County v. USACE, et al. [SWANCC] and Rapanos v. United States/Carabell v. United States [Rapanos]). The Corps, with oversight from the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 permits. The Corps would require a Standard Individual Permit (SIP) for more than minimal impacts to waters of the U.S. as determined by the Corps. Projects with minimal individual and cumulative adverse effects on the environment may meet the conditions of an existing Nationwide Permit (NWP).

A water quality certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. The RWQCB, a division of the State Water Resources Control Board, provides oversight of the 401-certification process in California. The RWQCB is required to provide "certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards.

The National Pollutant Discharge Elimination System (NPDES) is the permitting program for discharge of pollutants into surface waters of the U.S. under Section 402 of the CWA.

The Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) provides for statewide coordination of water quality regulations. The State Water Resources Control Board was established as the statewide authority and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis. The RWQCB is the primary agency responsible for protecting water quality in California. As discussed above, the RWQCB regulates discharges to surface waters under the federal CWA. In addition, the RWQCB is responsible for administering the California Porter-Cologne Water Quality Control Act.

Pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if Section 404 is not required for the activity. "Waste" is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

California Fish and Game Code Sections 1600-1602

Pursuant to Division 2, Chapter 6, Section 1602 of the California Fish and Game Code (CFGC), CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. A Lake or Streambed Alteration Agreement Application (SAA) must be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation (i.e., drip line) or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources. CDFW reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The

final proposal that is mutually agreed upon by CDFW and applicant is the Lake or Streambed Alteration Agreement.

California Coastal Act

The CCC, through provisions of the California Coastal Act (CCA), is responsible for issuing a Coastal Development Permit (CDP) for proposed projects within the Coastal Zone. In areas where a local entity (e.g., a city) has a certified Local Coastal Program (LCP), the local entity can issue a CDP for a project if the project is consistent with the current LCP. The CCC, however, has appeal authority for aspects of LCPs and retains jurisdiction over certain public trust lands and in areas without an LCP.

City of San Diego Wetland Regulations

The City's Biology Guidelines (2012) identify wetlands as a sensitive biological resource since "Many of the species included in the Multiple Species Conservation Program (MSCP)(i.e., Covered Species) are dependent on wetlands for habitat and foraging." City jurisdictional wetlands are defined in the City's Municipal Code §113.0103, as follows:

> *Wetlands are defined as areas which are characterized by any of the following conditions:*
>
> 1. *All areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation, including but not limited to salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools;*
> 2. *Areas that have hydric soils or wetland hydrology and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation or catastrophic or recurring natural events or processes have acted to preclude the establishment of wetland vegetation as in the case of salt pannes and mudflats;*
> 3. *Areas lacking wetland vegetation communities, hydric soils and wetland hydrology due to non-permitted filling of previously existing wetlands;*
> 4. *Areas mapped as wetlands on Map No. C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone).*

In addition to the Municipal code definition, the City's Biology Guidelines further clarify City-jurisdictional wetlands as follows:

> *Naturally occurring wetland vegetation communities are typically characteristic of wetland areas. Examples of wetland vegetation communities include saltmarsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodland, riparian scrub and vernal pools. Common to all wetland vegetation communities is the predominance of hydrophytic plant species (plants that are adapted for life in anaerobic soils).*
>
> *… Seasonal drainage patterns that are sufficient enough to etch the landscape (i.e., ephemeral/intermittent drainages), may not be sufficient enough to support wetland*

> *dependent vegetation. These types of drainages would not satisfy the City's wetland definition unless wetland dependent vegetation is either present in the drainage or lacking due to past human activities. Seasonal drainage patterns may constitute "waters of the United States" which are regulated by the Army Corps of Engineers and/or the California Department of Fish & Game.*

The City of San Diego Biology Guidelines include specific regulations related to development within the MHPA. For projects within the coastal zone, Section II(B)(2) of the guidelines states:

> *Development Area within the Coastal Overlay Zone. There are specific and discretionary encroachment limitations into steep hillsides containing sensitive biological resources established in Section 143.0142(a)(4) of the ESL. These restrictions are designed to assure that development onto steep hillsides containing sensitive biological resources is minimized. Additionally, development within wetlands shall be avoided to the maximum extent possible. In the event impacts to wetlands are unavoidable, only uses identified in Section 143.0130(d), which include aquaculture, wetlands-related scientific research and education uses, wetland restoration projects and incidental public service projects shall be permitted within wetlands. These uses are permitted only where it has been demonstrated that there is no less environmentally damaging feasible alternative and mitigation has been provided. In case of conflict with the OR-1-2 Zone and/or other regulations, these regulations shall supercede and apply.*
>
> *[Note: The Development Regulations of the OR-1-2 Zone apply to all property within the MHPA. In some cases, parcels may be zoned other than OR-1-2, but would still be subject to the OR-1-2 development area regulations pursuant to the ESL (Sec. 143.0141(d)]*

Section 143.0142(a)(4) of the City's Environmentally Sensitive Lands Regulations (ESL) states:

> *Within the Coastal Overlay Zone, steep hillsides shall be preserved in their natural state and coastal development on steep hillsides containing sensitive biological resources or mapped as Viewshed or Geologic Hazard on Map C-720 shall avoid encroachment into such steep hillsides to the maximum extent possible.*

Additionally, Section III(B)(1)(b)(3) 'Upland Impacts Within the Coastal Overlay Zone,' states:

> *Within the Coastal Overlay Zone, encroachment into steep hillsides containing sensitive biological resources shall be avoided to the maximum extent possible, and permitted only when in conformance with the encroachment limitations set forth in Section 143.0142(a)(4). Mitigation for permitted impacts shall be required pursuant to Section III.B.1.b(1) and (2) above.*

1.4 CONTACT INFORMATION

Applicant:

Ed Fordan

City of San Diego, Public Works Department

525 B Street, 8th Floor

San Diego, CA 92101

EFordan@sandiego.gov

619-533-4162

Property Owner:

Herman Parker

City of San Diego, Park & Recreation Department Open Space Division

202 C Street

San Diego, CA 92101

619-685-1323

Agent:

Shanti Santulli

Rocks Biological Consulting

2621 Denver Street, Suite B

San Diego, CA 92110

shanti@rocksbio.com

619-674-8067

Agency access to the project site can be coordinated with the applicant and/or agent upon request.

2 METHODS

Prior to the on-site delineation, field maps were created using a Geographic Information System (GIS) and a color aerial photograph at a 1:100 scale. RBC staff also reviewed U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) and topography data (Figure 2) and U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data (Figure 4) to further determine the potential locations of potentially jurisdictional aquatic resources.

Rocks Biological Consulting (RBC) regulatory specialists Shanti Santulli and Emily Trevino conducted the jurisdictional delineation field visit on July 5, 2018. All areas with depressions, drainage patterns, and/or wetland vegetation within the survey area (including a 100-foot buffer area surrounding the proposed project limits of disturbance) were evaluated for potential

jurisdictional status, with focus on the presence of defined channels and/or wetland vegetation, soils, and hydrology. Field staff examined potential jurisdictional wetland areas on site using the methods set forth in the Corps 1987 *Wetland Delineation Manual* (Wetland Manual) (Environmental Laboratory 1987) and the *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0* (Arid West Supplement) (Corps 2008a). Areas that met the three parameters per the Arid West Supplement (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) were considered wetland waters of the U.S./State. RBC staff based wetland plant indicator status (i.e., Obligate [OBL], occurs 99+% in wetlands; Facultative Wetland [FACW], occurs 67-99% in wetlands; Facultative [FAC], occurs 34-66% in wetlands; Facultative Upland [FACU], occurs 1-33% in wetlands; Upland [UPL], occurs 99+% in uplands) on the National Wetland Plant List (NWPL; Corps 2016) and hydric soils indicators on *Field Indicators of Hydric Soils in the United States, Version 8.1* (NRCS 2017). Soil chromas were identified in the field according to *Munsell's Soil Color Charts* (Kollmorgen 2000).

Lateral limits of non-wetland waters of the U.S./State for the Corps and RWQCB, respectively, were identified using field indicators of an ordinary high water mark (OHWM). An OHWM is defined in 33 CFR 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." RBC staff used *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (Corps 2008b) to estimate the extent of an OHWM in the field. For each feature exhibiting the potential presence of an OHWM, RBC completed a 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet following the guidance provided in the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (OHWM Datasheet; Corps 2010). Per the 2010 OHWM Datasheet, common indicators of an OHWM include a break in slope (i.e., abrupt cut in bank slope created by hydrogeomorphic processes across the landscape), changes in average sediment texture between floodplain units (i.e., low-flow, active floodplain, low terrace), and changes in vegetation species and/or cover between floodplain units.

CDFW jurisdictional boundaries were determined based on the presence of riparian habitat and/or streambed. Streambeds considered within CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). Riparian habitat refers to vegetation and habitat associated with a stream. The CDFW jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream.

CCC jurisdictional wetlands are defined by Section 30121 of the CCA as "…lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens." CCC wetlands are further defined by Title 14, Section 13577 of the CCC's administrative regulations as "…lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and

shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate." While the Corps' federal wetland definition requires the presence of all three wetland parameters, the CCC generally considers areas within the coastal zone meeting at least one wetland parameter (i.e., hydrophytic vegetation, hydric soils, and/or wetland hydrology) as jurisdictional wetlands.

While in the field, potentially jurisdictional features were recorded using a hand-held Global Positioning Satellite (GPS) unit with a level of accuracy ranging from four to 12 feet. RBC staff refined the data using aerial photographs and topographic maps to ensure accuracy. Off-site portions of drainages were visited to confirm the presence of the indicators above, if appropriate. Plants were identified according to The Jepson Manual 2nd edition (Baldwin et al. 2012). Vegetation community classifications follow Holland (1986) and nomenclature follows Jepson eflora (2017).

All figures generated for this jurisdictional delineation report follow the Corps' *Updated Final Map and Drawing Standards for the South Pacific Division Regulatory Program* (Corps, 2016).

3 RESULTS

3.1 TOPOGRAPHY

Elevations on site range from approximately 220 to 650 feet and are primarily slopes with a northwest facing aspect (Figure 2).

3.2 WATERSHED

The proposed project area is located within the San Diego Hydrologic Unit Code [HUC] 8 (18070304), Mission Beach – Frontal Pacific Ocean HUC 10 (1807030413), Mission Beach – Frontal Pacific Ocean HUC 12 (180703041300) (Figure 2).

3.3 HYDROLOGY

USGS NHD maps three "blue-line streams" within the project survey area (Figure 2), which occur in the general locations of Feature 1, Feature 2, and Feature 3 on site (Figure 5). USFWS NWI maps two features within the project survey area as Freshwater Forested/Shrub Wetland habitat classified as Palustrine Scrub-Shrub, Temporary Flooded (PSAA, does not meet the Federal Wetland Classification Standard, but is used in historic and/or scalable data; Figure 3), which occur in approximately the same on-site location as Feature 1 and Feature 2 (Figure 5).

Hydrologic sources within the on-site features appear to be fed primarily by direct precipitation; a concrete-lined feature (Feature 1B, discussed further below) off Country Club Drive also provides flows into the downstream segment of Feature 1 (Figure 5). Feature 1 flows onto Al Bahr Drive/Crespo Street and continues downslope (along the street) for approximately 0.13 mile where it eventually enters a storm drain on the east side of Soledad Avenue (just north past the intersection of Crespo Street and Soledad Avenue). The storm drain flows under Soledad Avenue and outlets on the west side of Soledad Avenue into an ephemeral stream that runs behind private

residences for approximately 0.21 mile until its intersection with Torrey Pines Road. RBC staff was not able to observe the ephemeral feature immediately east of Torrey Pines Road as it occurs on private property. Storm drains outlet into the Pacific Ocean on the west side of Torrey Pines Road, approximately 0.04 mile (200 feet) from the last observed portion of the ephemeral feature.

Table 1 describes the estimated monthly total and average precipitation for the project area between 2007 and 2018 to provide pre- and post-site visit precipitation data. RBC staff accessed precipitation data through the National Resources Conservation Service (NRCS) Agricultural Applied Climate Information System (AgACIS) database from the Montgomery Field Station in San Diego County, located approximately 7.5 miles away from the project area, on July 5, 2018. Precipitation data was available at closer stations but had numerous missing fields; the Montgomery Field Station provided the closest and most consistent monthly and annual data and was therefore used for the project area.

Table 1. Precipitation Data

Monthly Total Precipitation (inches) for SAN DIEGO MONTGOMERY FIELD, CA													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2007	0.58	2.53	0.21	0.71	T	0	0	T	0.09	0.22	1.67	1.38	7.39
2008	3.88	1.81	0.18	0.01	0.26	0.02	T	T	T	0.06	1.65	3.85	11.72
2009	0.14	5.4	0.16	0.16	0.03	0.03	0	T	0	0.08	0.42	3.27	9.69
2010	M	2.74	0.5	1.89	T	T	T	0	0.21	1.89	1.16	6.49	M
2011	0.15	3.47	1.78	0.28	0.45	0.05	T	T	0.11	0.7	3.08	0.61	10.68
2012	0.45	1.55	1.35	1.16	0.02	0	T	0.02	0	0.51	0.37	2.93	8.36
2013	1.35	0.65	1.31	0.08	0.35	0	T	T	T	0.51	0.29	0.41	4.95
2014	0.04	1.31	0.99	0.35	T	0	0.07	0.08	1.08	T	0.55	1.75	6.22
2015	0.09	T	0.17	0.07	1.81	0.09	2.46	0.01	1.05	0.69	1.97	1.58	9.99
2016	4.47	0.06	1.08	0.88	0.6	T	0	0	0.38	0.16	0.92	4.81	13.36
2017	4.32	4.96	0.15	0.02	0.59	0.03	T	T	0.11	T	0.02	0.07	10.27
2018	1.94	0.46	1.08	0.05	0.04	0	T	M	M	M	M	M	M
Mean	1.58	2.08	0.75	0.47	0.35	0.02	0.21	0.01	0.28	0.44	1.1	2.47	9.26

*Per AgACIS database: “Monthly summarized data - means, sums, daily extremes or frequencies for the selected variable for each month of the year for the selected range of years. HDD, CDD and GDD are heating, cooling and growing degree days, respectively. Note: trace precipitation/snowfall/snow depth amounts are treated as zero in sums, means, and frequency counts. Annual average temperatures are the average of the twelve-monthly values. Values of 'M' indicate missing data and 'T' indicates a trace.”

Table 1 indicates that the field survey date of July 5, 2018 occurred during below-average precipitation (trace precipitation treated as 0.0 inches) for the month of July, which averaged 0.21 inch between 2007-2018. The 2017 mean precipitation of 10.27 inches was 1.01 inches above annual mean precipitation of 9.26 inches between 2007-2017 (not including 2010, as annual data for that year is missing).

3.4 SOILS

Based on the NRCS map of the project area (Figure 4), the following soils occur within the project site boundary and are described below per the USDA's Official Soil Description and Series Classification database:

Olivenhain cobbly loam, 30 to 50 percent slopes – The Olivenhain series consists of well-drained and slow permeable soils. These soils are gently to strongly sloping on dissected marine terraces in the coastal plains of Southern California and area primarily used for grazing. The NRCS does not list this soil as hydric.

Altamont clay, 30 to 50 percent slope – The Altamont series consists of well-drained soils and slow permeable soils. These soils are found on gently sloping to very steep uplands in central and Southern California and are primarily used for livestock grazing and dry farmed grains. The NRCS does not list this soil as hydric.

Huerhuero loam,15 to 30 percent slopes, eroded – The Huerhuero series consist of moderately well-drained soils primarily found in marine terraces. These soils are not considered prime farmland. The NRCS does not list this soil as hydric.

Huerhuero loam, 30 percent slopes, 2 to 9 percent slopes – The Huerhuero series consist of moderately well-drained soils primarily found in marine terraces. These soils are not considered prime farmland. The NRCS does not list this soil as hydric.

As stated in the Arid West Wetland Delineation Manual, RBC used the hydric soils list as a tool and made final hydric soils determinations based on field-collected data at wetland delineation sample points, as recorded on the attached Arid West Wetland Delineation Forms (Appendix B) discussed further below.

3.5 FEATURES OBSERVED

Potentially jurisdictional areas on the project site include a large east-northwest trending feature that runs the length of the canyon (Feature 1) and a feature that flows into Feature 1 west of the project site boundary (Feature 2).

RBC biologists investigated five wetland sampling points to determine the presence or absence of federally jurisdictional wetlands (Figure 5; Appendix B). RBC also conducted six OHWM Data Points in areas observed to have drainage patterns in the project survey boundary (Figure 5; Appendix B). Appendix C provides site photographs of the features, and Figure 6 displays representative photo points also discussed below. Appendix B provides the completed Arid West Wetland Delineation data forms.

Feature 1

Feature 1 (F1) is located within an urban canyon supporting primarily upland habitats, including southern maritime chaparral and Diegan coastal sage scrub, along with significant stands of non-native eucalyptus trees, other ornamental plantings, and surrounding residences. RBC staff observed the lowest topographic areas within the canyon, primarily under dense lemonade berry

overstory (*Rhus integrifolia*; NL), to determine the presence and extent of an OHWM/streambed and/or wetland.

RBC staff collected data to determine the presence/absence of wetland parameters within F1 at Wetland Sample Point (WSP) 1, 2, and 5. WSP 1, taken within a patch of giant reed (*Arundo donax;* FACW), met the hydrophytic vegetation and wetland hydrology parameters; however, the sample point did not show evidence of hydric soils (Appendix B). WSP 2, taken on the banks of F1, did not meet any of the wetland parameters per the Arid West Supplement. Upstream of WSP 1 and 2, RBC staff collected data for WSP 5, which contained wetland hydrology yet did not meet the hydrophytic vegetation or hydric soils parameters (Appendix B).

RBC staff observed evidence of an OHWM and bed and bank within the feature at two locations (Appendix B, OHWM Data Points 1 and 4). The OHWM within F1 was primarily characterized by notable changes in particle size distribution between the active floodplain and low terrace, sediment deposits, presence of wrack and drift deposits, and a break in slope (Appendix B, OHWM Data Points 1 and 4). The bed and bank (within the larger canyon slopes) of the feature appeared to be a similar width as the OHWM in observed portions of the canyon.

Furthermore, RBC observed two small features that flow into F1, Feature 1A (F1A) and Feature 1B (F1B), as described below:

Feature 1A

F1A is a two-foot wide, unvegetated ephemeral feature that flows into F1. The OHWM was primarily characterized by a break in slope, bed and bank, and a change in average sediment texture (Appendix B, OHWM Data Point 5). The feature drains southwest to its confluence with F1.

Feature 1B

F1B is a two-foot wide, concrete-lined channel which receives flows primarily from a roadside ditch along Country Club Drive. The feature continues down a steep slope into the canyon where it turns into a deeply incised, eroded feature. Access to the bottom of the eroded feature was difficult given heavy vegetation and steep slopes, although the feature was partially visible from the location where the concrete-lined portion of the feature ends. RBC staff was able to observe a four-foot wide OHWM based on the presence of a break in slope, change in average sediment texture from cobbles to sand in the uplands between the active channel and upland banks, and a change in vegetation cover (Appendix B, OHWM Data Point 6). The feature flows northwest to its confluence with F1. The bed and bank of the feature was observed to be the same as the OHWM.

Feature 2

Feature 2 (F2) drains is a two-foot wide feature located within a canyon which eventually drains into F1 approximately 250 meters to the west of the project site. F2 is surrounded by upland southern maritime chaparral habitat, with significant stands of Nuttall's scrub oak (*Quercus dumosa*) within and nearby the channel. WSP 4, taken within F2, met the wetland hydrology parameter; however, the sample point did not meet parameters for hydric soils or hydrophytic vegetation (Appendix B,

WSP 4). The OHWM within F2 was primarily characterized by a break in slope, bed and bank, and change in sediment and vegetation between the active floodplain and upland area (Appendix B, OHWM Data Point 3). The bed and bank of the feature was observed to be the same as the OHWM.

Feature 3

Feature 3 (F3) is approximately three feet wide and is located along the eastern boundary of the project survey area. F3 originates near Encelia Drive from adjacent residential runoff and drains south to north into another residential area. WSP 3 did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (Appendix B, WSP 3). Predominant upland species within F3 include toyon (*Heteromeles arbutifolia*; NL) and lemonade berry. RBC staff did not observe any drainage patterns, an OHWM, and/or streambed within F3.

3.6 POTENTIALLY JURISDICTIONAL RESOURCES AND ANALYSES

F1, F1A, F1B, and F2 do not meet the three parameters required for a federally jurisdictional wetland. However, RBC determined the presence of an OHWM (i.e., defined hydrology) and bed and bank along F1, F1A, F1B, and F2 within the project site boundary. As such and via the requested PJD process, F1, F1A, F1B, and F2 may be potential non-wetland, ephemeral waters of the U.S./State jurisdictional by the Corps and RWQCB and ephemeral streambed jurisdictional by CDFW; F1, F1A, F1B, and F2 would also be potentially jurisdictional wetlands by the CCC due to presence of wetland hydrology indicators per the Arid West Supplement and as detailed in the corresponding OHWM Datasheets (Table 2).

Feature 3, located off-site within the project survey boundary, is primarily unvegetated and does not meet the three parameters required for a federally jurisdictional wetland. Furthermore, RBC did not observe indicators of wetland hydrology, an OHWM, or bed and bank along F3 within the project survey area. Per the Corps' Regulatory Guidance Letter No. 05-05 (Subject: Ordinary High Water Mark Identification), generally two or more of the physical characteristics listed in Paragraph 3.b. should be identified for final OHWM determination. The only consistent potential OHWM indicator observed within F3 was a change in plant community (i.e., lowest topographic area of F3 was unvegetated vs. southern maritime chaparral on slopes), thus further supporting the determination that F3 does not have an OHWM. In summary, F3 exhibits swale-like characteristics and therefore should not be considered jurisdictional by the Corps, RWQCB, CCC, or CDFW.

None of the on-site aquatic features are City of San Diego-jurisdictional wetlands due to a lack of hydrophytic vegetation. Instead, the on-site features would be best described as "seasonal drainage patterns that are sufficient enough to etch the landscape (i.e., ephemeral/intermittent drainages)." Pursuant to the City's Biology Guidelines, "These types of drainages would not satisfy the City's wetland definition unless wetland dependent vegetation is either present in the drainage or lacking due to past human activities." More specifically, the aquatic features observed are unvegetated or support upland vegetation consisting primarily of invasive species (e.g., lemonade berry; NL) and do not contain OBL wetland vegetation; however, a small patch of invasive giant reed was observed within F1. Although giant reed is classified as a FACW species, the area is too small (0.005 acre) to meet the vegetation mapping minimum mapping unit, constitute a dominant

species within the feature, or indicate that the channel is a vegetation community "characteristically dominated by hydrophytic vegetation." The presence of giant reed is incongruent with the remaining natural portions of the feature, which do not support any FACW or OBL species and is primarily unvegetated or supports upland species such as lemonade berry. In summary, it does not appear that the on-site drainages are dominated by nor support significant areas of wetland plant species; as such these areas do not qualify as City-jurisdictional wetlands.

Table 2. Potential Jurisdictional Resources within Project Survey Area: Corps, RWQCB, CCC, and CDFW*

Feature Name	Acreage	Linear Feet	Cowardin Code	Presence of OHWM/ Average Width (feet)	Wetland Presence	Dominant Vegetation	Location (lat/long)
Feature 1	0.096	833	R6	Yes/5	No	Southern Maritime Chaparral	32.84204825, -117.26228503
Feature 1A	0.007	147	R6	Yes/2	No	Eucalyptus Woodland	32.84214261, -117.26210673
Feature 1B	0.011	174	R6	Yes/2-4	No	Southern Maritime Chaparral	32.84254419, -117.26329203
Feature 2	0.017	365	R6	Yes/2	No	Southern Maritime Chaparral	32.84309897, -117.26091026
Total	0.130	1519					

*Please note that acreages have been rounded to 1,000th place (using GIS generated raw numbers) rather than 100th due to small features and impacts. Raw numbers are available upon request.

3.7 PROPOSED JURISDICTIONAL IMPACTS

The project would impact approximately 0.073 acre (853 linear feet) of non-wetland, ephemeral Corps/RWQCB waters of the U.S./State, CDFW streambed, and CCC wetland within F1, F1A, F1B, and F2 through the construction of the project. More specifically, approximately 0.064 acre (706 linear feet) of the proposed impacts on potentially jurisdictional resources would occur with implementation of a temporary stockpile and construction access road, which are expected to be restored to natural contours and vegetation after completion of the project; the reservoir and pipeline easement component of the project would impact 0.009 acre (147 linear feet) of potentially jurisdictional resources. The associated permit application packages will provide further details regarding the proposed project impacts. Table 3 lists the proposed impacts on potentially jurisdictional resources; Table 4 provides the proposed impacts on vegetation communities within the project site boundary, which are described in further detail in the project *La Jolla View Reservoir Replacement Project Biological Resources Report* (Rocks 2018).

Table 3. Proposed Impacts* on Potential Corps, RWQCB, CCC, and CDFW Jurisdictional Resources

Feature Name	Reservoir and Pipeline Easement (Acres/Linear Feet)	Construction Access Road (Acres/Linear Feet)	Total Impacts: Acreage	Total Impacts: Linear Feet	Cowardin Code	Location (lat/long)
Feature 1	0.004/39	0.053/460	0.057	498	R6	32.84204825, -117.26228503
Feature 1A	0	0.007/147	0.007	147	R6	32.84214261, -117.26210673
Feature 1B	0	0.001/20	0.001	20	R6	32.84254419, -117.26329203
Feature 2	0.005/109	0.004/79	0.009	188	R6	32.84309897, -117.26091026
Total	0.009/147	0.064/706	0.073	853		

*Impact calculations provided by HELIX Environmental Planning; please note that impacts have been rounded to 1,000th place (using GIS generated raw numbers) rather than 100th due to small features and impact acreages. Raw numbers are available upon request.

Table 4. Proposed Impacts* on Vegetation Communities/Land Uses for the La Jolla Reservoir Replacement

Habitat Type	Impacts				
	Reservoir and Pipeline Easement		Construction Access Road		Total Impact
	MHPA	Non-MHPA	MHPA	Non-MHPA	
Southern Maritime Chaparral	2.13	-	3.40	-	5.53
Diegan coastal sage scrub	-	-	0.13	0.01	0.14
Eucalyptus Woodland	0.01	-	0.73	0.05	0.79
Ornamental	0.01	0.01	0.23	0.06	0.31
Disturbed Land	0.10	0.01	0.80	1.50	2.41
Total	2.25	0.02	5.29	1.62	9.18

*Impact calculations within project site boundary provided by HELIX Environmental Planning. Impacts within the Country Club Road portion of the impact area are included within the Reservoir and Pipeline Easement acreages.

Table 5. Proposed Impacts* on Vegetation Communities/Land Uses for the Exchange Place Reservoir Demolition

Habitat Type	Impacts (acres; all outside MHPA
Disturbed Land	0.51
Total	0.51

*Impact calculations within project site boundary provided by HELIX Environmental Planning.

4 CONCLUSION

The La View Reservoir Project area supports four features that are potential Corps, RWQCB and CDFW jurisdictional non-wetland, ephemeral waters of the U.S./State and streambed, respectively; these features would also be considered potential CCC wetland given the presence of wetland hydrology parameters per the Arid West Manual. These aquatic resources do not qualify as City of San Diego jurisdictional wetlands due to a lack of wetland/riparian vegetation. Furthermore, federally jurisdictional three-parameter wetlands do not occur within the project site boundary.

Table 3 summarizes the potential jurisdictional areas within the project site boundary that would be impacted with the proposed project. Impacts associated with the proposed project total 0.074 acre (854 linear feet) of potential non-wetland waters of the U.S./State jurisdictional by the Corps and RWQCB, streambed jurisdictional by CDFW, and wetlands jurisdictional by CCC, as provided in Table 4. Additional details regarding the proposed project impacts will be included with the applicable permit applications.

Assuming concurrence with the provided jurisdictional delineation and estimated impact calculations, the proposed project impacts could meet the required acreage threshold for authorization under a Nationwide Permit 12 (Utility Line Activities) from the Corps. In addition, a Streambed Alteration Agreement from CDFW, a Section 401 water quality certification from the RWQCB, and a CDP from the CCC would be required prior to project construction. Compensatory mitigation and/or a restoration plan for impacts proposed as temporary would also be required by one or more of the regulatory agencies.

Please note that the applicable agencies will make the final jurisdictional determinations. RBC recommends early coordination with the resource agencies to determine the final jurisdictional boundaries, applicable permitting processes, compensatory mitigation requirements, and other potential permitting issues specific to the proposed project. Agency representatives may request to access the site to field-verify the results of this jurisdictional delineation report with the project applicant, or a designated representative.

The information provided in this report should remain valid for up to five years from the date of the field effort for the jurisdictional delineation unless site conditions change substantially, or a regulatory agency requires an updated report.

5 REFERENCES

Baldwin, B.G., Goldman, D.H., Keil, D.J., Patterson, R., Rosatti, T.J. (eds). 2012. The Jepson Manual: Vascular Plants of California, Second Edition, Thoroughly Revised and Expanded. University of California Press, Berkeley, California. 1400 pp.

Bauder, E.T., Bohonak, A.J., Hecht, B., Simovich, M.A., Shaw, D., Jenkins, D.G., and Rains, M. 2009. A Draft Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Vernal Pool Depressional Wetlands in Southern California. San Diego State University, San Diego, CA.

California Environmental Protection Agency. (n.d.) Water Boards' Structure. Accessed on April 4, 2018. https://www.waterboards.ca.gov/sandiego/about_us/water_boards_structure/

City of San Diego. 2012. Biology Guidelines of the San Diego Municipal Code's Land Development Code. City of San Diego.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. with Appendices.

Holland R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, State of California, Department of Fish and Game, Sacramento, 156 pp.

Kollmorgen Instruments Corporation (Kollmorgen). 1994. Munsell Soil Color Charts, Revised edition. Baltimore, MD.

Laudenslayer, William F., Jr., W. E. Grenfell, Jr. and D. Zeiner. 1991. A check-list of the amphibians, reptiles, birds, and mammals of California. The Resources Agency: 77(3): 109-141.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1–17. Published 28 April. Retrieved from: http://wetland_plants.usace.army.mil/

National Resources Conservation Service (NRCS). Hydric Soils List. Accessed on February 28, 2018. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html

National Resources Conservation Service (NRCS) Agricultural Applied Climate Information System (AgACIS) Database. Monthly Total Precipitation for La Jolla 2.1 SE Station, 2009-2018. Accessed on February 19, 2018. http://agacis.rcc-acis.org/?fips=06073

National Oceanic and Atmospheric Administration (NOAA). Tide Predictions; La Jolla Station (9410230). Accessed on July 31, 2017. https://tidesandcurrents.noaa.gov/tide_predictions.html

National Oceanic and Atmospheric Administration (NOAA). Elevations on Station Datum. Accessed on July 31, 2017. https://tidesandcurrents.noaa.gov/datums.html?id=9410230

Rebman, J.P. and M.G. Simpson. 2006. Checklist of the Vascular Plants of San Diego County. 4th edition. 100pp.

Rocks Biological Consulting. 2018. La Jolla View Reservoir Replacement Project Biological Resources Report.

U.S. Army Corps of Engineers (Corps). 2005. Regulatory Guidance Letter No. 05-05. Ordinary High Water Mark Identification.

U.S. Army Corps of Engineers (Corps). 2017. USACE Los Angeles District's Minimum Standards for Acceptance of Aquatic Resources Delineation Reports.

U.S. Army Corps of Engineers (Corps). 2017. Special Public Notice. Reissuance of the Nationwide Permits and Issuance of Final Regional Conditions for the Los Angeles District. March 22.

