APPENDIX A

Facility Maintenance Plans, Maintenance Methods, and Technical Summaries

APPENDIX A
Facility Maintenance Plans, Maintenance Methods, and Technical Summaries

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EXECUTIVE SUMMARY

This appendix to the City of San Diego (City) *Municipal Waterways Maintenance Plan* (MWMP) provides a summary of the evaluations conducted to develop the identified list of proposed project-level activities (Facility Maintenance Plans [FMPs]) and program-level activities. There are six appendices to this document, as follows:

- Channels/ditches (Appendix A-1)
- Basins (Appendix A-2)
- Structural facilities (Appendix A-3)
- Maintenance methods for additional facility repairs and protection measures (Appendix A-4)
- Facilities that were evaluated but do not have FMPs (Appendix A-5)
- Facilities that were not evaluated but are annually inspected (Appendix A-6)

The FMPs (including technical summary and maintenance methods) in Appendices A-1, A-2, and A-3, and the additional maintenance methods in A-4, will allow environmental planning, engineering, regulatory agencies, and maintenance field staff and supervisors to understand the conditions of each facility, the activities and work limits allowed under the MWMP, and required protection and mitigation measures. Also included in this appendix are methods and references used to develop the FMPs.

Appendices A-5 and A-6 include a set of facilities that the City likely has the responsibility to maintain based on available GIS data. The facilities in Appendix A-5 underwent an evaluation of hydrologic and hydraulic conditions and do not require maintenance at this time. This facility information is included to support potential programmatic maintenance activities at these locations, although no FMP has been prepared or included.

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1 INTRODUCTION

Dudek contracted with the City of San Diego (City) Transportation & Storm Water Department (TSW), Operations & Maintenance (O&M) Section to evaluate drainage facilities throughout the City and potential options to obtain environmental approvals to conduct O&M activities at these facilities. Although TSW's current environmental program focuses on O&M activities at approximately 32 miles of channels within the City under the Master Storm Water System Maintenance Program (MMP) (adopted in 2013), as part of development of the *Municipal Waterways Maintenance Plan* (MWMP) replacement of the MMP, Dudek and TSW considered evaluation of the following:

- Approximately 50 miles of channels (from previous/current MMP-related efforts)
- 48,561 drainage conveyance facilities (including storm drain pipes and channels)
- 55,334 structures (including inlets, outlets, cleanouts, and connectors)
- 3,724 drainage best management practice (BMP) facilities
- 85 Capital Improvement Project (CIP) facilities (outlets, BMPs, and stream restoration)

As part of development of the MWMP, facilities and associated maintenance and repair activities were categorized based on two types of analysis: (1) a broad plan-wide or "programmatic-level" evaluation, or (2) a detailed, site-specific or "project-level" evaluation.

The programmatic or plan-wide analysis will identify potential impacts that could result from maintenance and repair activities for all storm water facilities City-wide, but will require subsequent review for certain activities where the significance of an impact, as disclosed in the Environmental Impact Report prepared for the MWMP, is not analyzed at the project or site-specific level. The programmatic or plan-wide analysis will help to address the goal of providing a comprehensive review of potential TSW O&M activities. It is also consistent with a permitting approach preferred by the regulatory agencies.

However, one of the principal goals of the MWMP is to identify, evaluate, and permit maintenance and repair activities for priority facilities so that these activities can be conducted on an as-needed basis through a streamlined environmental review and approval process. A project-level analysis at these site-specific facilities will support this goal. Therefore, the MWMP includes site-specific evaluations for a group of facilities where specific maintenance and repair activities are necessary to provide flood risk reduction and/or ensure infrastructure longevity. This Appendix A is a compilation of FMPs, maintenance methods, and technical summaries that resulted from that analysis.

Section 2 provides a description of how facilities were selected to be evaluated to determine if a FMP would be proposed, based on the likelihood that TSW may need to maintain or repair the facility and that such activities will likely require a Site Development Permit and/or other regulatory permits. Subsections are organized based on the list of five facility types listed above.

Section 3 provides a summary of the evaluation completed for each of the selected facilities. Hydrology and hydraulic modeling and environmental assessments were used to determine if a flood risk reduction and/or extension of infrastructure longevity would be achieved and what project design features and mitigation measures would be implemented to avoid, minimize, and mitigate impacts. Subsections are organized according to Appendices A-1 through A-4, and Section 3.5 provides a list of sources used in these FMPs.

Section 4 provides additional information regarding program-level activities, some of which were evaluated for FMPs but where no maintenance or repairs are currently proposed. These additional facilities are included to address unforeseen additional O&M activities and provide for flexible and responsible implementation of TSW O&M while not significantly extending the approval timeline and/or increasing the need for substantial subsequent project-level environmental review.

Note that all analysis is based on the City's current inventory of facilities, which was last updated around 2008. As the City reviews the accuracy of its GIS data, it may be discovered that some areas in the MWMP may not be the City's responsibility to maintain, and other areas that should be the City's responsibility to maintain. As facilities are prioritized for maintenance, the City will verify maintenance responsibility by researching title reports.

2 FACILITIES SELECTION

The following types of facilities were evaluated to determine if an FMP would be proposed under the MWMP, as described previously:

1. Channels and basins that are part of the current MMP inventory
2. Facilities identified in the City's GIS conveyance layer
3. Facilities identified in the City's GIS structures layer
4. Facilities identified in the City's GIS permanent BMP layer
5. CIPs identified by City staff

Provided below is a description of how each these facility types were reviewed to determine if an FMP would be proposed. Facilities that were evaluated were divided into three groups: (1) channels and ditches, (2) basins, and (3) structures. Each facility was assigned a facility group name that includes a reference to the drainage area (e.g., Green Valley Creek) and location (e.g., Pomerado). Where a facility has a change in channel substrate (earthen-bottom versus concrete-lined), crosses the Coastal Overlay Zone boundary, and/or crosses a four-lane or larger roadway, the facility is divided into segments. Each segment is assigned a six-digit facility number that consists of three parts: a watershed number, drainage area number, and facility number. The result of the review was the selection of a total of 69 facility groups (129 segments) consisting of the following:

- channels and ditches (53 facility groups comprising 112 segments),
- basins (6 facility groups comprising 7 segments), and
- outlet/inlet structures (10 facility groups).

Facilities not carried forward for additional analysis to determine if an FMP would be proposed was primarily based on the following factors:

1. Maintenance and repair is not likely to result in an environmental impact (e.g., facilities within existing developed rights-of-way, such as storm drain pipes).
2. Maintenance and repair is already covered under separate environmental document (e.g., environmental documents for CIPs that cover both construction and operation and maintenance).
3. Maintenance and repair is not likely to be needed, based on lack of previous maintenance and infrequent occurrence of infrastructure failure, flooding, or other adverse conditions.

2.1 CHANNELS AND BASINS (CURRENT MMP INVENTORY)

The current MMP inventory includes approximately 187 facilities, mostly consisting of channels identified in Draft and Final MMP, and extending approximately 50 linear miles (see Index Map).

Of these facilities, approximately 26 miles total were selected for evaluation to determine if an FMP would be proposed, based on meeting one of the following three categories:

1. All facilities that have been maintained since 2010 and will continue to need maintenance (approximately 11 miles of channels)
2. Additional facilities that are current high priorities for maintenance
3. Additional facilities that are added based on one or more of the following:
    - Rick Engineering 2016 and 2017 assessments indicating moderate flood risk
    - TSW field staff experience/judgment

These categories represent the City's current prioritization of O&M actions to protect life and property most at risk of damage or injury.

2.2 ADDITIONAL CONVEYANCE FACILITIES

The City of San Diego has an inventory of 48,561 conveyance facilities (e.g., storm drainpipes, channels, culverts). This inventory was used in Step 2, incorporating elimination of the following:

- Facilities listed as maintained or owned by entities other than the City of San Diego (e.g., the California Department of Transportation (Caltrans), military, Port of San Diego, private, within flowage easements)
- Facilities listed as abandoned, inactive, removed, or unknown
- Facilities listed as pipes

Elimination of these facilities was based on maintenance or repair not likely to be the responsibility of TSW or maintenance or repair likely being conducted within developed rights-of-way with no disturbance to environmentally sensitive lands (ESL) or other regulated resources.

This elimination reduced the number of conveyance facilities for potential evaluation to:

- A total of 2,036 facilities (98 miles):
    - 1,587 channels (79 miles)

- 296 brow ditches (11 miles)
- 153 box culverts (8 miles)

Brow ditches and box culverts were not carried forward to Step 2, based on the maintenance or repair likely being conducted within developed rights-of-way with no disturbance to ESL or other regulated resources. The conveyance layer channels were found to mostly align with the current MMP inventory. Conveyance layer channels that are not part of the current MMP inventory are not anticipated to require routine maintenance, based on City staff experience and review of the mapped data, and therefore were not carried to Step 2.

2.3 STRUCTURAL FACILITIES

Structural facilities (e.g., inlets, outlets, connectors) were selected from 55,334 total structural facilities based on the first three criteria listed above for conveyance facilities and selecting outlets, headwalls, energy dissipators, spillways, tide gates, unknown facilities, wells, and desilting basins (caps, cleanouts, connectors, drop manholes, inlets, and sewer connectors were excluded).

This reduced the number of structural facilities selected for evaluation (in addition to the selected channels and conveyance facilities listed above) to the following:

- A total of 9,951 facilities:
  - 5,245 outlets
  - 3,732 headwalls
  - 764 energy dissipators
  - 123 spillways
  - 87 additional structures

The 9,951 structural facilities were separated according to data obtained from the City's ongoing canyon outfall assessment project. That project identified the following:

- 967 of the facilities as requiring maintenance (111 of these occur in canyons)
- 2,024 of the facilities were assessed but do not require maintenance (280 of these occur in canyons)
- 6,961 of the facilities were not assessed (1,024 of these occur in canyons)

A list of 22 structures that are most likely to require maintenance were identified based on the following criteria:

- Planned maintenance: structures where City crews have either completed maintenance in the past or they have been identified as needing maintenance in the near future.
- Structures with a diameter of ≥36 inches and a maintenance score of ≥3.9 according to canyon outfall assessment.

A field assessment was conducted for each of the facilities by City staff, often with support from Dudek. A determination was made regarding the need for maintenance and the potential for maintenance to impact an ESL or other regulated resources. A total of 10 structures were carried forward to Step 2.

2.4 BEST MANAGEMENT PRACTICES FACILITIES

Of the 3,724 BMP facilities (e.g., drainage inserts, vegetated swales, detention basins) in the City's GIS layer, facilities were selected based on the first three criteria listed above for conveyance facilities (i.e., TSW is likely responsible for maintenance). The following types of BMPs were excluded based on a low likelihood to result in an impact an ESL or other regulated resources, such that permits or CEQA evaluation would be required: baffle box, downspout filter, drainage insert, flow-through planter, filtration systems, hydrodynamic separator system, sand/oil interceptor, and unknown.

This reduced the number of BMP facilities selected for evaluation (in addition to the selected channels, conveyance, and structural facilities listed above) to the following:

- A total of 385 facilities:
    - 284 grass/vegetated swale/vegetated strips
    - 34 detention basins (grass/vegetation)
    - 36 detention basins (impervious lining)
    - 16 infiltration basin or trenches
    - 10 bioretention facilities
    - 5 wet ponds, constructed wetlands, or wetland vegetation swales

Based on review of these facilities and the O&M activities associated with them, the City determined that for a majority of these facilities, O&M activities were identified and permitted as part of the construction of the facilities or that there is a low likelihood that any additional activities would

result in an impact to an ESL or other regulated resources, such that permits or CEQA evaluation would be required. Six basin facilities either previously identified in the MMP or identified by City staff were the only facilities carried forward to for additional evaluation. Based on the factors listed above, no other BMPs were carried forward.

2.5 CAPITAL IMPROVEMENT PROJECTS

A number of CIPs were identified; however, all are being designed, developed, and permitted through a separate process and by a separate City department (Public Works Department). This separate process typically includes consideration of ongoing O&M activities, such that any future TSW maintenance activities at these locations will likely be covered under the environmental review conducted for each CIP. Furthermore, because CIPs are still in development, a project-level evaluation could not be conducted; therefore, no CIPs were carried forward.

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3 PROJECT-LEVEL EVALUATION

At total of 69 facility groups (129 segments or structures) were identified for Step 2 (i.e., project-level evaluation) (Figure 1, Index, and Figures 1-1 through 1-14). The facility evaluation process is identified in detail in Section 3.2 of the MWMP. Technical summaries are compiled for all facilities; based on the technical evaluation, either maintenance is proposed for the facility and an FMP is prepared, or no maintenance is proposed and only the technical summary is prepared.

Separate evaluations were completed for channels/ditches, basins, and structures; additional maintenance methods that may be required in several project-level facilities (i.e., concrete repair and check dams) are also identified.

3.1 PROPOSED CHANNEL AND DITCH FMPS

A total of 53 channel/ditch facility groups (112 segments) were evaluated under Step 2. Of these, 96 channel or ditch segments have proposed FMPs (see Appendix A-1) and 18 segments do not have a proposed FMP (see Appendix A-5). See Table 1 for the evaluated channel and ditch facilities.

3.2 PROPOSED BASIN FMPS

A total of 6 facility groups (7 segments) were evaluated under Step 2. All 7 segments have proposed FMPs (see Appendix A-2). See Table 2 for the evaluated basin facilities.

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
San Dieguito River Watershed								
1-04-030	Green Valley Creek - Pomerado	Pomerado	1	Concrete	—	N/A	1,785	1,785
1-04-033	Green Valley Creek - Pomerado	Pomerado	2	Concrete	—	N/A	2,456	2,456
Los Peñasquitos Watershed								
2-01-000	Los Peñasquitos Canyon Creek - Sorrento	Sorrento Valley	1	Earthen	Yes – City	Partially Within and Adjacent	N/A	2,347
2-01-120	Los Peñasquitos Lagoon - Industrial	Industrial	1	Earthen	Yes – CCC	Adjacent	25	285
2-01-122	Los Peñasquitos Lagoon - Industrial	Industrial	2	Concrete	Yes – City	Partially Adjacent	650	650

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
2-01-130	Los Peñasquitos Lagoon - Tripp	Tripp	1	Concrete	Yes – City	N/A	1,835	1,835
2-01-200	Los Peñasquitos Canyon Creek - Black Mountain	Black Mountain	1	Earthen	—	Adjacent	952	952
2-01-210	Los Peñasquitos Canyon Creek - Black Mountain	Black Mountain	2	Earthen	—	Partially Within and Adjacent	959	959
2-03-000	Soledad Canyon Creek - Sorrento	Roselle	1	Earthen	Yes – City	N/A	215	1,554
2-03-002	Soledad Canyon Creek - Sorrento	Roselle	2	Concrete	Yes – City	N/A	2,314	2,314
2-03-004	Soledad Canyon Creek - Sorrento	SorValRd	1	Earthen	Yes – City	Partially Within and Adjacent	N/A	5,283

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
2-03-006	Soledad Canyon Creek - Sorrento	SorValRd	2	Earthen	—	Adjacent	N/A	1,473
2-03-012	Carroll Canyon Creek - Carroll	Carroll Canyon	1	Earthen and Concrete	—	Partially Within and Adjacent	184	241
2-03-100	Soledad Canyon Creek - Flintkote	Flintkote	1	Concrete	Yes – City	Partially Adjacent	992	992
2-03-150	Soledad Canyon Creek - Dunhill	Dunhill	1	Earthen	Yes – City	N/A	430	430
2-05-140	Chicarita Creek - Via San Marco	Via San Marco	1	Concrete	—	N/A	697	697
Mission Bay Watershed								
3-00-120	Torrey Pines - Torrey	Torrey Pines	1	Earthen	—	N/A	92	1,185
3-02-101	Mission Bay – Mission Bay High School (MBHS)	Pacific Beach (PB)-Olney	1	Earthen	Yes – City	Partially Adjacent	910	910

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
3-02-103	Mission Bay - MBHS	MBHS	1	Concrete	Yes – City	N/A	1,058	1,058
3-02-130	Mission Bay - Mission Bay Drive	Mission Bay Drive	1	Earthen	Yes – CCC	N/A	1,085	1,085
3-03-901	Miramar - Engineer	Engineer	1	Concrete	—	N/A	1,220	1,220
3-04-055	Tecolote Creek - Chateau	Chateau	1	Concrete	—	N/A	4,882	4,882
3-04-250	Tecolote Creek - Chateau	Chateau	2	Concrete	—	N/A	1,057	1,057
3-04-101	Tecolote Creek - Morena	Morena	1	Earthen	—	N/A	N/A	200
3-04-160	Tecolote Creek - Genesee	Genesee	1	Earthen	—	Partially Adjacent	767	767
San Diego River Watershed								
4-01-103	San Diego River - Nimitz	Nimitz	1	Earthen	—	N/A	116	116
4-01-105	San Diego River - Nimitz	Nimitz	2	Concrete	—	N/A	291	291

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
4-01-107	San Diego River - Nimitz	Nimitz	3	Earthen	—	N/A	476	476
4-01-120	San Diego River - Valeta	Valeta	1	Concrete	Yes – City	Adjacent	161	161
4-03-101	San Diego River - Camino del Rio	Camino del Arroyo	1	Concrete	—	N/A	642	642
4-03-103	San Diego River - Camino del Rio	Camino del Rio	1	Concrete	—	N/A	1,019	1,019
4-04-000	Murphy Canyon Creek - Stadium	Stadium	1	Earthen	—	Partially Adjacent	1,661	1,661
4-04-002	Murphy Canyon Creek - Stadium	Stadium	2	Concrete	—	N/A	207	207
4-04-006	Murphy Canyon Creek - Stadium	Murphy Canyon	1	Concrete	—	N/A	532	532

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
4-04-008	Murphy Canyon Creek - Stadium	Murphy Canyon	2	Earthen	—	N/A	N/A	1,524
4-07-002	Alvarado Canyon Creek - Mission Gorge	Mission Gorge	1	Earthen and concrete	—	N/A	718	864
4-07-004	Alvarado Canyon Creek - Mission Gorge	Mission Gorge	2	Concrete	—	N/A	521	521
4-07-009	Alvarado Canyon Creek - Mission Gorge	Mission Gorge	3	Earthen and Concrete	—	N/A	700	862
4-07-011	Alvarado Canyon Creek - Mission Gorge	Mission Gorge	4	Concrete	—	N/A	515	1,261
4-07-021	Alvarado Canyon Creek - Alvarado	Alvarado	1	Earthen and Concrete	—	Partially Within and Adjacent	1,102	1,102
4-07-023	Alvarado Canyon Creek - Alvarado	Alvarado	2	Concrete	—	Partially Within and Adjacent	1,192	1,192

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
4-07-250	Alvarado Canyon Creek - Alvarado	Alvarado	3	Concrete	—	Partially Adjacent	517	517
4-07-901	Murray Reservoir - Cowles Mountain	Cowles Mountain	1	Concrete	—	N/A	697	697
4-07-911	Murray Reservoir - Cowles Mountain	Cowles Mountain	2	Concrete	—	N/A	2,195	2,195
4-08-008	Norfolk Canyon Creek - Fairmount	Fairmount	1	Concrete	—	Partially Adjacent	248	248
4-08-011	Norfolk Canyon Creek - Fairmount	Fairmount	2	Concrete	—	Partially Within and Adjacent	575	575
4-08-014	Norfolk Canyon Creek - Fairmount	Fairmount	3	Earthen	—	Partially Within and Adjacent	29	820

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
4-08-017	Norfolk Canyon Creek - Fairmount	Fairmount	4	Concrete	—	Partially Within and Adjacent	1,250	1,250
4-08-105	Norfolk Canyon Creek - Fairmount	Baja	1	Earthen and Concrete	—	Partially Adjacent	1,369	1,369
4-08-150	Norfolk Canyon Creek - Fairmount	Aldine	1	Earthen	—	Partially Within and Adjacent	N/A	1,240
Pueblo San Diego Watershed								
5-02-151	Washington Canyon Creek - Washington	Washington	1	Earthen	—	N/A	217	217
5-02-153	Washington Canyon Creek - Washington	Washington	2	Concrete	—	N/A	2,210	2,210
5-02-162	Mission Hills Canyon Creek - Titus	Titus	1	Earthen	—	Partially Within and Adjacent	39	207

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
5-03-011	Powerhouse Canyon Creek - Pershing	Pershing	1	Concrete	—	N/A	1,598	1,598
5-03-100	Powerhouse Canyon Creek - Pershing	Pershing	2	Concrete	—	N/A	437	437
5-03-901	San Diego Bay - 28th St	28th St	1	Earthen	—	N/A	67	67
5-04-004	Chollas Creek - National	National	1	Earthen and Concrete	Yes – City	N/A	816	1,976
5-04-006	Chollas Creek - National	National	2	Concrete	—	N/A	2,743	2,743
5-04-044	Chollas Creek - Rolando	Cartagena	1	Concrete	—	N/A	1,225	1,225
5-04-046	Chollas Creek - Rolando	Rolando	1	Concrete	—	N/A	374	374
5-04-048	Chollas Creek - Rolando	Rolando	2	Earthen	—	N/A	820	820
5-04-101	Chollas Creek - Martin	Martin	1	Earthen and Concrete	—	N/A	120	1,128

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
5-04-163	Chollas Creek - J St	J St	1	Earthen	—	N/A	15	404
5-04-220	Auburn Creek - Home	Home	1	Earthen	—	N/A	415	415
5-04-224	Auburn Creek - Home	Home	2	Earthen	—	N/A	160	920
5-04-227	Auburn Creek - Home	Home	3	Concrete	—	Partially Adjacent	369	369
5-04-229	Auburn Creek - Home	Home	4	Earthen and Concrete	—	Adjacent	N/A	754
5-04-231	Auburn Creek - Home	Home	5	Earthen and Concrete	—	Partially Adjacent	275	275
5-04-239	Auburn Creek - Wightman	Wightman	1	Earthen and concrete	—	N/A	297	297
5-04-241	Auburn Creek - Wightman	Wightman	2	Earthen and Concrete	—	N/A	645	645
5-04-245	Auburn Creek - Oakcrest	Oakcrest	1	Earthen	—	N/A	N/A	333
5-04-260	Chollas Creek - Megan	Megan	1	Concrete	—	Adjacent	849	849

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
5-04-262	Chollas Creek - Megan	Megan	2	Earthen	—	N/A	62	464
5-04-280	Chollas Creek - 54th St	54th St	1	Concrete	—	N/A	264	264
5-05-006	South Chollas Creek - Southcrest	Alpha	1	Earthen and Concrete	—	N/A	1,007	5,024
5-05-008	South Chollas Creek - Southcrest	Ocean View	1	Earthen and Concrete	—	N/A	1,010	2,223
5-05-019	South Chollas Creek - Euclid	Euclid	1	Earthen	—	N/A	N/A	904
5-05-021	South Chollas Creek - Euclid	Euclid	2	Concrete	—	N/A	1,045	1,045
5-05-035	South Chollas Creek - Federal	Federal	1	Earthen and Concrete	—	Partially Adjacent	61	614
5-05-037	South Chollas Creek - Federal	Federal	2	Concrete	—	N/A	1,329	1,329
5-05-205	South Chollas Creek Encanto	Castana	1	Earthen and Concrete	—	N/A	66	260

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
	Branch - Castana							
5-05-304	South Chollas Creek Encanto Branch - Imperial	Imperial	1	Earthen	—	N/A	N/A	2,554
5-05-306	South Chollas Creek Encanto Branch - Imperial	Imperial	2	Concrete	—	N/A	1,074	1,074
5-05-603	South Chollas Creek Encanto Branch - Jamacha	Jamacha	1	Earthen	—	N/A	703	5,141
5-05-606	South Chollas Creek Encanto Branch - Jamacha	Jamacha	2	Earthen	—	N/A	N/A	816
5-05-610	South Chollas Creek Encanto Branch - Jamacha	Jamacha	3	Earthen	—	N/A	N/A	752

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
5-05-702	South Chollas Creek Encanto Branch - Jamacha	Lobrico	1	Earthen	—	N/A	N/A	330
5-05-802	South Chollas Creek Encanto Branch - Jamacha	Cadman	1	Earthen	—	N/A	N/A	305
5-06-005	Paleta Creek - Cottonwood	Cottonwood	1	Concrete	—	N/A	501	500
5-06-008	Paleta Creek - Cottonwood	Cottonwood	2	Concrete	—	N/A	1,899	1,899
5-06-020	Paleta Creek - Solola	Solola	1	Concrete	—	N/A	2,625	2,625
5-06-023	Paleta Creek - Solola	Solola	2	Concrete	—	N/A	1,907	1,907
5-06-025	Paleta Creek - Solola	Cervantes	1	Earthen	—	N/A	N/A	2,564
Sweetwater Watershed								
5-11-003	Sweetwater River - Parkside	Parkside	1	Concrete	—	N/A	1,197	1,197

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
Otay Watershed								
5-22-008	Nestor Creek - Nestor	Cedar	1	Earthen	Yes – City	N/A	65	427
5-22-010	Nestor Creek - Nestor	Cedar	2	Concrete	Yes – City	N/A	560	560
5-22-013	Nestor Creek - Nestor	Dahlia	1	Concrete	—	N/A	622	622
5-22-016	Nestor Creek - Nestor	Cerissa	1	Earthen	—	N/A	1,467	2,041
5-22-023	Nestor Creek - Nestor	Grove	1	Earthen and Concrete	—	N/A	1,039	1,039
5-22-028	Nestor Creek - Nestor	30th St	1	Earthen and Concrete	—	N/A	1,183	1,183
5-22-110	Nestor Creek - Outer	Outer	1	Earthen	—	N/A	385	385
5-22-112	Nestor Creek - Outer	Outer	2	Concrete	—	N/A	176	176
Tijuana River Watershed								
6-01-020	Tijuana River - Pilot & Smuggler's	Pilot Channel	1	Earthen	Yes – City	Within	5,550	5,550

Table 1
Channel and Ditch Facilities Evaluated for Potential FMP

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone - Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
6-01-100	Tijuana River - Pilot & Smuggler's	Smuggler's Gulch	1	Earthen	Yes – City	Within	3,026	3,875
6-02-115	Tijuana River - Tocayo	Tocayo	1	Earthen	Yes – City	N/A	N/A	96
6-02-118	Tijuana River - Tocayo	Tocayo	2	Concrete	Yes – City	N/A	2,498	2,498
6-03-135	Tijuana River - Smythe	Via Encantadoras	1	Earthen	Yes – City	N/A	120	120
6-03-138	Tijuana River - Smythe	Via Encantadoras	2	Concrete	—	N/A	955	955
6-03-143	Tijuana River - Smythe	Via Encantadoras	3	Earthen and Concrete	—	N/A	886	886
6-03-147	Tijuana River - Smythe	Smythe	1	Earthen	—	N/A	1,355	1,355
6-03-150	Tijuana River - Smythe	Via de la Bandola	1	Concrete	—	N/A	716	716
6-06-011	Tijuana River - La Media	La Media	1	Earthen	—	Adjacent	5	223

FMP = Facility Maintenance Plan; City = City of San Diego; CCC = California Coastal Commission; N/A = not applicable; MBHS = Mission Bay High School; PB = Pacific Beach

[1] Linear Feet is approximate based on measurements made in GIS.

Table 2
Basin Facility Maintenance Plans

Facility Number	Watershed	Facility Group Name	Segment Name	Segment Number	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Acreage/ Linear Feet of Maintenance Proposed[1]	Total Acreage/ Linear Feet[1]
1-04-200	San Dieguito River	Green Valley Creek – Paseo del Verano	Paseo del Verano	1	—	N/A	0.29 acres	0.29 acres
2-01-900	Los Peñasquitos	Los Peñasquitos Canyon Creek – 5–805 Basin	5-805 Fwy	1	Yes – CCC	Partially Within and Adjacent	1.44 acres	1.44 acres
3-00-150	Mission Bay	Alta La Jolla – Vickie	Vickie	1	—	Partially Adjacent	1.13 acres	1.13 acres
5-02-140	Pueblo San Diego	Maple Canyon Creek – Maple	Maple	1	—	N/A	0.12 acres	0.12 acres
6-04-251	Tijuana River	Spring Canyon Creek – Cactus	Cactus	1	—	N/A	229 linear feet	229 linear feet
6-04-253			Cactus	2	—	N/A	923 linear feet	923 linear feet

Table 2
Basin Facility Maintenance Plans

Facility Number	Watershed	Facility Group Name	Segment Name	Segment Number	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Acreage/ Linear Feet of Maintenance Proposed[1]	Total Acreage/ Linear Feet[1]
6-05-110		Tijuana River – Siempre Viva	Siempre Viva	1	—	N/A	2,711 linear feet	2,711 linear feet

Note: All basins are earthen-bottom except Paseo del Verano.
N/A = not applicable; CCC = California Coastal Commission
[1] Acreage and linear feet are approximate based on measurements made in GIS.

3.3 PROPOSED STRUCTURE FMPS

A total of 10 facility groups (10 structures) were evaluated under Step 2. All 10 segments have proposed FMPs (see Appendix A-3). See Table 3 for the evaluated structural facilities.

Table 3
Structure Facility Maintenance Plans

IAMFLOC	Watershed	Facility Group Name	Coastal Zone – Permit Authority	Multi-Habitat Planning Area
HW04220	Los Peñasquitos	10405 Sorrento Valley Road	Yes – City	N/A
OT03537	San Diego River	1331 Washington	—	N/A
IN10399		1277 Camino Del Rio South	—	Partially Adjacent
OT05573		5505 Friars Road	—	Partially Within and Adjacent
OT03321		1660 Hotel Circle North	—	N/A
HW02440		901 Hotel Circle South	—	Partially Within and Adjacent
HW02437		2087 Hotel Circle South	—	Partially Within and Adjacent
OT03694	Pueblo San Diego	3644 Roselawn	—	N/A
HW04013		4202 J Street	—	N/A
OT054671		1206 Goodyear	—	N/A

City = City of San Diego; IAMFLOC = Infrastructure Asset Management Functional Location; N/A = not applicable

3.4 PROPOSED ADDITIONAL MAINTENANCE METHODS

The FMPs listed in Appendices A-1 through A-3 provide details regarding proposed maintenance removal of sediment, vegetation, trash/debris, and in some cases bank repair. Two sets of additional maintenance methods are also proposed and could be used in conjunction with a site-specific FMP, where concrete repair, culvert clearing, structural maintenance/repair, and post-maintenance erosion control measures are required. For example, if a concrete-lined channel requires sediment and vegetation removal, these could be conducted using the site-specific FMP included for that site in Appendix A-1. If the concrete-lined channel requires repair, the methodology for that activity is included in the maintenance methods provided in Appendix A-4. Similarly, if a channel requires post-maintenance erosion control, the selected methodology could be used in conjunction with a site-specific FMP.