U.S. Army Corps of Engineers (Corps). 2016. Updated Map and Drawing Standards for the South Pacific Division Regulatory Program. February 10.

U.S. Army Corps of Engineers (Corps). 2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. K.E. Curtis and R.W. Lichvar. EDRC/CRREL TN-10-1. Hanover, NH: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers (Corps). 2008a. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers (Corps). 2008b. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delination Manual. R.W. Lichvar, and S.M. McColley. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center.

U.S. Fish and Wildlife Service. 1999. Formal Section 7 Consultation on the Disposal and Reuse of March Air Force Base, Riverside County, California (1-6-99-F-13).

FIGURE 1

Project Location

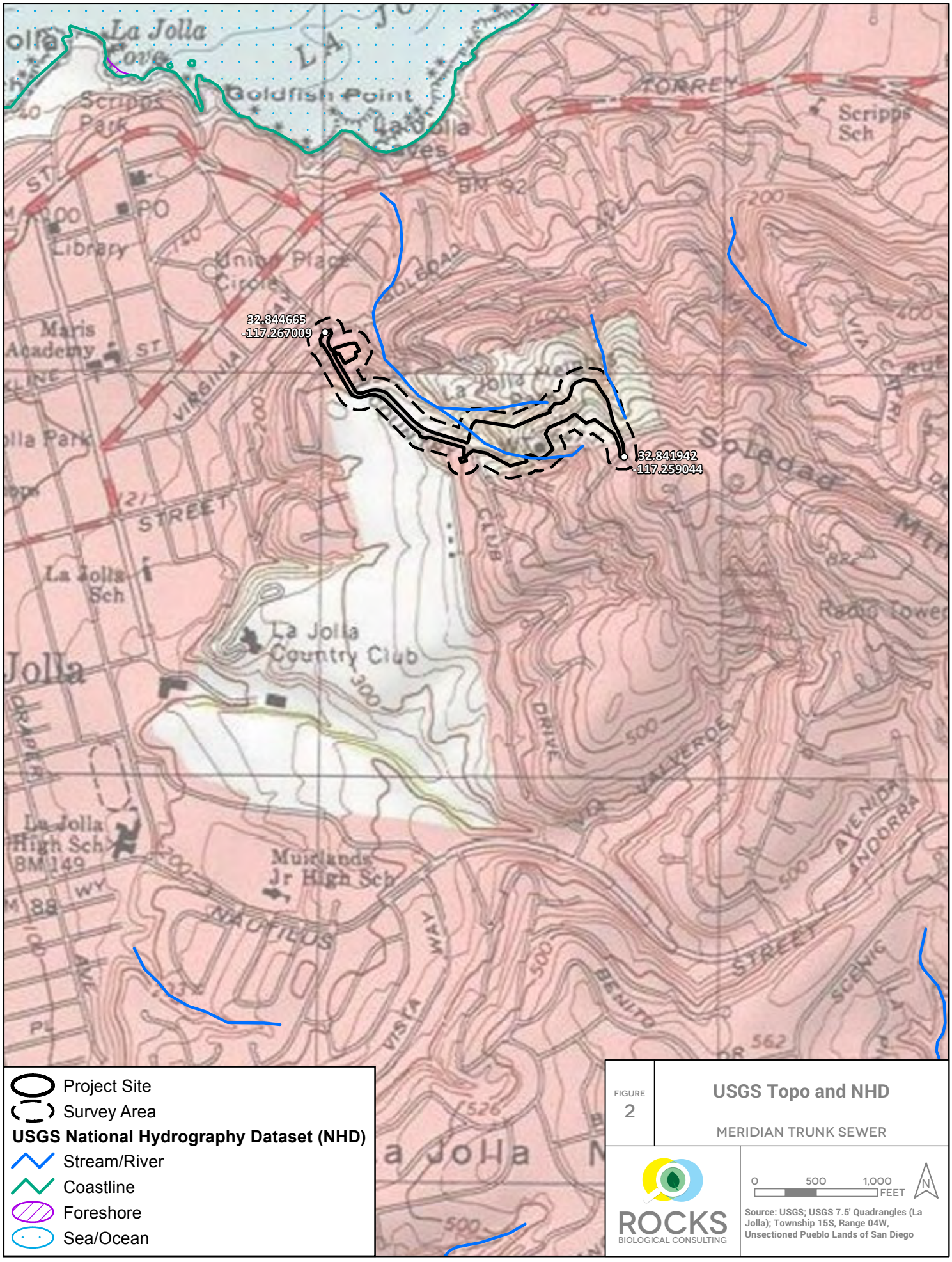
LA JOLLA VIEW RESERVOIR REPLACEMENT PROJECT

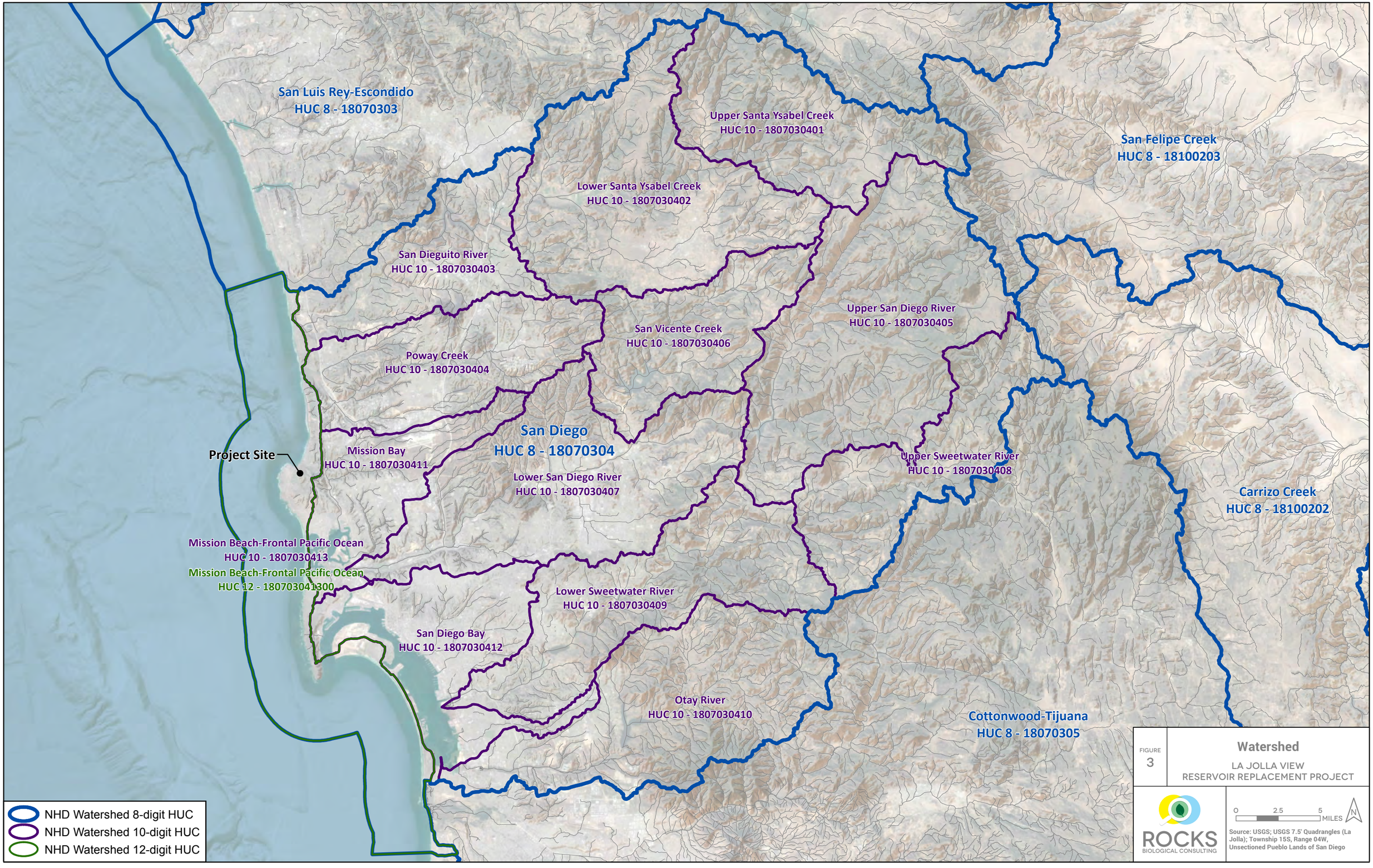
ROCKS BIOLOGICAL CONSULTING

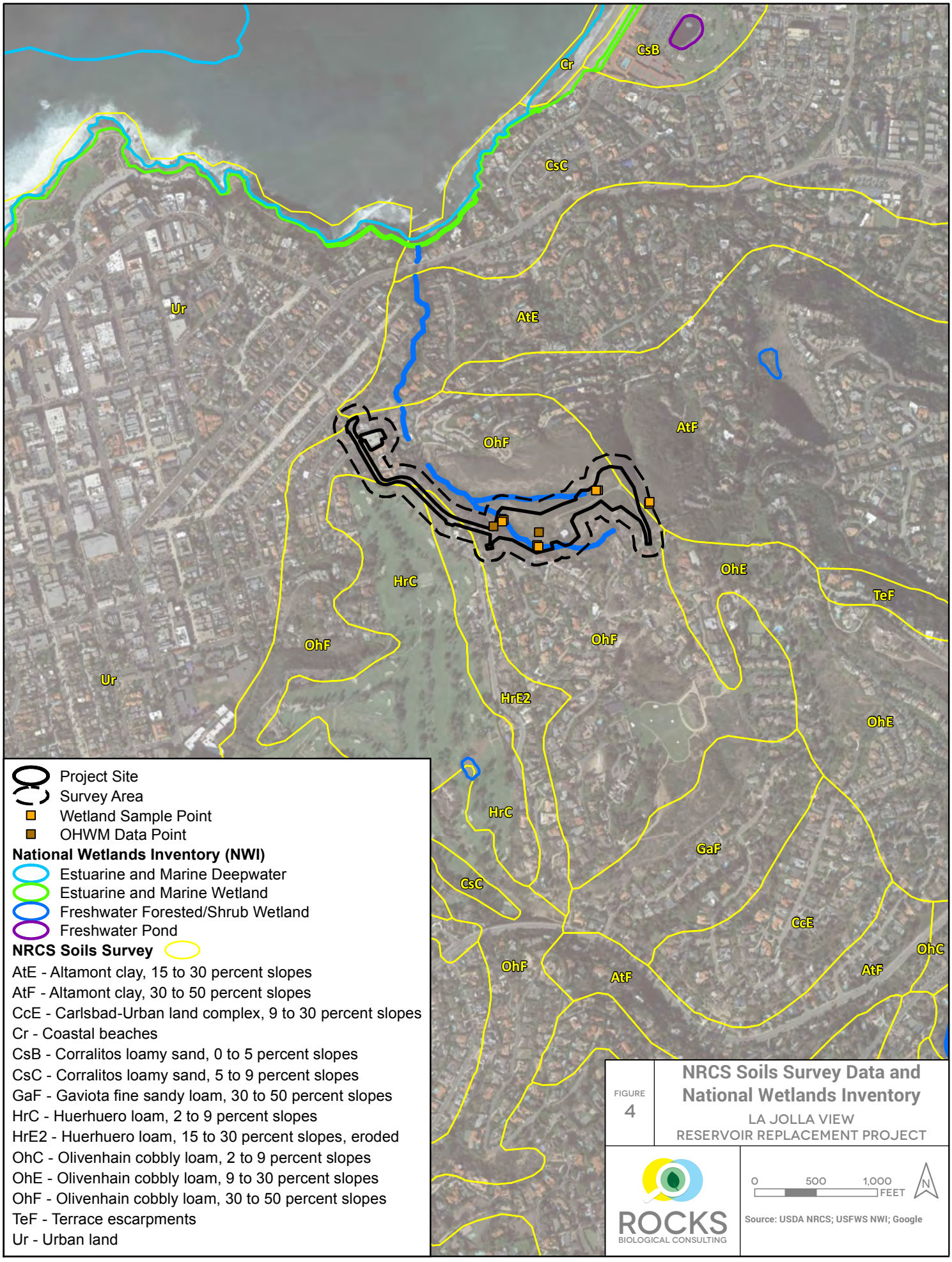
0 500 1,000 2,000 FEET

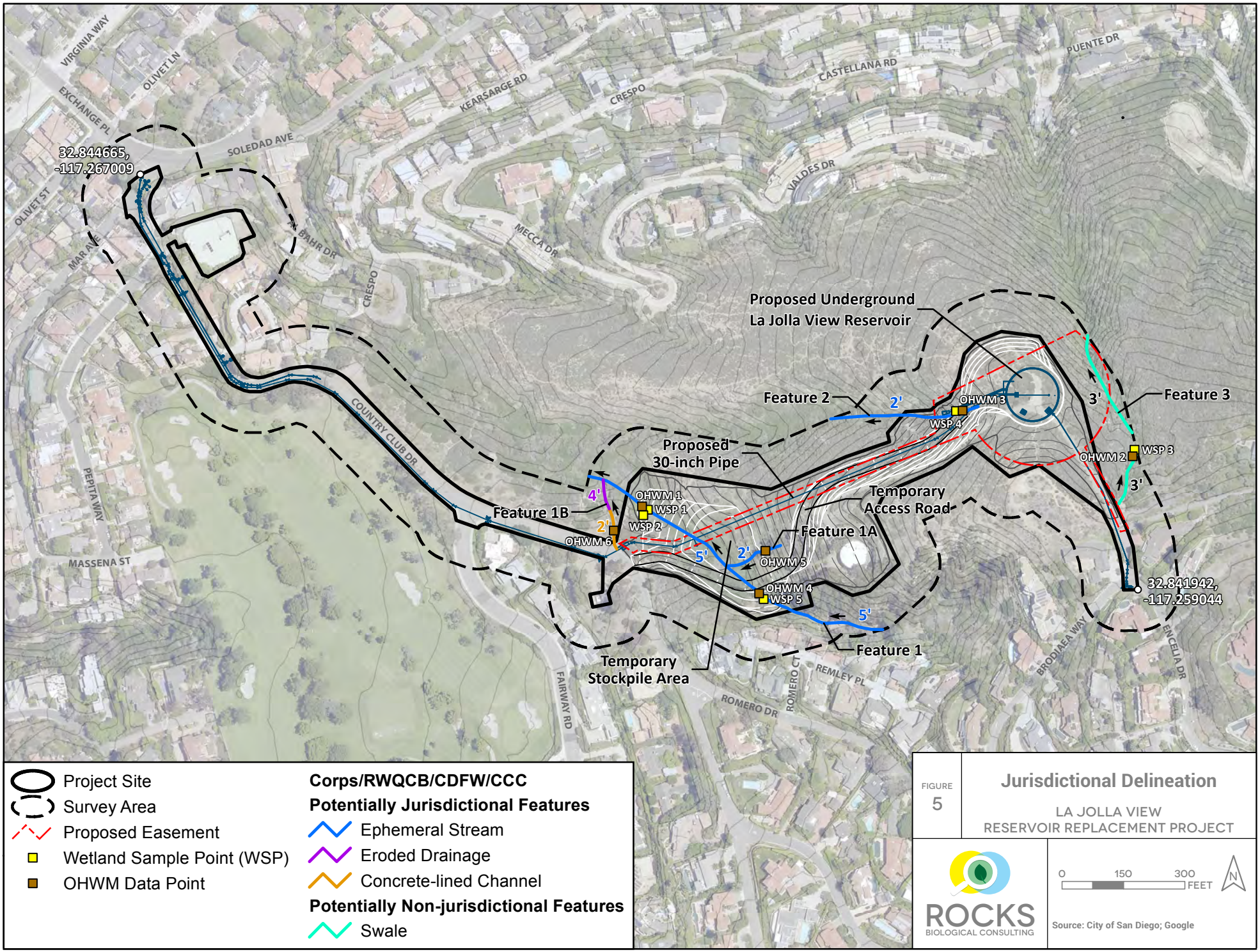
N

Source: Google, National Geographic, Esri


32.844665
-117.267009
32.841942
-117.259044
La Jolla
Goldfish Point
Scripps Park
Library
Union Place
Maris Academy
La Jolla Park
STREET
La Jolla Sch
La Jolla Country Club
La Jolla High Sch
Muirlands Jr High Sch
NAUTILUS
TORREY
Scripps Sch
SOLEDAD
Soledad Mtn
Radio Tower
VIRGINIA
CLUB
DRIVE
VALLE VERDE
AVENIDA ANDORRA
VISTA
BENITO
SCENIC
Project Site
Survey Area
USGS National Hydrography Dataset (NHD)
Stream/River
Coastline
Foreshore
Sea/Ocean
FIGURE
2
USGS Topo and NHD
MERIDIAN TRUNK SEWER
ROCKS
BIOLOGICAL CONSULTING
0
500
1,000
FEET
N
Source: USGS; USGS 7.5' Quadrangles (La Jolla); Township 15S, Range 04W, Unsectioned Pueblo Lands of San Diego


San Luis Rey-Escondido
HUC 8 - 18070303
Upper Santa Ysabel Creek
HUC 10 - 1807030401
San Felipe Creek
HUC 8 - 18100203
Lower Santa Ysabel Creek
HUC 10 - 1807030402
San Dieguito River
HUC 10 - 1807030403
Upper San Diego River
HUC 10 - 1807030405
San Vicente Creek
HUC 10 - 1807030406
Poway Creek
HUC 10 - 1807030404
San Diego
HUC 8 - 18070304
Project Site
Mission Bay
HUC 10 - 1807030411
Lower San Diego River
HUC 10 - 1807030407
Upper Sweetwater River
HUC 10 - 1807030408
Carrizo Creek
HUC 8 - 18100202
Mission Beach-Frontal Pacific Ocean
HUC 10 - 1807030413
Mission Beach-Frontal Pacific Ocean
HUC 12 - 180703041300
Lower Sweetwater River
HUC 10 - 1807030409
San Diego Bay
HUC 10 - 1807030412
Otay River
HUC 10 - 1807030410
Cottonwood-Tijuana
HUC 8 - 18070305
NHD Watershed 8-digit HUC
NHD Watershed 10-digit HUC
NHD Watershed 12-digit HUC
FIGURE
3
Watershed
LA JOLLA VIEW
RESERVOIR REPLACEMENT PROJECT
ROCKS
BIOLOGICAL CONSULTING
0
2.5
5
MILES
N
Source: USGS; USGS 7.5' Quadrangles (La Jolla); Township 15S, Range 04W, Unsectioned Pueblo Lands of San Diego


CsB
Cr
CsC
Ur
AtE
AtF
OhF
HrC
OhE
TeF
OhF
OhF
Ur
HrE2
OhE
HrC
GaF
CsC
CcE
OhC
OhF
AtF
AtF
Project Site
Survey Area
Wetland Sample Point
OHWM Data Point
National Wetlands Inventory (NWI)
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
NRCS Soils Survey
AtE - Altamont clay, 15 to 30 percent slopes
AtF - Altamont clay, 30 to 50 percent slopes
CcE - Carlsbad-Urban land complex, 9 to 30 percent slopes
Cr - Coastal beaches
CsB - Corralitos loamy sand, 0 to 5 percent slopes
CsC - Corralitos loamy sand, 5 to 9 percent slopes
GaF - Gaviota fine sandy loam, 30 to 50 percent slopes
HrC - Huerhuero loam, 2 to 9 percent slopes
HrE2 - Huerhuero loam, 15 to 30 percent slopes, eroded
OhC - Olivenhain cobbly loam, 2 to 9 percent slopes
OhE - Olivenhain cobbly loam, 9 to 30 percent slopes
OhF - Olivenhain cobbly loam, 30 to 50 percent slopes
TeF - Terrace escarpments
Ur - Urban land
FIGURE 4
NRCS Soils Survey Data and National Wetlands Inventory
LA JOLLA VIEW RESERVOIR REPLACEMENT PROJECT
ROCKS BIOLOGICAL CONSULTING
0 500 1,000 FEET
N
Source: USDA NRCS; USFWS NWI; Google



Project Site
Survey Area
Proposed Easement
Wetland Sample Point (WSP)
OHWM Data Point

Corps/RWQCB/CDFW/CCC
Potentially Jurisdictional Features
Ephemeral Stream
Eroded Drainage
Concrete-lined Channel
Potentially Non-jurisdictional Features
Swale

FIGURE 5

Jurisdictional Delineation

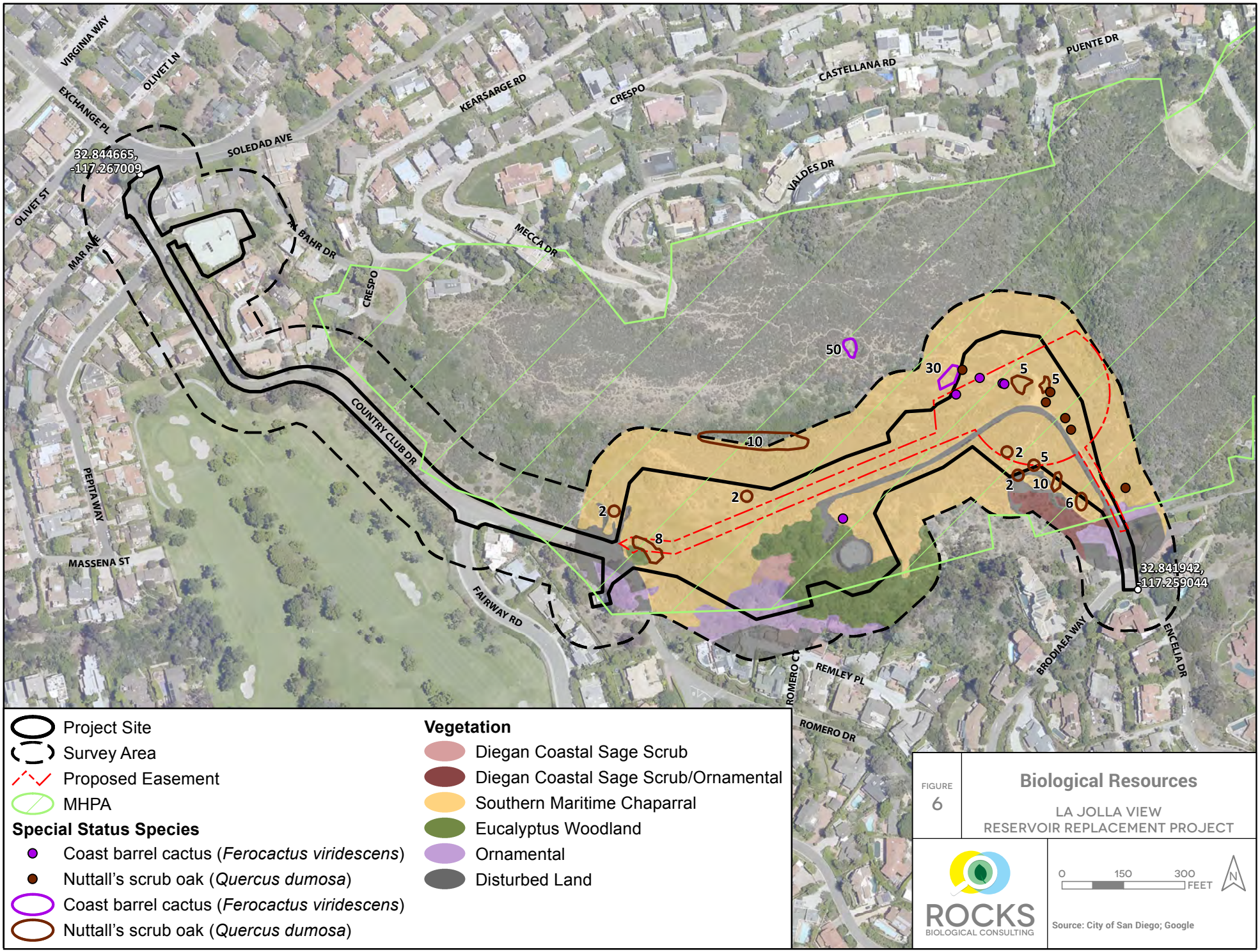
LA JOLLA VIEW
RESERVOIR REPLACEMENT PROJECT

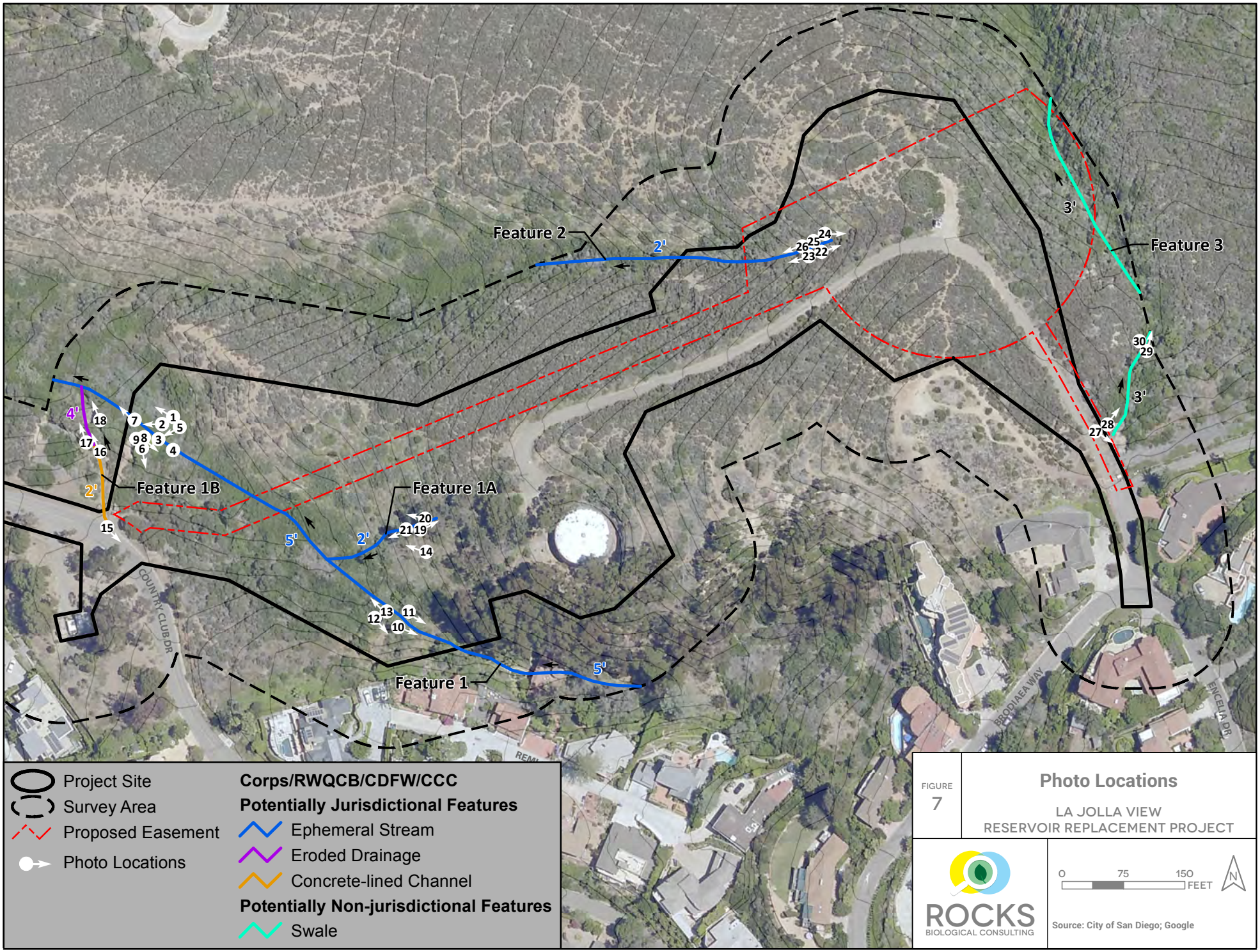
ROCKS BIOLOGICAL CONSULTING

0 150 300 FEET

N

Source: City of San Diego; Google


VIRGINIA WAY
OLIVET LN
EXCHANGE PL
SOLEDAD AVE
KEARSARGE RD
CRESPO
CASTELLANA RD
PUENTE DR
VALDES DR
MECCA DR
OLIVET ST
MAR AVE
EL BAHR DR
CRESPO
32.844665,
-117.267009
COUNTRY CLUB DR
PEPITA WAY
MASSENA ST
FAIRWAY RD
ROMERO CT
REMLEY PL
ROMERO DR
BRODIAEA WAY
ENCELIA DR
32.841942,
-117.259044
50
30
5
5
10
2
5
2
10
6
2
2
8
Project Site
Survey Area
Proposed Easement
MHPA
Special Status Species
Coast barrel cactus (Ferocactus viridescens)
Nuttall's scrub oak (Quercus dumosa)
Coast barrel cactus (Ferocactus viridescens)
Nuttall's scrub oak (Quercus dumosa)
Vegetation
Diegan Coastal Sage Scrub
Diegan Coastal Sage Scrub/Ornamental
Southern Maritime Chaparral
Eucalyptus Woodland
Ornamental
Disturbed Land
FIGURE
6
Biological Resources
LA JOLLA VIEW
RESERVOIR REPLACEMENT PROJECT
ROCKS
BIOLOGICAL CONSULTING
0
150
300
FEET
N
Source: City of San Diego; Google


Feature 2
2'
Feature 3
3'
Feature 1B
Feature 1A
Feature 1
4'
2'
5'
2'
5'
3'
3'
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
COUNTRY CLUB DR
BRODIAEA WAY
ENCELIA DR
Project Site
Survey Area
Proposed Easement
Photo Locations
Corps/RWQCB/CDFW/CCC
Potentially Jurisdictional Features
Ephemeral Stream
Eroded Drainage
Concrete-lined Channel
Potentially Non-jurisdictional Features
Swale
FIGURE
7
Photo Locations
LA JOLLA VIEW
RESERVOIR REPLACEMENT PROJECT
ROCKS
BIOLOGICAL CONSULTING
0
75
150
FEET
N
Source: City of San Diego; Google

APPENDIX A

CHECKLIST: MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS, LOS ANGELES DISTRICT REGULATORY DIVISION, USACE

CHECKLIST: MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS, LOS ANGELES DISTRICT REGULATORY DIVISION, USACE, MARCH 16, 2017

REPORT SECTION/ PAGE NUMBER	MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS	ADDITIONAL NOTES
Section 1	JD REQUEST AND FORMS: A cover letter indicating whether you are requesting a jurisdictional determination (JD). If you are requesting a JD, you must complete, sign, and return the Request for Corps Jurisdictional Determination (JD) sheet. For preliminary jurisdictional determinations the Preliminary Jurisdictional Determination Form must be signed and submitted.	
Section 1.4	CONTACT INFORMATION: Contact information for the applicant(s), property owner(s), and agent(s).	
N/A	SITE ACCESS: If the property owner or their representatives will not accompany the Corps to the site, a signed statement from the property owner(s) allowing Corps personnel to enter the property and to collect samples during normal business hours. If the property lacks direct access by public roads (in other words, access requires passage through private property not owned by the applicant), the owner or proponent must obtain permission from the adjacent property owner(s) to provide access for Corps personnel.	Property owner and/or representatives will accompany the Corps for a site visit upon request.
Section 1.1	LOCATION: Directions to the survey area, an address (if available) and one or more set of geographic coordinates expressed in decimal degrees.	
Section 2, Paragraphs 2 and 3	DELINEATION MANUAL CONFIRMATION: A statement confirming the delineation has been conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and applicable regional supplement(s). The regional supplement(s) used must be identified. For OHWM delineations, a statement must be included confirming the use of the OHWM field guide or that it is not applicable.	
Section 3.5	AQUATIC RESOURCE(S) DESCRIPTION: A narrative describing all aquatic resources on-site and an explanation of the mapped boundaries and any complex transition zones. If the site contains resources that only meet one or two of the three wetland criteria or do not exhibit a clear OHWM, describe the rationale for their inclusion or exclusion from the delineation. Also explain if any erosional features, upland swales, ditches and other potential aquatic features were considered but not included in the delineation.	
Figure 5, Tables 2 and 3	AQUATIC RESOURCE MAPPING AND ACREAGE: Map the outside survey boundary, total extent of aquatic and proposed non-aquatic features, type of feature(s) (waters of the United States or wetland), and include the total acreage for each polygon.	
Section 2, Paragraph 2	FIELD WORK DATES: Date(s) field work was completed.	
Tables 2 and 3	AQUATIC RESOURCE TABLE: A table listing all aquatic resources. The table must include the name of each aquatic resource (actual or arbitrary), its Cowardin type, acreage, summary of OHWM/wetland presence, dominant vegetation for each, and location (latitude/longitude in decimal degrees). For linear features, the table must show both acreage and linear feet as well as channel measurements (active channel width).	
Section 1.1 and 2	FIELD CONDITIONS: A description of existing field conditions, including current land use, normal conditions, flood/drought conditions, irrigation practices, past or recent manipulation to the site, and	

ROCKS BIOLOGICAL CONSULTING

	characteristics considered atypical (for criteria see OHWM and wetland supplement guides). Include WETS tables or pre-site visit precipitation data as appropriate: https://www.wcc.nrcs.usda.gov/climate/wets_doc.html.	
Section 3.3	HYDROLOGY: A discussion of the hydrology at the site, including all known surface or subsurface sources, drainage gradients, downstream connections to the nearest traditional navigable waterway or interstate water, and any influence from manmade water sources such as irrigation.	
N/A	REMOTE SENSING: If remote sensing was used in the delineation, provide an explanation of how it was used and include the name, date and source of the tools and data used and copies of the maps/photographs.	
Section 3.4; Figure 4; Appendix C	SOILS: Soil descriptions, soil map(s), soil photos, and a discussion of hydric soils (for wetland delineations only).	
Figure 2	USGS QUADRANGLE: A site location map on a 7.5-minute USGS quadrangle. The map must provide the name of the USGS quadrangle, Section, Township, Range, and the latitude and longitude in decimal degree format.	
N/A	BULK UPLOAD FORM: For sites with 3 or more separate aquatic features a completed copy of the ORM Bulk Upload Aquatic Resources or Consolidated Excel spreadsheet must be submitted.	
Figure 5	FIGURES: Map(s) of all delineated aquatic resources in accordance with the Final Map and Drawing Standards for the South Pacific Division Regulatory Program, available at: http://www.spd.usace.army.mil/Missions/Regulatory/Public-Notices-and-References/Article/651327/updated-map-and-drawing-standards/	
Figure 7 and Appendix C	SITE PHOTOGRAPHS: Ground photographs showing representative aquatic resource sites (or lack of), as well as an accompanying map of photo-points and table of photographic information (see Final Map and Drawing Standards for the South Pacific Division Regulatory Program item no. 8 a-c).	
Appendix B	DATA FORMS: Completed data forms including all essential information to make a jurisdictional determination [e.g. 2006 Wetland Determination Data Form -- Arid West Supplement; 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet].	
Section 2	METHODS: A description of the methods used to survey the aquatic resource boundaries. If GPS data is used, the level of accuracy must be included. Ideally, the GPS equipment should have the capability of sub-meter (<=1 meter) level horizontal accuracy.	
GIS Data Included	GIS DATA: Digital data for the site, aquatic resource boundaries, and data point locations must be provided in a geographic information system (GIS) format, preferably either ESRI shapefiles or Geodatabase format, but GoogleEarth KMZ or KML files may be acceptable non-complex projects. Each GIS data file must be accompanied by a metadata file containing the appropriate geographic coordinate system, projection, datum, and labeling description. If GIS data is unavailable or otherwise cannot be produced and the Corps determines a site visit is necessary, the aquatic resource boundaries should be physically marked with numbered flags or stakes to facilitate verification by the Corps.	