3.5 SOURCES USED TO DEVELOP FMPS

Table 4 list the sections and line items that are included in each FMP along with the sources of data and documentation used for each. A comprehensive literature cited is included as Section 5.

Table 4
FMP Sections and Associated Data Sources

FMP Section/Line Item	Data Source(s)
Facility Group Overview and Segment Details	
Watershed Management Area	Water Quality Improvement Plans (Responsible Agencies San Dieguito River WMA 2015; Responsible Agencies Los Peñasquitos WMA 2015; Responsible Agencies Mission Bay WMA 2016; Responsible Agencies San Diego River WMA 2016; Responsible Agencies San Diego Bay WMA 2016; Responsible Agencies Tijuana River WMA 2016)
Watershed, Hydrologic Subarea	GIS Data (SANGIS 2018)
Drainage Name, Facility Group Name, Segment Name	No prior documentation – data/naming developed specifically for the MWMP
Facility Type, Substrate, Substrate Detail, Facility Length, Top-of-Bank Width, Bottom Facility Width, Facility Depth, As-built Drawing No.	MWMP Environmental Impact Report – Appendix I (Hydraulic & Hydrology Technical Report including Appendix A Fact Sheets)
MMP Map No.	Master Storm Water System Maintenance Program (City of San Diego 2013)
Facility Inspection No.	Rick Engineering GIS data
Other Former Names	City staff, Prior Facility Documentation
Adjacent Land Use	GIS Data (SANGIS 2018)
Coastal Zone	GIS Data (SANGIS 2018)
Water Quality Resources Summary	
Adopted TMDLs	Basin Plan (RWQCB 2016), TMDL and Water Quality Report Cards (RWQCB 2018b)
Highest Priority Water Quality Condition	Water Quality Improvement Plans, Basin Plan
Beneficial Uses	Basin Plan
303(d) list Impairments	Surface Water Quality Assessment and Section 303(d) List of Water Quality Limited Segments (RWQCB 2018a)
Cultural Resource Summary	
Cultural Resource Summary	MWMP Environmental Impact Report Appendix F – Cultural Resource Technical Report

Table 4
FMP Sections and Associated Data Sources

FMP Section/Line Item	Data Source(s)
Best Management Practices and Mitigation Measures	
	MWMP Environmental Impact Report Appendix A – Municipal Waterways Maintenance Plan
Proposed MWMP Activities and Methods Summary	
	MWMP Environmental Impact Report Appendix A – Municipal Waterways Maintenance Plan
Facility Maintenance History	
History of Maintenance, Past Regulatory Approvals, Mitigation for Previous Impacts	Master Storm Water System Maintenance Program Recirculated Final Environmental Impact Report (City of San Diego 2013) Addendum to Storm Water System Maintenance Program Environmental Impact Report (City of San Diego 2018a) Master Maintenance Program Annual Reports (2014–2018) (2018b) City of San Diego Substantial Conformance Review for Routine Maintenance of 10 facilities (City of San Diego 2018c) USACE/RWQCB/City RGP 63 Emergency Maintenance Notifications for 14 facilities (City of San Diego 2018d)
Hydrology and Hydraulics Summary	
Current Conditions Affecting Facility Capacity, Hydrologic Peak Flows, Hydraulic Capacity, Maintenance Recommendations, Post-Maintenance Erosion Control Recommendation	MWMP Environmental Impact Report – Appendix I (Hydraulic & Hydrology Technical Report including Appendix A Fact Sheets)
Biological Resource Summary	
Facility Vegetation, Adjacent Vegetation, Habitat and Wildlife, MHPA, Mitigation Within Facility	MWMP Environmental Impact Report – Appendix D (Biological Resources Technical Report)
Maintenance Methods	
Maintenance Quantities, Access/Loading/Staging/Stockpiling Areas, Equipment, Schedule, Staffing, Methodology, Traffic Control, Existing Plans/As-Builts, Other Notes	MWMP Environmental Impact Report Appendix A – Municipal Waterways Maintenance Plan, City Staff

4 PROGRAM-LEVEL ACTIVITIES

FMPs have been prepared for most anticipated maintenance and repair locations. These FMPs provide detailed information regarding planned activities and methods so that a project-level review can be conducted in accordance with CEQA and the City's Site Development Permit and Coastal Development Permit requirements. However, given the unpredictable nature of flooding, erosion, and drainage infrastructure failures, maintenance and repair activities and methods may be required in areas not identified in the FMPs. Therefore a program-level analysis is included and focuses on a limited set of maintenance activities that would be allowed, as described in Section 3.3 of the MWMP:

- Minor maintenance or repair activities
- Changed conditions for new or substantially amended FMPs
- Emergency maintenance

Although these activities may occur anywhere within the City limits, Figures 1-1 through 1-14 identify the areas where most of the facilities that may be subject to these additional plan-wide activities occur. Appendix A-6 includes a list of these additional facilities that are annually inspected where limited program-level activities may occur. This list also includes Appendix A-5 facilities that have technical summaries but no maintenance (i.e., no FMP) is proposed. If changed conditions within any of these additional facilities require the need to conduct routine maintenance, an amendment to the MWMP will be required. An amendment will include the project-level analyses needed to determine conformance with the MWMP, as well as the associated regulatory permits and certified EIR.

5 LITERATURE CITED

City of San Diego. 2013. Master Storm Water System Maintenance Program.

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City of San Diego. 2018b. *Master Maintenance Program Annual Reports 2014–2018*. https://www.sandiego.gov/stormwater/services/mswsmp.

City of San Diego. 2018c. "Substantial Conformance Review and Emergency Maintenance Notifications." https://www.sandiego.gov/stormwater/services/channels/maintenance.

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Responsible Agencies Mission Bay WMA. 2016. Mission Bay Watershed Management Area Water Quality Improvement Plan.

Responsible Agencies San Diego Bay WMA. 2016. San Diego Bay Watershed Management Area Water Quality Improvement Plan.

Responsible Agencies San Diego River WMA. 2016. San Diego River Watershed Management Area Water Quality Improvement Plan.

Responsible Agencies San Dieguito River WMA. 2015. San Dieguito River Watershed Management Area Water Quality Improvement Plan.

Responsible Agencies Tijuana River WMA. 2016. Tijuana River Watershed Management Area Water Quality Improvement Plan.

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RWQCB. 2016. *Water Quality Control Plan for the San Diego Basin* (Basin Plan). May 2016. http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/.

RWQCB. 2018b. TMDL and Water Quality Report Cards. https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/tmdlproject.html.

SANGIS. 2018. *SanGIS/SANDAG GIS Data Warehouse*. GIS Data. http://www.sangis.org/.

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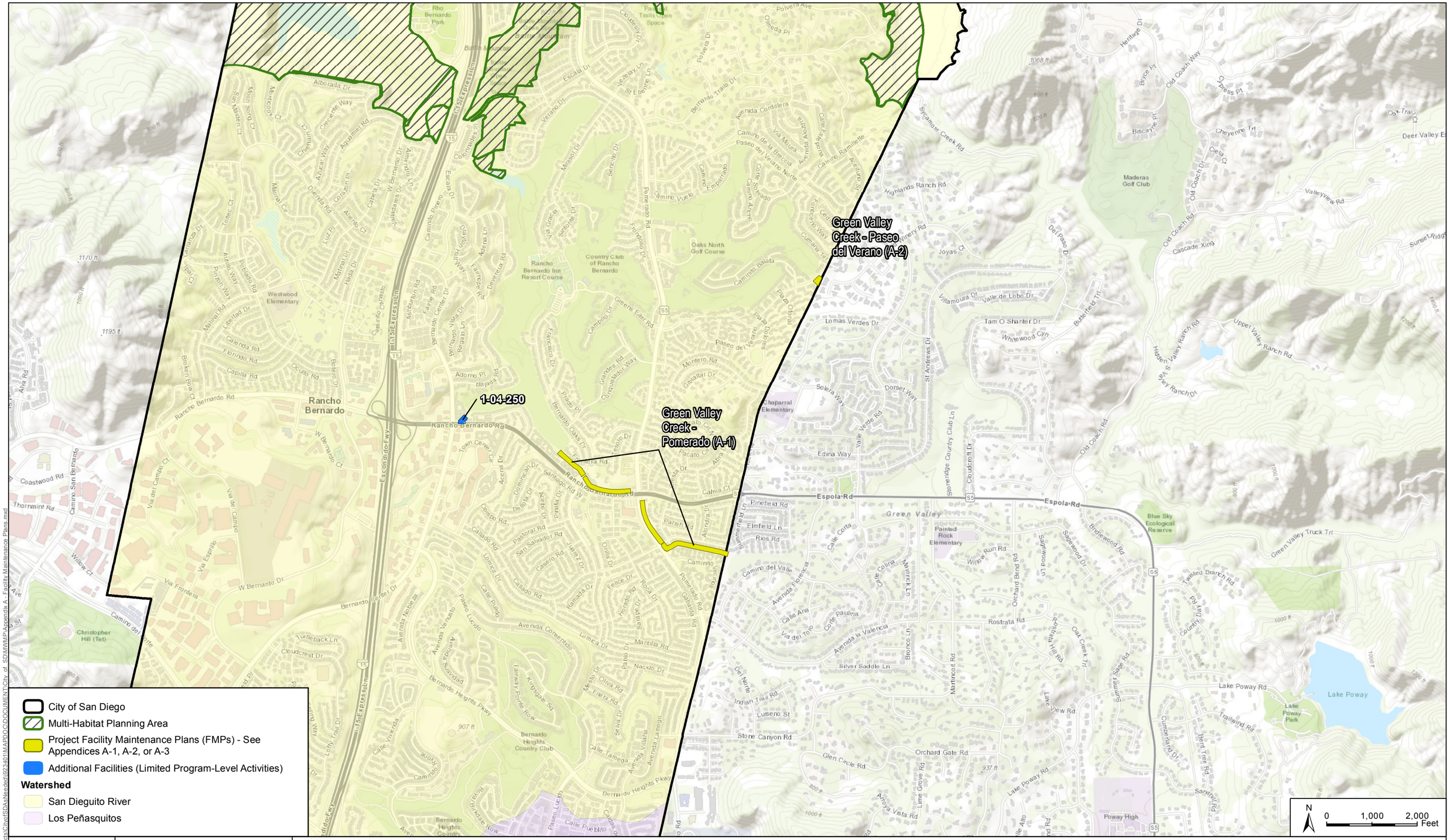

SOURCE: ESRI 2017

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The City of SAN DIEGO

Appendix A - Sheet 1

Municipal Waterways Maintenance Plan

Figure 1-1

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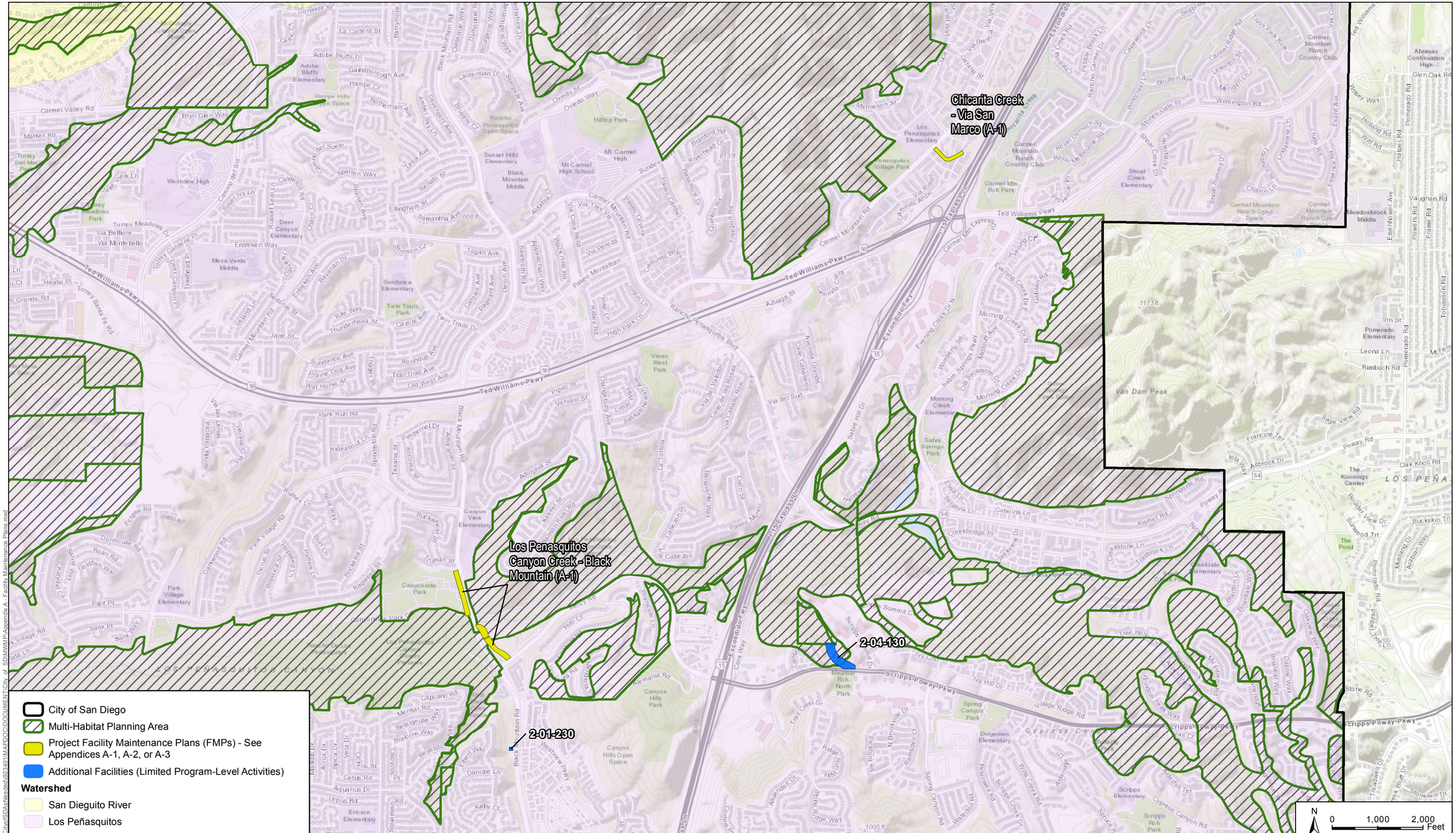

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The City of SAN DIEGO

Appendix A - Sheet 2

Municipal Waterways Maintenance Plan

Figure 1-2

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Penasquitos Lagoon - Industrial (A-1)

Penasquitos Lagoon - Tripp (A-1)

Los Penasquitos Canyon Creek - Sorrento (A-5)

Soledad Canyon Creek - Filntkote (A-1)

2-01-003

Los Penasquitos Canyon Creek - 5805 Basin (A-2)

Soledad Canyon Creek - Roselle (A-1)

Soledad Canyon Creek - Dunhill (A-1)

10405 Sorrento Valley Road (A-3)

Soledad Canyon Creek - Sorrento (A-5)

2-03-250

2-03-220

Carroll Canyon Creek - Carroll (A-1)

2-03-010

2-03-008

2-03-020

City of San Diego

Coastal Zone

Multi-Habitat Planning Area

Project Facility Maintenance Plans (FMPs) - See Appendices A-1, A-2, or A-3

Facilities Evaluated (No FMP Proposed) - See Appendix A-5

Additional Facilities (Limited Program-Level Activities)

Watershed

Los Peñasquitos

Mission Bay

N

0 1,000 2,000 Feet

SOURCE: ESRI 2017

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The City of SAN DIEGO

Appendix A - Sheet 3

Municipal Waterways Maintenance Plan

Figure 1-3

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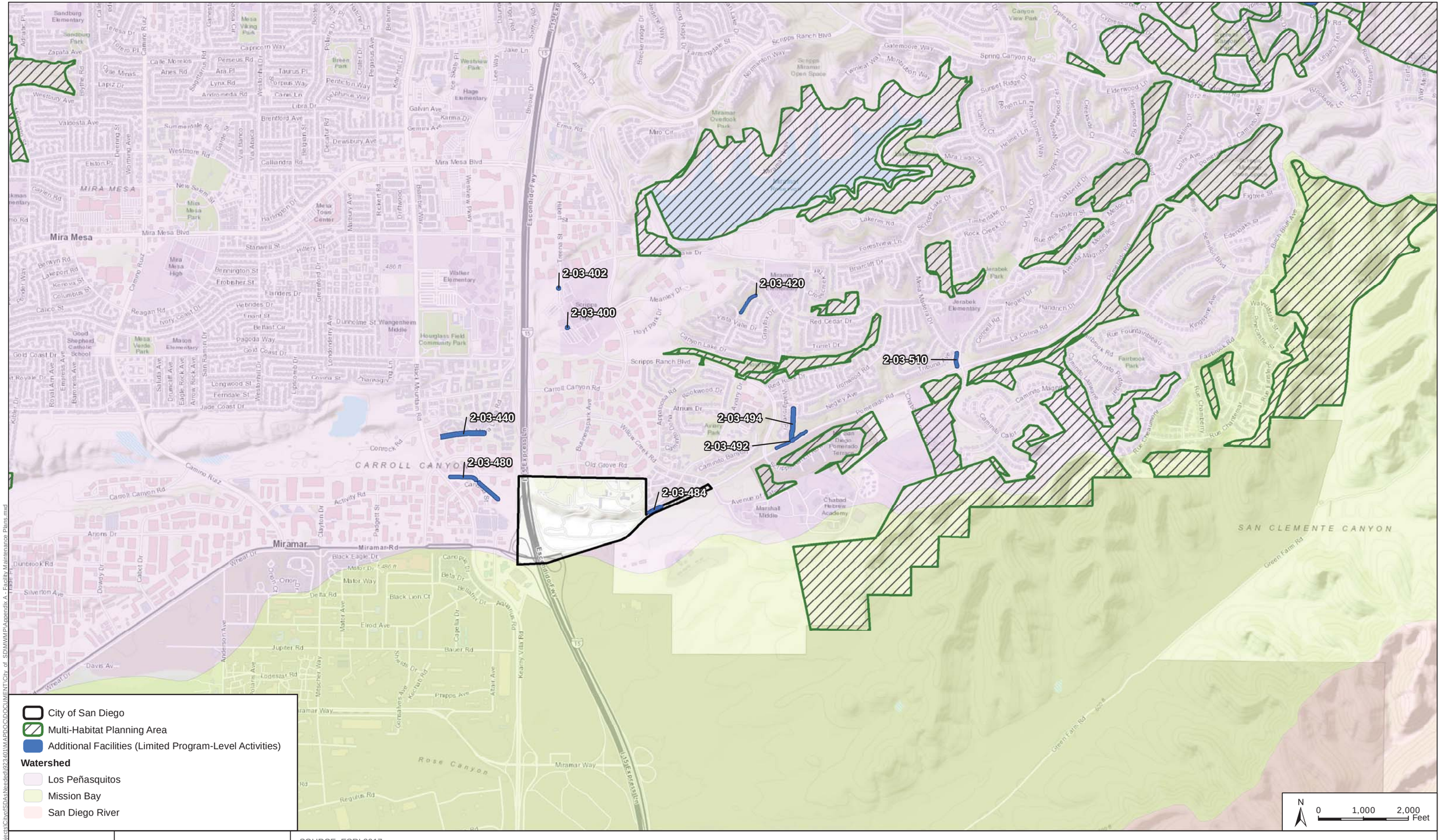

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The City of SAN DIEGO

Appendix A - Sheet 4

Municipal Waterways Maintenance Plan

Figure 1-4

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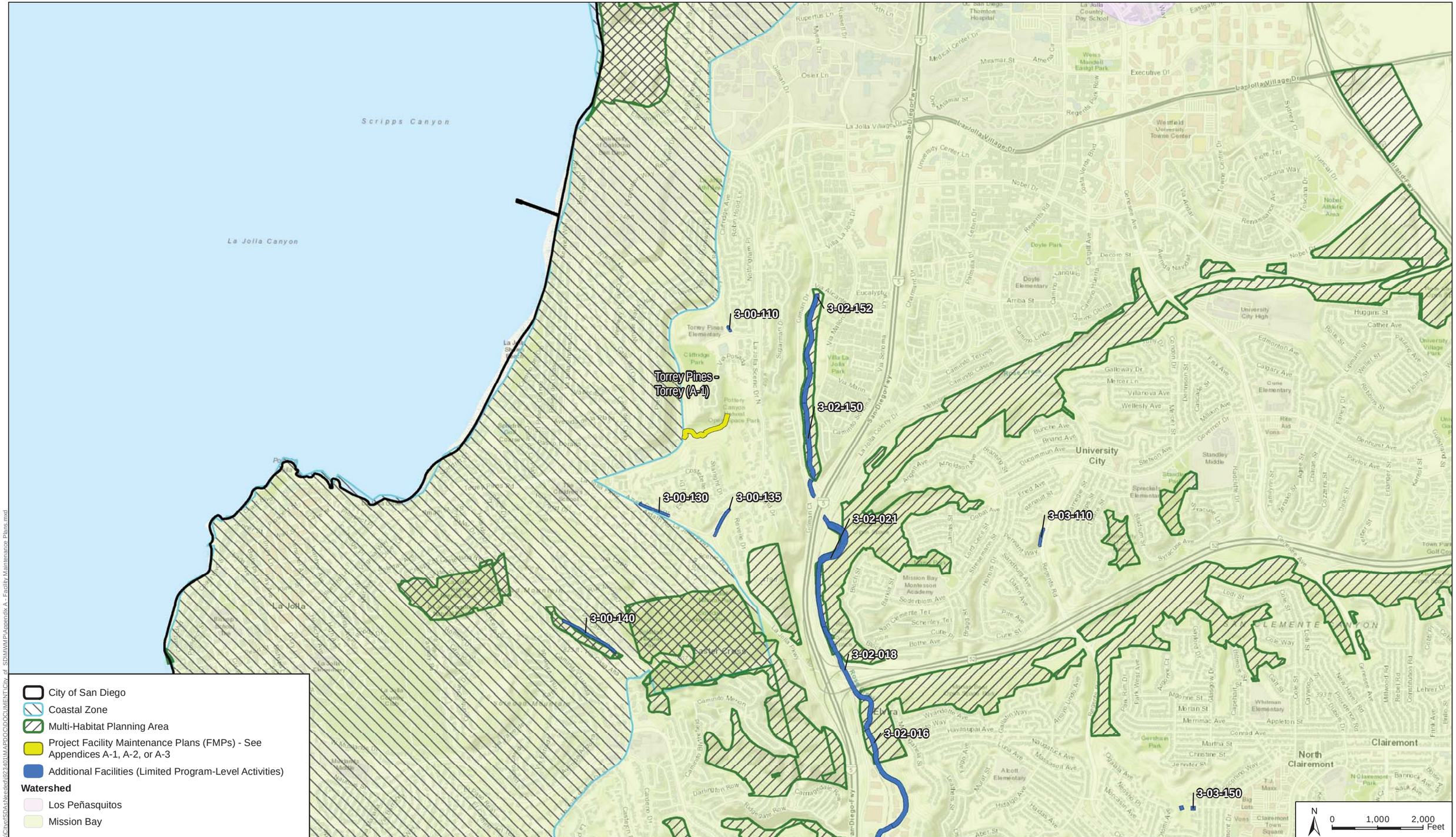

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The City of SAN DIEGO

Appendix A - Sheet 5

Municipal Waterways Maintenance Plan

Figure 1-5

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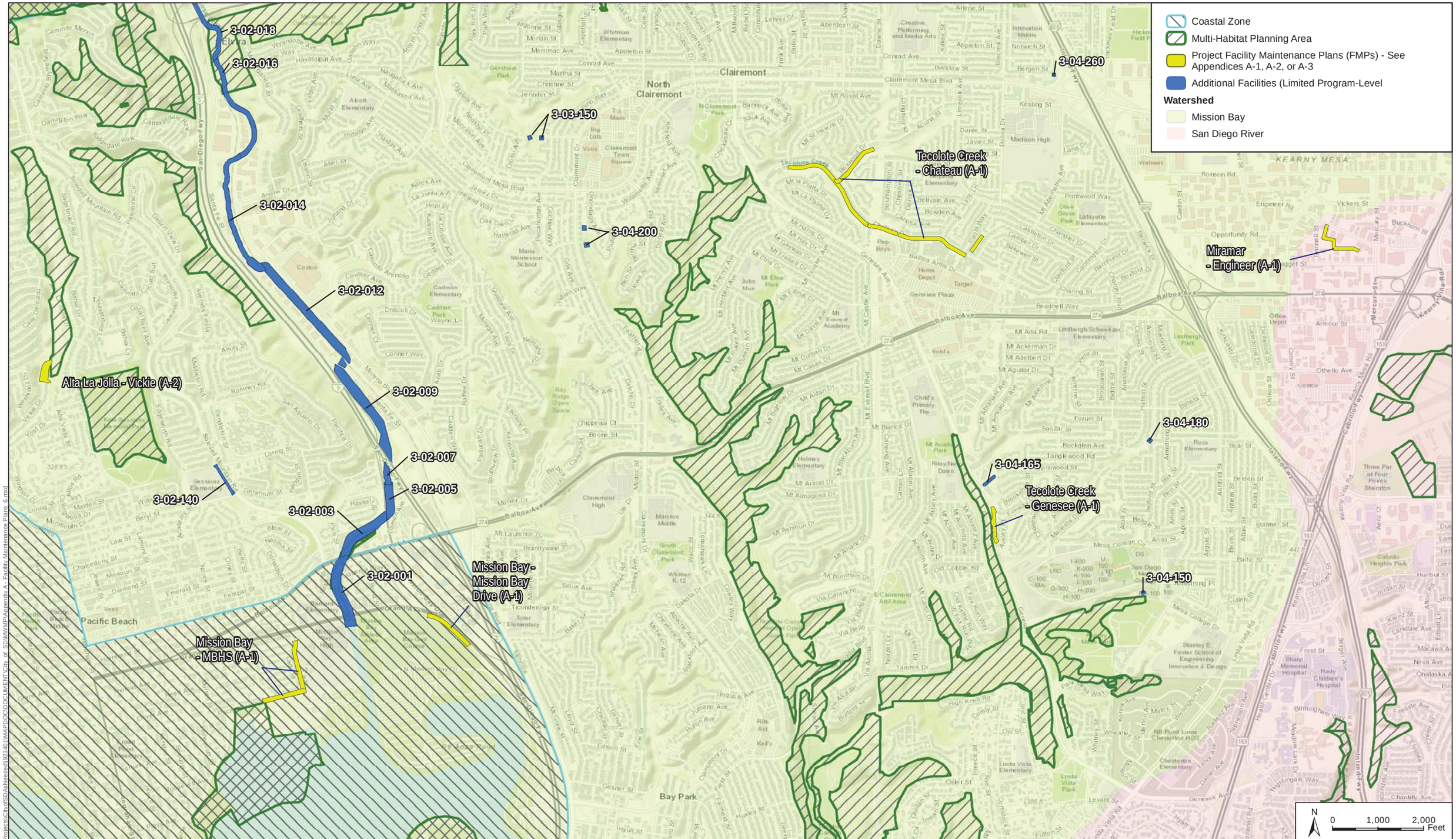

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Appendix A - Sheet 6

Municipal Waterways Maintenance Plan

Figure 1-6

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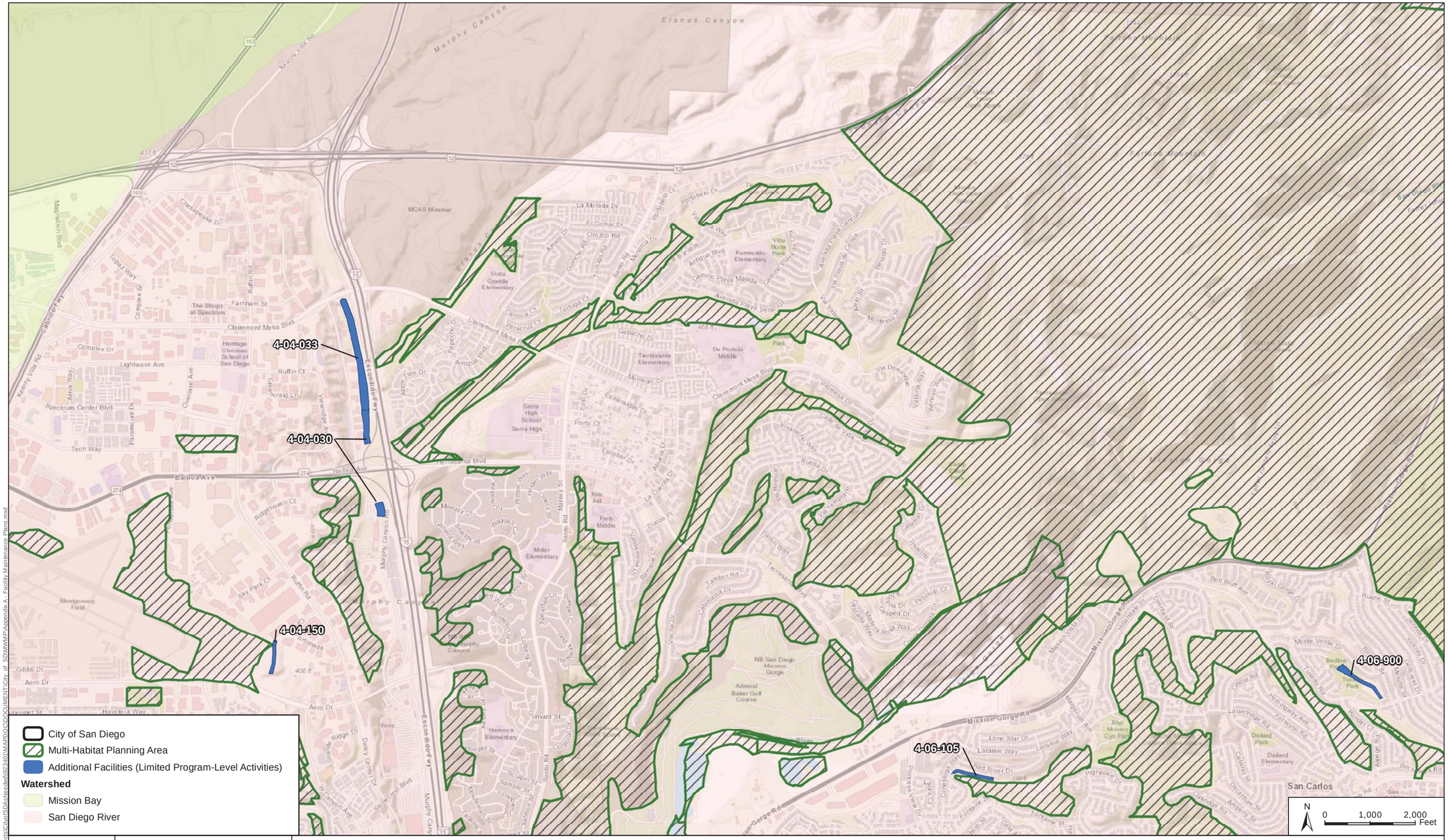