APPENDIX B

ARID WEST WETLAND DELINEATION AND EPHEMERAL AND INTERMITTENT ORDINARY HIGH WATER MARK (OHWM) DATASHEETS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Jolla View City/County: La Jolla/San Diego Sampling Date: 07/05/2018

Applicant/Owner: City of San Diego State: CA Sampling Point: 1-2018

Investigator(s): Shanti Santulli, Emily Trevino Section, Township, Range: Pueblo Lands, T15S, R04W

Landform (hillslope, terrace, etc.): In channel Local relief (concave, convex, none): Concave Slope (%): 2%

Subregion (LRR): LRR C - Mediterranean California Lat: 32.842447828 Long: -117.262948725 Datum: WGS84

Soil Map Unit Name: Olivenhain cobbly loam, 30 to 50 percent slopes NWI classification: FW Forested/ Shrub W

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

Sample point taken within canyon bottom, within main channel, in large Arundo donax-dominated area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Rhus integrifolia	10	Y	NL
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 10')			
1. Arundo donax	65	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	65 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 65	x 2 = 130
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 10	x 5 = 50
Column Totals: 75 (A)	180 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✔ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Dense, small patch of Arundo donax; NL species treated as UPL for prevalence index per Arid West Supplement.

SOIL

Sampling Point: 1-2018

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10 YR 3/2	100	N/A				SL	Silty loam + rock/org. matter
1-20	10 YR 3/3	100	N/A				CL	clayey loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

1-inch layer of sediment (silty loam) deposited at top of soil, collecting at base of a section of Arundo.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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:

Abundant sediment deposits collecting at base of Arundo culms. Wrack and drift deposits present. FAC-Neutral test not met. OHWM present; see OHWM 1 datasheet.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Jolla View City/County: La Jolla/San Diego Sampling Date: 07/05/2018

Applicant/Owner: City of San Diego State: CA Sampling Point: 2-2018

Investigator(s): Shanti Santulli, Emily Trevino Section, Township, Range: Pueblo Lands, T15S, R04W

Landform (hillslope, terrace, etc.): Canyon bottom Local relief (concave, convex, none): _____ Slope (%): 0-1%

Subregion (LRR): LRR C - Mediterranean California Lat: 32.842410442 Long: -117.262983074 Datum: WGS84

Soil Map Unit Name: Olivenhain cobbly loam, 30 to 50 percent slopes NWI classification: FW Forested/ Shrub W

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Sample point taken within canyon bottom, within main channel, in large Arundo donax-dominated area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Pittosporum undulatum	30	Y	NL
2. Nicotiana glauca	10	Y	FAC
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. Rhus integrifolia	15	Y	NL
2.			
3.			
4.			
5.			
	15	= Total Cover	
Herb Stratum (Plot size: 10')			
1. Arundo donax	15	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	45	x 5 =	225
Column Totals:	70 (A)		285 (B)

Prevalence Index = B/A = 4.07

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Single point taken under Pittosporum canopy. Leaf litter (dry, no water staining) present throughout bare-ground areas. NL species treated as UPS for prevalence index per Arid West Supplement.

SOIL

Sampling Point: 2-2018

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10 YR 3/3	100	N/A				SL	Sandy loam, cobbles

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal

Depth (inches): 3 inches

Hydric Soil Present? Yes ____ No ✔

Remarks:

Pit only dug to 3 inches due to large amounts of cobbles and rocks within the soil; shovel refusal. Soils uniform in color.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): ____

Water Table Present? Yes ____ No ✔ Depth (inches): ____

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:

FAC-Neutral test not met. Sample point taken on the south bank of the ephemeral channel, in upland area. No indicators of hydrology present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Jolla View City/County: La Jolla/San Diego Sampling Date: 07/05/2018

Applicant/Owner: City of San Diego State: CA Sampling Point: 3-2018

Investigator(s): Shanti Santulli, Emily Trevino Section, Township, Range: Pueblo Lands, T15S, R04W

Landform (hillslope, terrace, etc.): Small canyon Local relief (concave, convex, none): concave Slope (%): 5%

Subregion (LRR): LRR C - Mediterranean California Lat: 32.842881713 Long: -117.259081910 Datum: WGS84

Soil Map Unit Name: Olivenhain cobbly loam, 30 to 50 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Outside of project site boundary; area receives flows from top of hill by residence/driveway. No defined flow indicators.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Heteromeles arbutifolia	45	Y	NL
2.			
3.			
4.			
	45 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5')			
1. Rhus integrifolia	25	Y	NL
2.			
3.			
4.			
5.			
	25 = Total Cover		
Herb Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	70	x 5 =	350
Column Totals:	70 (A)		350 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Plant overstory; unvegetated otherwise. Leaf litter throughout canyon bottom; NL species treated as UPL for prevalence index per Arid West Supplement.

SOIL

Sampling Point: 3-2018

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100					Loam	
2-20	10YR 4/4	100					SL	Sandy loam
							SL	Sandy loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✔

Remarks:

Top 1-inch layer displayed different soil texture and color than bottom 19 inches. No redox features or hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✔

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

Remarks:

No hydrology indicators observed. FAC-Neutral not met. Area appears swale-like at top of small canyon. No OHWM present; see OHWM Data Point 2.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Jolla View City/County: La Jolla/San Diego Sampling Date: 07/05/2018

Applicant/Owner: City of San Diego State: CA Sampling Point: 4-2018

Investigator(s): Shanti Santulli, Emily Trevino Section, Township, Range: Pueblo Lands, T15S, R04W

Landform (hillslope, terrace, etc.): Small canyon Local relief (concave, convex, none): Concave Slope (%): 20%

Subregion (LRR): LRR C - Mediterranean California Lat: 32.843129671 Long: -117.260504008 Datum: WGS84

Soil Map Unit Name: Olivenhain cobbly loam, 30 to 50 percent slopes NWI classification: FW Forested/ Shrub W

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Small ephemeral drainage feature within canyon. Surrounded by openspace trail system and southern maritime chaparral.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Heteromeles arbutifolia	5	Y	NL
2.			
3.			
4.			
	5 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5')			
1. Eriogonum fasciculatum	5	Y	NL
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	10 (A)		50 (B)

Prevalence Index = B/A = 5.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Heteromeles arbutifolia canopy cover only. NL species treated as UPL for prevalence index per Arid West Supplement.

SOIL

Sampling Point: 4-2018

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10 YR 3/3	100					SL	Sandy Loam; cobbles present

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal

Depth (inches): 8 inches

Hydric Soil Present? Yes ___ No ✔

Remarks:

Cobbles within soil sample pit; pit only dug to 8 inches. Soil color uniform.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ___ No ✔ Depth (inches): ___

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:

OHWM present - see corresponding OHWM Data Point 3.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: La Jolla View City/County: La Jolla/San Diego Sampling Date: 07/05/2018

Applicant/Owner: City of San Diego State: CA Sampling Point: 5-2018

Investigator(s): Shanti Santulli, Emily Trevino Section, Township, Range: Pueblo Lands, T15S, R04W

Landform (hillslope, terrace, etc.): Urban canyon Local relief (concave, convex, none): Slight concave Slope (%): 10%

Subregion (LRR): LRR C - Mediterranean California Lat: 32.841855078 Long: -117.262019157 Datum: WGS 84

Soil Map Unit Name: Olivenhain cobble loam, 30 to 50 percent slopes NWI classification: Forested/Shrub Wetla

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Canyon is broad, but true width of stream is about 5 feet wide; dense Rhus integrifolia cover obscuring topography downstream of data point.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Heteromeles arbutifolia	5	Y	NL
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1. Rhus integrifolia	10	Y	NL
2. Echium candicans	20	Y	NL
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 35	x 5 = 175
Column Totals: 35 (A)	175 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Broad canyon bottom, no wetland plants or vegetation present; surrounded by dense layers of Rhus integrifolia. NL species treated as UPL for prevalence index per AW Supplement.

SOIL

Sampling Point: 5-2018

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10 YR 3/3	100					SL	Sandy loam; hit rock/cobbles

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal

Depth (inches): 8 inches

Hydric Soil Present? Yes ___ No ✔

Remarks:

Only dug to 8 inches due to cobbles, rocks, and concrete slabs within the sample pit. Uniform soil color.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ___ No ✔ Depth (inches): ___

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:

OHWM present; see OHWM 4 datasheet. Did not meet FAC-neutral test.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: La Jolla View
Project Number: --
Stream: OHWM 1
Investigator(s): Shanti Santulli, Emily Trevino

Date: 07/05/2018 **Time:** 0930
Town: La Jolla **State:** CA
Photo begin file#: **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details:
See data below, Appendix C and Figure 7

Projection: **Datum:** WGS 84
Coordinates: See data below

Potential anthropogenic influences on the channel system:
Natural open space with some housing at top of canyon. Adjacent golf course does not appear to influence the canyon.

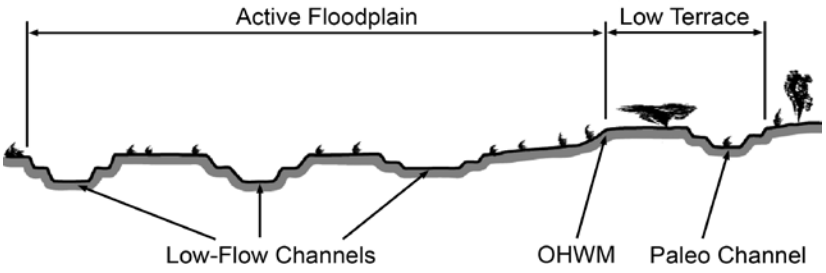
Brief site description:
Ephemeral stream within urban canyon/open space, downslope from Country Club Road.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

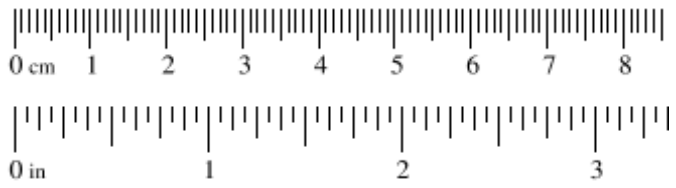


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
   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:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

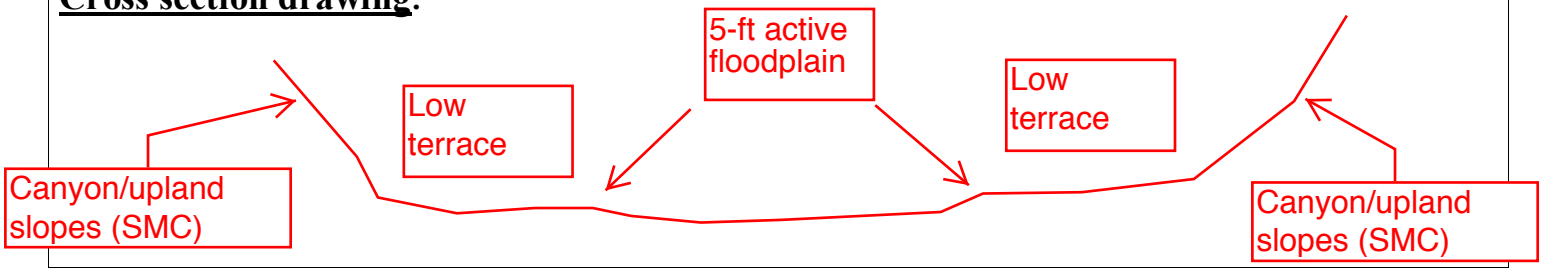
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: LJV **Cross section ID:** OHWM 1 **Date:** 07/05/2018 **Time:** 0930

Cross section drawing:



OHWM

GPS point: 32.842469153, -117.262993266

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: wrack/debris
- [x] Other: sedimentation

Comments:

OHWM observed within canyon bottom, slight break in slope. Well-defined shift in sediment texture, wrack/debris lines, and sedimentation within active floodplain.

Floodplain unit:

- [ ] Low-Flow Channel
- [x] Active Floodplain
- [ ] Low Terrace

GPS point: 32.842469153, -117.262993266

Characteristics of the floodplain unit:

Average sediment texture: Coarse silt

Total veg cover: 90 % Tree: 0 % Shrub: 15 % Herb: 75 %

Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [x] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Some new Arundo sprouts, but mostly mature plants. Vegetation dense; difficult to view canyon bottom and define a clear low-flow channel within the active floodplain. However, an active floodplain (approx. 5 feet wide) was observed as small break in slope within the Arundo-dominated area. Evidence of sediment deposits in active floodplain. Rhus integrefolia (primarily overstory) and tree tabacco also present.

Project ID: LJV **Cross section ID:** OHWM 1 **Date:** 07/05/2018 **Time:** 0930

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

GPS point: Just above OHWM

Characteristics of the floodplain unit:

Average sediment texture: Pebbles

Total veg cover: 25 % Tree: 0 % Shrub: 0 % Herb: 25 %

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: _____
- ☐ Presence of bed and bank
- ☐ Other: _____
- ☐ Benches
- ☐ Other: _____

Comments:

Mixture of large to small cobbles and coarse sand. Average size pebbles taken just at base of canyon slope outside of Arundo-dominated area, although some Arundo still present. Pittosporum undulatum, Rhus integrefolia. The low terrace gradually transitions into canyon upland slopes

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

Indicators:

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

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: La Jolla View
Project Number: --
Stream: OHWM 2
Investigator(s): Shanti Santulli, Emily Trevino

Date: 07/05?2018 **Time:** 1215
Town: La Jolla **State:** CA
Photo begin file#: **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details:
See data below, Appendix C and Figure 7

Projection: **Datum:** WGS 84
Coordinates: See data below

Potential anthropogenic influences on the channel system:
Natural open space with some housing at top of canyon; residential driveway and associated runoff into the area. Adjacent golf course does not appear to influence the canyon.

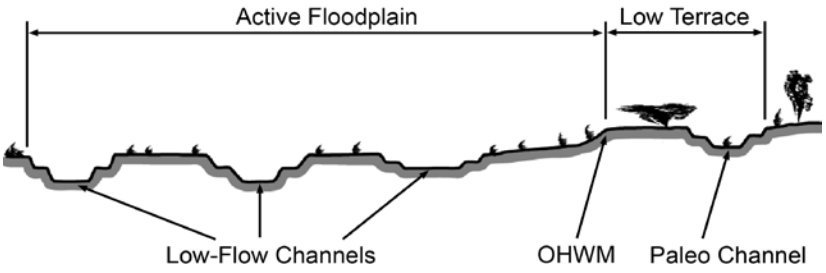
Brief site description:
Small canyon within upland habitat; top of canyon - no definable bed and bank - swale. No OHWM observed at OHWM 2.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

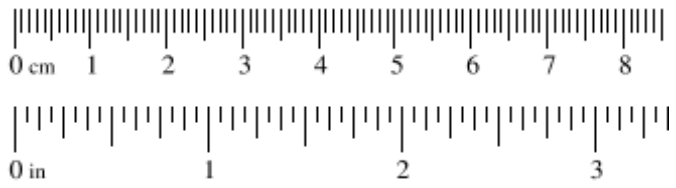


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
   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:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

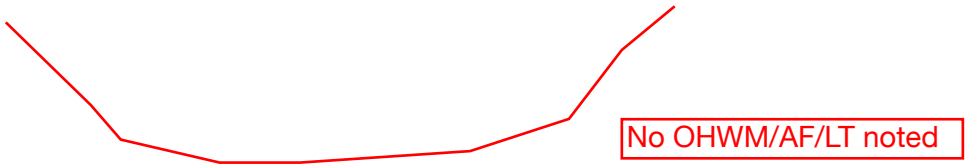
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: LJV **Cross section ID:** OHWM 2 **Date:** 07/05/2018 **Time:** 1215

Cross section drawing:



OHWM

GPS point: N/A

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Very fine sand present at base of canyon and on upland slopes; no OHWM. Minimally vegetated at base of canyon with leaf litter - upland vegetation canopy layer over sample point. As such, the only OHWM indicator noted was the change in vegetation cover between the lowest topographic point in the feature (unvegetated swale) and adjacent vegetated uplands areas.

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

GPS point: N/A

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:

Project ID: LJV **Cross section ID:** OHWM 2 **Date:** 07/05/2018 **Time:** 1215

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

GPS point: N/A

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:

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

GPS point: N/A

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 OHWM Datasheet

Project: La Jolla View
Project Number: --
Stream: OHWM 3
Investigator(s): Shanti Santulli, Emily Trevino

Date: 07/05/2018 **Time:** 1325
Town: La Jolla **State:** CA
Photo begin file#: **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details:
See data below, Appendix C and Figure 7

Projection: **Datum:** WGS 84
Coordinates: See data below

Potential anthropogenic influences on the channel system:
Natural open space with some housing at top of canyon. Adjacent golf course does not appear to influence the canyon. Trail system around/within open space.

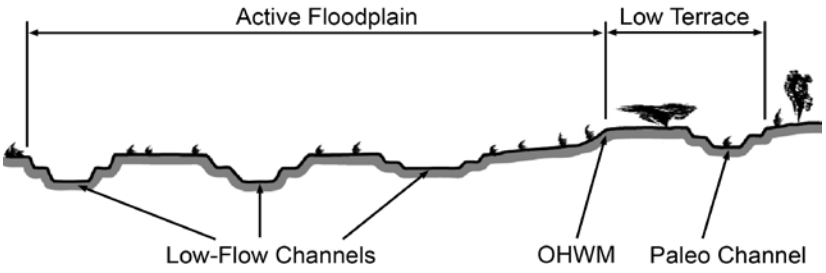
Brief site description:
Small, ephemeral channel in canyon within natural open space area, which eventually flows into the main channel. Trail system present at top of slopes of canyon.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

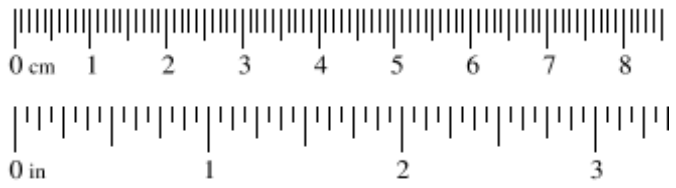


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
   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:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

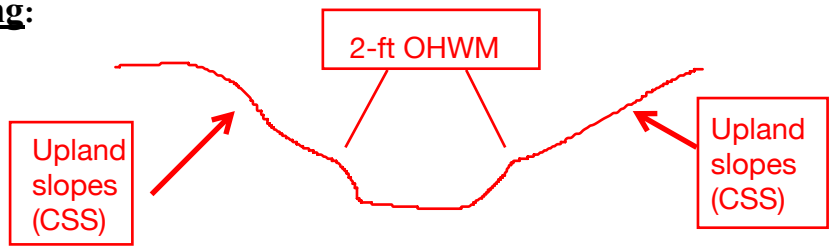
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: LJV **Cross section ID:** OHWM 3 **Date:** 07/05/2018 **Time:** 1325

Cross section drawing:



OHWM

GPS point: 32.843132959, -117.260452041

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: drift/debris
- [ ] Other: _____

Comments:

2-ft wide OHWM with visible break in slope; change in sediment texture and vegetation cover between active floodplain and uplands.

Floodplain unit:

- [x] Low-Flow Channel
- [x] Active Floodplain
- [ ] Low Terrace

GPS point: 32.843132959, -117.260452041

Characteristics of the floodplain unit:

Average sediment texture: Granule

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

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Singular channel with break in slope, drift deposits observed. Low-flow difficult to differentiate from active floodplain within the narrow channel during field visit.

Project ID: LJV **Cross section ID:** OHWM 3 **Date:** 07/05/2018 **Time:** 1325

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☑ Low Terrace (Upland)

GPS point: Just above OHWM

Characteristics of the floodplain unit:

Average sediment texture: coarse sand

Total veg cover: 80 % Tree: _____% Shrub: 78 % Herb: 2 %

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: _____
- ☐ Presence of bed and bank
- ☐ Other: _____
- ☐ Benches
- ☐ Other: _____

Comments:

More cobbles exposed and boulders with finer soil texture than active floodplain area; southern maritime chaparral in uplands, some moss present on upland slopes. No low terrace; straight to uplands.

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

Indicators:

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

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: La Jolla View
Project Number: --
Stream: OHWM 4
Investigator(s): Shanti Santulli, Emily Trevino

Date: 07/05/2018 **Time:** 1425
Town: La Jolla **State:** CA
Photo begin file#: **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details:
See data below, Appendix C and Figure 7

Projection: **Datum:** WGS 84
Coordinates: See data below

Potential anthropogenic influences on the channel system:
Upstream extent of main ephemeral channel. Further upstream of Data Point, the feature seems to have been manipulated by residents to upkeep a personal water fountain/well area.

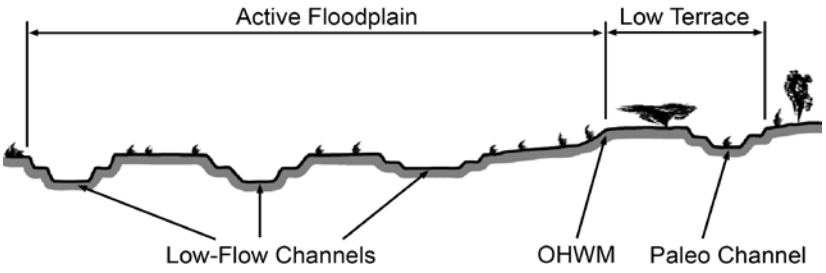
Brief site description:
Ephemeral channel within canyon with adjacent residences.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

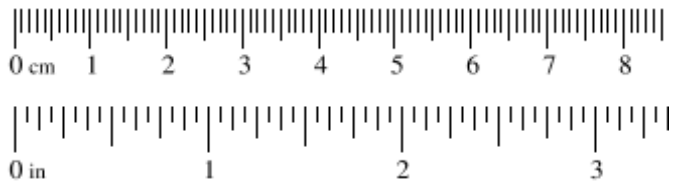


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
   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:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

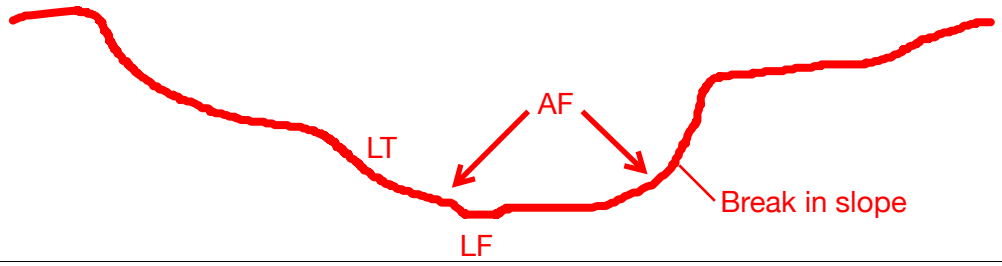
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: LJV **Cross section ID:** OHWM 4 **Date:** 07/05/2018 **Time:** 1425

Cross section drawing:



OHWM

GPS point: 32.841892922, -117.262056548

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: Drift/Debris
- [ ] Other: _____

Comments:

5-ft. (average) active floodplain within main channel of canyon. Change in sediment texture and vegetation cover between active floodplain and uplands; clearly defined break in bank slope and drift and debris flowing/just above OHWM.

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: Within OHWM

Characteristics of the floodplain unit:

Average sediment texture: Pebbles

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

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [x] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

1-ft. wide low flow. No vegetation present within low flow. Small areas with mudcracks in low flow.

Project ID: LJV **Cross section ID:** OHWM 4 **Date:** 07/05/2018 **Time:** 1425

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

GPS point: 32.841892922, -117.262056548

Characteristics of the floodplain unit:

Average sediment texture: Granule/coarse sand

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:

Finer sediment; unvegetated channel. A couple small bench areas within the active floodplain.

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

GPS point: Above OHWM

Characteristics of the floodplain unit:

Average sediment texture: Cobbles/pebbles

Total veg cover: 5 % Tree: _____ % Shrub: 5 % 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:

Rhus on banks/terrace and Echium candicans. Above well-defined break in slope of active floodplain. No low terrace; straight to uplands.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: La Jolla View
Project Number: --
Stream: OHWM 5
Investigator(s): Shanti Santulli, Emily Trevino

Date: 07/05/2018 **Time:** 1500
Town: La Jolla **State:** CA
Photo begin file#: **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details:
See data below, Appendix C and Figure 7

Projection: **Datum:** WGS 84
Coordinates: See data below

Potential anthropogenic influences on the channel system:
Natural open space with some housing at top of canyon. Adjacent golf course does not appear to influence the canyon. Trail system around/within open space.

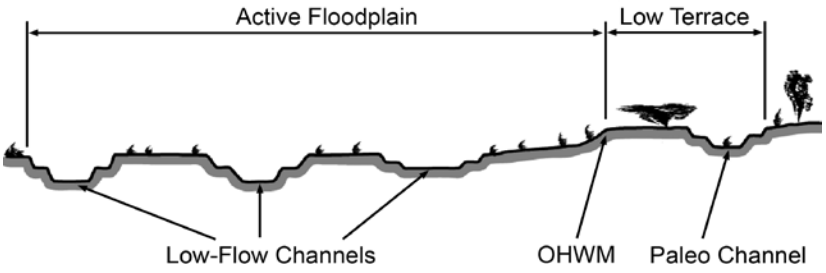
Brief site description:
Ephemeral channel within canyon with adjacent residences. Tributary to main channel within canyon.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

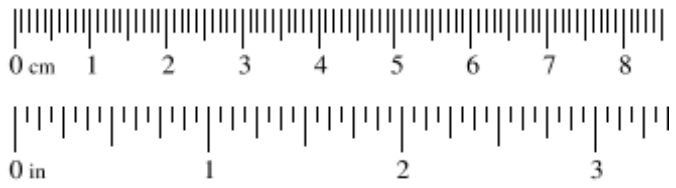


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
   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:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

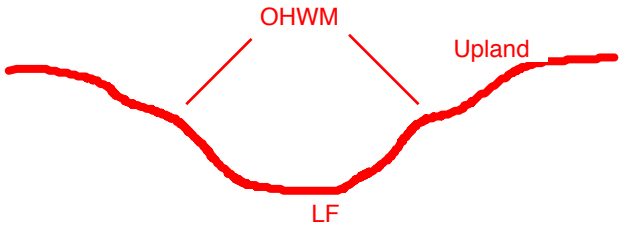
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: LJV **Cross section ID:** OHWM 5 **Date:** 07/05/2018 **Time:** 1500

Cross section drawing:



OHWM

GPS point: 32.842178925, -117.262009712

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

2-ft wide OHWM with visible break in slope; change in sediment texture and vegetation cover between active floodplain and uplands. Small tributary to main channel.

Floodplain unit:

- [x] Low-Flow Channel
- [x] Active Floodplain
- [ ] Low Terrace

GPS point: 32.842178925, -117.262009712

Characteristics of the floodplain unit:

Average sediment texture: Granule

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

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Singular, 2-ft. channel with break in slope, drift deposits observed. Low-flow difficult to differentiate from active floodplain within the narrow channel during field visit. No vegetation present within channel; some cobbles in channel. Southern maritime chaparral in uplands.

Project ID: LJV **Cross section ID:** OHWM 5 **Date:** 07/05/2018 **Time:** 1500

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

GPS point: Just above OHWM

Characteristics of the floodplain unit:

Average sediment texture: coarse sand

Total veg cover: 75 % Tree: 10 % Shrub: 65 % 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:

Leaf litter on upland banks. No low terrace; straight to uplands. Sediment generally finer in uplands areas.

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 OHWM Datasheet

Project: La Jolla View
Project Number: --
Stream: OHWM 6
Investigator(s): Shanti Santulli, Emily Trevino

Date: 07/05/2018 **Time:** 1530
Town: La Jolla **State:** CA
Photo begin file#: **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details:
See data below, Appendix C and Figure 7

Projection: **Datum:** WGS 84
Coordinates: See data below

Potential anthropogenic influences on the channel system:
Drainage is concrete-lined and primarily receives flows running along Country Club Drive - flows toward canyon, where it becomes and eroded/incised drainage before it drains into main canyon feature.