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Appendix A - Sheet 7

Municipal Waterways Maintenance Plan

Figure 1-7

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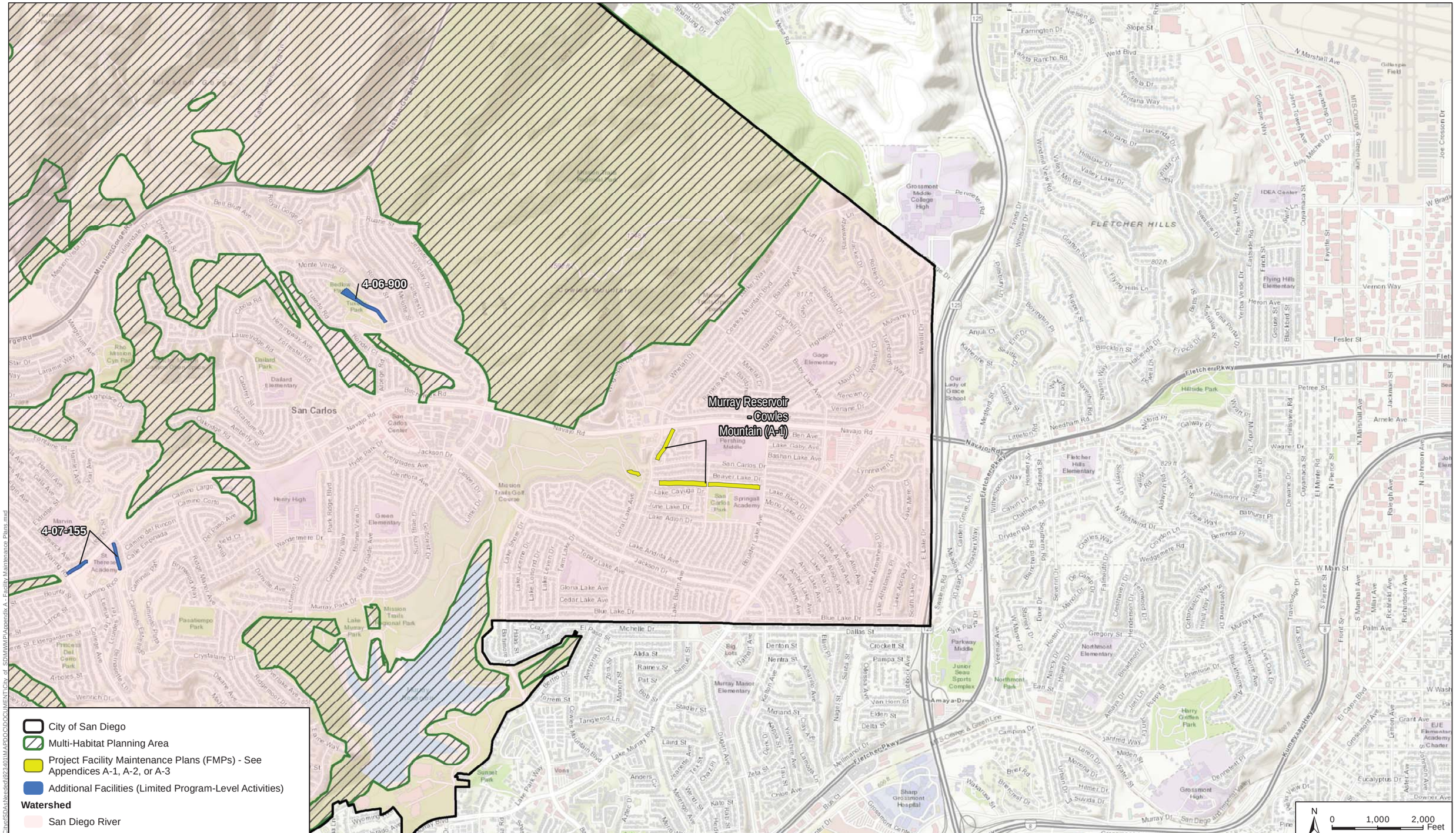

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The City of SAN DIEGO

Appendix A - Sheet 8

Municipal Waterways Maintenance Plan

Figure 1-8

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The City of SAN DIEGO

Municipal Waterways Maintenance Plan

Appendix A - Sheet 9

Figure 1-9

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3-04-005
3-04-003
3-04-007
3-04-001
Tecolote Creek - Morena (A-5)
4-00-054
4-00-052
4-02-122
San Diego River - Camino del Rio (A-1)
5505 Friars Road (A-5)
4-00-050
4-00-048
4-00-046
4-00-044
4-00-034
4-00-038
4-00-028
4-00-020
4-00-040
4-00-030
4-00-022
4-00-032
4-00-012
4-00-014
4-00-024
4-00-016
4-00-036
4-00-042
4-00-026
4-00-018
1660 Hotel Circle North (A-3)
901 Hotel Circle South (A-3)
1277 Camino Del Rio South (A-3)
2087 Hotel Circle South (A-3)
1331 Washington (A-3)
San Diego River - Nimitz (A-1)
San Diego River - Valeta (A-1)
Mission Hill Canyon Creek - Titus (A-1)
Washington Canyon Creek - Washington (A-1)
Maple Canyon Creek - Maple (A-2)
Morena
Old Town San Diego
Mission Hills
Hillcrest
University Heights
Five Points
Kumeyaay-Hwy
Sports Arena Blvd
Taylor St
Hotel Circle S
Hotel Cir N
Hotel Cir S
Friars Rd
Camino del Rio W
Camino del Rio S
Mission Valley Rd
Fashion Valley
Mission Center Rd
Hunter St
Dickinson St
Arbor Dr
Lewis St
Washington St
University Ave
Robinson Ave
Essex St
Bush St
Sutter St
Pennsylvania Ave
Cypress Ave
Myrtle Ave
Upas St
Walnut Ave
Thorn St
Spruce St
Brookes Ave
Maple Canyon Open Space
Palm St
Olive St
Balboa Park
San Diego Zoo
Old Globe Way
El Prado
Pacific Hwy
San Diego Freeway
Kettner Blvd
Admiral Boland Way
Rosecrans St
Midway Dr
Famosa Blvd
Point Loma Shopping Center
Valley View Casino Center
Presidio Hills Golf Course
Plaza del Pasado
Presidio Park
Old Town Transit Center
Heritage of the Americas Park
Mission Hills Park
Grant K-8
Scripps Mercy Hospital
Medical Center Hillcrest
Park Blvd
El Cajon Blvd
Meade Ave
Monroe Ave
Polk Ave
Lincoln Ave
Pascoe St
Normal St
Florida St
Georgia St
Louisiana St
Texas St
Arizona St
Alabama St
Mississippi St
Indiana St
Wisconsin St
Herbert St
Fern St
Front St
1st Ave
2nd Ave
3rd Ave
4th Ave
5th Ave
6th Ave
7th Ave
8th Ave
10th Ave
Cleveland Ave
Campus Ave
Maryland St
Park Blvd
Roosevelt International Middle
Balboa Park Golf Course
Golden Hill Park
Creator Bill Park
Correia Middle
Dewey Elementary
Big Lots
TJ Maxx
NB Point Loma Old Town
Point Loma Nazarene University
Naval Training Center Park
Liberty Station
Peninsula Park
Twain High
Francis Parker School
Mission Valley Transit Center
Fashion Hills Blvd
Camino Degra Rd
Linda Vista Rd
Genesee Ave
Clairemont Mesa Blvd
Balboa Ave
Aero Dr
Kearny Mesa
Miramar Rd
Miramar Way
Carroll Canyon Rd
Sorrento Valley Rd
Sorrento Valley Blvd
Camino del Norte
Camino del Sur
Camino Ruiz
Camino de la Reina
Mira Mesa Blvd
Scripps Ranch Blvd
Pomerado Rd
Poway Rd
Rancho Bernardo
Rancho Penasquitos
Black Mountain Rd
Carmel Mountain Rd
Carmel Valley Rd
Del Mar Heights Rd
Del Mar Fairgrounds
Del Mar
Solana Beach
Encinitas
Escondido
Poway
Santee
El Cajon
La Mesa
Lemon Grove
Chula Vista
Coronado
Imperial Beach
San Diego International Airport
San Diego Unified Port District
Naval Base San Diego
Naval Amphibious Base Coronado
Naval Air Station North Island
Naval Outlying Landing Field Imperial Beach
DEMO Fuel Depot San Diego
Qualcomm Stadium
Petco Park
Gaslamp Quarter
Embarcadero
Seaport Village
Cabrillo National Monument
Cabrillo Point
Shelter Island
Harbor Island
Coronado Cays
Coronado Golf Course
Silver Strand State Beach
Tijuana River National Estuarine Research Reserve
Tijuana River Valley Regional Park
Border Field State Park
Otay River Valley
Otay Mesa
Otay Mesa Rd
Otay Valley Regional Park
Otay Lakes Rd
Otay Lakes
Otay Reservoir
Lower Otay Reservoir
Sweetwater Reservoir
Sweetwater River
Sweetwater Regional Park
Sweetwater Valley
Bonita
Bonita Rd
Bonita Golf Course
Bonita Vista High
Bonita Vista Middle
Chula Vista Civic Center
Chula Vista Nature Center
Chula Vista Bayfront
Chula Vista Marina
Chula Vista Municipal Golf Course
Eastlake Golf Course
Eastlake Shopping Center
Eastlake Trails
Eastlake Vista
Eastlake Woods
Rancho del Rey
Rancho del Rey Middle
Rancho del Rey Golf Course
Rancho San Diego
Rancho San Diego Golf Course
Rancho San Diego Sheriff Substation
Rancho San Diego Village
Rancho San Diego Village Center
Rancho San Diego Village Golf Course
Rancho San Diego Village Park
Rancho San Diego Village Shopping Center
Rancho San Diego Village Swim Club
Rancho San Diego Village Tennis Club
Rancho San Diego Village Water Park
Rancho San Diego Village West
Rancho San Diego Village West Golf Course
Rancho San Diego Village West Park
Rancho San Diego Village West Shopping Center
Rancho San Diego Village West Swim Club
Rancho San Diego Village West Tennis Club
Rancho San Diego Village West Water Park
Rancho San Diego Village West Golf Course
Rancho San Diego Village West Park
Rancho San Diego Village West Shopping Center
Rancho San Diego Village West Swim Club
Rancho San Diego Village West Tennis Club
Rancho San Diego Village West Water Park

City of San Diego
Coastal Zone
Multi-Habitat Planning Area
Project Facility Maintenance Plans (FMPs) - See Appendices A-1, A-2, or A-3
Facilities Evaluated (No FMP Proposed) - See Appendix A-5
Additional Facilities (Limited Program-Level Activities)