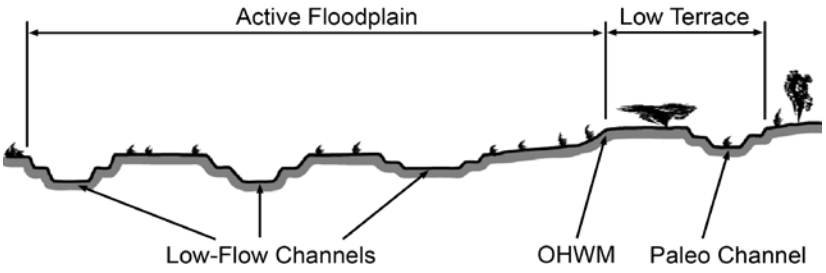
Brief site description:
Canyons draining near residential developments.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

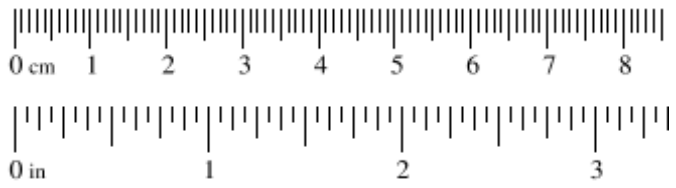


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
   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:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

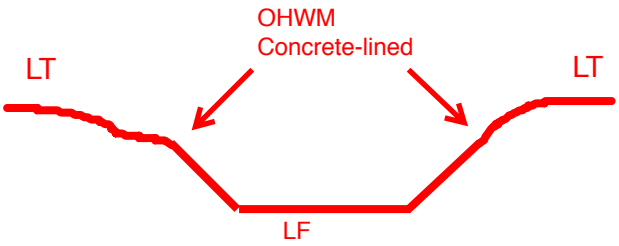
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: LJV **Cross section ID:** OHWM 6 **Date:** 07/05/2018 **Time:** 1530

Cross section drawing:



OHWM

GPS point: 32.842306, -117.263217

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☑ Other: sedimentation/water marks
- ☑ Other: drift/debris

Comments:

2-foot wide, concrete-lined channel with debris/sediment; some vegetation breaking through the cracks.

Floodplain unit:

☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: Within OHWM

Characteristics of the floodplain unit:

Average sediment texture: N/A - concrete-lined

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: water marks on concrete
- ☐ Other:
- ☐ Other:

Comments:

1-foot-wide, concrete-lined low-flow defined by water marks along the center of the feature.

Project ID: LJV **Cross section ID:** OHWM 6 **Date:** 07/05/2018 **Time:** 1530

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

GPS point: 32.842306, -117.263217

Characteristics of the floodplain unit:

Average sediment texture: N/A - ooncrete-lined

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

Community successional stage:

- ☐ NA
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Early (herbaceous & seedlings)
- ☐ 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:

2-foot wide active floodplain defined by observed drift and debris (sediment, leaf litter) within and just above estimated lateral limits of feature. Some annual weeds breaking through concrete.

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

GPS point: Just above OHWM

Characteristics of the floodplain unit:

Average sediment texture: Concrfete/fine silt

Total veg cover: 75 % Tree: 0 % Shrub: 75 % Herb: 0 %

Community successional stage:

- ☐ NA
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Early (herbaceous & seedlings)
- ☑ 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:

Upland vegetation and some concrete located on terrace/upland banks of feature.

APPENDIX C

SITE PHOTOGRAPHS

Appendix C – Site Photographs*

La Jolla View Jurisdictional Delineation

July 5, 2018

Photo 1. Downstream view of Feature 1 (F1) at its northeast bank (low terrace) where Ordinary High Water Mark (OHWM) Data Point 1 was taken. OHWM not pictured here.

Photo 2. Downstream view of wrack accumulating along small patch of giant reed (*Arundo donax*) within OHWM of F1.

*See Corresponding Figure 7 for Photo Point Locations

Photo 3. Wetland Sample Point (WSP) 1 taken within small giant reed patch within F1, in same area as OHWM Data Point 1. Wetland hydrology and hydrophytic vegetation parameters met; hydric soils not present.

Photo 4. View of top layer of sediment at WSP 1, which field staff also observed as sediment deposits along the bases of giant reed culms as discussed on OHWM Data Point 1.

*See Corresponding Figure 7 for Photo Point Locations

Photo 5. View of wrack accumulated within F1, collecting at the bases and higher on vegetation, located at the approximate location of the F1 OHWM (OHWM Data Point 1). Vegetation also bent in downstream direction.

Photo 6. Upstream view of wrack accumulated within F1.

*See Corresponding Figure 7 for Photo Point Locations

Photo 7. Downstream view of F1 at approximate location of south boundary of the OHWM and streambed with the adjacent uplands, where OHWM Data Point 1 and WSP 2 were taken.

Photo 8. Upstream view of F1, along south bank, where WSP 2 data was collected.

*See Corresponding Figure 7 for Photo Point Locations

Photo 9. WSP 2 taken on the south bank (at bottom of canyon) of F1, which did not meet wetland (federal or state) parameters. WSP taken to compare findings at WSP 1.

Photo 10. Upstream view of F1 at WSP 5.

*See Corresponding Figure 7 for Photo Point Locations

Photo 11. Upstream view of F1 showing the WSP 5 soil sample pit. Wetland hydrology parameter met; dominant or prevalent hydrophytic vegetation and hydric soils not present.

Photo 12. Upstream view of F1 at OHWM Data Point 4, where a bed and bank and change in vegetation cover and sediment between the active floodplain and uplands were observed.

*See Corresponding Figure 7 for Photo Point Locations

Photo 13. Downstream view of F1 at OHWM Data Point 4. Portions of the feature were littered with debris such as tree branches, pipes, concrete slabs, and cut logs which obscures the southwest bank.

Photo 14. Overview of F1, facing downstream. Approximate flow path noted on picture.

*See Corresponding Figure 7 for Photo Point Locations

Photo 15. Upstream view of concrete-lined channel that runs along Country Club Drive and feeds into Feature 1A (F1A).

Photo 16. Downstream view of F1A, where OHWM Data Point 6 was taken.

*See Corresponding Figure 7 for Photo Point Locations

Photo 17. View of the location where the concrete-lined portion of F1A ends. The feature continues downstream as an eroded drainage, which drains into F1.

Photo 18. Downstream view of the eroded drainage within F1A.

*See Corresponding Figure 7 for Photo Point Locations

Photo 19. Upstream view of F1B at the location of OHWM Data Point 5.

Photo 20. Downstream view of F1B at OHWM Data Point 5, where a bed and bank and change in vegetation cover and sediment between the active floodplain and uplands were observed.

*See Corresponding Figure 7 for Photo Point Locations

Photo 21. Downstream overview of F1B showing surrounding overgrown vegetation. Photo taken facing north and shows an area of visible break in slope.

Photo 22. Upstream view of F2 at the location of OHWM Data Point 3 where a bed and bank (with a break in slope) and change in vegetation cover and sediment between the active floodplain and uplands were observed.

*See Corresponding Figure 7 for Photo Point Locations

Photo 23. Downstream view of F2. OHWM obscured by upland vegetation story.

Photo 24. Upstream view of F2 showing accumulated debris along vegetation on the banks surrounding the feature.

*See Corresponding Figure 7 for Photo Point Locations

Photo 25. F2 at WSP 4; view of soil sample pit. WSP 4 met the wetland hydrology parameter but did not meet the hydrophyic vegetation or hydric soils parameters.

Photo 26. Downstream overview of F2, facing west. Approximate flow path noted on picture.

*See Corresponding Figure 7 for Photo Point Locations

Photo 27. Upstream extent of F3. The feature appears to collect runoff from the adjacent residential development and driveway.

Photo 28. Downstream view of upstream extent of F3. Photo taken facing north.

*See Corresponding Figure 7 for Photo Point Locations

Photo 29. Downstream view of F3 at WSP 3 and OHWM 2.
The feature did not show indicators of hydrology and appeared swale-like.

Photo 30. WSP 3, taken within F3. Observed soils within the feature were the same as observed on the vegetated slopes.

*See Corresponding Figure 7 for Photo Point Locations

APPENDIX D

JD REQUEST FORMS

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Los Angeles District | File/ORM #: | PJD Date:

State: CA | City/County: La Jolla/San Diego

Nearest Waterbody: Pacific Ocean

Location: TRS, LatLong or UTM: 32.842994, -117.262664

Name/ Address of Person Requesting PJD:
Ed Fordan
City of San Diego, Public Works Department
525 B Street, 8th Floor
San Diego, CA 92101
EFordan@sandiego.gov
619-533-4162

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 1519 linear ft | 2-5 width | 0.130 acres | Stream Flow: Ephemeral

Wetlands: 0.0 acre(s) | Cowardin Class: Riverine

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: N/A | Non-Tidal: N/A

☐ Office (Desk) Determination
☐ Field Determination: Date of Field Trip:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: 2018 JD Report, prepared by Rocks Biological Consult
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: La Jolla Quadrangle, Pueblo Lands of San Diego Land
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA NRCS 2005
- ☑ National wetlands inventory map(s). Cite name: USFWS and NWI 2017
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): See attached figures, SanGIS 2017
  ☑ Other (Name & Date): See Appendix C, Site Photo Locations
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): 2018 JD Report, prepared by Rocks Biological Consult

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office: Los Angeles District | File/ORM #: | PJD Date:

State: CA | City/County: La Jolla/San Diego | Person Requestinq PJD: Ed Fordan

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
F1	32.84204825	-117.26228503	Riverine	0.096 acre	Non-Section 10 non-wetlanc
F1A	32.84214261	-117.26210673	Riverine	0.007 acre	Non-Section 10 non-wetlanc
F1B	32.84254419	-117.26329203	Riverine	0.011 acre	Non-Section 10 non-wetlanc
F2	32.84309897	-117.26091026	Riverine	0.017 acre	Non-Section 10 non-wetlanc
			n/a		Non-Section 10 non-wetlanc

Notes:

The review area for this requested PJD includes the project survey area shown on the provided figures with the La Jolla View Reservoir Replacement Project Jurisdictional Delineation Report (Rocks Biological Consulting 2018), incorporated here by reference. Evidence of an OHWM was observed within Feature 1 (F1), F1A, F1B, and F2 as discussed in detail in the provided Jurisdictional Delineation Report. F1, F1A, F1B, and F2 are potential non-wetland, ephemeral waters of the U.S./State jurisdictional by the Corps.

The delineated features merge into Feature 1, which eventually flows onto Al Bahr Drive/Crespo Street and continues downslope (along the street) for approximately 0.13 mile where it eventually enters a storm drain on the east side of Soledad Avenue (just north past the intersection of Crespo Street and Soledad Avenue). The storm drain flows under Soledad Avenue and outlets on the west side of Soledad Avenue into an ephemeral stream that runs behind private residences for approximately 0.21 mile until its intersection with Torrey Pines Road. RBC staff was not able to observe the ephemeral feature just to the east of Torrey Pines Road as it occurs on private property. Storm drains outlet into the Pacific Ocean on the west side of Torrey Pines Road.

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: District Name Here

- I am requesting a JD on property located at: East of Country Club Dr./North of Encelia Dr. (Street Address)
  City/Township/Parish: La Jolla County: San Diego State: CA
  Acreage of Parcel/Review Area for JD: _____
  Section: Unsectioned Township: N/A Range: N/A Pueblo Lands of San Diego Land Grant
  Latitude (decimal degrees): 32.842994 Longitude (decimal degrees): -117.262664
  (For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- ✔ I currently own this property. ___ I plan to purchase this property.
  ___ I am an agent/consultant acting on behalf of the requestor.
  ___ Other (please explain): _____.
- Reason for request: (check as many as applicable)
  ___ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
  ___ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
  ___ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
  ✔ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
  ___ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
  ___ A Corps JD is required in order to obtain my local/state authorization.
  ___ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
  ___ I believe that the site may be comprised entirely of dry land.
  ___ Other: _____
- Type of determination being requested:
  ___ I am requesting an approved JD.
  ✔ I am requesting a preliminary JD.
  ___ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
  ___ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: _____ Date: _____

- Typed or printed name: Ed Fordan
  Company name: City of San Diego, Public Works Department
  Address: 525 B Street, 8th Floor
  San Diego, CA 92101
  Daytime phone no.: 619-533-4162
  Email address: EFordan@sandiego.gov

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Appendix E

CNDDB

Appendix E
CNDDB and USFWS Species Databases:
Species Reported in Project Vicinity and Potential for On-Site Occurrence

Common Name	Scientific Name	Sensitivity Status	Habitat Description	Potential to Occur In Project Area
Invertebrates				
Mesa Shoulderband	*Helmintho-glypta coelata (=H. traski c.)*	IUCN: VU	Terrestrial snail for which limited information is available. Other Helminthoglypta are found in the accumulated leaf litter and the undersides of lower branches of shrub species of coastal dune scrub.	Low Potential. No coastal dune scrub habitat present within the study area.
Reptiles				
Orangethroat Whiptail	*Aspidoscelis hyperythra*	CDFW: Species of Special Concern	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub.	Moderate. Orangethroat whiptail is fairly common in undeveloped areas within San Diego County.
Rosy Boa	*Charina trivirgata*	CDFW: Special Animals List	A variety of habitats including coastal sage scrub, chaparral, grasslands, and agricultural fields. Rosy boas prefer areas with moderate to dense vegetation and rocky cover. They have been found under rocks, in boulder piles and along rock outcrops and vertical canyon walls (CDFW 1990).	Low. Vegetation community is suitable but limited rocky habitat present on site.
Coast Horned Lizard	*Phrynosoma blainvilli*	CDFW: Species of Special Concern	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil.	Moderate. Coast Horned is fairly common in undeveloped areas within San Diego County.
Birds				
Southern California Rufous-Crowned Sparrow	*Aimophila ruficeps canescens*	CDFW: Watch List	Grassy or rocky slopes with open scrub at elevations from sea level to 2,000 feet. Occurs mainly in coastal sage scrub.	Low Potential. Marginally suitable habitat present, but not detected during 2014 or 2015 CAGN surveys.

Birds, Cont.				
Coastal California Gnatcatcher	*Polioptila californica californica*	USFWS: Threatened CDFW: Species of Special Concern	Diegan coastal sage scrub dominated by California sagebrush (Artemisia californica) and flat- topped buckwheat (Eriogonum fasciculatum) below 2,500 feet elevation in Riverside County and below 1,000 feet elevation along the coastal slope.	Low Potential. Focused USFWS protocol surveys were performed in 2015 (full project area + buffer) and prior to geotechnical activities in 2014 (for portion of project area + buffer). Both surveys were negative.
Mammals				
American Badger	*Taxidea taxus*	CDFW: Species of Special Concern	Coastal sage scrub, mixed chaparral, grassland, oak woodland, chamise chaparral, mixed conifer, pinyon- juniper, desert scrub, desert wash, montane meadow, open areas, and sandy soils.	Very Low Potential. American badger is almost extirpated from coastal San Diego County. Not burrows observed during site visits in 2013, 2014, and 2015.
Plants				
California Adolphia	*Adolphia californica*	CRPR 2B.1	Deciduous shrub. Blooms Dec-May. Chaparral. Elev 20-660 ft	No Potential. Species is visible year round and would have been observed if present.
Aphanisma	*Aphanisma blitoides*	CRPR 1B.2	Annual herb. Blooms Mar- Jun. Coastal bluff scrub, coastal dunes, and coastal sage scrub. Elev 3-1,000 ft.	Very Low Potential. Species restricted to immediate coastal bluffs.
San Diego Sagewart	*Artemisia palmeri*	CRPR 4.2	Deciduous shrub. Blooms May-Sep. Sandy, mesic areas in chaparral, coastal sage scrub, and riparian habitats. Elev 45-3,005 ft.	Very Low Potential. The primary drainage on site is not mesic enough to support this species.
Coulter's Saltbush	*Atriplex coulteri*	CRPR 1B.2	Perennial herb. Blooms Mar-Oct. Alkaline or clay soils in coastal dunes, coastal bluff scrub, coastal sage scrub, and grassland. Elev 10-1,510 ft.	Very Low Potential. Suitable habitat not present and species not detected during surveys.
South Coast Saltscale	*Atriplex pacifica*	CRPR 1B.2	Annual herb. Blooms Mar- Oct. Playas, coastal dunes, coastal bluff scrub, and coastal sage scrub. Elev 0- 460 ft.	Very Low Potential. Suitable habitat not present on-site and species not detected during surveys.

Plants, Cont.				
Orcutt's Brodiaea	*Brodiaea orcuttii*	CRPR 1B.1	Bulbiferous herb. Blooms Apr-Jul. Typically mesic, clay soils (sometimes serpentinite) in vernal pools associated with chaparral, cismontane woodland, closed-cone coniferous forest, meadows, seeps, and grassland. Elev 30- 1,692 ft.	No Potential. No suitable habitat is present within the project study area.
Wart-stemmed Ceanothus	*Ceanothus verrucosus*	CRPR 2B.2	Evergreen shrub. Blooms Dec-May. Chaparral. Elev 3-1,250 ft.	Very Low Potential. Species is visible year round and would have been observed if present.
Summer Holly	*Comarostaphylis diversifolia ssp. diversifolia*	CRPR 1B.2	Evergreen shrub. Blooms Apr-Jun. Chaparral and cismontane woodland. Elev 95-2,595 ft.	Very Low Potential. Species is visible year round and would have been observed if present.
San Diego Sand Aster	*Corethrogyne filaginifolia var. incana*	CRPR 1B.1	Perennial herb. Blooms Jun-Sep. Coastal bluff scrub, chaparral, and coastal sage scrub. Elev 10-380 ft.	Low Potential. No suitable habitat is present within the project study area and not detected during surveys.
Short-leaved Dudleya	*Dudleya brevifolia*	SE CRPR 1B.1	Perennial herb. Blooms Apr-May. Sandstone, openings in maritime chaparral, and coastal sage scrub. Elev 95-820 ft.	Low Potential. Maritime chaparral present on-site, but soils are not the hardpan clays associated with this species.
Variegated Dudleya	*Dudleya variegata*	CRPR 1B.2	Perennial herb. Blooms Apr-May. Clay soils associated with vernal pools in chaparral, cismontane woodland, coastal sage scrub, grassland. Elev 10-1,905ft.	Low Potential. Chaparral is present on site but without large openings typical of this species' habitat.
Sticky Dudleya	*Dudleya viscida*	CRPR 1B.2	Perennial herb. Blooms May-Jun. Rocky areas in coastal bluff scrub, chaparral, coastal scrub, and cismontane woodland. Elev 30-1,805 ft.	Low Potential. Chaparral present on site but without large openings typical of this species' habitat.
Cliff Spurge	*Euphorbia misera*	CRPR 2B.2	Shrub. Blooms Dec-Aug. Rocky areas in coastal bluff scrub, coastal sage scrub, and Mojavean desert scrub. Elev 30-1,640 ft.	Very Low Potential. Species is visible year round and would have been observed if present.

Plants, Cont.				
San Diego Barrel Cactus	*Ferocactus viridescens*	CRPR 2B.1	Stem succulent. Blooms May-Jun. Chaparral, coastal sage scrub, grassland, and vernal pools. Elev 10-1,480 ft.	Present. Species observed and mapped as part of project.
Beach Goldenaster	*Heterotheca sessiliflora* ssp. *sessiliflora*	CRPR 1B.1	Perennial herb. Blooms Mar-Dec. Coastal dunes, chaparral, and coastal sage scrub. Elev 0-4,020 ft.	Very Low Potential. Species restricted to immediate coast.
Decumbent Goldenbush	*Isocoma menziesii* var. *decumbens*	CRPR 1B.2	Shrub. Blooms Apr-Nov. Sandy, often disturbed, areas in chaparral and coastal sage scrub. Elev 30-445 ft.	Very Low Potential. Species is visible year round and would have been observed if present.
Sea Dahlia	*Leptosyne maritima*	CRPR 2B.2	Perennial herb. Blooms Mar-May. Coastal bluff scrub and coastal sage scrub. Elev 15-495 ft.	Very Low Potential. No suitable habitat present on-site.
Nuttall's Scrub Oak	*Quercus dumosa*	CRPR 1B.1	Evergreen shrub. Blooms Feb-Apr. Sandy or clay loam soils associated with chaparral, coastal sage scrub, and closed-cone coniferous forest. Elev 45-1,315 ft.	Present. Species observed and mapped as part of project.
Chaparral Ragwort	*Senecio aphanactis*	CRPR 2B.2	Annual herb. Blooms Jan- Apr. Chaparral, coastal sage scrub, and cismontane woodland. Elev 45-2,625 ft.	Very Low Potential. Species is very rare and limited suitable habitat present.

Appendix F

45-Day Report for Coastal California Gnatcatcher (Polioptila californica californica; CAGN) Protocol Surveys at the La Jolla View Reservoir Site Recon (Borings 1-3) in the City of San Diego, California (Public Project Assessment, Project No. 328345, WBS No. B-11070.02.06)

Appendix F

ROCKS
BIOLOGICAL CONSULTING

November 5, 2015

U.S. Fish and Wildlife Service
Attn: Ms. Stacey Love
Carlsbad Fish and Wildlife Office
2177 Salk Ave., Ste. 250
Carlsbad, CA 92008

Subject: 45-Day Report for Coastal California Gnatcatcher Surveys at the La Jolla View Reservoir Replacement Project in the City of San Diego, California

Ms. Love:

This letter presents the 45-Day Report for Coastal California Gnatcatcher (*Polioptila californica californica*; CAGN) protocol surveys conducted for the La Jolla View Reservoir Replacement Project in the City of San Diego, California. Survey results were negative for CAGN.

The surveys described in this report were performed on behalf of Infrastructure Engineering Corporation (IEC) for the City of San Diego. The project site is located within the United States Geological Survey (USGS) La Jolla 7.5' Quadrangle in the City of San Diego. The property is located partially within the Multiple Habitat Planning Area (MHPA) of the City of San Diego's Multiple Species Conservation Program (MSCP). The October 2015 project area plus a 300-foot buffer was surveyed, for a total CAGN survey area of approximately 37.44 acres. Previous protocol CAGN surveys in 2014 targeted only the areas selected for geotechnical borings; therefore protocol surveys were required in 2015 to include the entire project area.

Vegetation communities within the project area are primarily southern maritime scrub and Diegan coastal sage scrub, both of which constitute suitable CAGN habitat. Non-suitable habitats within the project area include eucalyptus trees/ornamental and developed areas. All suitable habitat within 300' of the project area was included in the CAGN survey area.

Survey methodology followed the U.S. Fish and Wildlife Service presence/absence protocol (1997) for NCCP areas, including three surveys at least one week apart. During each survey, all suitable habitats were surveyed. Taped vocalizations were used to elicit a response for CAGN in the area. Please see Table 1 for survey dates, times, and

2621 DENVER STREET, SUITE B ● SAN DIEGO, CA 92110-3300
619.843.6560 ● MELANIE@ROCKSBIO.COM

conditions. A list of the 27 bird species observed during the survey is included as Appendix A. No CAGN were detected during the surveys.

Table 1. Survey Conditions During California Gnatcatcher Surveys at the La Jolla View Reservoir Replacement Project, 2015

Dates	10/5/15	10/12/15	10/21/15
Survey Time	0620 - 1200	0730 - 1105	0730-1125
Temp (ºF) Start-End	63 - 65	73 - 82	65-75
Sky Cover (%)	100	80 - 100	10 - 0
Wind Speed (mph)	0-2 to 0-1	0 to 1-3	0
Personnel	S. Walsh (authorized TE-221290-3.1)	S. Walsh (authorized TE-221290-3.1)	S. Walsh (authorized TE-221290-3.1) and Melanie Rocks

Please don't hesitate to contact me at (619) 843-6560 if you have any questions or concerns regarding this report.

Sincerely,

Melanie Rocks

I certify that the information in this survey report and attached exhibit fully and accurately represent my work.

Shannon Walsh
Authorized Individual, Permit Number TE-221290-3.1

Enclosures: Appendix A – Bird Species Observed During Coastal California Gnatcatcher Protocol Surveys at La Jolla View Reservoir Replacement Project, 2015
Figure 1 – Project Location Map
Figure 2 – CAGN Survey Area

Appendix A. Bird Species Observed During Coastal California Gnatcatcher Protocol Surveys at La Jolla View Reservoir Replacement Project, 2015

Code	Common Name	Scientific Name
AMCR	American crow	*Corvus brachyrhynchos*
ANHU	Anna's hummingbird	*Calypte anna*
BASW	barn swallow	*Hirundo rustica*
BEWR	Bewick's wren	*Thryomanes bewickii*
BLPH	black phoebe	*Sayornis nigricans*
BGGN	blue-gray gnatcatcher	*Polioptila caerulea*
CATH	California thrasher	*Toxostoma redivivum*
CALT	California towhee	*Melozone crissalis*
CORA	common raven	*Corvus corax*
COHA	Cooper's hawk	*Accipiter cooperii*
DEJU	dark-eyed junco	*Junco hyemalis*
HETH	hermit thrush	*Catharus guttatus*
HOFI	house finch	*Carpodacus mexicanus*
HOWR	house wren	*Troglodytes aedon*
LEGO	lesser goldfinch	*Spinus psaltria*
MODO	mourning dove	*Zenaida macroura*
NOFL	northern flicker	*Colaptes auratus*
NOMO	northern mockingbird	*Mimus polyglottos*
NUWO	Nuttall's woodpecker	*Picoides nuttallii*
OCWA	orange-crowned warbler	*Oreothlypis celata*
RSHA	red-shouldered hawk	*Buteo lineatus*
RCKI	ruby-crowned kinglet	*Regulus calendula*
SAPH	Say's phoebe	*Sayornis saya*
SPTO	spotted towhee	*Pipilo maculatus*
WESJ	western scrub-jay	*Aphelocoma californica*
WREN	wrentit	*Chamaea fasciata*
YRWA	yellow-rumped warbler	*Setophaga coronata*

FIGURE 1

Project Location

LA JOLLA VIEW
RESERVOIR REPLACEMENT PROJECT

ROCKS
BIOLOGICAL CONSULTING

0 500 1,000 2,000 FEET

N

Source: USGS 7.5' Quadrangles (La Jolla)

FIGURE 2

CAGN Survey Area

LA JOLLA VIEW
RESERVOIR REPLACEMENT PROJECT

ROCKS BIOLOGICAL CONSULTING

0 50 100 200 FEET

N

Source: Google

Appendix G

Preparer Qualifications Summary

ROCKS
BIOLOGICAL CONSULTING

PREPARER QUALIFICATIONS

Melanie Rocks, M.S.
Principal & Senior Project Manager

Ms. Rocks co-owns Rocks Biological Consulting and serves as regulatory specialist, project manager, and biologist for the firm. She has over 13 years of experience, holds an MS in environmental science, and is responsible for overseeing projects and authoring biological technical reports, as well as performing biological field work, including habitat assessments, wetland delineations, impact analysis, sensitive species surveys, restoration plan preparation/monitoring, and construction monitoring. Prior to joining RBC, she served as associate planner then as lead biologist for the City of San Diego's Multiple Species Conservation Program (MSCP). There, she performed all MSCP rare plant monitoring; reviewed complex projects for consistency with MSCP regulatory requirements; outreached with federal and state wildlife agency staff regarding HCP requirements and issues; trained staff on wetland regulations and served on the working group that revised the City's wetland regulations (implemented in 2012). She joined Rocks Biological Consulting in 2008 and has permitted several complex development projects since that time and assisted with large-scale restoration efforts. She is federally authorized to survey for Quino Checkerspot Butterfly and all California Fairy Shrimp.

Jim Rocks, M.S.
Principal & Senior Biologist

Mr. Rocks co-owns Rocks Biological Consulting and serves as lead biologist for the firm. He is responsible for overseeing all project fieldwork and ensuring technical accuracy and completion of such work on time and within project budgets. He holds an MS in biological science and is a department associate with the San Diego Natural History Museum Botany Department where he has taught several botanical classes. He has over 14 years of experience as a consulting biologist in the San Diego area, including sensitive species surveys, vegetation mapping, wetland delineations, habitat restoration, construction monitoring, impact analysis, report preparation, habitat management, and project permitting. He has worked extensively with federal, state, and local regulatory staff to obtain regulatory permits and implement mitigation programs. He is federally permitted to conduct surveys for the Quino Checkerspot Butterfly, California Gnatcatcher, and all California Fairy Shrimps.

Lee Ripma, M.S.
Senior Biologist

Lee Ripma serves as senior biologist for the firm and holds a Master of Science degree in evolutionary biology. Ms. Ripma has eight years of experience working as both a botanist and wildlife biologist in Southern California and holds a U.S. Fish and Wildlife Service 10(a) recovery permit for federally threatened and endangered wildlife species surveys, including the Quino checkerspot butterfly, coastal California gnatcatcher, and all California fairy shrimps. She aids clients in the preparation of technical reports for compliance with local, state, and federal environmental regulations.

Appendix H

Preliminary Revegetation Plans

FOR TEMPORARY IRRIGATION NOTES, SUPPLEMENTAL NOTES AND DETAILS, SEE SHEET L-5.
SEE ALSO SAN DIEGO REGIONAL STANDARD DRAWINGS CITED HEREIN AND AS APPLIES.

SEE ALSO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2015 GREENBOOK) AND CITY STANDARD SPECIFICATIONS (2015 WHITEBOOK) AS WELL AS SPECIAL PROVISIONS (SPEC ADDENDA) SECTIONS 800-801.

IRRIGATION AND PLANTING SHALL COVER ANY AND ALL AREAS DISTURBED BY CONTRACTOR, BUT IN NO CASE SHALL WORK EXTEND BEYOND THE WORK AREA LIMIT OR LIMIT OF WORK LINE AS SHOWN ON THESE PLANS.

ALL TEMPORARY IRRIGATION SYSTEMS AND FACILITIES SHALL BE REMOVED BY CONTRACTOR PRIOR TO CITY'S FINAL APPROVAL OF THE RE-VEGETATION AREAS.

NOTE: PLAN IS DIAGRAMMATIC. LOCATE MAIN, LATERAL LINE AND VALVES INSIDE PLANTED & LIMIT OF WORK AREA. SLEEVE ALL IRRIGATION PIPE AND WIRING WHICH RUNS UNDER ANY PAVEMENT, TYPICAL.

TEMPORARY IRRIGATION SHALL BE MAINTAINED FOR A MINIMUM OF 5 YEARS OR UNTIL THE OPINION OF THE PROJECT BIOLOGIST AND THE GOAL OF THE MMRP IS MET.

L-1

LA JOLLA VIEW RESERVOIR PROJECT	
TEMPORARY IRRIGATION PLAN AT RESERVOIR SITE	
CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 76 OF 85 SHEETS	WATER WBS S-15027 SEWER WBS NONE
APPROVED: FOR CITY ENGINEER ALEX GARCIA, PRINT NAME, DATE, RCE#	SUBMITTED BY: ED FORDAN, PROJECT MANAGER
DESCRIPTION: ORIGINAL; BY: XX/XX; APPROVED; DATE; FILMED	CHECKED BY: ART ARVIZU, PROJECT ENGINEER
	SEE SHEETS CCS27 COORDINATE
	SEE SHEETS CCS83 COORDINATE
CONTRACTOR / INSPECTOR	DATE STARTED / DATE COMPLETED
	38056-76-D

CONSULTANT

Infrastructure ENGINEERING CORPORATION
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iecorporation.com

DAVID REED LANDSCAPE ARCHITECT
3575 5TH AVENUE SUITE 100
SAN DIEGO, CALIFORNIA 92103
(619) 239-3300
www.drasla.com

LICENSED LANDSCAPE ARCHITECT DAVID REED #1896, Signature, 4-30-17 Renewal Date, 12-15-16 Date, STATE OF CALIFORNIA

$123456789012345678901234567890123456789012345678901$
$plot$date$time$$ $user$

L DRAWINGS AS OF 05-17-2018 (no revisions since March 2017)

100% – REVISED

IRRIGATION AND PLANTING SHALL COVER ANY AND ALL AREAS DISTURBED BY CONTRACTOR, BUT IN NO CASE SHALL WORK EXTEND BEYOND THE WORK AREA LIMIT OR LIMIT OF WORK LINE AS SHOWN ON THESE PLANS.