Watershed

Mission Bay
San Diego River
Pueblo San Diego

N
0 1,000 2,000 Feet

SOURCE: ESRI 2017

DUDEK

The City of SAN DIEGO

Appendix A - Sheet 10

Municipal Waterways Maintenance Plan

Figure 1-10

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3-04-005
3-04-003
3-04-007
3-04-001
Tecolote Creek - Morena (A-5)
4-00-054
4-00-052
4-02-122
San Diego River - Camino del Rio (A-1)
5505 Friars Road (A-5)
4-00-050
4-00-048
4-00-046
4-00-044
4-00-034
4-00-038
4-00-028
4-00-020
4-00-040
4-00-030
4-00-022
4-00-032
4-00-012
4-00-014
4-00-024
4-00-016
4-00-036
4-00-042
4-00-026
4-00-018
1660 Hotel Circle North (A-3)
901 Hotel Circle South (A-3)
1277 Camino Del Rio South (A-3)
2087 Hotel Circle South (A-3)
1331 Washington (A-3)
San Diego River - Nimitz (A-1)
San Diego River - Valeta (A-1)
Mission Hill Canyon Creek - Titus (A-1)
Washington Canyon Creek - Washington (A-1)
Maple Canyon Creek - Maple (A-2)
Morena
Old Town San Diego
Mission Hills
Hillcrest
University Heights
Five Points
Kumeyaay-Hwy
Sports Arena Blvd
Taylor St
Hotel Circle S
Hotel Cir N
Hotel Cir S
Friars Rd
Camino del Rio W
Camino del Rio S
Mission Valley Rd
Fashion Valley
Mission Center Rd
Hunter St
Dickinson St
Arbor Dr
Lewis St
Washington St
University Ave
Robinson Ave
Essex St
Bush St
Sutter St
Pennsylvania Ave
Cypress Ave
Myrtle Ave
Upas St
Walnut Ave
Thorn St
Spruce St
Brookes Ave
Maple Canyon Open Space
Palm St
Olive St
Balboa Park
San Diego Zoo
Old Globe Way
El Prado
Pacific Hwy
San Diego Freeway
Kettner Blvd
Admiral Boland Way
Rosecrans St
Midway Dr
Famosa Blvd
Point Loma Shopping Center
Valley View Casino Center
Presidio Hills Golf Course
Plaza del Pasado
Presidio Park
Old Town Transit Center
Heritage of the Americas Park
Mission Hills Park
Grant K-8
Scripps Mercy Hospital
Medical Center Hillcrest
Park Blvd
El Cajon Blvd
Meade Ave
Monroe Ave
Polk Ave
Lincoln Ave
Pascoe St
Normal St
Florida St
Georgia St
Louisiana St
Texas St
Arizona St
Alabama St
Mississippi St
Indiana St
Wisconsin St
Herbert St
Fern St
Front St
1st Ave
2nd Ave
3rd Ave
4th Ave
5th Ave
6th Ave
7th Ave
8th Ave
10th Ave
Cleveland Ave
Campus Ave
Maryland St
Park Blvd
Roosevelt International Middle
Balboa Park Golf Course
Golden Hill Park
Creator Bill Park
Correia Middle
Dewey Elementary
Big Lots
TJ Maxx
NB Point Loma Old Town
Point Loma Nazarene University
Naval Training Center Park
Liberty Station
Peninsula Park
Twain High
Francis Parker School
Mission Valley Transit Center
Fashion Hills Blvd
Camino Degra Rd
Linda Vista Rd
Genesee Ave
Clairemont Mesa Blvd
Balboa Ave
Aero Dr
Kearny Mesa
Miramar Rd
Miramar Way
Carroll Canyon Rd
Sorrento Valley Rd
Sorrento Valley Blvd
Camino del Norte
Camino del Sur
Camino Ruiz
Camino de la Reina
Mira Mesa Blvd
Scripps Ranch Blvd
Pomerado Rd
Poway Rd
Rancho Bernardo
Rancho Penasquitos
Black Mountain Rd
Carmel Mountain Rd
Carmel Valley Rd
Del Mar Heights Rd
Del Mar Fairgrounds
Del Mar
Solana Beach
Encinitas
Escondido
Poway
Santee
El Cajon
La Mesa
Lemon Grove
Chula Vista
Coronado
Imperial Beach
San Diego International Airport
San Diego Unified Port District
Naval Base San Diego
Naval Amphibious Base Coronado
Naval Air Station North Island
Naval Outlying Landing Field Imperial Beach
DEMO Fuel Depot San Diego
Qualcomm Stadium
Petco Park
Gaslamp Quarter
Embarcadero
Seaport Village
Cabrillo National Monument
Cabrillo Point
Shelter Island
Harbor Island
Coronado Cays
Coronado Golf Course
Silver Strand State Beach
Tijuana River National Estuarine Research Reserve
Tijuana River Valley Regional Park
Border Field State Park
Otay River Valley
Otay Mesa
Otay Mesa Rd
Otay Valley Regional Park
Otay Lakes Rd
Otay Lakes
Otay Reservoir
Lower Otay Reservoir
Sweetwater Reservoir
Sweetwater River
Sweetwater Regional Park
Sweetwater Valley
Bonita
Bonita Rd
Bonita Golf Course
Bonita Vista High
Bonita Vista Middle
Chula Vista Civic Center
Chula Vista Nature Center
Chula Vista Bayfront
Chula Vista Marina
Chula Vista Municipal Golf Course
Eastlake Golf Course
Eastlake Shopping Center
Eastlake Trails
Eastlake Vista
Eastlake Woods
Rancho del Rey
Rancho del Rey Middle
Rancho del Rey Golf Course
Rancho San Diego
Rancho San Diego Golf Course
Rancho San Diego Sheriff Substation
Rancho San Diego Village
Rancho San Diego Village Center
Rancho San Diego Village Golf Course
Rancho San Diego Village Park
Rancho San Diego Village Shopping Center
Rancho San Diego Village Swim Club
Rancho San Diego Village Tennis Club
Rancho San Diego Village Water Park
Rancho San Diego Village West
Rancho San Diego Village West Golf Course
Rancho San Diego Village West Park
Rancho San Diego Village West Shopping Center
Rancho San Diego Village West Swim Club
Rancho San Diego Village West Tennis Club
Rancho San Diego Village West Water Park
Rancho San Diego Village West Golf Course
Rancho San Diego Village West Park
Rancho San Diego Village West Shopping Center
Rancho San Diego Village West Swim Club
Rancho San Diego Village West Tennis Club
Rancho San Diego Village West Water Park

City of San Diego
Coastal Zone
Multi-Habitat Planning Area
Project Facility Maintenance Plans (FMPs) - See Appendices A-1, A-2, or A-3
Facilities Evaluated (No FMP Proposed) - See Appendix A-5
Additional Facilities (Limited Program-Level Activities)

Watershed

Mission Bay
San Diego River
Pueblo San Diego

N
0 1,000 2,000 Feet

SOURCE: ESRI 2017

DUDEK

The City of SAN DIEGO

Appendix A - Sheet 10

Municipal Waterways Maintenance Plan

Figure 1-10

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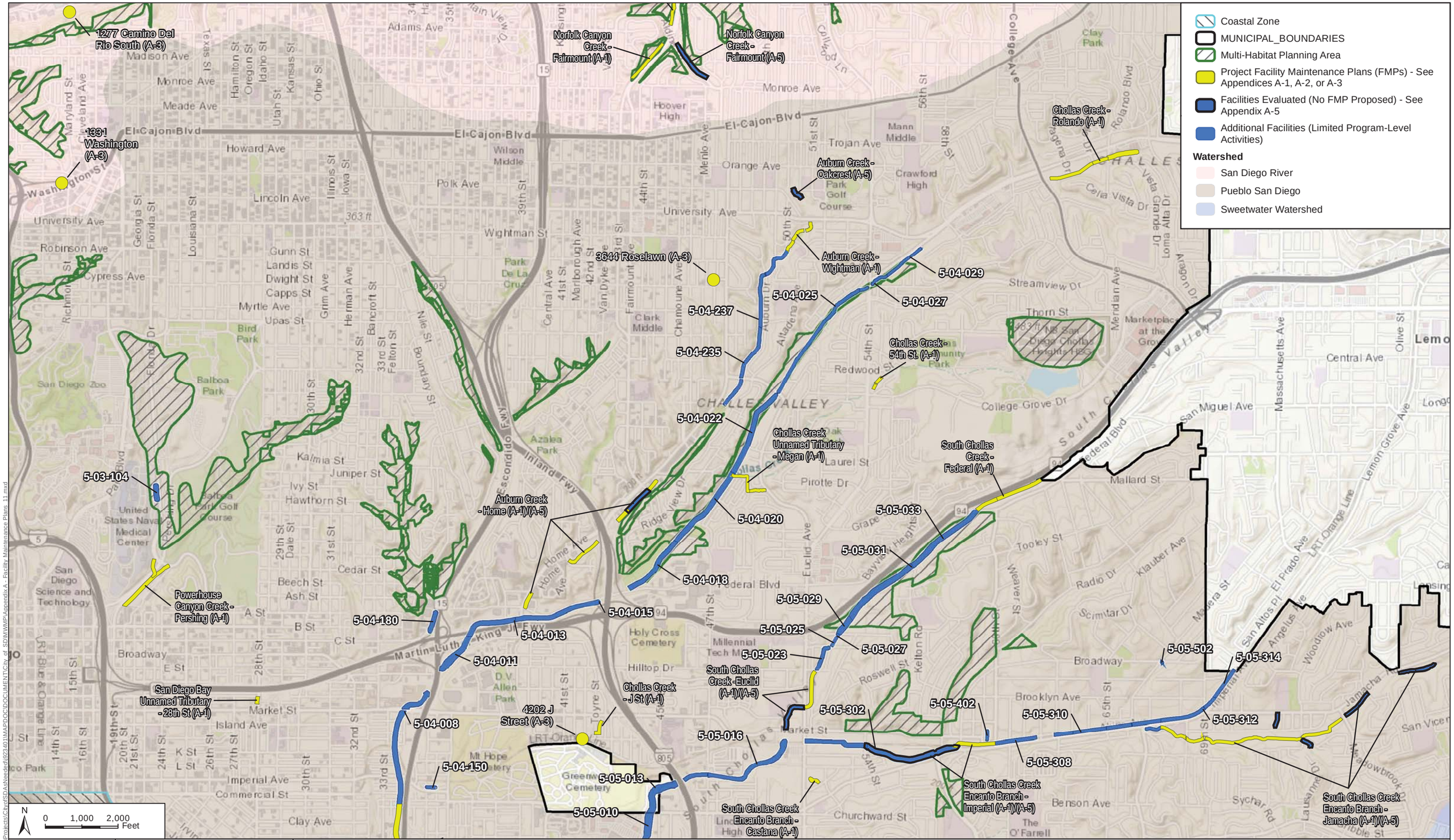

SOURCE: ESRI, 2017

DUDEK

The City of SAN DIEGO

Appendix A - Sheet 11

Municipal Waterways Maintenance Plan

Figure 1-11

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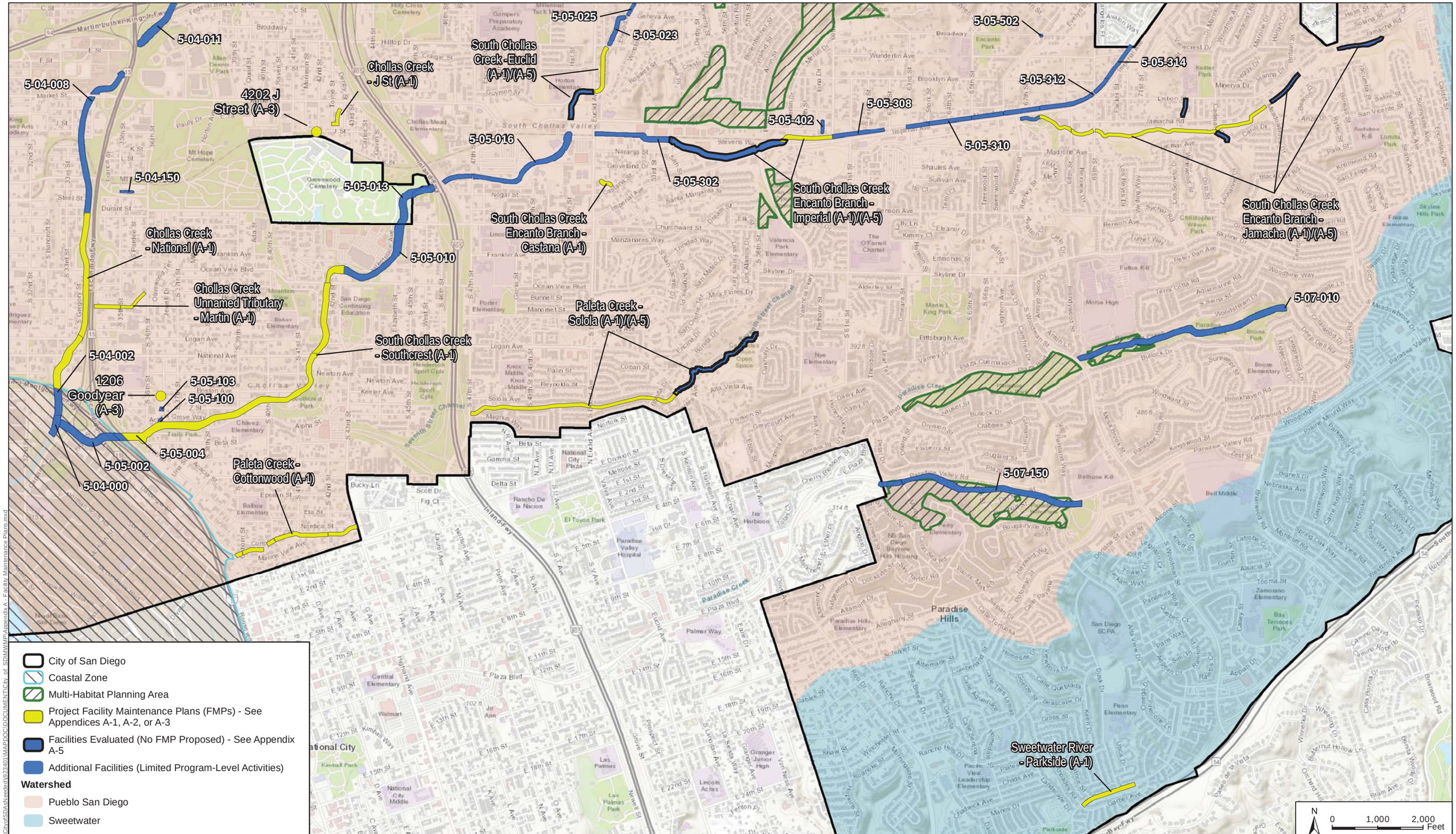

SOURCE: ESRI 2017

DUDEK

Appendix A - Sheet 12

Municipal Waterways Maintenance Plan

Figure 1-12

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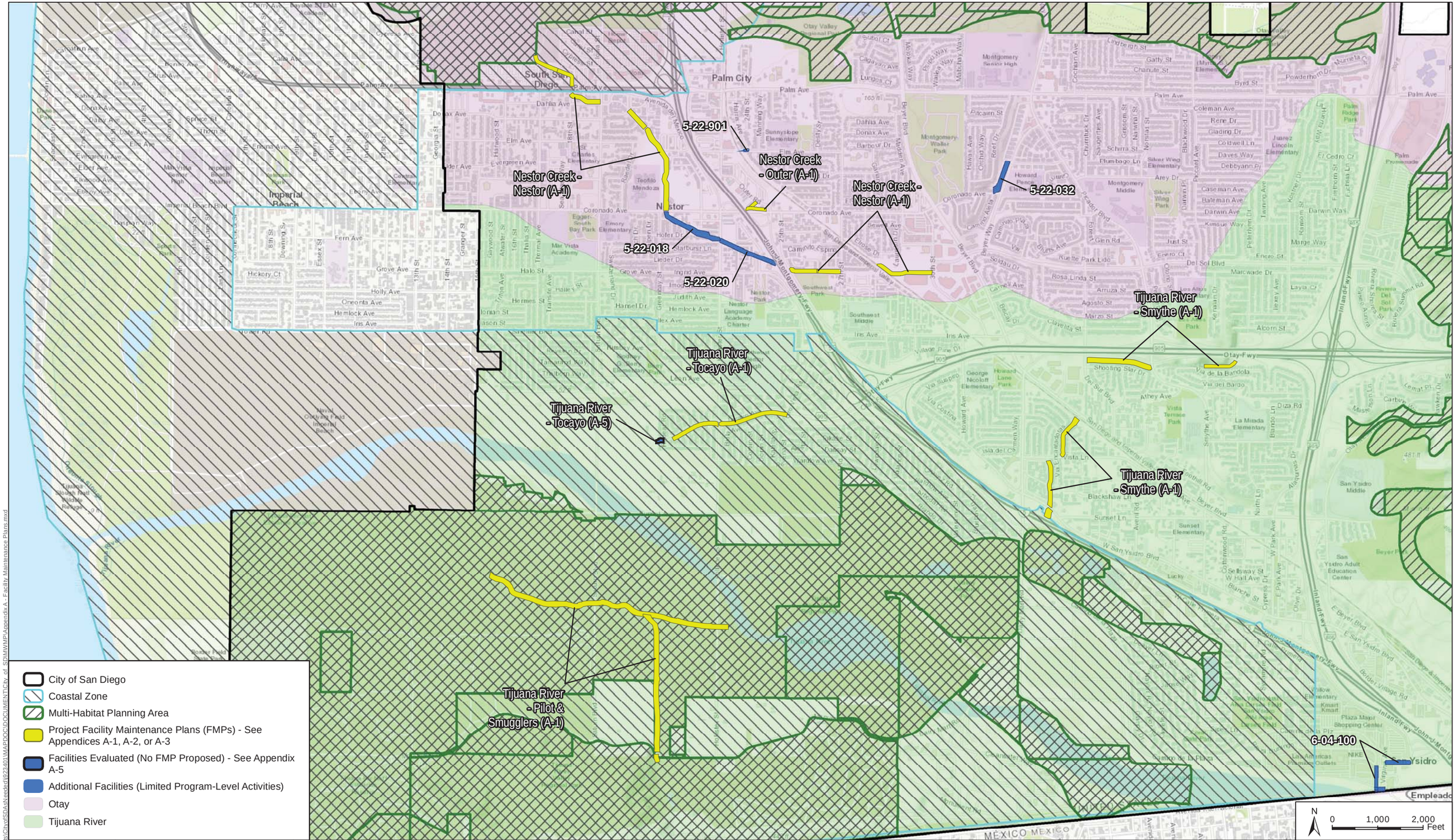