ALL TEMPORARY IRRIGATION SYSTEMS AND FACILITIES SHALL BE REMOVED BY CONTRACTOR PRIOR TO CITY'S FINAL APPROVAL OF THE RE-VEGETATION AREAS.

TEMPORARY IRRIGATION SHALL BE MAINTAINED FOR A MINIMUM OF 5 YEARS OR UNTIL THE OPINION OF THE PROJECT BIOLOGIST AND THE GOAL OF THE MMRP IS MET.

NOTE: PLAN IS DIAGRAMMATIC. LOCATE MAIN, LATERAL LINE AND VALVES INSIDE PLANTED AND LIMIT OF WORK AREA. SLEEVE ALL IRRIGATION PIPE AND WIRING WHICH RUNS UNDER ANY PAVEMENT, TYPICAL.

LIMIT OF WORK

MATCHLINE - SEE SHEET L-1

CLOCK 'B'
4 - #12 GA. PILOT WIRE
1 - #14 GA. COMMON W.

APPROX. LOCATION OF TEMPORARY IRRIGATION MANIFOLD, TYP.

B-22 1½" 25.4

B-21 1½" 25.2

CLOCK 'B'
12 - #12 GA. PILOT WIRE
1 - #14 GA. COMMON W.

CLOCK 'B'
8 - #12 GA. PILOT WIRE
1 - #14 GA. COMMON W.

CLOCK 'B'
15 - #12 GA. PILOT WIRE
1 - #14 GA. COMMON W.

CLOCK 'B'
18 - #12 GA. P. W.
1 - #14 GA. C. W.

CLOCK 'B'
20 - #12 GA. P. W.
1 - #14 GA. C. W.

CLOCK 'B'
24 - #12 GA. P. W.
1 - #14 GA. C. W.

APPROX. LOCATION OF IRRIGATION PULLBOX, TYP.

CLOCK 'B'
4 - #12 GA. PILOT WIRE
1 - #14 GA. COMMON W.

B-1 2" 62.3

B-2 1½" 40.4

B-3 2" 71.8

B-4 2" 56.4

B-5 1½" 42.6

B-6 1½" 45.0

B-7 1½" 42.1

B-8 1½" 47.2

B-9 2" 52.6

B-10 2" 72.0

B-11 2" 49.2

B-12 2" 50.7

B-13 1½" 45.8

B-14 2" 50.7

B-15 2" 53.1

B-16 2" 61.0

B-17 1½" 24.2

B-18 2" 46.3

B-19 2" 50.3

B-20 2" 76.1

CLOCK 'B'
4 - #12 GA. PILOT WIRE
1 - #14 GA. COMMON W.

100' BRUSH MANAGEMENT ZONE LINE

AIR RELIEF VALVE, TYP.

BERM

COUNTRY CLUB DRIVE

CONTRACTOR SHALL PROVIDE RESTORATION AND TEMPORARY IRRIGATION FOR ANY AND ALL AREAS HE DISTURBS INSIDE THE WORK AREA LIMIT.

FOR TEMPORARY IRRIGATION NOTES, SUPPLEMENTAL NOTES AND DETAILS, SEE SHEET L-5.
SEE ALSO SAN DIEGO REGIONAL STANDARD DRAWINGS CITED HEREIN AND AS APPLIES.

SEE ALSO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2015 GREENBOOK) AND CITY STANDARD SPECIFICATIONS (2015 WHITEBOOK) AS WELL AS SPECIAL PROVISIONS (SPEC ADDENDA) SECTIONS 800-801.

SCALE: 1"=20'-0" (0, 10, 20, 40)

NORTH

L-2

LA JOLLA VIEW RESERVOIR PROJECT

TEMPORARY IRRIGATION PLAN AT RESERVOIR SITE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 77 OF 85 SHEETS

WATER WBS S-15027
SEWER WBS NONE

APPROVED:
FOR CITY ENGINEER _____ DATE
ALEX GARCIA
PRINT NAME RCE#

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XX/XX			

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

SUBMITTED BY: ED FORDAN, PROJECT MANAGER
CHECKED BY: ART ARVIZU, PROJECT ENGINEER
SEE SHEETS CCS27 COORDINATE
SEE SHEETS CCS83 COORDINATE

38056-77-D

CONSULTANT

Infrastructure Engineering Corporation
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iecorporation.com

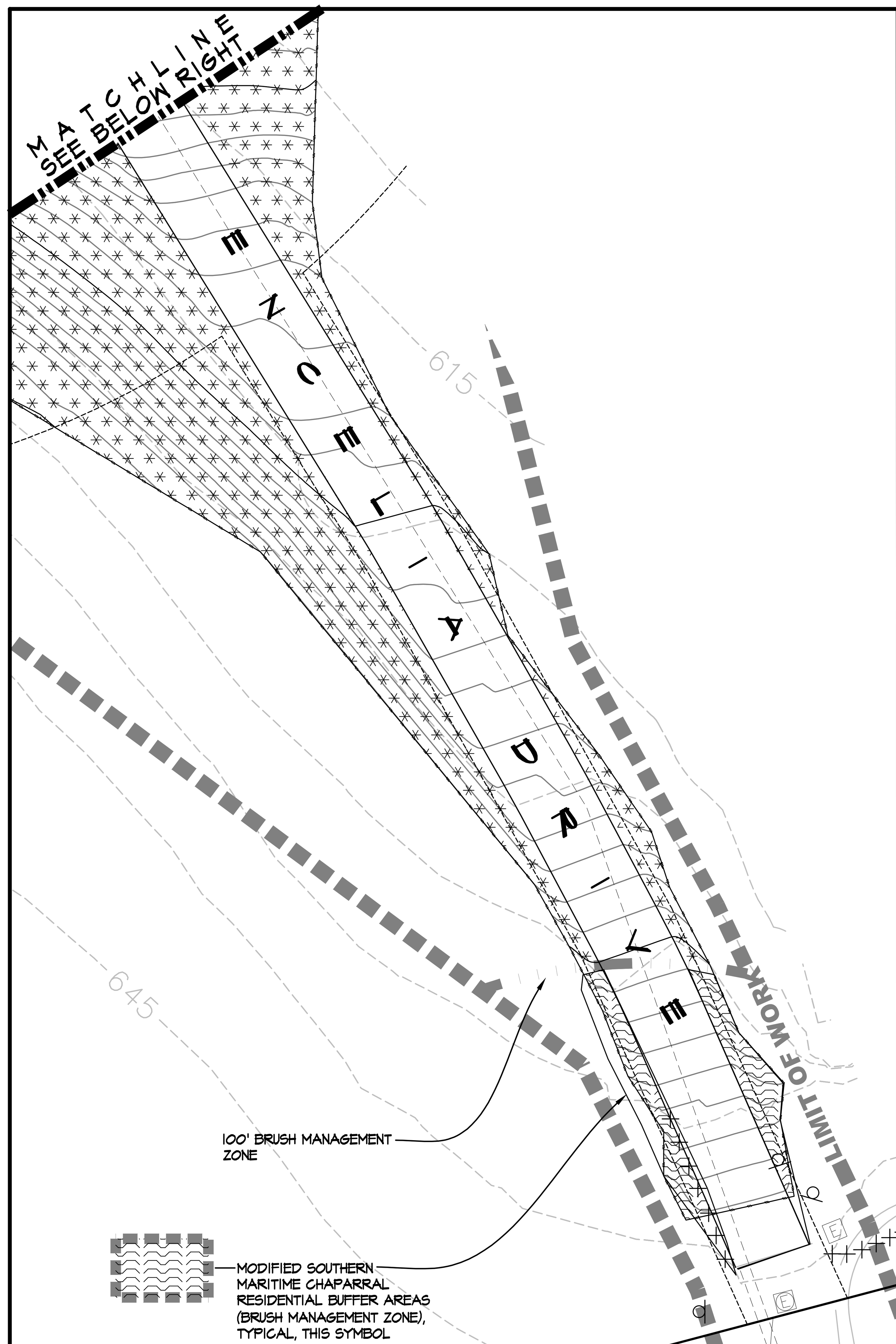
DAVID REED LANDSCAPE ARCHITECT
3575 5TH AVENUE SUITE 100
SAN DIEGO, CALIFORNIA 9210.
(619) 239-3300
www.drsla.com

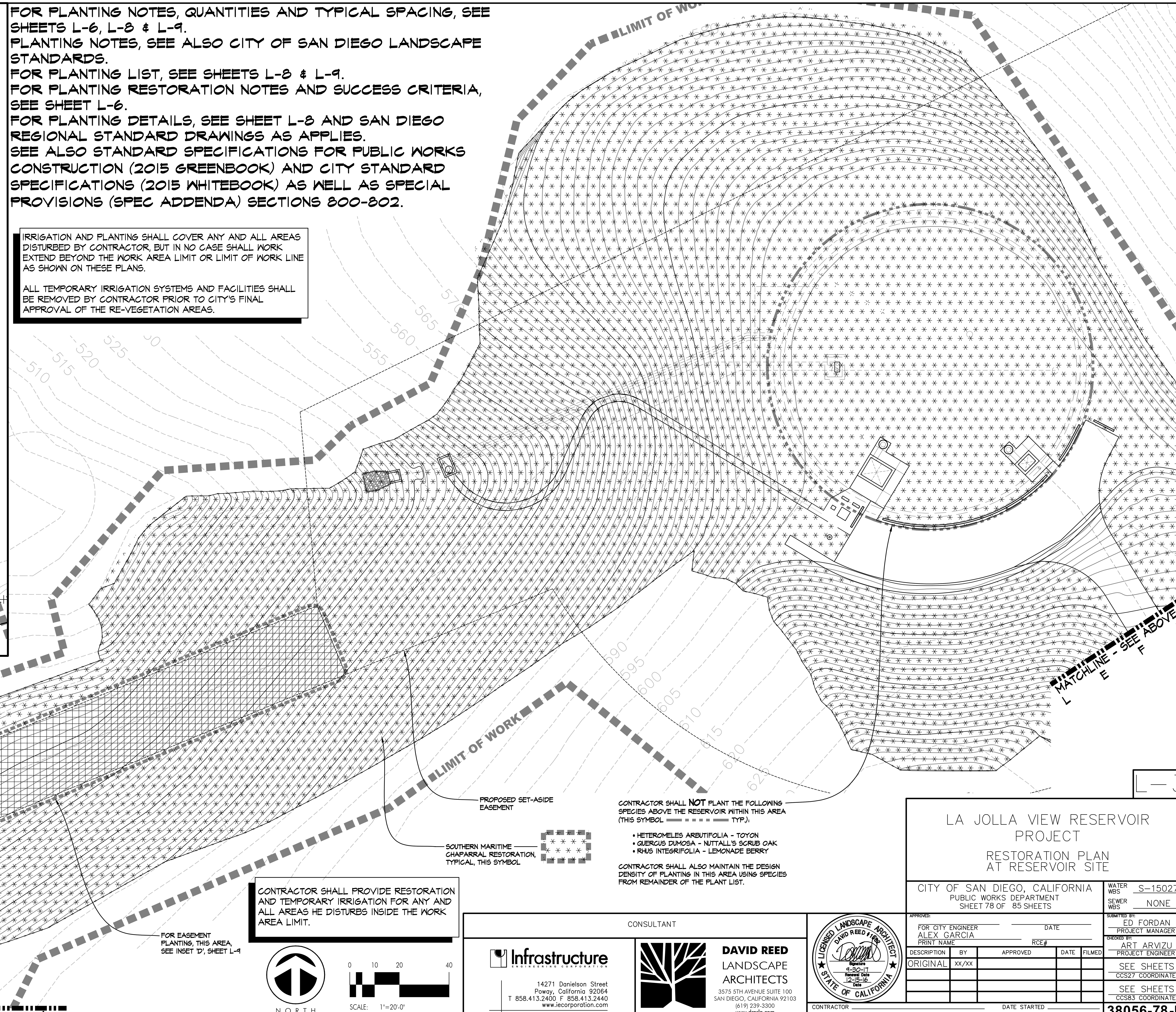
LICENSED LANDSCAPE ARCHITECT — DAVID REED #3368 — STATE OF CALIFORNIA
Signature
4-30-17
Renewal Date
12-15-16
Date

100% - REVISED

$1234567890123456789012345678901234567890123456789012345678904

$plot$date$time$$ $user$





FOR PLANTING NOTES, QUANTITIES AND TYPICAL SPACING, SEE SHEETS L-6, L-8 & L-9.
PLANTING NOTES, SEE ALSO CITY OF SAN DIEGO LANDSCAPE STANDARDS.
FOR PLANTING LIST, SEE SHEETS L-8 & L-9.
FOR PLANTING RESTORATION NOTES AND SUCCESS CRITERIA, SEE SHEET L-6.
FOR PLANTING DETAILS, SEE SHEET L-8 AND SAN DIEGO REGIONAL STANDARD DRAWINGS AS APPLIES.
SEE ALSO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2015 GREENBOOK) AND CITY STANDARD SPECIFICATIONS (2015 WHITEBOOK) AS WELL AS SPECIAL PROVISIONS (SPEC ADDENDA) SECTIONS 800-802.

IRRIGATION AND PLANTING SHALL COVER ANY AND ALL AREAS DISTURBED BY CONTRACTOR, BUT IN NO CASE SHALL WORK EXTEND BEYOND THE WORK AREA LIMIT OR LIMIT OF WORK LINE AS SHOWN ON THESE PLANS.

ALL TEMPORARY IRRIGATION SYSTEMS AND FACILITIES SHALL BE REMOVED BY CONTRACTOR PRIOR TO CITY'S FINAL APPROVAL OF THE RE-VEGETATION AREAS.

CONTRACTOR SHALL **NOT** PLANT THE FOLLOWING SPECIES ABOVE THE RESERVOIR WITHIN THIS AREA (THIS SYMBOL — - - - — TYP.):

- HETEROMELES ARBUTIFOLIA - TOYON
- QUERCUS DUMOSA - NUTTALL'S SCRUB OAK
- RHUS INTEGRIFOLIA - LEMONADE BERRY

CONTRACTOR SHALL ALSO MAINTAIN THE DESIGN DENSITY OF PLANTING IN THIS AREA USING SPECIES FROM REMAINDER OF THE PLANT LIST.

CONTRACTOR SHALL PROVIDE RESTORATION AND TEMPORARY IRRIGATION FOR ANY AND ALL AREAS HE DISTURBS INSIDE THE WORK AREA LIMIT.

L-3

LA JOLLA VIEW RESERVOIR PROJECT

RESTORATION PLAN AT RESERVOIR SITE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 78 OF 85 SHEETS

WATER WBS S-15027
SEWER WBS NONE

CONSULTANT

Infrastructure ENGINEERING CORPORATION
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iecorporation.com

DAVID REED LANDSCAPE ARCHITECTS
3575 5TH AVENUE SUITE 100
SAN DIEGO, CALIFORNIA 92103
(619) 239-3300
www.drasla.com

LICENSED LANDSCAPE ARCHITECT DAVID REED #1902 STATE OF CALIFORNIA
Signature 9-30-17 Renewal Date 12-15-16 Date

APPROVED:
FOR CITY ENGINEER — DATE
ALEX GARCIA
PRINT NAME — RCE#

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XX/XX			

SUBMITTED BY: ED FORDAN, PROJECT MANAGER
CHECKED BY: ART ARVIZU, PROJECT ENGINEER
SEE SHEETS CCS27 COORDINATE
SEE SHEETS CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

38056-78-D

100% - REVISED

$1234567890123456789012345678901234567890123456789012345678901234567890$
$plot$date$time$$ $user$

FOR PLANTING NOTES, QUANTITIES AND TYPICAL SPACING, SEE SHEETS L-6, L-8 & L-9.
PLANTING NOTES, SEE ALSO CITY OF SAN DIEGO LANDSCAPE STANDARDS.
FOR PLANTING LIST, SEE SHEETS L-8 & L-9.
FOR PLANTING RESTORATION NOTES AND SUCCESS CRITERIA, SEE SHEET L-6.
FOR PLANTING DETAILS, SEE SHEET L-8 AND SAN DIEGO REGIONAL STANDARD DRAWINGS AS APPLIES.
SEE ALSO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2015 GREENBOOK) AND CITY STANDARD SPECIFICATIONS (2015 WHITEBOOK) AS WELL AS SPECIAL PROVISIONS (SPEC ADDENDA) SECTIONS 800-802.

LA JOLLA VIEW RESERVOIR PROJECT

RESTORATION PLAN AT RESERVOIR SITE

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 79 OF 85 SHEETS

WATER WBS S-15027
SEWER WBS NONE

CONSULTANT

Infrastructure ENGINEERING CORPORATION
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iecorporation.com

DAVID REED LANDSCAPE ARCHITECTS
3575 5TH AVENUE SUITE 100
SAN DIEGO, CALIFORNIA 92103
(619) 239-3300
www.drasla.com

LICENSED LANDSCAPE ARCHITECT DAVID REED #1962 STATE OF CALIFORNIA
Signature 9-30-17 Renewal Date 12-15-16 Date

APPROVED:
FOR CITY ENGINEER DATE
ALEX GARCIA
PRINT NAME RCE#

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XX/XX			

SUBMITTED BY: ED FORDAN PROJECT MANAGER
CHECKED BY: ART ARVIZU PROJECT ENGINEER
SEE SHEETS CCS27 COORDINATE
SEE SHEETS CCS83 COORDINATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

38056-79-D

100% - REVISED

$123456789012345678901234567890123456789012345678901234567890$
$plot$date$time$$ $user$

CITY OF SAN DIEGO SUPPLEMENTAL IRRIGATION NOTES

GENERAL:

ALL MATERIALS AND EQUIPMENT USED IN TEMPORARY SPRINKLER IRRIGATION WORK SHALL BE NEW AND WITHOUT FLAWS OF DEFECTS AND OF QUALITY AND PERFORMANCE AS SPECIFIED. PRIOR TO INSTALLATION OF ANY IRRIGATION WORK, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE CITY, A LIST OF ALL PROPOSED MATERIALS AND EQUIPMENT. SHOULD THE CONTRACTOR PROPOSE TO USE MATERIAL(S) OR EQUIPMENT OTHER THAN THOSE AS LISTED AS "APPROVED", THE CONTRACTOR SHALL SUBMIT IN WRITING, TO THE CITY, A REQUEST TO DEVIATE FROM THE APPROVED LIST. SAMPLES OF THE MATERIAL(S) OR EQUIPMENT SHOULD ACCOMPANY THE REQUEST TO ASSIST IN THE EVALUATION OF THE PROPOSED SUBSTITUTION. THE BURDEN OF PROOF SHALL BE BORNE BY THE CONTRACTOR.

1. MAIN LINE PIPE CONNECTIONS: SHALL BE MADE HORIZONTALLY PER STANDARD DRAWINGS I-28 AND I-29.

2. PIPE THRUST BLOCKS: ALL PRESSURE PIPE 4" AND SMALLER, POLYVINYL CHLORIDE OR ASBESTOS CEMENT SHALL HAVE THE CORRECT SIZED CONCRETE THRUST BLOCK INSTALLED AT EVERY ABRUPT CHANGE OF ALIGNMENT; AT GLOBE OR GATE VALVES, AT TEES, ELBOWS AND CROSSES, AND AT ENDS OF PIPE RUNS, OR WHEREVER THE FIELD ENGINEER DEEMS ONE TO BE NECESSARY. THRUST BLOCKS ARE TO BE INSTALLED AS PER STANDARD DRAWINGS W-17, W-18 AND W-19 AND SDW-100, SIZED AS FOR 4" PIPE.

3. PIPE SLEEVES: SHALL BE SCH. 40 PVC, TWO TIMES THE PIPE SIZE DIAMETER AND EXTEND 12" BEYOND EACH SIDE OF PAVEMENT. THE LETTERS "E" FOR ELECTRICAL OR "W" FOR WATER SHALL BE STAMPED OR CHISELED ON THE PAVEMENT DIRECTLY ABOVE THE SLEEVE.

4. TRENCH MARKER TAPE FOR ALL PRESSURE PIPE: SHALL HAVE A CONTINUOUS BLUE COLORED TRENCH MARKER METALLIC TAPE PLACED NINE INCHES (9") BELOW FINISHED GRADE AND DIRECTLY ABOVE THE BURIED PIPE.

5. SAND ENGAGEMENT FOR PIPES: FOR ALL IRRIGATION PIPE, DIRECT BURIAL CONTROL WIRE AND ELECTRICAL CONDUIT SHALL BE PLASTER OR MORTAR SAND AS PER SECTION 200 OF THE STANDARD SPECIFICATIONS, WITH A MINIMUM SAND EQUIVALENT OF 50.

6. REMOTE CONTROL VALVE BOXES: SHALL BE CONCRETE WITH A CAST IRON LOCKING LID. THE CONTRACTOR SHALL PAINT THE IDENTIFICATION NUMBER OF THE VALVE BOX. THE PAINT SHALL BE WHITE OR YELLOW ALUMINUM ASPHALTIC-BASE WATERPROOF PAINT. IN ADDITION, WEATHERPROOF, PLASTIC IDENTIFICATION TAGS SHALL BE AFFIXED TO THE COLORED CONDUCTOR IN THE VALVE BOX.

7. VALVE BOX LOCKING LIDS: THE CONTRACTOR SHALL REWORK THE LOCKING TOGGLES OF THE CONCRETE VALVE BOXES BY REPLACING THE EXISTING CLEVIS PIN AND SHEET METAL CLIP WITH A MARINE-TYPE STAINLESS STEEL MACHINE BOLT AND SELF-LOCKING UNIT. APPLY OIL TO LUBRICATE AND TO PREVENT RUST.

8. ANTI-DRAIN/EXCESS-FLOW VALVE: SHALL BE INSTALLED UNDER EACH SPRINKLER HEAD WHICH IS NOT EQUIPPED WITH AN INTERNAL CHECK VALVE (AS ANTI-GEYSER DEVICE AS WELL AS A LON HEAD ANTI\FS23 DRAIN VALVE).

9. ALTERNATE PIPE SLEEVE LOCKING CAP FOR VALVES: SHALL BE PER STANDARD DRAWING 113, HEAVY DUTY RED BRASS LOCKING CAP THREADED TO FIT 2" DIAMETER SCH. 40 PVC PIPE.

10. MULTIPLE CONTROLLER INSTALLATIONS: ENCLOSURES SHALL BE SIZED ACCORDINGLY. NO 110 VOLT WIRE RUNS SHALL PASS FROM CONTROLLER CABINET TO CABINET. EACH CONTROLLER SHALL HAVE A SEPARATE ELECTRICAL SERVICE THROUGH A RACEWAY. PROVIDE ONE POWER OFF-ON SWITCH FOR EACH CONTROLLER.

11. DIRECT BURIAL CONTROL WIRES: SHALL BE SOLID COPPER, 600 VOLT, TYPE UF, CONFORMING TO THE STANDARD SPECIFICATIONS AND DRAWINGS, SPECIAL PROVISIONS AND THE FOLLOWING WIRE COLORS AND INSTALLATION REQUIREMENTS.

- NEUTRAL WIRES: WHITE (#12 AWG), DO NOT INTERCONNECT NEUTRAL WIRES BETWEEN CONTROLLERS.
- PILOT WIRES: (#14 AWG), USE AS MANY AS NECESSARY.
- VALVE NO.

VALVE NO.	VALVE NO.
1. YELLOW	9. RED W/ BLACK STRIPE
2. ORANGE	10. WHITE W/ RED STRIPE
3. BLUE	11. YELLOW W/ RED STRIPE
4. BLACK	12. BLUE W/ RED STRIPE
5. BROWN	13. ORANGE W/ RED STRIPE
6. PURPLE	14. PURPLE W/ WHITE STRIPE
7. YELLOW W/ BLACK STRIPE	15. BROWN W/ WHITE STRIPE
8. ORANGE W/ BLACK STRIPE.	16. BLUE W/ WHITE STRIPE
	17. RED W/ WHITE STRIPE

- SPARE WIRES: TWO (2) RED (#14 AWG) FROM FURTHEST VALVE OR MANIFOLD TO EACH CONTROLLER.
- *COLORS REPEAT FOR VALVES BEYOND 18.

12. WIRE CONNECTIONS: NEUTRAL, PILOT AND SPARE WIRES SHALL BE INSTALLED WITH A 2' -0" COILED EXCESS WIRE LENGTH AT EACH END ENCLOSURE. EACH AND EVERY WIRE SPLICE SHALL BE SOLDERED TOGETHER (95/5 60-40 SOLDER), THEN ENCASED IN THE WATERPROOF EPOXY CONNECTORS. WIRE SPLICES SHALL BE MADE ONLY IN VALVE OR PULL BOXES.

13. WIRE BUNDLES: EACH INDIVIDUAL CONTROLLER CLOCK'S CONTROL WIRES SHALL BE BUNDLES AND TAPED TOGETHER WITH COLORED TAPE AT INTERVALS NOT EXCEEDING 10'-0". CONTROLLER IDENTIFICATION TAPE COLORS SHALL BE AS FOLLOW: (USE AS MANY AS NECESSARY).

CONTROLLER COLOR

"A" BLACK

"B" RED

"C" WHITE

14. WIRES IN PULL BOXES: SHALL BE LOOSE AND SHALL NOT COME WITHIN THREE (3") INCHES FROM LID. BOXES SHALL BE SIZED ACCORDINGLY TO ACCOMMODATE THIS REQUIREMENT.

15. TRENCH MARKER TAPE FOR WIRES: ALL DIRECT BURIAL WIRES SHALL BE MARKED WITH A CONTINUOUS RED COLORED TRENCH MARKER PLASTIC TAPE PLACED NINE INCHES (9") BELOW FINISHED GRADE AND DIRECTLY ABOVE THE BURIED WIRES. TAPE SHALL BE THREE INCHES (3") WIDE.

16. WIRE TESTING: SHALL BE TESTED FOR CONTINUITY, OPEN CIRCUITS, AND UNINTENTIONAL GROUNDS PRIOR TO CONNECTING TO EQUIPMENT. THE MINIMUM INSULATION RESISTANCE TO GROUND SHALL BE FIFTY (50) MEGOHMS. ANY WIRING NOT MEETING THIS REQUIREMENT SHALL BE REPLACED, AT THE CONTRACTOR'S EXPENSE.

17. GUARANTEE: THE CONTRACTOR'S GUARANTEE SHALL CONSIST OF SECTION 308-1 OF THE STANDARD SPECIFICATIONS AND THE FOLLOWING: THE ENTIRE IRRIGATION SYSTEM SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE OF WORK. SHOULD THE CONTRACTOR FAIL DURING THE GUARANTEE PERIOD TO EXPEDITIOUSLY CORRECT A DEFECT UPON WRITTEN NOTIFICATION BY THE CITY, THE CITY SHALL CAUSE THE WORK TO BE CORRECTED AND BILL THE ACTUAL COSTS INCURRED TO THE CONTRACTOR. DEFECT CORRECTIONS SHALL INCLUDE THE COMPLETE RESTORATION OF EXISTING IMPROVEMENTS THAT WERE DAMAGED AS A RESULT OF THE DEFECT.

18. AS BUILT IRRIGATION PLANS: A REDUCED COPY OF THE APPROVED AS-BUILT IRRIGATION PLAN(S), COLOR CODED BY STATIONS AND LAMINATED IN PLASTIC, SHALL BE MOUNTED ON THE INSIDE OF EACH CONTROLLER ENCLOSURE FOR MAINTENANCE PERSONNEL AT THE TIME OF THE FINAL ACCEPTANCE.

IRRIGATION NOTES

S.C.I CITY SAN DIEGO NOTE: ALL TEMPORARY IRRIGATION IMPROVEMENTS ARE TO BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE CRITERIA AND STANDARDS OF THE CITY-WIDE LANDSCAPE REGULATIONS AND THE CITY OF SAN DIEGO LAND DEVELOPMENT MANUAL LANDSCAPE STANDARDS AND ALL OTHER LANDSCAPE RELATED CITY AND REGIONAL STANDARDS AS OF THE APPROVED DATE OF THESE PLANS.

1. CONTRACTOR SHALL INSTALL IRRIGATION SYSTEMS THAT ARE COMPLETE AND FUNCTIONING IN EVERY WAY.

2. PLANS ARE PRECISE, AND YET DIAGRAMMATIC. PRECISE LOCATION OF HEADS SHALL BE FIELD ADJUSTED TO MEET MINOR VARIATIONS IN PLAN.

3. CONTRACTOR SHALL CHECK AND VERIFY ALL SITE CONDITIONS, UTILITIES, AND SERVICES PRIOR TO TRENCHING.

4. CONTRACTOR SHALL CHECK AND VERIFY WATER PRESSURE OF 120 PSI AT ENCELIA DRIVE POINT OF CONNECTION (P.O.C.) AND 161 PSI AT PEPITA WAY INTERSECTION POINT OF CONNECTION (P.O.C.) ADJACENT TO THE STREETS PRIOR TO BEGINNING OF WORK. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCY.

5. POINT OF CONNECTION (P.O.C.) SHALL BE AT NEW WATER METERS ADJACENT TO STREETS SEE PLANS FOR LOCATIONS. CONTRACTOR TO PROVIDE A NEW REDUCED PRESSURE BACKFLOW PREVENTERS FOR THIS PROJECT.

6. IN-LINE WIRE SPLICES SHALL BE MADE ONLY IN PULL BOXES, OR PLASTIC VALVE BOXES, WITH WATERPROOF SEALING PACKETS.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR SLEEVES AND CHASES UNDER PAVING, THROUGH WALLS, ETC., UNLESS OTHERWISE NOTED. SLEEVING SHALL BE MARKED AT EACH END OF FLATWORK OR WALLS BY A PAINT DOT.

8. CONTRACTOR SHALL NOTE LOCATIONS OF TREES ON PLANTING PLAN AND SHALL ROUTE IRRIGATION PIPE AND PLACE HEADS TO PREVENT CONFLICTS WITH TREE PLANTING. GROUP VALVES IN BOXES, PARALLEL TO EACH OTHER, IN PLANTING AREAS. LOCATE PIPE ALONG EDGE OF PLANTING AREAS WHEREVER POSSIBLE.

9. ALL PIPE AND WIRE UNDER VEHICULAR USE AREAS AND PAVING SHALL BE 36" DEEP AND INSTALLED IN PVC SCHEDULE 40 SLEEVES. SLEEVES SHALL BE AT LEAST TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE TO BE ENCLOSED, WITH A MINIMUM OF 2" SIZE.

10. FLUSH ALL PIPES CLEAN PRIOR TO INSTALLING SPRINKLER HEADS.

11. ALL HEADS TO BE 24" MINIMUM FROM PAVEMENT.

12. OBTAIN AN IRRIGATION COVERAGE APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. CONTACT LANDSCAPE ARCHITECT AT LEAST 24 HOURS IN ADVANCE OF DESIRED INSPECTION TIME.