SOURCE: ESRI 2017

DUDEK

Appendix A - Sheet 13

Municipal Waterways Maintenance Plan

Figure 1-13

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Spring Canyon Creek - Cactus (A-2)

6-04-255

Tijuana River - La Media (A-1)

Tijuana River - Siempre Viva (A-2)

6-06-900

City of San Diego

Multi-Habitat Planning Area

Project Facility Maintenance Plans (FMPs) - See Appendices A-1, A-2, or A-3

Additional Facilities (Limited Program-Level Activities)

Otay

Tijuana River

N

0 1,000 2,000 Feet

SOURCE: ESRI 2017

DUDEK

Appendix A - Sheet 14

Municipal Waterways Maintenance Plan

Figure 1-14

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APPENDIX A-1

Channel and Ditch FMPs

Facility Maintenance Plan

Green Valley Creek - Pomerado Facility Group

Segment Names (Facility numbers):

Pomerado 1 (1-04-030)

Pomerado 2 (1-04-033)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Dieguito River
Watershed (Number)	San Dieguito River (1)
Hydrologic Subarea	905.22
Drainage Name (Number)	Green Valley Creek (04)
Facility Group Name	Green Valley Creek - Pomerado
Segment Name (Facility Number)	Pomerado 1 (1-04-030) Pomerado 2 (1-04-033)
Substrate	Pomerado 1 / Concrete Pomerado 2 / Concrete
Location	About 1200 feet northwest of Pomerado Road and 800 feet south of Rancho Bernardo Road
MMP Map No(s).	2, 3
Facility Inspection No.	2, 3
Other Former Names	Rancho Bernardo

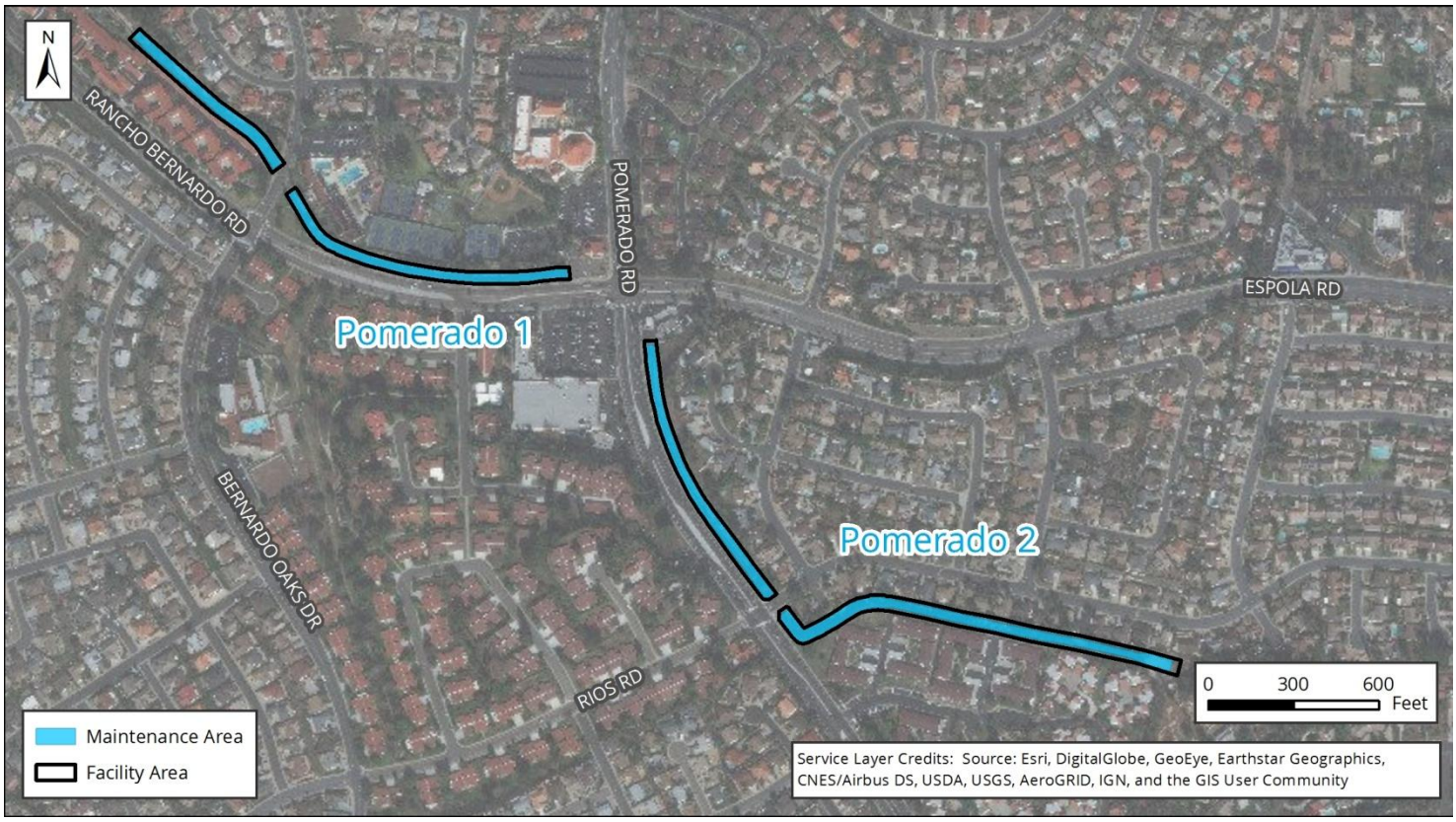


Figure 1: Vicinity Map of Green Valley Creek - Pomerado Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Dieguito River Watershed Management Area; Hydrologic Subarea 905.22	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Green Valley Creek - Pomerado	
Beneficial Uses	• Municipal and Domestic Supply (MUN) • Agricultural Supply (AGR) • Industrial Service Supply (IND) • Industrial Process Supply (PROC) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Chloride, Manganese, Pentachlorophenol (PCP), Pesticides, Sulfates, Total Nitrogen as N

Lake Hodges (First downstream water body)	
Beneficial Uses	• Municipal and Domestic Supply (MUN) • Agricultural Supply (AGR) • Industrial Service Supply (IND) • Industrial Process Supply (PROC) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Cold Freshwater Habitat (COLD) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Color, Manganese, Mercury, Nitrogen, Phosphorus, Turbidity, pH

Pomerado Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Green Valley Creek, upstream of Lake Hodges
Tributaries (listed from downstream to upstream)	Green Valley Creek
Facility Length	Approximately 1,884 feet
Top-of-Bank Width	Approximately 16–43 feet
Bottom Facility Width	Approximately 10–21 feet
Facility Depth	Approximately 7–11 feet
Adjacent Land Use	Commercial, Parks, Single-Family Residential, Transportation
As-Built Drawing Number	10556-D
Coastal Zone	No

Figure 1: May 2017, looking downstream at double box culvert

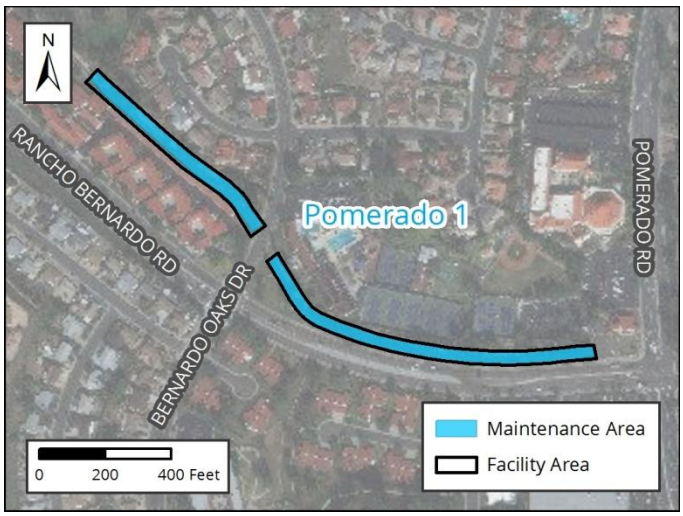


Figure 2: Vicinity Map of Pomerado Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation in the segment varied from light to heavy and up to 4 feet of sediment was observed in some portions of the segment and the culverts

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	520	756	950	1,458	2,050	2,700

Hydraulic Capacity of Facility

Current Capacity	867 cfs
Proposed MWMP Maintained Capacity	1,375 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 198 to Station 888, and Station 987 to Station 2082. Remove accumulated sediment and debris in the culvert from Station 888 to Station 987.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (concrete-lined) • Riparian forest (southern riparian forest; concrete-lined)
Adjacent Vegetation	• Developed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-000580
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric scatter

Historical Resources	
Resource Identified in APE	Channel; c. 1963 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-1	MM-HR-2
EP-HAZ-3	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Green Valley Creek - Pomerado
Segment Name	Pomerado 1
Facility No.	1-04-030
Facility Location	From outlet of culvert beneath the intersection of Pomerado Road and Rancho Bernardo Road to 700 feet downstream of outlet of culvert beneath Bernardo Oaks Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 198 to Station 888, and Station 987 to Station 2082. Remove accumulated sediment and debris in the culvert from Station 888 to Station 987.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 10556-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,884 feet Top width: 16–43 feet Bottom width: 10–21 feet Depth: 7–11 feet
Authorized Facility Maintenance Area	Length: Channel: 1,785 feet; Culvert: 99 feet Width: 16–43 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, boom truck, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper, mower
Schedule	Up to approximately 61 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	Palm Removal Methodology: 1. Man in boom truck or use of crane cuts section of the palm tree from top to bottom. 2. Crane lowers cut material in the channel. 3. Bobcat/skid-steer in channel pushes cut material to loading point. 4. Gradall/excavator scoops material from channel at loading area. 5. Gradall/excavator dumps material on stockpile area or directly into dump truck. 6. If stockpiled, gradall/excavator scoops material from stockpile to dump truck. Routine Maintenance: 1. Two Bobcat/skid-steers enter or are lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steers push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation

Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Green Valley Creek - Pomerado
Segment Name: Pomerado 1
Facility No: 1-04-030
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Pomerado Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Green Valley Creek, immediately upstream of Green Valley Creek (Pomerado Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 2,972 feet
Top-of-Bank Width	Approximately 17–50 feet
Bottom Facility Width	Approximately 7–17 feet
Facility Depth	Approximately 6–14 feet
Adjacent Land Use	Commercial, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	13623-D, 10784-D, & 10566-D
Coastal Zone	No

Figure 1: May 2017, looking upstream at upstream end of segment

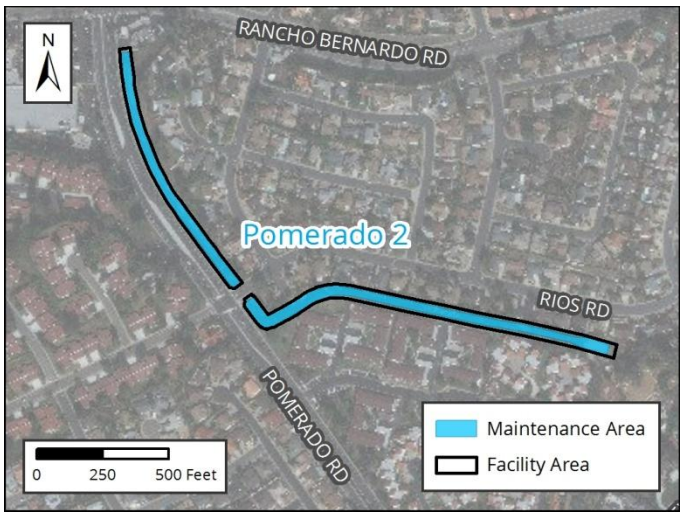


Figure 2: Vicinity Map of Pomerado Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation in the segment varied from light to heavy and up to 4 feet of sediment was observed in some portions of the segment and the culverts

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	520	756	950	1,458	2,050	2,700

Hydraulic Capacity of Facility

Current Capacity	770 cfs
Proposed MWMP Maintained Capacity	1,164 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 2510 to Station 3510, and Station 3581 to Station 5037. Remove accumulated sediment and debris in the culvert from Station 2082 to Station 2510, and Station 3510 to Station 3581.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (concrete-lined) • Freshwater marsh (concrete-lined) • Ornamental plantings (concrete-lined)
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting and roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-000581
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric scatter

Historical Resources	
Resource Identified in APE	Channel; c. 1963 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	**Noise (NOI)**
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Green Valley Creek - Pomerado
Segment Name	Pomerado 2
Facility No.	1-04-033
Facility Location	From edge of jurisdictional boundary to inlet of culvert beneath the intersection of Pomerado Road and Rancho Bernardo Road
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 2510 to Station 3510, and Station 3581 to Station 5037. Remove accumulated sediment and debris in the culvert from Station 2082 to Station 2510, and Station 3510 to Station 3581.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 13623-D, 10784-D, & 10566-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 2,972 feet Top width: 17–50 feet Bottom width: 7–17 feet Depth: 6–14 feet
Authorized Facility Maintenance Area	Length: Channel: 2,456 feet; Culvert: 499 feet Width: 17–50 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Downstream Reach: Crane, boom truck, Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper Upstream Reach: Crane, boom truck, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck,
Schedule	Up to approximately 32 working days
Maintenance Crew	Approximately 8–12 people

Routine Maintenance Procedures	Palm Removal Methodology: 1. Man in boom truck or use of crane cuts section of the palm tree from top to bottom. 2. Crane lowers cut material in the channel. 3. Bobcat/skid-steer in channel pushes cut material to loading point. 4. Gradall/excavator scoops material from channel at loading area. 5. Gradall/excavator dumps material on stockpile area or directly into dump truck. 6. If stockpiled, gradall/excavator scoops material from stockpile to dump truck. Downstream reach: 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site Upstream reach: 1. Bobcat/skid-steer and loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator and loader at access/loading area 3. Gradall/excavator and loader scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego and the City of Poway

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Culvert
Station
City Boundary
Facility Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Green Valley Creek - Pomerado
Segment Name: Pomerado 2
Facility No: 1-04-033
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Los Peñasquitos Lagoon - Industrial Facility Group

Segment Names (Facility numbers):

Industrial 1 (2-01-120)

Industrial 2 (2-01-122)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Los Peñasquitos Unnamed Tributary (01)
Facility Group Name	Los Peñasquitos Lagoon - Industrial
Segment Name (Facility Number)	Industrial 1 (2-01-120) Industrial 2 (2-01-122)
Substrate	Industrial 1 / Earthen Industrial 2 / Concrete
Location	About 150 feet west of the Interstate 5 (I-5) Local Bypass and 150 feet south of Carmel Mountain Road
MMP Map No(s).	6a
Facility Inspection No.	6a
Other Former Names	3000 Industrial Court Channel