13. PROVIDE ANTI-DRAIN VALVES OF CORRECT LINE SIZE WHERE FIELD CONDITIONS DEMAND, PER PLANS, AND/OR AS REQUIRED.

14. CONTROL WIRES SHALL BE BUNDLED WITH ELECTRICAL TAPE AND BURIED BENEATH MAINLINE WHERE POSSIBLE OR AT THE SAME DEPTH AS MAINLINE ALONG EDGES OF PLANTING AREAS.

15. CONTRACTOR SHALL ADJUST ALL IRRIGATION HEADS TO COMPLETELY COVER PLANTING AREAS WHILE AVOIDING WALKS, BUILDINGS, POSTS, COLUMNS, AND WINDOWS.

16. ALL TRENCHES SHALL BE WETTED AND RECOMPACTED TO 90% MINIMUM UNDER FLATWORK AND 85% IN PLANTING AREAS.

20. SYSTEM CONTROLLER SHALL BE SUPPLIED WITH THE CORRECT BATTERY BACK UP AND CONNECTED TO A RAIN SENSOR SHUTOFF DEVICE AND MOISTURE SENSOR, PER PLAN.

21. CONTRACTOR'S MAINTENANCE PERIOD SHALL NOT BE TERMINATED UNTIL THE FOLLOWING CONDITIONS ARE SATISFIED AND APPROVED BY THE LANDSCAPE ARCHITECT:

A. VALVES SHALL BE WIRED TO CONTROLLER IN SAME NUMERICAL SEQUENCE AS INDICATED ON PLANS.

B. PROVIDE PLASTIC SEALED DIAGRAMMATIC PLAN OF SYSTEM IDENTIFYING STATION NUMBERS AND AREA THEY WATER, MOUNT INSIDE EACH CONTROLLER.

C. CONTRACTOR SHALL MOUNT IRRIGATION SCHEDULING GUIDELINES (PROVIDED BY LANDSCAPE ARCHITECT) IN A PLASTIC SLEEVE IN THE CONTROLLER BOX. CONTRACTOR IS REQUIRED TO USE MULTIPLE STARTS FOR EACH VALVE TO ACHIEVE DEEP WATERING.

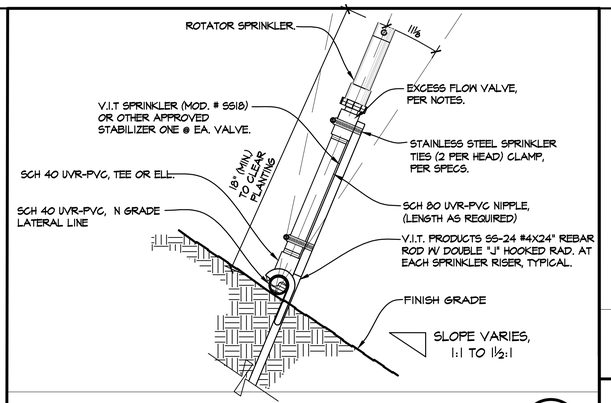
D. "AS-BUILT" DRAWINGS SHALL INCLUDE LOCATIONS OF ALL MAINS, VALVES, SOURCE OF ELECTRICAL POWER FOR CONTROLLER CLOCK, CONTROL WIRE SLEEVES, AND BELOW GRADE HEADS, IF DIFFERENT THAN PLANS. LOCATE BY DIMENSIONING FROM TWO FIXED POINTS (CONTRACTOR MAY USE A BLUEPRINT OF THE SPRINKLER PLAN AND EDIT IN PERMANENT RED INK FOR THE AS-BUILT DRAWING.)

22. PROVIDE THE FOLLOWING TOOLS AND MATERIALS AS PART OF THIS CONTRACT:

A. ALL EQUIPMENT OPERATION MANUALS AND GUARANTEES.
B. 1 AS-BUILT DRAWINGS.
C. 2 SETS OF AUTOMATIC CONTROLLER KEYS FOR EACH CONTROLLER.
D. 1 QUICK COUPLER VALVE KEYS AND 1 HOSE SWIVEL AND BIBB ASSEMBLIES.
E. 1 WRENCH FOR DISASSEMBLING EACH TYPE OF SPRINKLER HEAD SUPPLIED.
F. 1 SCREWDRIVER FOR ADJUSTING EACH TYPE OF SPRINKLER HEAD SUPPLIED.

FOR TEMPORARY IRRIGATION NOTES, SUPPLEMENTAL NOTES AND DETAILS, SEE SHEET L-5. SEE ALSO SAN DIEGO REGIONAL STANDARD DRAWINGS CITED HEREIN AND AS APPLIES.

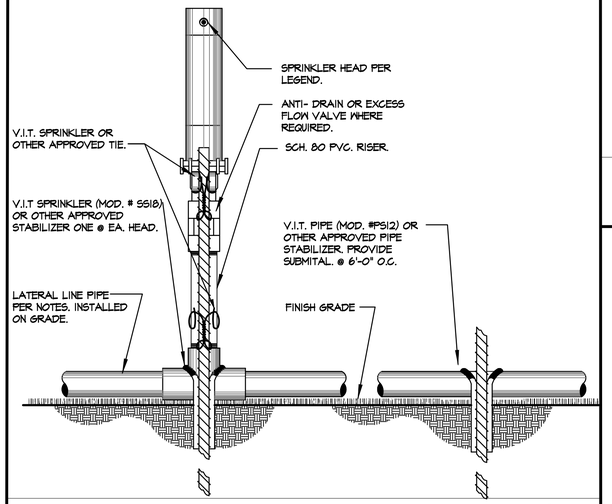
SEE ALSO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2015 GREENBOOK) AND CITY STANDARD SPECIFICATIONS (2015 WHITEBOOK) AS WELL AS SPECIAL PROVISIONS (SPEC ADDENDA) SECTIONS 800-801.



"ON-GRADE" SPRINKLER

NOT TO SCALE — TEMPORARY — G

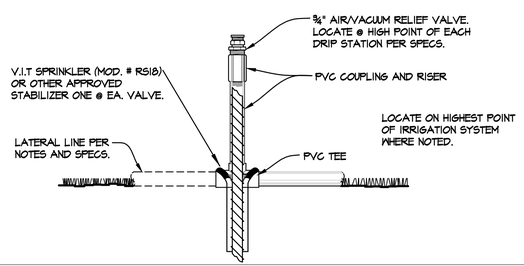
SUPPLEMENTAL DETAIL, ALSO SEE S.D.R.S.D. #SDI-101



"ON-GRADE" SPRINKLER

NOT TO SCALE — TEMPORARY — H

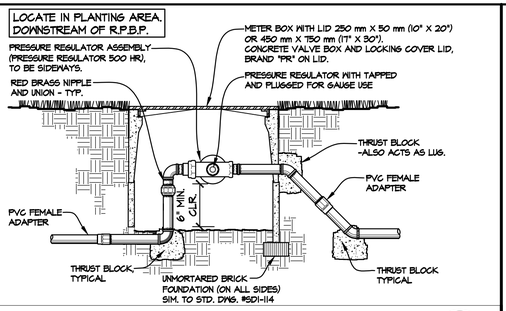
SUPPLEMENTAL DETAIL, ALSO SEE S.D.R.S.D. #SDI-101, #SDI-120 & 123



AIR VACUUM RELIEF VALVE

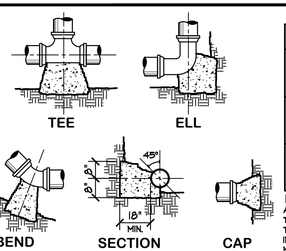
NOT TO SCALE — TEMPORARY — I

SUPPLEMENTAL DETAIL, ALSO SEE S.D.R.S.D. #SDI-128, #SDI-120 & 123



PRESSURE REGULATOR IN BOX

NOT TO SCALE — TEMPORARY — C



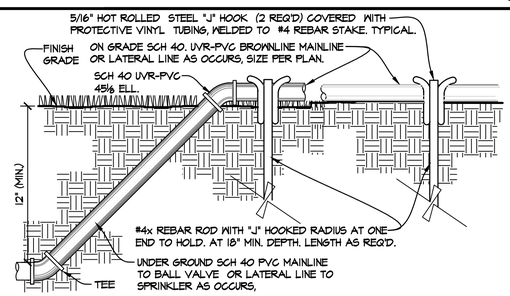
THRUST BLOCK SIZES:

SIZE: FITTING:	4" TO 3"	2½" TO 2"	1½" & LESS	
CAPS & TEES	4	3	2	TOTAL BEARING AREA (SQ. FT.)
	4	¾	½	CU. FT. OF CONCRETE
ELLS (90°/8)	5	4.2	3	TOTAL BEARING AREA (SQ. FT.)
	1 ¼	1	¾	CU. FT. OF CONCRETE
BENDS (45°/8)	3	2.4	2	TOTAL BEARING AREA (SQ. FT.)
	⅞	.6	½	CU. FT. OF CONCRETE

BASIS OF DESIGN:
ASSUMED MINIMUM BEARING VALUE OF SOIL=1000 LBS/SQ. FT. THRUST BLOCKS SHALL BE POURED INTO THE LIMITS OF THE TRENCH EXCAVATION WHERE THEY ARE PLACED, AND KEYED INTO THE SURROUNDING SOIL A MINIMUM OF 1', SO AS TO MAXIMIZE THEIR RESISTANCE VALUE.

THRUST BLOCK

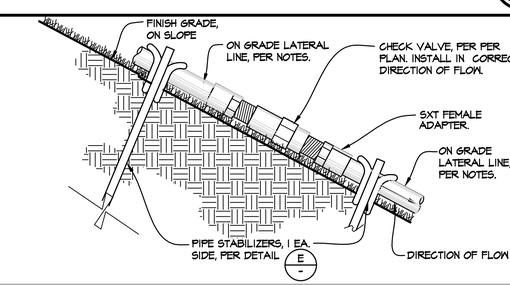
NOT TO SCALE — SUPPLEMENTAL DETAIL, ALSO SEE S.D.R.S.D. #SDI-151 — D



ON GRADE PIPE AND STABILIZER

NOT TO SCALE — TEMPORARY — E

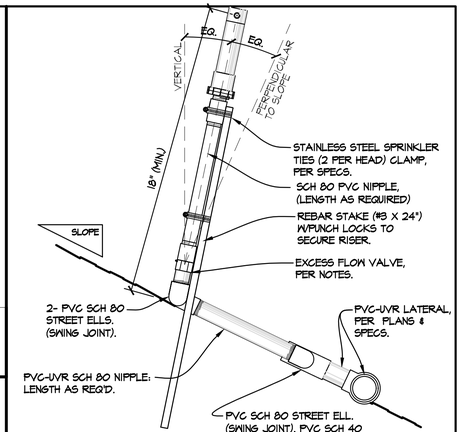
SUPPLEMENTAL DETAIL, ALSO SEE S.D.R.S.D. #SDI-120 & 123



ANTI-DRAIN (CHECK) VALVE

NOT TO SCALE — TEMPORARY — F

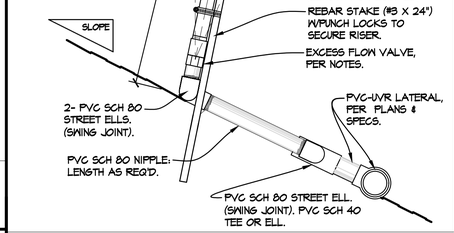
SUPPLEMENTAL DETAIL, ALSO SEE S.D.R.S.D. #SDI-120 & 123



ROTOR SHRUB BODY ON SLOPE INSTALLATION

NOT TO SCALE — TEMPORARY — A

SUPPLEMENTAL DETAIL, ALSO SEE S.D.R.S.D. #SDI-101



ROTOR SHRUB BODY ON SLOPE INSTALLATION

NOT TO SCALE — TEMPORARY — B

SUPPLEMENTAL DETAIL, ALSO SEE S.D.R.S.D. #SDI-101

L-5

LA JOLLA VIEW RESERVOIR PROJECT

TEMPORARY IRRIGATION NOTES AND SUPPLEMENTAL DETAILS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 80 OF 85 SHEETS

WATER WBS S-15027
SEWER WBS NONE

SUBMITTED BY: ED FORDAN, PROJECT MANAGER
CHECKED BY: ART ARVIZU, PROJECT ENGINEER

APPROVED: FOR CITY ENGINEER ALEX GARCIA — DATE — PRINT NAME — RCE#

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XX/XX			

SEE SHEETS CCS27 COORDINATE
SEE SHEETS CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38056-80-D

CONSULTANT

Infrastructure ENGINEERING CORPORATION
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iecorporation.com

DAVID REED LANDSCAPE ARCHITECT
3575 5TH AVENUE SUITE 100
SAN DIEGO, CALIFORNIA 9210
(619) 239-3300
www.drasla.com

LICENSED LANDSCAPE ARCHITECT — DAVID REED HOWE — Signature — 6-30-17 Renewal Date — 12-15-16 Date — STATE OF CALIFORNIA

$123456789012345678901234567890123456789012345678901234567890$

$plot$date$time$$ $user$

100% - REVISED

PLANTING NOTES

SC1. ALL PLANTING IMPROVEMENTS ARE TO BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE CRITERIA AND STANDARDS OF THE CITY-WIDE LANDSCAPE REGULATIONS AND THE CITY OF SAN DIEGO LAND DEVELOPMENT MANUAL LANDSCAPE STANDARDS AND ALL OTHER LANDSCAPE RELATED CITY AND REGIONAL STANDARDS AS OF THE APPROVED DATE OF THESE PLANS.

SC2. ALL PLANTING SHALL BE COMPLETED WITHIN 60 DAYS OF THE COMPLETION OF GRADING AND CONSTRUCTION.

SC3. ALL REQUIRED PLANTINGS WILL BE MAINTAINED IN GOOD GROWING CONDITION THROUGHOUT THE LIFE OF THE MMRP, AND, WHENEVER NECESSARY, SHALL BE REPLACED WITH NEW EQUIVALENT PLANT MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH LANDSCAPE PLANS.

1. THE PLANTING PLANS ARE DIAGRAMMATIC. MINOR ADJUSTMENTS IN PLANT LOCATIONS AND TYPE MAY BE MADE AT THE DISCRETION OF THE PROJECT BIOLOGIST.

2. ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE PROJECT BIOLOGIST AND REPLACED UPON REQUEST BEFORE OR AFTER PLANTING.

3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANT MATERIALS TO COVER ALL AREAS AS SHOWN ON PLANS.

4. SHRUB PITS 5 GALLONS AND SMALLER SHALL BE TWO TIMES ROOTBALL DIAMETER WIDE AND 1-1/2 TIMES CONTAINER DEPTH.

5. DO NOT DAMAGE PLANT ROOTBALL DURING TRANSPORTATION OR PLANTING.

6. ALL NATIVE PLANT PITS SHALL BE AMENDED WITH 1/5 NITROLIZED ORGANIC AMENDMENT, 4/5 NATIVE SOILS, 5 LBS. OF TRI-C (6-2-4) FERTILIZER, 4 LBS GYPSUM (*) AND 1 LB SULFUR (*) PER CUBIC YARD OF BACKFILL. (* - USE THESE AMOUNTS FOR BIDDING PURPOSES. SEE SHADOW BOX THIS SHEET.) AND WORM CASTINGS (AS FROM RED WORM FERTILIZING PRODUCTS PH. 619.339.1963) AT THE RATE OF 2 CUBIC FEET PER CUBIC YARD OF BACKFILL. CONTRACTOR SHALL ALSO SUPPLY LIVE EARTHWORMS AT THE RATE OF 1 PINT PER 1000 SQ. FT.

7. NITROLIZED ORGANIC AMENDMENT SHALL BE PER SPECS.

8. ALL PLANTED AREAS SHALL BE WATERED IN THOROUGHLY WITH SARVON™, PER MANUFACTURERS SPECIFICATIONS IN ADVANCE OF PLANTING. ALL PLANTS SHALL BE WATERED THOROUGHLY WITH SUPERTHRIVE™ WITHIN 1 HOUR OF PLANTING.

9. ALL PLANTS SHALL RECEIVE ONE OF THE 2 TYPES OF FERTILIZER TABLETS (TABLE BELOW) AT THE FOLLOWING RATES BELOW:

SIZE OF PLANT	# OF 7 GRAM TABLETS	# OF 21 (OR 5) GRAM TABLETS
1 GALLON	3	1-21 GRAM

14. PLACE TABLETS AT HALF THE DEPTH OF THE PLANTING PIT AND 1" FROM ROOTBALL. BOXED TREES SHALL HAVE 2 OR MORE LAYERS GOING UP ALONG THE SIDES OF THE ROOTBALL. ALL PLANTS INSTALLED FROM FLATS SHALL RECEIVE FERTILIZER TABLET, MIXED WITH A HANDFUL OF PREPARED BACKFILL PER NOTE 17.

15. ALL PLANTS PLANTED FROM CONTAINERS THAT SHALL ANY ROOTS ON THE SIDES OF THE CONTAINER SHALL HAVE THEIR ROOTBALLS SCORED WITH A SHARP TOOL TO A DEPTH OF 1" IN THREE LONGITUDINAL INCISIONS AT LOCATIONS SPACED AROUND THE ROOTBALL BEFORE PLACING PLANT IN PLANTING HOLE.

RESTORATION AND RE-VEGETATION NOTES

RESTORATION AREAS (ALL AREAS EXCEPT SHEET L-8) SHALL BE MAINTAINED AND MONITORED FOR A PERIOD OF NOT LESS THAN 60 MONTHS

(SEE TABLE AT RIGHT)

RE-VEGETATED AREA (SHEET L-8) SHALL BE MAINTAINED FOR A PERIOD OF NOT LESS THAN 25 MONTH (SEE TABLE AT RIGHT).

GENERAL RESTORATION AND RE-VEGETATION NOTES:

1. RESTORATION AND RE-EVEGETATION OF THE PROJECT AREA SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF SAN DIEGO LANDSCAPE STANDARDS.
2. RESTORATION AND RE-VEGETATION OF THE SITE IS TO BE PERFORMED WITH THE INSTALLATION OF NATIVE CONTAINER PLANTINGS AND AN APPLICATION OF A NATIVE SEED MIX HYDROSEED SLURRY.
3. THESE PLANS ARE TO BE USED AS A GENERAL GUIDE WITH THE FINAL LAYOUT TO BE DETERMINED ON-SITE BY THE PROJECT BIOLOGIST.
4. PRIOR TO INSTALLATION OF ANY RESTORATION AND RE-VEGETATION MATERIALS, PROJECT BIOLOGIST SHOULD CONFIRM THAT SOIL COMPACTION OF 80%-85% HAS BEEN ACHIEVED.
5. SEED MIX SHALL ACHIEVE SOIL COVERAGE MILESTONES SHOWN AT RIGHT UNDER SUCCESS CRITERIA. SUCCESS CRITERIA DOES NOT APPLY TO HYDROSEEDED ACCESS PATHS.
6. INVASIVE PLANT SPECIES INCLUDING BUT NOT LIMITED TO THOSE LISTED IN THE CITY'S LANDSCAPE STANDARDS ARE PROHIBITED; AND SHALL BE REMOVED FROM SITE WHEREVER THEY OCCUR.
7. RESTORATION, RE-VEGETATION AND EROSION CONTROL TIMING: ALL REQUIRED RESTORATION, RE-VEGETATION AND EROSION CONTROL SHALL BE COMPLETED WITHIN 90 DAYS OF THE COMPLETION OF GRADING OR DISTURBANCE.
8. TEMPORARY BMP'S SUCH AS SILT FENCING, GRAVEL BAGS, AND/OR FIBER ROLLS SHALL BE INSTALLED WHERE APPLICABLE THROUGHOUT THE PROJECT AREA DURING AND AFTER CONSTRUCTION IF IMPLEMENTATION OF THE RESTORATION AND RE-VEGETATION PROJECT IS ANTICIPATED TO OCCUR AFTER THE START OF THE RAINY SEASON (OCTOBER 1).
9. CONTRACTOR SHALL REPAIR AND/OR REPLACE ALL ABOVE GROUND EROSION CONTROL BMP'S DAMAGED DURING THE 120 PEP AND 5 YEAR/25 MONTH MAINTENANCE AND MONITORING PERIOD (AS APPLIES). ANY ABOVE GRADE EROSION CONTROL MEASURES OR BMP'S SHALL BE REMOVED BY THE CONTRACTOR AND AS DIRECTED BY THE PROJECT BIOLOGIST FOLLOWING ACCEPTANCE OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD BY CITY REPRESENATIVE AND PROJECT BIOLOGIST.
10. CONTRACTOR SHALL REMOVE ALL TRASH AND/OR DEBRIS FROM THE RESTORATION AND RE-VEGETATION SITE PRIOR TO AND FOLLOWING THE RESTORATION AND RE-VEGETATION INSTALLATION, AND UNTIL THE END OF THE 25 MONTH.

MAINTENANCE AND MONITORING PERIOD:

1. NON-NATIVE HERBACEOUS SHRUB SPECIES CURRENTLY OCCUPYING AREAS OF THE PROJECT IMPACT AREA SHALL BE REMOVED OR TREATED WITH HERBICIDE PRIOR TO INSTALLATION OF NATIVE PLANT MATERIAL.
2. ALL NON-NATIVE SPECIES TO BE TREATED, REMOVED, TRIMMED, OR PRUNED WILL BE FLAGGED IN ADVANCE BY THE PROJECT BIOLOGIST. THE LANDSCAPE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST REGARDING IDENTIFICATION OF EXOTIC WEED SPECIES TO BE REMOVED OR TREATED.
3. IF EROSION CONTROL MATERIALS SUCH AS SILT FENCING AND FIBER ROLLS REMAIN ON SITE PRIOR TO PLANTING, THEY MUST BE IN A SERVICEABLE CONDITION PRIOR TO THE RESTORATION IMPLEMENTATION AND SHOULD REMAIN IN PLACE. IF THEY ARE DEGRADED, THEY SHALL BE REPLACED PRIOR TO PLANTING AND HYDROSEEDING THE AREA, AND SHALL REMAIN UNTIL VEGETATION HAS BEEN ESTABLISHED.
4. AREAS THAT WILL BE HYDROSEEDED OR HAND-SEEDED MUST CLEARED OF LOOSE ROCKS AND DEBRIS PRIOR TO SEED APPLICATION. COMPACTED SOIL SURFACES SHOULD BE SCARIFIED TO A DEPTH BETWEEN 0.50Δ- 1Δ.0 FOR INCREASED SOIL CONTACT AND SEED BEDDING.

SUPPLEMENTAL IRRIGATION SYSTEM:

1. A TEMPORARY, ABOVE-GRADE IRRIGATION SYSTEM SHALL BE INSTALLED PER PLAN AND AS FOLLOWS:
2. PRIOR TO INSTALLATION OF IRRIGATION SYSTEM, CONTRACTOR SHALL BE PROVIDED WITH A POINT OF CONNECTION (POC) VIA WATER METER OR ALTERNATE MEANS APPROVED BY THE CITY AND PROJECT BIOLOGIST. METHODS OF TEMPORARY IRRIGATION SHALL BE TESTED IN THE PRESENCE OF PROJECT BIOLOGIST AND/OR CITY REPRESENTATIVE TO ENSURE FULL IRRIGATION COVERAGE AND PROPER OPERATION BY THE SYSTEM AND CONTRACTOR.
3. ANY ADJUSTMENTS OR MODIFICATIONS TO THE PLAN THAT ARE NECESSARY TO MEET THE SUCCESS CRITERIA MUST BE APPROVED BY THE PROJECT BIOLOGIST AND/OR CITY REPRESENTATIVE PRIOR TO IMPLEMENTATION.
4. REPAIRS TO THE IRRIGATION SYSTEM DUE TO VANDALISM OR ANY OTHER REASON SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
5. IRRIGATION SHALL BE DISCONTINUED PRIOR TO THE END OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD OR EARLIER, AS DIRECTED BY THE PROJECT BIOLOGIST.
6. AFTER FINAL 25-MONTH SUCCESS CRITERIA ARE MET AND THE MITIGATION AND MONITORING PROGRAM HAS BEEN SIGNED OFF, ALL ABOVE-GRADE COMPONENTS OF THE IRRIGATION SYSTEM SHALL BE CAREFULLY REMOVED FROM THE SITE WITHOUT ADVERSELY IMPACTING ADJACENT NATIVE VEGETATION.

CONTAINER PLANT PROCEDURES:

1. CONTRACTOR SHALL SUPPLY AND PLANT NATIVE CONTAINER PLANTINGS AS SHOWN ON THE PLANS. PLANTING SHALL BE ACCOMPLISHED UNDER THE DIRECTION OF THE PROJECT BIOLOGIST.
2. CONTAINER PLANTS SHALL BE PROCURED FROM A NURSERY QUALIFIED TO PROPAGATE AND CARE FOR NATIVE PLANT SPECIES. SOURCE FOR ANY NATIVE CONTAINER PLANT MATERIALS SHALL ORIGINATE WITHIN A 25-MILE RADIUS OF THE SAN DIEGO COAST AND/OR PROJECT SITE, OR AS DETERMINED BY THE PROJECT BIOLOGIST.
3. CONTAINER PLANT MATERIAL MUST BE DELIVERED TO THE PROJECT SITE AT THE APPROPRIATE TIME AND IN A HEALTHY AND VIGOROUS CONDITION. THE PROJECT BIOLOGIST WILL REJECT PLANT MATERIAL DELIVERED PRIOR TO ITS PLANTING DATE. SPECIMENS SHOWING EVIDENCE OF DISEASE, MISHANDLING, DEFECTS OR DAMAGE, OVER OR UNDER WATERING, OR OTHER DEFICIENCY AT THE TIME OF DELIVERY WILL BE REJECTED.
4. EACH PLANTING PIT SHALL BE EXCAVATED TO A WIDTH THAT IS TWICE THE SIZE OF THE CONTAINER. THE DEPTH OF EACH HOLE SHALL BE EQUAL TO THAT OF THE ROOTBALL. BACKFILL SHALL BE PER THESE PLANS. PLANTING PIT SHALL BE THOROUGHLY PRE-SOAKED BEFORE PLANTING. THE PLANT SHALL BE POSITIONED SO THAT THE SURFACE OF THE ROOTBALL IS AT GROUND LEVEL.
5. THE PLANT SHALL THEN BE WATERED IN BY HAND IMMEDIATELY AFTER PLANTING WITH THE SPECIFIED APPLICATION OF SUPERTHRIVE.

MAINTENANCE REQUIREMENTS:

1. ALL RESTORATION/ RE-VEGETATION AREAS SHALL BE MAINTAINED BY THE PERMITEE UNTIL FINAL APPROVAL BY THE CITY. THE MAINTENANCE PERIOD BEGINS ON THE
2. FIRST DAY FOLLOWING ACCEPTANCE (AT THE END OF 120 DAY PEP) AND MAY BE EXTENDED AT THE DETERMINATION OF THE CITY REPRESENTATIVE.
3. PRIOR TO FINAL APPROVAL THE CITY REPRESENTATIVE MAY REQUIRE CORRECTIVE ACTION INCLUDING BUT NOT LIMITED TO RE-PLANTING AND THE REPAIR OF ANY SOIL EROSION OR SLOPE SLIPPAGE, IN CONSULTATION WITH THE PROJECT BIOLOGIST.
4. THE 120 PEP FOLLOWS THE COMPLETION OF CONSTRUCTION. THE PEP AND START OF MAINTENANCE / MONITORING PERIOD AS WELL AS ACCEPTANCE FOLLOWING THE MAINTENANCE / MONITORING PERIOD IS DETERMINED BY CITY REPRESENTATIVE IN CONSULTATION WITH PROJECT BIOLOGIST.
5. WEEDING AND/ALL OTHER MAINTENANCE AS SPECIFIED SHALL BE DONE REGULARLY BY THE CONTRACTOR. WEEDING SHALL BE DONE AT A MINIMUM OF BIWEEKLY UNTIL THE END OF THE 120 DAY PEP, AND MONTHLY THROUGHOUT THE 60/25 MONTHS OF MAINTENANCE (AS APPLIES). HERBICIDE SHALL BE USED ONLY FOR HARD TO CONTROL WEEDS INCLUDING, BUT NOT LIMITED TO HOTTENTOT FIG (CARPOBROTUS EDULIS), GIANT REED (ARUNDO DONAX), TAMARISK (TAMARIX SPP.), BERMUDA BRASS (CYNODON DACTYLON), AND PAMPAS GRASS (CORTADERIA SELLOANA).
6. CONTRACTOR SHALL CONTROL WEEDS AS IDENTIFIED BY THE PROJECT BIOLOGIST SUCH THAT NO WEED COVER EXCEEDS 5% OF THE IMPACTED SLOPE, BEFORE THEY EXCEED TWELVE INCHES (12") IN HEIGHT, AND BEFORE THEY SET SEED. IN ADDITION, THERE WILL BE 0% NON-NATIVE INVASIVE WEED COVER ALONG THE SLOPE THROUGHOUT THE DURATION OF THE PROJECT. INVASIVE WEEDS ARE IDENTIFIED IN THE CITY LANDSCAPE GUIDELINES AS INVASIVE PLANT SPECIES OR RATED BY THE CALIFORNIA INVASIVE PLANT COUNCIL (CAL-IPC) AS HIGHLY INVASIVE.

PARK AND RECREATION DEPARTMENT INSPECTION STAGES:

1. PRE-CONSTRUCTION
2. CLEARING AND GRUBBING (PLANT SALVAGE)
3. IRRIGATION INSTALLATION
4. PROJECT CONSTRUCTION (90% COMPLETE), DEVELOP PUNCH LIST AND SUBMIT RED LINE AS-BUILTS
5. FINAL WALK THROUGH AND START OF THE PLANT ESTABLISHMENT PERIOD (PEP). SUBMITTAL OF FINAL, APPROVED AS-BUILT DRAWINGS TO THE CITY
6. START OF THE MAINTENANCE MONITORING AND REPORTING PERIOD (MMRP)
7. SEMI-ANNUAL (6 MONTH) MM VISITS
8. END OF THE 25 MONTH MAINTENANCE AND MONITORING PERIOD (WHERE APPLICABLE)
9. END OF THE 60 MONTH MMRP

PARK AND RECREATION DEPARTMENT CONTACT:

PAUL KILBURG, SENIOR PLANNER 619.685.1327

ALL SITE OBSERVATION REPORTS SHALL BE COPIED TO: PKILBURG@SANDIEGO.GOV

ALL ON-GRADE LINES SHALL BE SECURED TO SLOPES EVERY 10 FEET. THE ENDS OF ALL LATERALS SHALL ALSO BE STAKED. STAKES SHALL BE INSTALLED SO AS NOT TO CREATE A SAFETY HAZARD.

REVEGETATION REQUIREMENTS:

1. REVEGETATION AREAS WITHIN 100 FEET OF HABITABLE STRUCTURES (I.E. BRUSH MANAGEMENT ZONES) NEED TO BE MARKED IN THE FIELD PRIOR TO PLANTING.

2. SPECIES 5 FEET OR MORE SHALL NOT BE PLANTED WITHIN 5 FEET OF UTILITY LINES.

MILESTONE	ASSESSMENT CRITERIA	MAINTENANCE ACTION
120 DAYS AFTER PROJECT CONSTRUCTION COMPLETION	PLANTING TO ACHIEVE 50% OVERALL COVER AND 90% SURVIVORSHIP OF CONTAINER PLANTINGS; 0% COVER OF PERENNIAL INVASIVE SPECIES AND NO MORE THAN 25% COVER OF INVASIVE ANNUAL PLANTS*	REPLACE UNHEALTHY OR DEAD CONTAINER PLANTS; PROVIDE SUPPLEMENTAL WATER IF NEEDED; REPAIR/ ADDRESS EROSION CONTROL AS NEEDED; WEEDING AND MAINTENANCE AS NECESSARY
1 YEAR	70% SURVIVAL OF CONTAINER PLANTS; 0% COVER OF PERENNIAL AND NO MORE THAN 20% COVER OF ANNUAL, NON-NATIVE, EXOTIC PLANTS*; MINIMIZE EROSION	REPLACE UNHEALTHY OR DEAD CONTAINER PLANTS; PROVIDE SUPPLEMENTAL WATER IF NEEDED; INCREASE WEED/ EXOTICS CONTROL; REPAIR/ ADDRESS EROSION CONTROL AS NEEDED; WEEDING AND MAINTENANCE AS NECESSARY
2 YEARS	NATIVE COVER OF 40%; 0% COVER OF PERENNIAL AND NO MORE THAN 20% COVER OF ANNUAL, NON-NATIVE, EXOTIC PLANTS*; MINIMIZE EROSION	PROVIDE SUPPLEMENTAL WATER IF NEEDED; REPAIR/ ADDRESS EROSION CONTROL AS NEEDED; WEEDING AND MAINTENANCE AS NECESSARY
3 YEARS	NATIVE COVER OF 60%; 0% COVER OF PERENNIAL AND NO MORE THAN 20% COVER OF ANNUAL, NON-NATIVE, EXOTIC PLANTS*; ALL PLANTING COMPLETED; IRRIGATION TERMINATED; MINIMIZE EROSION	PROVIDE SUPPLEMENTAL WATER IF NEEDED; REPAIR/ ADDRESS EROSION CONTROL AS NEEDED WEEDING AND MAINTENACE AS NECESSARY
4 YEARS	NATIVE COVER OF AT LEAST 70%; 0% COVER OF PERENNIAL AND NO MORE THAN 20% COVER OF ANNUAL, NON-NATIVE, EXOTIC PLANTS*; MINIMIZE EROSION	PROVIDE SUPPLEMENTAL WATER IF NEEDED; REPAIR/ ADDRESS EROSION CONTROL AS NEEDED; WEEDING AND MAINTENANCE AS NECESSARY
5 YEARS	NATIVE PLANT COVER OF AT LEAST 80%; 0% COVER OF PERENNIAL AND NO MORE THAN 20% COVER OF INVASIVE, ANNUAL PLANTS*	PROVIDE SUPPLEMENTAL WATER IF NEEDED; REPAIR/ ADDRESS EROSION CONTROL AS NEEDED; WEEDING AND MAINTENANCE AS NECESSARY

FOR PLANTING NOTES, QUANTITIES AND TYPICAL SPACING, SEE THIS SHEET, L-8 & L-9.
PLANTING NOTES, SEE ALSO CITY OF SAN DIEGO LANDSCAPE STANDARDS.
FOR PLANTING LIST, SEE SHEETS L-8 & L-9.
FOR PLANTING, RESTORATION NOTES AND SUCCESS CRITERIA, SEE THIS SHEET.
FOR PLANTING DETAILS, SEE SHEET L-9 AND SAN DIEGO REGIONAL STANDARD DRAWINGS AS APPLIES.
SEE ALSO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2015 GREENBOOK) AND CITY STANDARD SPECIFICATIONS (2015 WHITEBOOK) AS WELL AS SPECIAL PROVISIONS (SPEC ADDENDA) SECTIONS 800-802.

L-6

LA JOLLA VIEW RESERVOIR PROJECT

RESTORATION REQUIREMENTS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 84 OF 85 SHEETS

WATER WBS S-15027
SEWER WBS NONE

CONSULTANT

Infrastructure ENGINEERING CORPORATION
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iecorporation.com

DAVID REED LANDSCAPE ARCHITECT
3575 5TH AVENUE SUITE 100
SAN DIEGO, CALIFORNIA 92103
(619) 239-3300
www.drasla.com

LICENSED LANDSCAPE ARCHITECT
DAVID REED #1962
Signature
9-30-17
Renewal Date
12-15-16
Date
STATE OF CALIFORNIA

APPROVED:
FOR CITY ENGINEER — DATE
ALEX GARCIA
PRINT NAME — RCE#

SUBMITTED BY: ED FORDAN, PROJECT MANAGER
CHECKED BY: ART ARVIZU, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XX/XX			

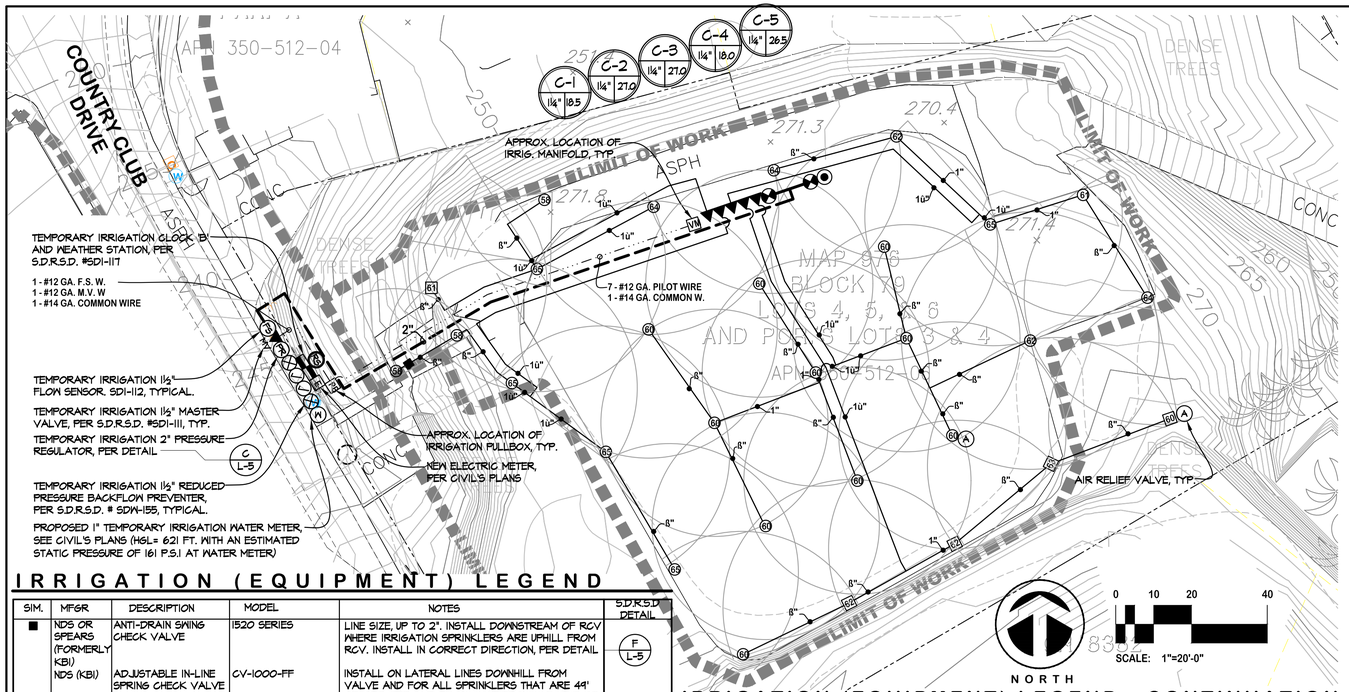
SEE SHEETS CCS27 COORDINATE
SEE SHEETS CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

38056-84-D

100% — REVISED

$123456789012345678901234567890123456789012345678901234567890$
$plot$date$time$$ $user$



IRRIGATION (EQUIPMENT) LEGEND

SIM.	MFGR	DESCRIPTION	MODEL	NOTES	S.D.R.S.D. DETAIL
■	NDS OR SPEARS (FORMERLY KBI)	ANTI-DRAIN SWING CHECK VALVE	1520 SERIES	LINE SIZE, UP TO 2". INSTALL DOWNSTREAM OF RCV WHERE IRRIGATION SPRINKLERS ARE UPHILL FROM RCV. INSTALL IN CORRECT DIRECTION, PER DETAIL	F L-5
	NDS (KBI)	ADJUSTABLE IN-LINE SPRING CHECK VALVE	CV-1000-FF	INSTALL ON LATERAL LINES DOWNHILL FROM VALVE AND FOR ALL SPRINKLERS THAT ARE 44' OR GREATER IN ELEV. CHANGE FROM HIGH END OF SYSTEM. INSTALL UPSTREAM OF EXCESS FLOW VALVE IN CORRECT DIRECTION, ADJUST PRESSURE REGULATION AS NECESSARY (PRE-SET WITH 5 LBS.) FINE TUNE ON-SITE PER MFR'G SPECS AS NEEDED	
▬	CALSENSE	AUTOMATIC CONTROLLERS, PEDESTAL MOUNT	**CLOCK 'A' & 'B'** CSB-8-SDI/ CSB-8STA-KIT(5)/ CSB-GR/ CSB-MSSE-KIT(2)/ CSB-FL(2)/GR-STUBBY/ COMM 5YR/FM-1.25	CONTRACTOR TO PROVIDE 120V POWER, INSTALL IN A PEDESTAL ENCLOSURE (PROVIDE 12" DEEP CONCRETE FOOTING) PROVIDE RAIN SENSOR IN VANDAL RESISTANT ENCLOSURE, AND ADAPTER, INSTALL PER MANUFACTURERS SPECS AND PER DETAIL # SDI-117	
	RAINBIRD		CLOCK 'C' ESP12-SAT-LS		
RS	HUNTER	RAIN SENSOR	FOR CLOCKS 'A' & 'B' MINICLICK		
RS	RAINBIRD	RAIN SENSOR	FOR CLOCK 'C' RSD		
	RAINGUARD	STAINLESS STEEL SENSOR GUARD ENCLOSURE	SG-MC		
	ANY APPROVED	PVC LATERAL LINE	SCH. 40 & CLASS 315	USE PVC PIPE "SCH. 40" FOR 1 ½" OR SMALLER. USE PVC PIPE "CLASS 315" FOR 2" AND LARGER. TO BE INSTALLED IN PLANTING AREA, ADJACENT TO THE EDGE OF WALKWAY PAVING, OR CURB WHERE OCCURS, USE #3 OR #4 REBAR BENT AS SHOWN OR PREVENT STABILIZERS, PER DETAILS # SDI-120 & # SDI-123 AND INSTALL LATERAL BELOW GRADE WHERE OCCURS PER PLAN AT THE FOLLOWING DEPTHS :	
		SMALLER THAN 3" I.D.		• 12"-15" DEEP UNDER PLANTING & 24" DEEP IN SLEEVE UNDER VEHICULAR PAVEMENT.	
		LARGER THAN 3" I.D.		• 30" DEEP IN SLEEVE UNDER DRIVEWAY PAVING, WHERE OCCURS, PER 2.4-2 TABLE 4 PIPE DEPTHS THE LANDS. STDS & DETAIL AND PER SUPPLEMENTAL DETAIL # SDI-110 E/L-5	
	ANY CITY APPROVED	PVC MAIN LINE	SCH. 40 & CLASS 315	USE PVC PIPE "SCH. 40" FOR 1 ½" OR SMALLER. USE PVC PIPE "CLASS 315" FOR 2" AND LARGER MAINLINE TO BE INSTALL IN PLANTING AREA ADJACENT TO THE EDGE OF WALKWAY PAVING, OR CURB WHERE OCCURS. INSTALL MAINLINE AT THE FOLLOWING DEPTHS.	
		SMALLER THAN 3" I.D.		• 18"-21" DEEP UNDER PLANTING & 30"-36" DEEP IN SLEEVE UNDER VEHICULAR PAVEMENT, WHERE OCCURS.	
		LARGER THAN 3" I.D.		• 24" DEEP UNDER PLANTING & 36" DEEP IN SLEEVE UNDER VEHICULAR PAVEMENT, WHERE OCCURS, PER 2.4-2 TABLE 4 PIPE DEPTHS THE LANDS. STDS & AND PER SUPPLEMENTAL DETAIL # SDI-110 E/L-5	
	ANY CITY APPROVED	PVC SLEEVE	SCH. 40	MIN 2 X DIA. OF PIPES, EXTEND 12" BEYOND EDGE OF PAVEMENT AND PER IRRIGATION NOTES ON SHEET L-5.	
	ANY CITY APPROVED	CONTROL WIRE		INSTALL BY MAINLINE IN CONDUIT, PER NOTES & DETAIL # SDI-119 & # SDI-117	
	3M	RECOMMENDED CONNECTORS BY CALSENSE	SCOTCH LOCK 3570 OR APPROVED EQ.	PROVIDE SAMPLE OF CONTROL WIRE CONNECTORS AS SUBSTITUTION OF APPROVED BY PEN-TITE OR DRY SPLICE	
PB	BROOKS	IRRIGATION WIRING FULLBOX	#3-HL / #3TL	LOCATE IN PLANTING AREA, PER PLAN AND NOTES, INSTALL IN CONCRETE BOX AND PER STD. DETAIL # SDI-115 & # SDI-117	
	THRUST BLOCKS			PROVIDE THRUST BLOCKS AT MASTER VALVES, FLOW SENSORS, QUICK COUPLERS AND REDUCED PRESSURE BACKFLOW PREVENTER, PER S.D.R.S.D. AND TO MAINLINE AS NEEDED PER # SDW-151	

A-7 — CONTROL VALVE SPRINKLER ZONE #
1" 16.7 — GALLONS PER MINUTE / SIZE OF REMOTE

FOR CITY APPROVED MATERIAL LIST, SEE APPENDIX D OF THE C.S.D.M.C. LANDSCAPE STANDARDS

IRRIGATION (EQUIPMENT) LEGEND - CONTINUATION

SIM.	MFGR	DESCRIPTION	MODEL	NOTES	S.D.R.S.D. DETAIL
[#]	HUNTER	POP UP GEAR DRIVEN BODY ROTOR (ON GRADE INSTALLATION)	I-20-06-PRB-# I-25-06-#	TOP OF NOZZLE TO BE AT 18" (MIN.) ABOVE GRADE. USE 6" POP-UPS IN PLANTED AREAS, INSTALL 24" AWAY FROM DWY/ ROAD OR WALKING SURFACES, STAKED PER DETAIL # SDI-101 B/L-5 AND PER SUPPLEMENTAL DETAIL	
[#]	RAINBIRD	SPRAY SHRUB BODY ON RISER.	PA-8S-PRS	TOP OF ROTOR OR SPRAY NOZZLE SHALL BE 18" (MIN. ABOVE GRADE, PER DETAIL # SDI-101 A/L-5 G/L-5 AND PER SUPPLEMENTAL DETAIL H/L-5	
	HUNTER	GEAR DRIVEN SHRUB BODY ROTOR	PGJ-00-V-#		
	VALCON	EXCESS FLOW VALVE	ADV-X5	¾" SIZE, FOR ALL POP-UPS AND RISERS, PER DETAILS FIELD ADJUST UP TO 40' WHEN ELEVATION CHANGE IS UP TO 44' FROM HIGH END. IF MORE, ADD AN ADJUSTABLE SPRING CHECK VALVE, SEE AT RIGHT. # SDI-101	
▼	RAINBIRD	REMOTE CONTROL VALVE	100-EFB-CP-PRS-D 125-EFB-CP-PRS-D 150-EFB-CP-PRS-D 200-EFB-CP-PRS-D	SIZE PER PLAN, INSTALL IN PLASTIC VALVE BOX WITH UV INHIBITORS LID, ID TAG VALVE & HOT BRAND BOX LID WITH "RCV", OR CLOCK # STATION, PER SPECS AND DETAIL # SDI-114	
	CHAMPION	GLOBE VALVE	100RS SERIES	VALVE SIZE AS MANIFOLD MAINLINE SIZE, 1 ½" SIZE FOR QUICK COUPLER. INSTALL IN PLASTIC VALVE BOX, HOT BRAND BOX LID WITH "BV", PER DETAIL # SDI-106 & # SDI-107	
	RAINBIRD	QUICK COUPLER	44-LRC	1" VALVE SIZE AND 1 ½" SUPPLY LINE, INSTALL IN PLASTIC VALVE BOX WITH UV INHIBITORS LID, ID VALVE & BOX LID "QC", PER SPECIFICATIONS AND DETAIL # SDI-105	
VM	NDS	TEMPORARY IRRIGATION VALVES MANIFOLD BOXES	RCV-314BCB BV -312BCB QCV-312BCB AVR-208BC	VALVE BOXES FOR ALL TEMPORARY IRRIGATION RCV, MANIFOLD ISOLATION VALVES & Q.C. SHALL BE PERPENDICULAR TO HARDSCAPE WHERE OCCURS AND FLUSH W/ FINISHED GRADE, FOR B.V. BOX LIDS ON SLOPE SHALL BE MARKED "EMERGENCY SHUT OFF" & PER DETAIL # SDI-125	
		FLOW SENSOR			
FS	CALSENSE	CLOCK 'A' FLOW SEN.	FM-1.25	1.25" SIZE, IRON BODY & SCH 40 SENSOR BODY, INSTALL SENSOR WIRE IN 1¼" SCH 80 CONDUIT. INSTALL IN CONCRETE VALVE BOX WITH POLYMER CONC. COVER, BRANDED "FS", PER DETAIL # SDI-112	
	DATA IND.	CLOCK 'C' FLOW SEN.	IR-250B W/ STD. OPTIONS		
▼ MV	SUPERIOR	MASTER VALVE	3100-150	1½" SIZE (STRAIGHT), NORMALLY OPEN VALVE, INSTALL IN CONCRETE VALVE BOX WITH IRON LID, ID TAG VALVE & BOX, PER SPECIFICATIONS AND DETAIL # SDI-111	
	BROOKS	CONCRETE BOX	#3-HL / #3TL	WHERE DETAIL REFRENCE CONCRETE BOX WITH IRON LID, LID SHALL BE MARKED APPROPRIATELY PER NOTES	
		REDUCED PRESSURE BACKFLOW PREVENTER			
	FEBCO	DEVICE IN STAINLESS STEEL ENCLOSURE	LF-825YA-QT-RP	2" SIZE LOCATE IN PLANTING AREA PER PLAN AND PER DETAIL #SDW-155	
	STRONG BOX		SBBC SERIES	REDUCED PRESSURE BACKFLOW PREVENTER ENCLOSURE, PER DETAIL #SDW-155	
W	ANY	WATER METER	ANY APPROVED	SIZE PER CIVIL'S PLANS WATER METER PROVIDED AND INSTALLED BY THE CITY. WATER SERVICE PER CIVIL'S PLANS W.M. SHALL BE INSTALLED IN POLYMER CONC. METER BOX & PER DETAILS #SDW-144, 148, 107, 135, & # SDW-156	
PR	WILKINS	PRESSURE REGULATOR	500XL-HR	2" SIZE (FACTORY SET AT 85 PSI, FIELD SET PRESSURE AS NEEDED) IN CONCRETE BOX W/ IRON LID TO BE ID, PER SPECIFICATIONS AND PER DETAIL C/L-5	
A	NETAFIM	AIR VACCUM RELIEF VALVE	TLAVRV	INSTALL AT HIGHEST POINT OF LATERAL WHERE SHOWN, INSTALL IN PLASTIC VALVE BOX WITH LID HOT BRANDED "AR" PER PLAN AND PER DETAILS # SDI-128 I/L-5	

IRRIGATION (SPRINKLERS) LEGEND

SIM.	MFGR	DESCRIPTION	PSI	RAD	GPM	NOTES	DETAIL
	RAINBIRD	5' MPR NOZZLE		5'		**USE WITH SHRUB ADAPTER MOD. #PA-06-PRS-#** 24" AWAY FROM ROAD, AS A RISER, PER DETAIL	# SDI-101 A/L-5 G/L-5 H/L-5
1		90½ ARC	30		.10		
2		180½ ARC	30		.20		
3		360½ ARC	30		.40		
		U8' MPR NOZZLE		8'			
4		90½ ARC	30		.26		
5		120½ ARC	30		.35		
6		180½ ARC	30		.52		
7		360½ ARC	30		1.05		
		U10' MPR NOZZLE		10'			
8		90½ ARC	30		.41		
9		120½ ARC	30		.55		
10		180½ ARC	30		.82		
11		360½ ARC	30		1.64		
		U12' MPR NOZZLE		12'			
12		90½ ARC	30		.65		
13		120½ ARC	30		.87		
14		180½ ARC	30		1.3		
15		240½ ARC	30		1.74		
16		270½ ARC	30		1.45		
17		360½ ARC	30		2.60		
		U15' MPR NOZZLE		15'			
18		90½ ARC	30		.92		
19		120½ ARC	30		1.23		
20		180½ ARC	30		1.85		
21		240½ ARC	30		2.48		
22		270½ ARC	30		2.78		
23		360½ ARC	30		3.70		
		8' HE-VAN NOZZLE		8'			
24		360½ ARC	30		.29		
25		90½ ARC	30		.59		
26		120½ ARC	30		.88		
27		180½ ARC	30		1.17		
		10' HE-VAN NOZZLE		10'			
28		360½ ARC	30		.45		
29		90½ ARC	30		.89		
30		120½ ARC	30		1.34		
31		180½ ARC	30		1.78		
		12' HE-VAN NOZZLE		12'			
32		270½ ARC	30		.59		
33		360½ ARC	30		1.18		
34		90½ ARC	30		1.77		
35		180½ ARC	30		2.37		
		15' HE-VAN NOZZLE		15'			
36		270½ ARC	30		.93		
37		360½ ARC	30		1.85		
38		90½ ARC	30		2.78		
39		180½ ARC	30		3.70		
		18' VAN NOZZLE		18'			
40		270½ ARC	30		1.33		
41		360½ ARC	30		2.66		
42		90½ ARC	30		3.99		
43		180½ ARC	30		5.32		
		15 STRIP SERIES		4'x			
44		15-EST	30	15'	.61		
45		15-CST	30	30'	1.21		
46		15-RCS	30	15'	.44		
47		15-LCS	30	15'	.44		
48		15-CST	30	30'	1.21		
49		15-RCS	30	9'x18'	1.78		
	HUNTER						
50		15-SST	40	16'	0.75	**USE WITH SHRUB BODY MOD. #PGJ-00-V-#** NOZZLE TO BE 18" (MIN.) ABOVE GRADE, PER PLAN, NOTES, LEGEND AND DETAIL	# SDI-101 B/L-5
51		4-SST	40	19'	1.0		
52		POP-UP ROTOR PGJ SERIES	40	22'	1.5		
53		.75	40	25'	2.0		
54		1.0	40	28'	2.5		
55		1.5	40	31'	3.0		
56		2.0	40	34'	4.0		
57		2.5	40	37'	5.0		
58		3.0	45	31'	1.5	**USE WITH POP-UP BODY MOD. #I-20-06-PRB-#** NOZZLE TO BE 18" (MIN) ABOVE GRADE, 24" AWAY FROM ROAD AND 12" FROM PAVING, FENCE, WALL, BROWNDITCH ETC., PER LEGEND, NOTES AND DETAIL	# SDI-101 B/L-5
59		4.0	45	34'	2.0		
60		5.0	45	35'	2.5		
61		I-20 SERIES 1.5	45	38'	3.0		
62		2	45	40'	4.0		
63		2.5	45	42'	5.0		
64		3	45	43'	6.0		
65		4	45	44'	8.0		
66		5	50	41'	4.8	**USE WITH POP-UP BODY MOD. #I-25-06-#** NOZZLE TO BE 18" (MIN) ABOVE GRADE, 24" AWAY FROM ROAD AND 12" FROM PAVING, FENCE, WALL, BROWNDITCH ETC., PER LEGEND, NOTES AND DETAIL	# SDI-101 B/L-5
67		6	50	44'	4.8		
68		8	50	47'	7.0		
69		I-25-06 SERIES NZL.	50	44'	8.3		
70		4	50	51'	10.1		
71		5	50	53'	11.2	FOR SLOPE IRRIGATION AWAY FROM ANY TRAFFIC, TO BE INSTALLED RAISED 18" ABOVE FINISH GRADE.	
72		7	50	56'	13.4		
73		8	50	58'	14.5		
74		10	60	62'	17.8		
		12					
75		15	45	25'	1.00		
76		18	45	25'	1.38		
77		20	45	25'	1.98		
78		I-20-PRB-MPR	45	25'	3.82		
79		25-Q	45	30'	1.40		
80		25-T	45	30'	1.85		
81		25-H	45	30'	2.46		
82		25-F	45	30'	5.78		
83		30-Q	45	35'	1.92		
84		30-T	45	35'	2.46		
85		30-H	45	35'	3.81		
86		30-F	45	35'	7.58		
		35-Q					
		35-T					
		35-H					
		35-F					

NOTE: PLAN IS DIAGRAMMATIC. LOCATE MAIN, LATERAL LINE AND VALVES INSIDE PLANTED AREA IN THE LIMIT OF WORK. SLEEVE ALL IRRIGATION PIPE AND WIRING WHICH RUNS UNDER ANY PAVEMENT, TYPICAL.

IRRIGATION AND PLANTING SHALL COVER ANY AND ALL AREAS DISTURBED BY CONTRACTOR, BUT IN NO CASE SHALL WORK EXTEND BEYOND THE WORK AREA LIMIT OR LIMIT OF WORK LINE AS SHOWN ON THESE PLANS.

ALL TEMPORARY IRRIGATION SYSTEMS AND FACILITIES SHALL BE REMOVED BY CONTRACTOR PRIOR TO CITY'S FINAL APPROVAL OF THE RE-VEGETATION AREAS.

TEMPORARY IRRIGATION SYSTEM SHALL BE REMOVED PRIOR TO CITY'S FINAL APPROVAL OF RE-VEGETATION.

TEMPORARY IRRIGATION SHALL BE MAINTAINED FOR A MINIMUM OF 25 MONTHS OR UNTIL THE OPINION OF THE PROJECT BIOLOGIST AND THE GOAL OF THE MMRP IS MET (FOR EXCHANGE PLACE ONLY).

FOR TEMPORARY IRRIGATION NOTES, SUPPLEMENTAL NOTES AND DETAILS, SEE SHEET L-5.
SEE ALSO SAN DIEGO REGIONAL STANDARD DRAWINGS CITED HEREIN AND AS APPLIES.

SEE ALSO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2015 GREENBOOK) AND CITY STANDARD SPECIFICATIONS (2015 WHITEBOOK) AS WELL AS SPECIAL PROVISIONS (SPEC ADDENDA) SECTIONS 800-801.

L-7

LA JOLLA VIEW RESERVOIR PROJECT

TEMPORARY IRRIGATION PLAN & LEGEND – LJEPR

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 84 OF 85 SHEETS

WATER WBS S-15027
SEWER WBS NONE

SUBMITTED BY: ED FORDAN PROJECT MANAGER
CHECKED BY: ART ARVIZU PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XX/XX			

SEE SHEETS CCS27 COORDINATE
SEE SHEETS CCS85 COORDINATE

APPROVED:
FOR CITY ENGINEER ALEX GARCIA RCE# DATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

38056-85-D

CONSULTANT

Infrastructure ENGINEERING CORPORATION
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iecorporation.com

DAVID REED LANDSCAPE ARCHITECT
3575 5TH AVENUE SUITE 100
SAN DIEGO, CALIFORNIA 92103
(619) 239-3300
www.dreasla.com

LICENSED LANDSCAPE ARCHITECT — DAVID REED — Signature — d-30-17 Renewal Date 12-15-16 Date — STATE OF CALIFORNIA

100% – REVISED

$123456789012345678901234567890123456789012345678901234567890$

$plot$date$time$$ $user$

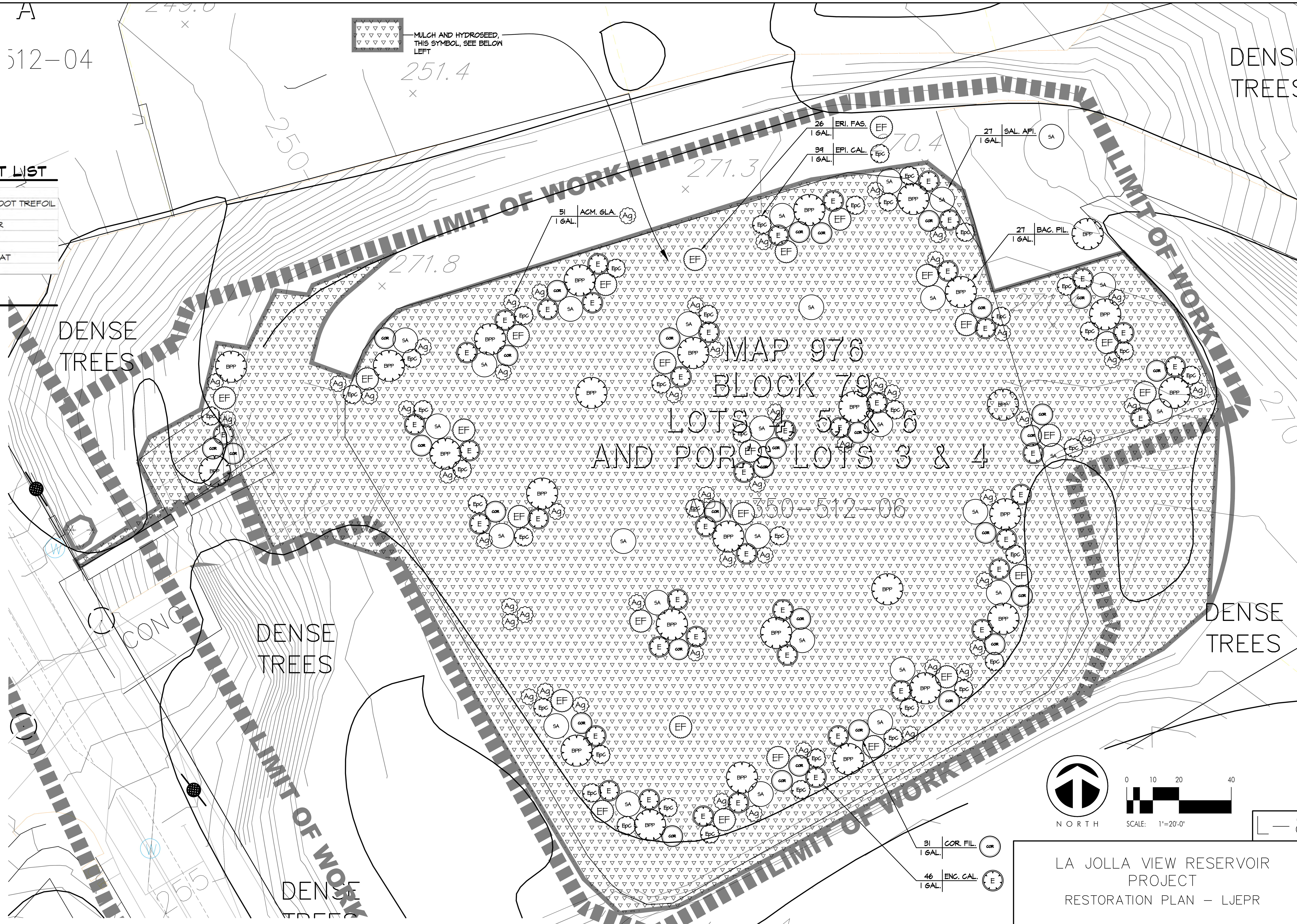
IRRIGATION AND PLANTING SHALL COVER ANY AND ALL AREAS DISTURBED BY CONTRACTOR, BUT IN NO CASE SHALL WORK EXTEND BEYOND THE WORK AREA LIMIT OR LIMIT OF WORK LINE AS SHOWN ON THESE PLANS.

ALL TEMPORARY IRRIGATION SYSTEMS AND FACILITIES SHALL BE REMOVED BY CONTRACTOR PRIOR TO CITY'S FINAL APPROVAL OF THE RE-VEGETATION AREAS.

DROUGHT TOLERANT EROSION CONTROL PLANT LIST

ABBR.	SIZE	NUMBER	SCIENTIFIC NAME	COMMON NAME
ACM. GLA.	1 GAL.	51	ACMISPON GLABER	DEERWEED, BIRD'S FOOT TREFOIL
BAC. PIL.	1 GAL.	27	BACCHARIS PILULARIS	COYOTE BRUSH
COR. FIL.	1 GAL.	31	CORETHROGYNE FILANGINIFOLIA	COMMON SAND ASTER
ENC. CAL.	1 GAL.	46	ENCELIA CALIFORNICA	CALIFORNIA ENCELIA
EPI. CAL.	1 GAL.	39	EPILOBIUM CALIFORNICA	CALIFORNIA FUCHSIA
ERI. FAS.	1 GAL.	26	ERIOGONUM FASCICULATUM	CALIFORNIA BUCKWHEAT
SAL. API.	1 GAL.	27	SALVIA APIANA	WHITE SAGE

HYDROSEED PLANT LIST



L-8

LA JOLLA VIEW RESERVOIR PROJECT

RESTORATION PLAN – LJEPR

FOR PLANTING NOTES, QUANTITIES AND TYPICAL SPACING, SEE THIS SHEET, L-6 & L-9.
PLANTING NOTES, SEE ALSO CITY OF SAN DIEGO LANDSCAPE STANDARDS.
FOR PLANTING LIST, SEE THIS SHEET & L-8.
FOR PLANTING, RESTORATION NOTES AND SUCCESS CRITERIA, SEE SHEET L-6.
FOR PLANTING DETAILS, SEE SHEET L-8 AND SAN DIEGO REGIONAL STANDARD DRAWINGS AS APPLIES.
SEE ALSO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2015 GREENBOOK) AND CITY STANDARD SPECIFICATIONS (2015 WHITEBOOK) AS WELL AS SPECIAL PROVISIONS (SPEC ADDENDA) SECTIONS 800-802.

CONSULTANT

Infrastructure ENGINEERING CORPORATION
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iecorporation.com

DAVID REED LANDSCAPE ARCHITECTS
3575 5TH AVENUE SUITE 100
SAN DIEGO, CALIFORNIA 92103
(619) 239-3300
www.drasla.com

LICENSED LANDSCAPE ARCHITECT DAVID REED #1986 Renewal Date 12-15-16 STATE OF CALIFORNIA

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 86 OF 85 SHEETS

WATER WBS S-15027
SEWER WBS NONE

APPROVED: FOR CITY ENGINEER ALEX GARCIA DATE
PRINT NAME RCE#

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XX/XX			

SUBMITTED BY: ED FORDAN PROJECT MANAGER
CHECKED BY: ART ARVIZU PROJECT ENGINEER
SEE SHEETS CCS27 COORDINATE
SEE SHEETS CCS83 COORDINATE

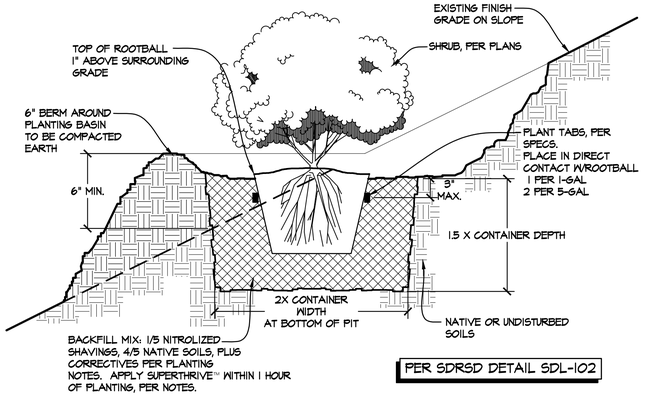
CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

38056-86-D

$1234567890123456789012345678901234567890123456789O$

$plot$date$time$$ $user$

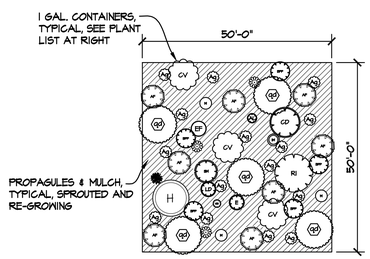
100% – REVISED



SLOPE PLANTING

NOT TO SCALE

A



SEE PLANT LIST AT RIGHT

PLANT AREAS ARE ESTIMATED WITH AN APPROXIMATE SLOPE FACTOR AND ARE FOR CONTRACTORS' CONVENIENCE IN ESTIMATING ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANT MATERIALS TO COVER ALL AREAS DISTURBED BY THE CONTRACTOR.

LA JOLLA VIEW RESERVOIR

PLANTED AREA = 261,825.15 S.F. / 6.011 ACRES APPROXIMATELY

EXCHANGE PLACE

PLANTED AREA = 16,458.72 S.F. / 0.377 ACRES APPROXIMATELY

CONTRACTOR SHALL NOT PLANT THE FOLLOWING SPECIES WITHIN THE AREA AT TOP OF THE RESERVOIR NOTED ON SHEET L-3:

- HETEROMELES ARBUTIFOLIA - TOYON
- QUERCUS DUMOSA - NUTALL'S SCRUB OAK
- RHUS INTEGRIFOLIA - LEMONADE BERRY

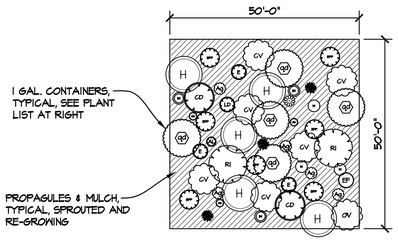
SHALL ALSO MAINTAIN THE DESIGN DENSITY OF PLANTING IN THIS AREA USING SPECIES FROM REMAINDER OF THE PLANT LIST.

TYPICAL REVEGETATION INSET & SPACING FOR SOUTHERN MARITIME CHAPARRAL (SMC)

SCALE: 1"=10'-0"

APPROXIMATELY. 278,278 S.F.

B



SEE PLANT LIST AT RIGHT

PLANT AREAS ARE ESTIMATED WITH AN APPROXIMATE SLOPE FACTOR AND ARE FOR CONTRACTORS' CONVENIENCE IN ESTIMATING ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANT MATERIALS TO COVER ALL AREAS DISTURBED BY THE CONTRACTOR.

LA JOLLA VIEW RESERVOIR

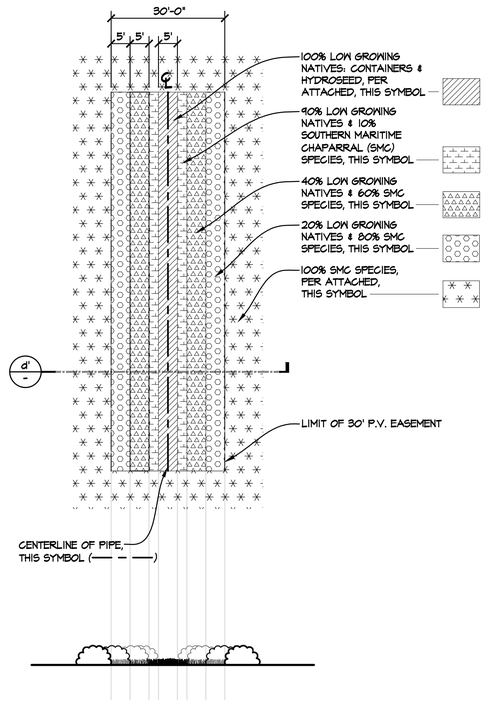
PLANTED AREA = 12,604.10 S.F. / 0.284 ACRES APPROXIMATELY

TYPICAL REVEGETATION INSET & SPACING FOR MODIFIED SOUTHERN MARITIME CHAPARRAL - RESIDENTIAL BUFFER AREAS

SCALE: 1"=10'-0"

APPROXIMATELY. 12,600 S.F.

C



SECTION d'

EASEMENT PLANTING

SCALE: 1"=10'-0"

D

PLANT LIST

SOUTHERN MARITIME CHAPARRAL

Abbr.	Size	%	Scientific Name	Common Name	H x W	SYM.
SHRUBS						
ACM. GLA.	1 GAL.	30	ACMISPON GLABER VAR. GLABER	COASTAL DEERWEED		
ADE. FAS.	1 GAL.	15	ADENOSTOMA FASCICULATUM	CHAMISE	5' X 6'	
AST. LON.		1	ASTRAGALUS TRICOPODUS VAR. LONCHUS	OCEAN LOCOWEED		
BAC. PIL.	1 GAL.	10	BACCHARIS PILULARIS	COYOTE BRUSH	1' X 5'	
CEA. VER.	1 GAL.	5	CEANOTHUS VERRUCOSUS	WART-STEM LILAC		
CNE. DUM.	1 GAL.	2	CNEORIDIUM DUMOSUM	BUSH RUE		
COM. DIV.	1 GAL.	2	COMAROSTAPHYLIS DIVERSIFOLIA	SUMMER HOLLY		
CRO. SCO.	1 GAL.	2	CROCANTHEUM SCOPARIUM VAR. SCOPARIUM	PEAK RUSH-ROSE		
ENC. CAL.	1 GAL.	1	ENCELIA CALIFORNICA	COAST SUNFLOWER	3' X 4'	
ERI. FAS.	1 GAL.	2	ERIOGONUM FASCICULATUM VAR. FASCILATUM	COAST CALIFORNIA BUCKWHEAT		
FER. VIR.	1 GAL.	5	FEROCACTUS VIRIDESCENS	COAST BARREL CACTUS	8' X 3'	
HET. ARB.	1 GAL.	2	HETEROMELES ARBUTIFOLIA	TOYON	10' X 15'	
ISO. MEN.	1 GAL.	2	ISOCOMA MENZIESII VAR. MENZIESII	SPREADING GOLDENBUSH		
LON. DEN.	1 GAL.	2	LONICERA SUBSPICATA VAR. DENUDATA	JOHNSTON'S HONEYSUCKLE		
MIM. PUN.	1 GAL.	5	MIMULUS PUNICEUS	RED MONKEY FLOWER	2' X 3'	
QUE. DUM.	1 GAL.	10	QUERCUS DUMOSA	NUTTALL'S SCRUB OAK	10' X 15'	
RHU. INT.	1 GAL.	2	RHUS INTEGRIFOLIA	LEMONADE BERRY	10' X 10'	
SAL. MEL.	1 GAL.	2	SALVIA MELLIFERA	BLACK SAGE	3' X 6'	

FOR SOUTHERN MARITIME CHAPARRAL TYPICAL PLANT LAYOUT, SEE DETAIL B, LEFT.

PLANT LIST

MODIFIED SOUTHERN MARITIME CHAPARRAL - RESIDENTIAL BUFFER AREAS

Abbr.	%	Scientific Name	Common Name	Min. spacing	SYM.
SHRUBS					
ACM. GLA.	10	ACMISPON GLABER	COASTAL DEERWEED	●	
AST. LON.	1	ASTRAGALUS TRICOPODUS VAR. LONCHUS	OCEAN LOCOWEED	●	
BAC. PIL.	15	BACCHARIS PILULARIS	COYOTE BRUSH	20' O.C.	
CEA. VER.	15	CEANOTHUS VERRUCOSUS	WARTY STEMMED CEANOTHUS	20' O.C.	
CNE. DUM.	5	CNEORIDIUM DUMOSUM	BUSH RUE	●	
COM. DIV.	5	COMAROSTAPHYLIS DIVERSIFOLIA	SUMMER HOLLY	●	
CRO. SCO.	5	CROCANTHEMUM SCOPARIUM VAR. SCOPARIUM	PEAK RUSH-ROSE	5' O.C.	
ENC. CAL.	5	ENCELIA CALIFORNICA	COAST SUNFLOWER	●	
ERI. FAS.	2	ERIOGONUM FASCICULATUM VAR. FASCICULATUM	CALIFORNIA BUCKWHEAT	12' O.C.	
FER. VIR.	2	FEROCACTUS VIRIDESCENS	COAST (SAN DIEGO) BARREL CACTUS		
HET. ARB.	10	HETEROMELES ARBUTIFOLIA	TOYON	45' O.C.	
ISO. MEN.	5	ISOCOMA MENZIESII VAR. MENZIESII	SPREADING GOLDENBUSH	●	
LON. DEN.	2	LONICERA SUBSPICATA VAR. DENUTA	JOHNSTON'S HONEYSUCKLE	15' O.C.	
MIM. PUN.	5	MIMULUS AURANTIACUS	STICKY MONKEY FLOWER	●	
QUE. DUM.	10	QUERCUS DUMOSA	NUTTALL'S SCRUB OAK	18' O.C.	
RHU. INT.	3	RHUS INTEGRIFOLIA	LEMONADE BERRY	45' O.C.	

FOR SOUTHERN MARITIME CHAPARRAL TYPICAL PLANT LAYOUT RESIDENTIAL BUFFER AREAS, SEE DETAIL C, LEFT.

FOR CONTAINER SIZES AND HEIGHT AND SPREAD SEE SOUTHERN MARITIME CHAPARRAL PLANT LIST.

L—9

FOR PLANTING NOTES, QUANTITIES AND TYPICAL SPACING, SEE THIS SHEET, L-6 & L-8.
PLANTING NOTES, SEE ALSO CITY OF SAN DIEGO LANDSCAPE STANDARDS.
FOR PLANTING LIST, SEE THIS SHEET & L-8.
FOR PLANTING, RESTORATION NOTES AND SUCCESS CRITERIA, SEE SHEET L-6.
FOR PLANTING DETAILS, SEE THIS SHEET AND SAN DIEGO REGIONAL STANDARD DRAWINGS AS APPLIES.
SEE ALSO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2015 GREENBOOK) AND CITY STANDARD SPECIFICATIONS (2015 WHITEBOOK) AS WELL AS SPECIAL PROVISIONS (SPEC ADDENDA) SECTIONS 800-802.

LA JOLLA VIEW RESERVOIR PROJECT

RESTORATION PLAN — LJEPR

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 86 OF 85 SHEETS

WATER WBS S-15027
SEWER WBS NONE

APPROVED:
FOR CITY ENGINEER _____ DATE
ALEX GARCIA
PRINT NAME RCE#

SUBMITTED BY: ED FORDAN, PROJECT MANAGER
CHECKED BY: ART ARVIZU, PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XX/XX			

SEE SHEETS CCS27 COORDINATE
SEE SHEETS CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

38056-86-D

CONSULTANT

Infrastructure ENGINEERING CORPORATION
14271 Danielson Street
Poway, California 92064
T 858.413.2400 F 858.413.2440
www.iecorporation.com

DAVID REED LANDSCAPE ARCHITECTS
3575 5TH AVENUE SUITE 100
SAN DIEGO, CALIFORNIA 92103
(619) 239-3300
www.drsla.com

LICENSED LANDSCAPE ARCHITECT — DAVID REED VINCE — Signature — 6-30-17 Renewal Date — 12-15-16 Date — STATE OF CALIFORNIA

$1234567890123456789012345678901234567890123456789012345678901234567890$

$plot$date$time$$ $user$

100% — REVISED

Appendix I

Memorandum of Understanding: Construction of La Jolla View Reservoir

Appendix I

CITY OF SAN DIEGO
ADMENDMENT OF INTERDEPARTMENTAL
MEMORANDUM OF UNDERSTANDING
CONSTRUCTION OF LA JOLLA VIEW RESERVOIR
WITHIN LA JOLLA HEIGHTS PARK

WHEREAS, The Park and Recreation Department and the Public Utilities Department (previously known in part as the "Water Department") have previously entered into an Interdepartmental Memorandum of Understanding (MOU, attached), dated as the 22nd day of November 2002; and

WHEREAS, the Public Utilities Department is moving forward with the design of the reservoir in La Jolla Heights Park; and

WHEREAS, both Departments are willing to explore the concept of fair market compensation by the Public Utilities Department to the Park and Recreation Department for the use of the open space parkland via in-kind services;

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. Both departments will conduct any and all research necessary to determine the legality of compensation.

2. The Real Estate Assets Department will be called upon to determine Fair Market Value of using the site for the reservoir.

3. The Park and Recreation Department agrees not to use this compensation issue to inhibit the design, permitting, construction, start-up, or operation, etc. of the reservoir.

THE ABOVE IS ACKNOWLEDGED AND ACCEPTED THIS 17TH DAY OF NOVEMBER 2010.

PUBLIC UTILITIES DEPARTMENT

By _____
Roger S. Bailey
Director of Public Utilities

PARK AND RECREATION DEPARTMENT

By _____
Stacey LoMedico
Park and Recreation Department Director

CITY OF SAN DIEGO
INTERDEPARTMENTAL MEMORANDUM OF UNDERSTANDING
CONSTRUCTION OF LA JOLLA VIEW RESERVOIR
WITHIN LA JOLLA HEIGHTS PARK

This Interdepartmental Memorandum of Understanding [MOU] regarding relocation of the La Jolla View Reservoir is made between the Water Department and the Park and Recreation Department, based on the following:

RECITALS

1. La Jolla Heights Park is a dedicated park located at 7362 Brodiaea Way in the community of La Jolla.

2. The Water Department operates the La Jolla View Reservoir on Park property. The existing aboveground reservoir was built in 1951 and includes a 1,000 foot access road through the park. The Water Department proposes to demolish the existing reservoir and construct a new reservoir at a higher elevation to improve water pressure, place it underground, increase the storage capacity from 0.7 million gallons to 5.7 million gallons, and reduce the length of the access road to approximately 350 feet.

3. The replacement of the existing aboveground reservoir with a new underground reservoir has a substantial benefit to the Park. Presently, the Water Department uses approximately 36,000 square feet of the Park. With the demolition of the existing reservoir and reduction of the length of the access road, the Park will gain approximately 27,000 square feet.

4. The purpose of this MOU is to set forth the fundamental understanding between the parties with respect to the relocation of the reservoir.

Therefore, the Water Department and Park & Recreation Department agree to the following:

1. **Removal of Existing Reservoir and Grading Restoration.** The Water Department will demolish the existing La Jolla View Reservoir and will restore the site to a condition similar to the site condition prior to the reservoir's construction with respect to grading and vegetation. It is understood that the Park is a natural park with coastal sage scrub habitat. In removing the existing reservoir, all aboveground, man-made structures and paving will be removed, except for approximately 350 feet of the access road, and the natural terrain restored with a native soil fill material. The remaining 350 feet of access road will be re-paved.

2. **Construction of the New Reservoir.** The Water Department will construct the proposed new La Jolla View Reservoir underground at Alternative Site #3 or

Alternative Site #4 per the attached site plan dated October 30, 2002. The natural terrain will be restored above the reservoir with only a small access building and security fence visible. Construction of the new reservoir includes replacing the existing, cast-iron, 16-inch diameter Muirlands Pipeline with a new 30-inch diameter pipeline from the intersection of Exchange Place/Soledad Avenue up to the new reservoir (approximately 3,100 lineal feet).

3. **Habitat Restoration.** The Water Department will restore the indigenous site vegetation and grading to a condition similar to its condition prior to the reservoir relocation project. This includes re-vegetation with indigenous plant species to restore the old reservoir site and abandoned access road to natural habitat conditions.

4. **Reliance.** The Park & Recreation Department acknowledges that the Water Department is relying on this MOU in proceeding with the planning of the project. Such planning involves significant costs and may result in some design or other modifications to the project. The Water Department agrees to submit draft copies of each design phase, and any subsequent design changes that may impact the Park, to the Park and Recreation Department for review and approval. The Park & Recreation Department agrees to accept any modifications that do not substantially alter the project or reasonably anticipated impacts on the Park. The Park & Recreation Department also acknowledges that construction of the new reservoir is dependent upon funding availability and that the Water Department is not required to begin construction within any particular time period.

THE ABOVE IS ACKNOWLEDGED AND ACCEPTED THIS 22 DAY OF NOVEMBER 2002.

WATER DEPARTMENT

By _____
Larry Gardner
Water Department Director

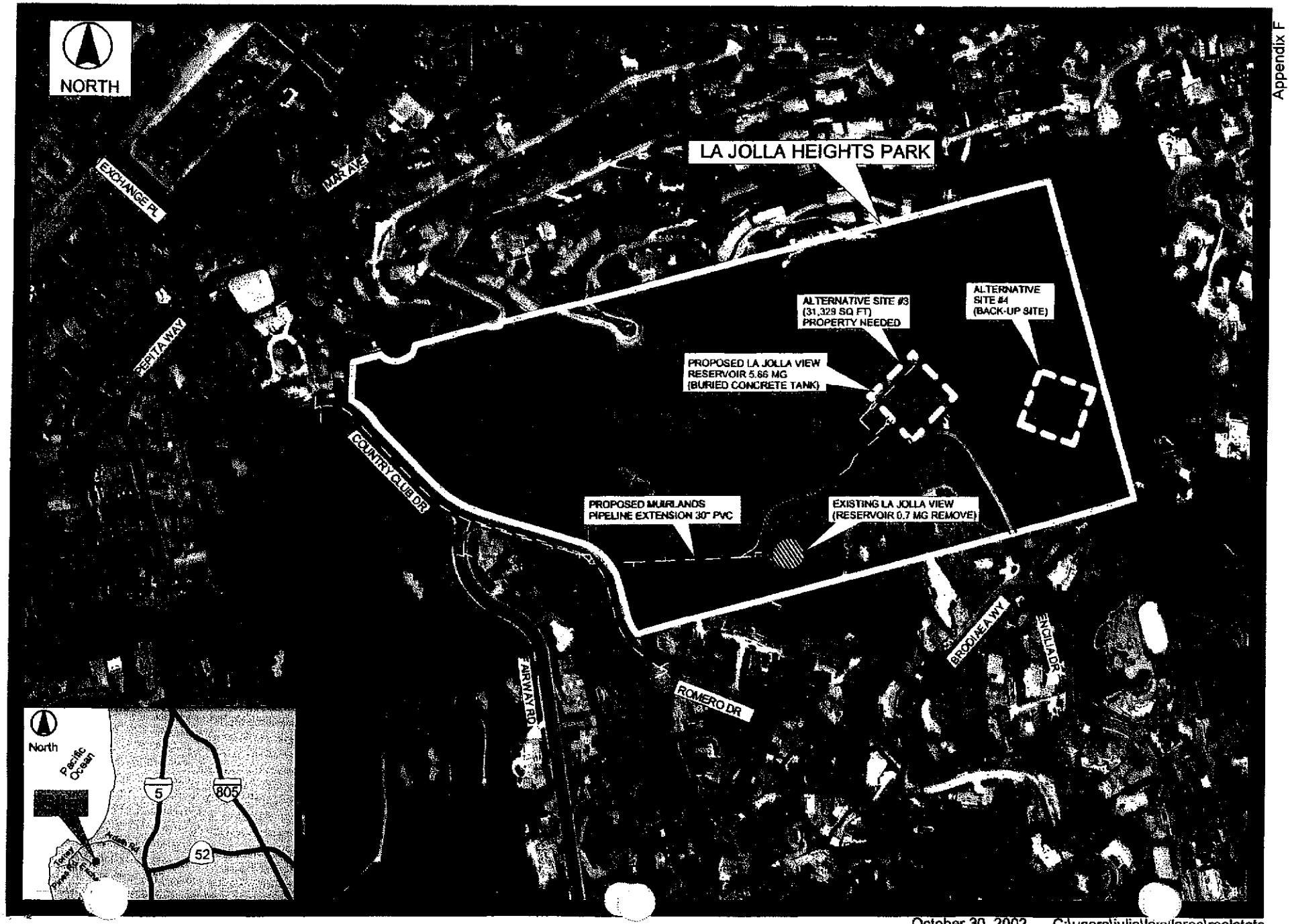
PARK AND RECREATION DEPARTMENT

By _____
Ellen Oppenheim
Park and Recreation Department Director

CITY MANAGER

By _____
George J. Loveland
Senior Deputy City Manager

Relocation of La Jolla View Reservoir within La Jolla Heights Park



Appendix F

October 30, 2002 C:\users\julio\lajollares\realstate

Appendix J

Project Construction Schedule

La Jolla View Reservoir Project
Preliminary Construction Schedule
As of 4/5/2018

ID	Task Name	Duration	Start	Finish
1	EIR Completion	0 days	Mon 9/2/19	Mon 9/2/19
2	Design Phase	5 mons	Mon 9/2/19	Fri 1/17/20
3	City Design Review	2 mons	Mon 1/20/20	Fri 3/13/20
4	Final Design	1.5 mons	Mon 3/16/20	Fri 4/24/20
5	Bid and Award Phase	164 days	Mon 4/27/20	Thu 12/10/20
6	Notice to Proceed	1 day	Thu 12/10/20	Thu 12/10/20
7	**Construction Phase**	**640 days**	**Fri 12/11/20**	**Thu 5/25/23**
8	Mobilization & Setup	2 mons	Fri 12/11/20	Thu 2/4/21
9	Stake Limits of Work	2 wks	Fri 12/11/20	Thu 12/24/20
10	Lead and Asbestos Abatement	2 mons	Fri 1/1/21	Thu 2/25/21
11	Protocol CA Gnatcatcher Survey	31 days	Fri 1/15/21	Sun 2/28/21
12	Demo Exist LJVR	3 wks	Mon 3/1/21	Fri 3/19/21
13	Demo Exist LJEPR & PS	2 wks	Mon 3/1/21	Fri 3/12/21
14	Construct 30" PL, STA 17+67 to STA 21+50	3 wks	Mon 3/15/21	Fri 4/2/21
15	Nesting Bird/MBTA Clearance Survey	2 days	Wed 2/24/21	Fri 2/26/21
16	Mass Grading	5.8 mons	Fri 3/12/21	Fri 8/20/21
17	Construct 30" PL, STA 16+94 to STA 17+67 & STA 21+50 to LJVR	4 wks	Mon 8/23/21	Fri 9/17/21
18	Construct LJVR Yard Piping	2 wks	Mon 9/20/21	Fri 10/1/21
19	Construct LJVR	8.5 mons	Mon 10/4/21	Fri 5/27/22
20	Protocol CA Gnatcatcher Survey	31 days	Mon 1/17/22	Mon 2/28/22
21	Backfill Reservoir	3.5 mons	Mon 5/30/22	Fri 9/2/22
22	Construct 8" Washdown PL	3 wks	Mon 9/5/22	Fri 9/23/22
23	Install Electrical Service	3 wks	Mon 9/5/22	Fri 9/23/22
24	Final Grading, Construct Park Improvements	3 mons	Mon 9/26/22	Fri 12/16/22
25	Relocate Security Pole / Test Electrical Systems	2 wks	Mon 12/19/22	Fri 12/30/22
26	Install Temp Irrigation & Veg Planting at LJVR	2 mons	Mon 12/19/22	Fri 2/10/23
27	Protocol CA Gnatcatcher Survey	31 days	Mon 1/16/23	Mon 2/27/23
28	Construct 8" PL along CC Dr, Connect Exist Services	3 wks	Mon 2/13/23	Fri 3/3/23
29	Construct 30" PL along CC Dr, STA 1+00 to STA 16+94	1.7 mons	Mon 3/6/23	Thu 4/20/23
30	Construct Curb Ramps	3 wks	Fri 4/21/23	Thu 5/11/23
31	Construct Paving, Temp Irrigation & Planting at LJEPR	3 wks	Fri 4/21/23	Thu 5/11/23
32	Demobilization & Cleanup / Testing / Acceptance	10 days	Fri 5/12/23	Thu 5/25/23
33				
34	Gnatcatcher Breeding Season	24.6 mons	Mon 3/2/20	Tue 8/15/23

Note: Schedule does not show the time periods for the re-vegetation/restoration monitoring periods (25 months and 5 years, respectively) or the time periods for removal of the temporary irrigation systems that would occur at the end of these periods.

Appendix K

La Jolla View Reservoir Replacement *Acanthomintha ilicifolia* Survey Results Memo

Appendix K

ROCKS
BIOLOGICAL CONSULTING

MEMORANDUM

To: Emmeline Kiyan, Infrastructure Engineering Corporation

From: Melanie Rocks, Rocks Biological Consulting

Date: June 6, 2016

Subject: La Jolla View Reservoir Replacement *Acanthomintha ilicifolia* Survey Results

---

Rocks Biological Consulting conducted focused surveys for the federally-listed threatened and state-listed endangered *Acanthomintha ilicifolia* (San Diego thornmint) at the proposed La Jolla View Reservoir Replacement project site in Spring 2016. Surveys results were negative.

San Diego thornmint is an annual herb in the mint family that germinates in late winter and typically flowers in April and/or May. It is an endemic species that is restricted to clay soils or clay lenses in gabbro type soils. The species occurs only in chaparral, scrub, and grassland habitats in the western portion of San Diego County and in Baja California, Mexico, and it is estimated that less than 100 populations of this species remain in the US (USFWS, 2009).

Thornmint population numbers appear to be correlated with rainfall, with increased abundance during high rainfall years. In some extremely low rainfall years, thornmint has been absent at established populations, such as in 2002 (3.30" annual rainfall) at Mission Trails and Penasquitos Canyon in the City of San Diego. However, thornmint has been observed at local populations when rainfall is only moderately low; for instance, it was observed at the Mission Trails and Penasquitos Canyon populations in 2004 when annual rainfall was only 5.18 inch (City of San Diego MSCP, 2005). As such, it is expected that the species would be observable if present during 2016 surveys based on average annual precipitation levels during the 2015-2016 rain year.

During general biological surveys at the La Jolla View Reservoir Replacement site in 2014, an approximately 200 square foot area within the proposed new reservoir site was noted to have suitable habitat for this species (please see draft project biological technical report for project feature locations). The area supports crumbly clay soils typically associated with San Diego thornmint, and several species known to co-occur with San Diego thornmint were observed in the area, including *Apiastrum angustifolium* (mock parsley), and *Chlorogalum parviflorum* (smallflower soap plant). San Diego thornmint was not observed at that time, but due to the early spring timing of the general survey, the status of thornmint at the site was not considered conclusive.

In preparation for on-site surveys, reference populations were visited to determine flowering status and appropriate survey timing. A San Diego thornmint population at the Emerald Pointe Preserve in Carlsbad was visited on April 15, 2016. This population, located approximately 15 miles north from the project site, was up and flowering during the visit (see photo, attached). In addition, the Los Penasquitos preserve population, located approximately 8 miles east from the project site, was

2621 DENVER STREET, SUITE B ● SAN DIEGO, CA 92110-3300
619.701.6798 ● INFO@ROCKSBIO.COM

visited on April 29, 2016. This population was also in flower. Note that both reference populations appeared to support lower than average population numbers. Given their confirmed presence, however, it is assumed that populations in the nearby area would also be observable during this confirmed flowering period.

Based on positive surveys at nearby reference sites, the the La Jolla View Reservoir project site was surveyed for San Diego thornmint on April 19 and again on May 13, 2016. All suitable habitat within the project impact area was walked and assessed for species presence. Thornmint was not observed during either visit. Note that evidence of increased foot traffic was observed in some of the suitable habitat areas compared with site conditions in 2014.

In conclusion, focused surveys for San Diego thornmint at the La Jolla View Reservoir Replacement Project site were negative, and the site does not appear to support the species.

References

City of San Diego. 2005. City of San Diego Rare Plant Monitoring Report, 2005: Acanthomintha ilicifolia. https://www.sandiego.gov/sites/default/files/legacy/planning/programs/mscp/pdf/monitor/thornmint05.pdf

USFWS. 2009. Acanthomintha ilicifolia (San Diego thornmint) 5-Year Review. https://www.fws.gov/carlsbad/SpeciesStatusList/5YR/20090812_5YR_ACIL.pdf

La Jolla View Reservoir Replacement Project

San Diego Thornmint Reference Check and Site Survey Photos

Photo 1. *Acanthomintha ilicifolia*, observed in flower during a reference check in Carlsbad, California on April 15, 2016.

Photo 2. View of one of the suitable habitat areas within the La Jolla View Reservoir Replacement project area, April 19, 2016. Surveys were negative for *Acanthomintha ilicifolia.*