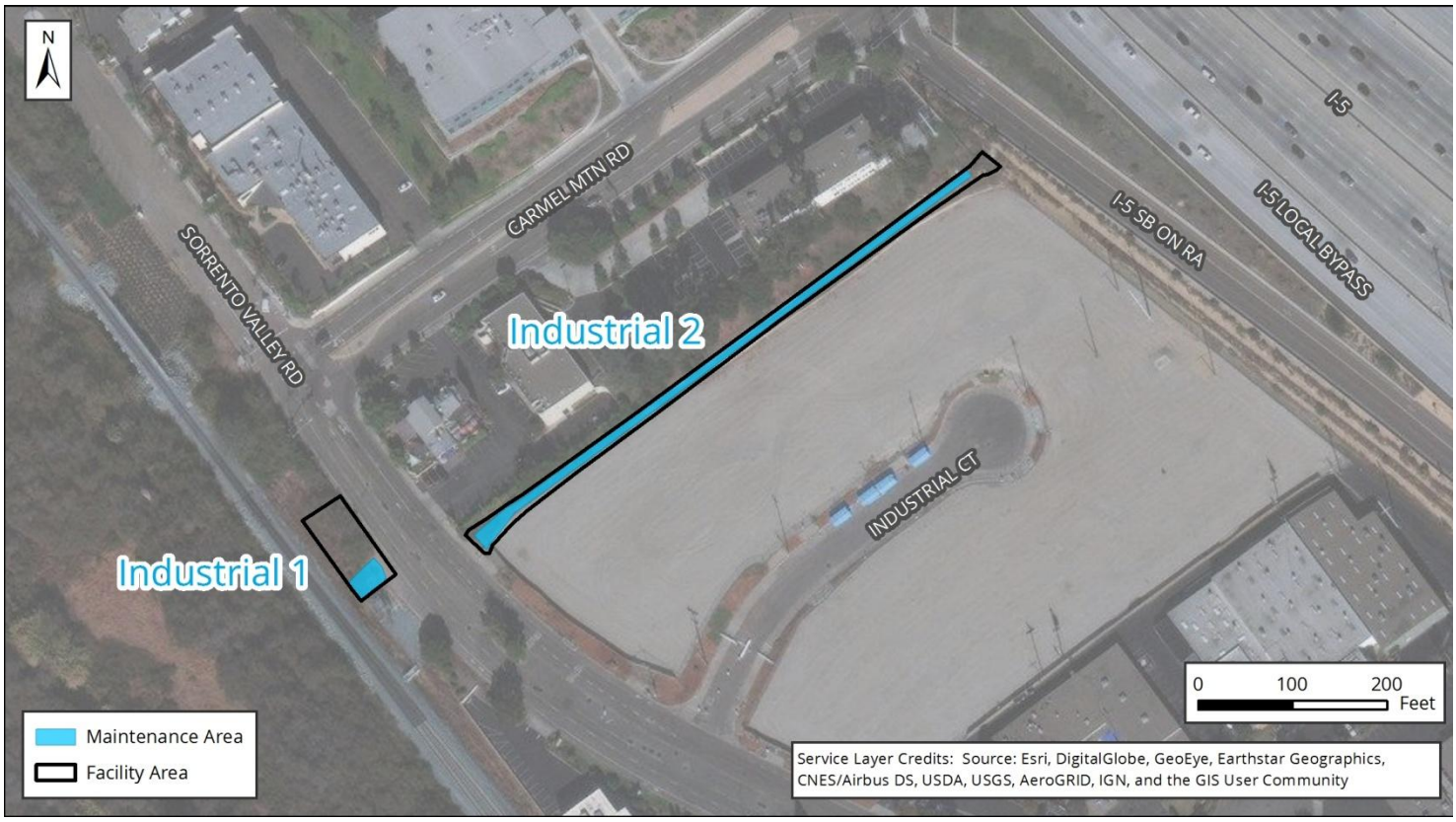


Figure 1: Vicinity Map of Los Peñasquitos Lagoon - Industrial Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Los Peñasquitos Lagoon - Industrial	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Los Peñasquitos Lagoon (First downstream water body)	
Beneficial Uses	• Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Sedimentation/Siltation, Toxicity

Industrial Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Los Peñasquitos unnamed tributary, immediately upstream of Los Peñasquitos Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 285 feet
Top-of-Bank Width	Approximately 50 feet
Bottom Facility Width	Approximately 35 feet
Facility Depth	Approximately 4–5 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Transportation
As-Built Drawing Number	10338-D
Coastal Zone	CST-PMT, N-APP-1

Figure 1: June 2018, looking downstream from the outlet headwall

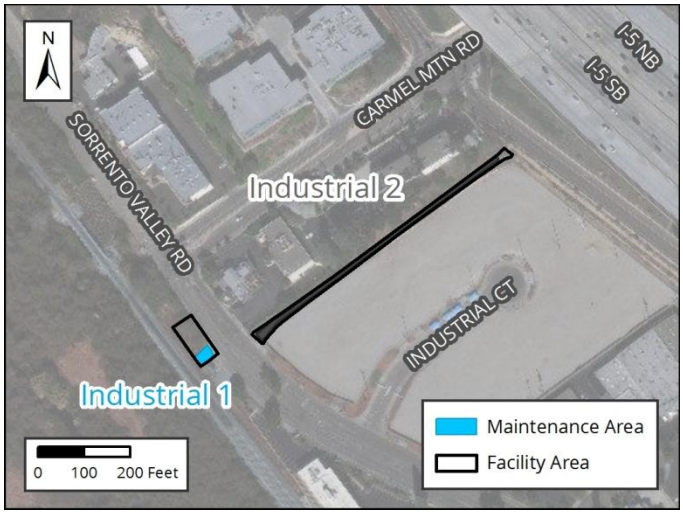


Figure 2: Vicinity Map of Industrial Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2007: Unknown 2007 and 2009: Culvert inlet cleared 2010: Emergency excavation of sediment and vegetation January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	Emergency CDP No. 784126
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 43 (Non-Notification, No USACE File # Assigned)
401	RWQCB 401 Cert No. 10C-052 (one-time maintenance authorization)
1602	LSA Emergency Notification No. 1600-2010-0193R5
Mitigation for Previous Impacts	None required due to maintenance conducted

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In March 2010, the vegetation was dense at the downstream end. Sediment deposition was estimated to be 1.2 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	143	182	213	252	277	295

Hydraulic Capacity of Facility	
Current Capacity	277 cfs
Proposed MWMP Maintained Capacity	295 cfs
Maintenance Recommendation	Remove accumulated sediment, debris and vegetation for a 25-foot length at the box culvert outlet (Station 595 to Station 620) within San Diego Metropolitan Transit Development Board (SDMTDB) right-of-way
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Freshwater marsh • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	Due to its adjacency to the Multi Habitat Planning Area (MHPA) and presence of limited suitable habitat, the channel has potential to support sensitive wildlife and bird species (e.g., least Bell's vireo, southern willow flycatcher, Ridgway's rail)
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The western section of the channel is located directly east of the nearest MHPA boundary (approximately 15 feet).
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1963 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-5
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Land Use (LU)	MM-CR-1
EP-LU-1	MM-CR-2
Paleontological Resources (PAL)	MM-CR-3
EP-PAL-1	MM-CR-4
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	**Noise (NOI)**
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

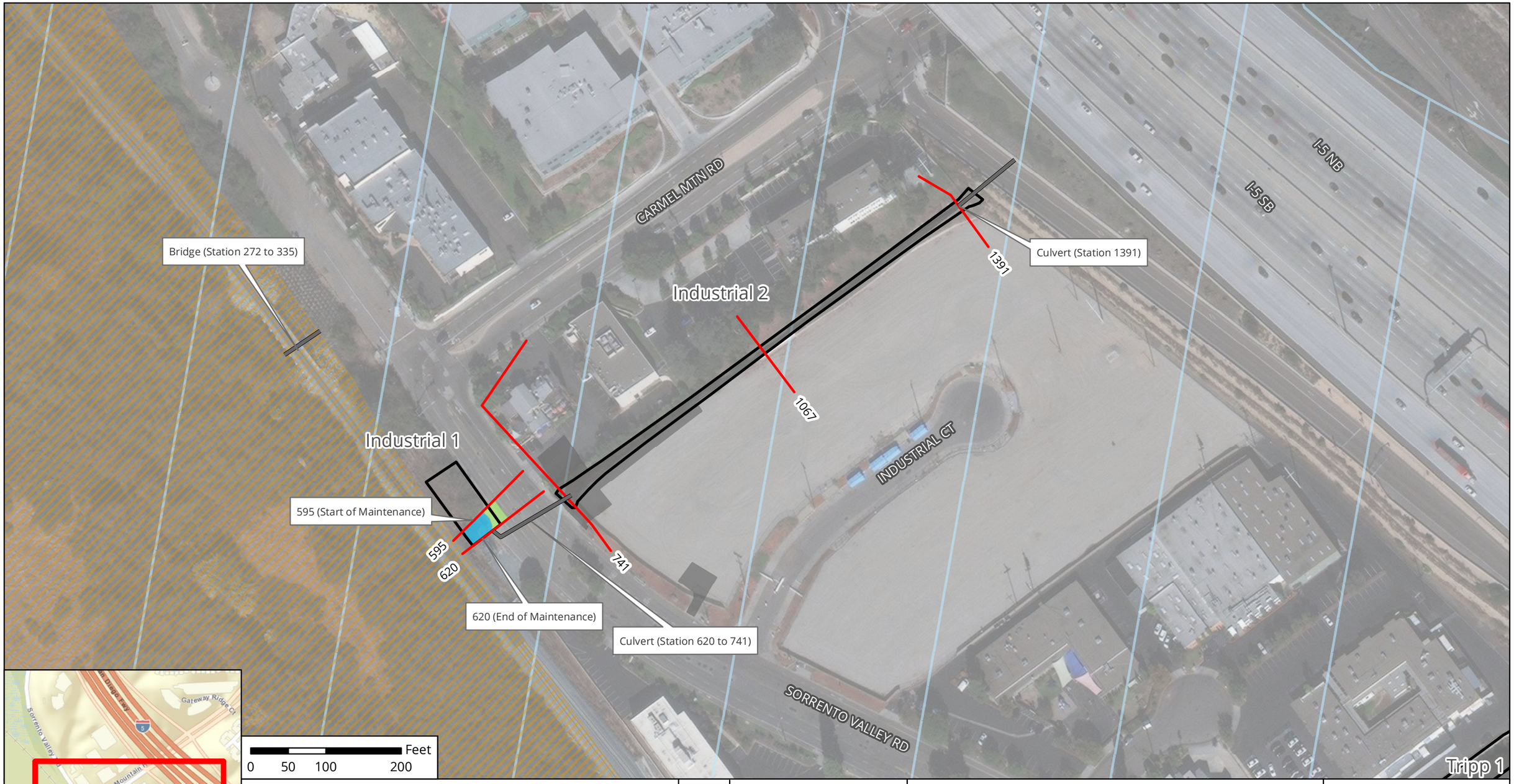
Facility Group	Los Peñasquitos Lagoon - Industrial
Segment Name	Industrial 1
Facility No.	2-01-120
Facility Location	From outlet of culvert 200 feet southeast of the intersection of Carmel Mountain Road and Sorrento Valley Road to underneath the SDMTDB bridge
Coastal Zone	CST-PMT, N-APP-1
MWMP Proposed Maintenance	Maintenance of channel, per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris and vegetation for a 25-foot length at the box culvert outlet (Station 595 to Station 620) within San Diego Metropolitan Transit Development Board (SDMTDB) right-of-way
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 10338-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 285 feet Top width: 50 feet Bottom width: 35 feet Depth: 4–5 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 25 feet Width: 39 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	Outside of Channel: 1. Gradall/excavator moves along channel bank within access/loading area 2. Gradall/excavator scoops material from channel and loads dump truck 3. Dump truck hauls material to legal disposal site Inside of Channel: 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor used to power wash channel in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	Yes; coordinate with the City of San Diego and the North County Transit District

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Los Peñasquitos Lagoon - Industrial
Segment Name: Industrial 1
Facility No: 2-01-120
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Industrial Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bed and banks
Location Within Watershed	Lower reach of Los Peñasquitos unnamed tributary, immediately upstream of Los Peñasquitos Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 786 feet
Top-of-Bank Width	Approximately 9–20 feet
Bottom Facility Width	Approximately 2–13 feet
Facility Depth	Approximately 2–5 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Transportation
As-Built Drawing Number	10338-D
Coastal Zone	CST-PMT, N-APP-1

Figure 1: October 2009, looking downstream at concrete segment

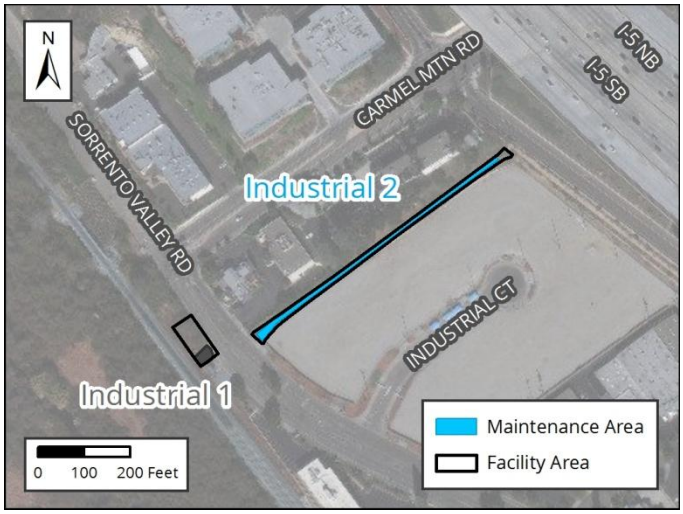


Figure 2: Vicinity Map of Industrial Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2007: Unknown 2007 and 2009: Culvert inlet cleared 2010: Emergency excavation of sediment and vegetation January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	Emergency CDP No. 784126
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 43 (Non-Notification, No USACE File # Assigned)
401	RWQCB 401 Cert No. 10C-052 (one-time maintenance authorization)
1602	LSA Emergency Notification No. 1600-2010-0193R5
Mitigation for Previous Impacts	El Cuervo del Sur HMMP (0.004 acre) Los Peñasquitos WEP (0.012 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In March 2010, the vegetation varied from mostly clean channel to dense vegetation at the downstream end. Sediment deposition was estimated to be 1.2 feet. The concrete lining in the upstream portions of the channel were noted to be in poor condition. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	143	182	213	252	277	295

Hydraulic Capacity of Facility

Current Capacity	143 cfs
Proposed MWMP Maintained Capacity	143 cfs
Maintenance Recommendation	Remove accumulated sediment, debris and vegetation from Station 741 to Station 1391. Remove accumulated sediment and debris in culvert from Station 620 to Station 741. Maintain/repair existing debris fence as needed.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Freshwater marsh (concrete-lined) • Riparian forest (southern willow forest) • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Developed land • Disturbed land • Freshwater marsh • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	Due to its adjacency to the Multi Habitat Planning Area (MHPA) and presence of limited suitable habitat, the channel has potential to support sensitive wildlife and bird species (e.g., least Bell's vireo, southern willow flycatcher, Ridgway's rail)
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The western section of the channel is located directly east of the nearest MHPA boundary (approximately 15 feet).
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1963 concrete channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-CR-1
Land Use (LU)	MM-CR-2
EP-LU-1	MM-CR-3
Solid Waste (SW)	MM-CR-4
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

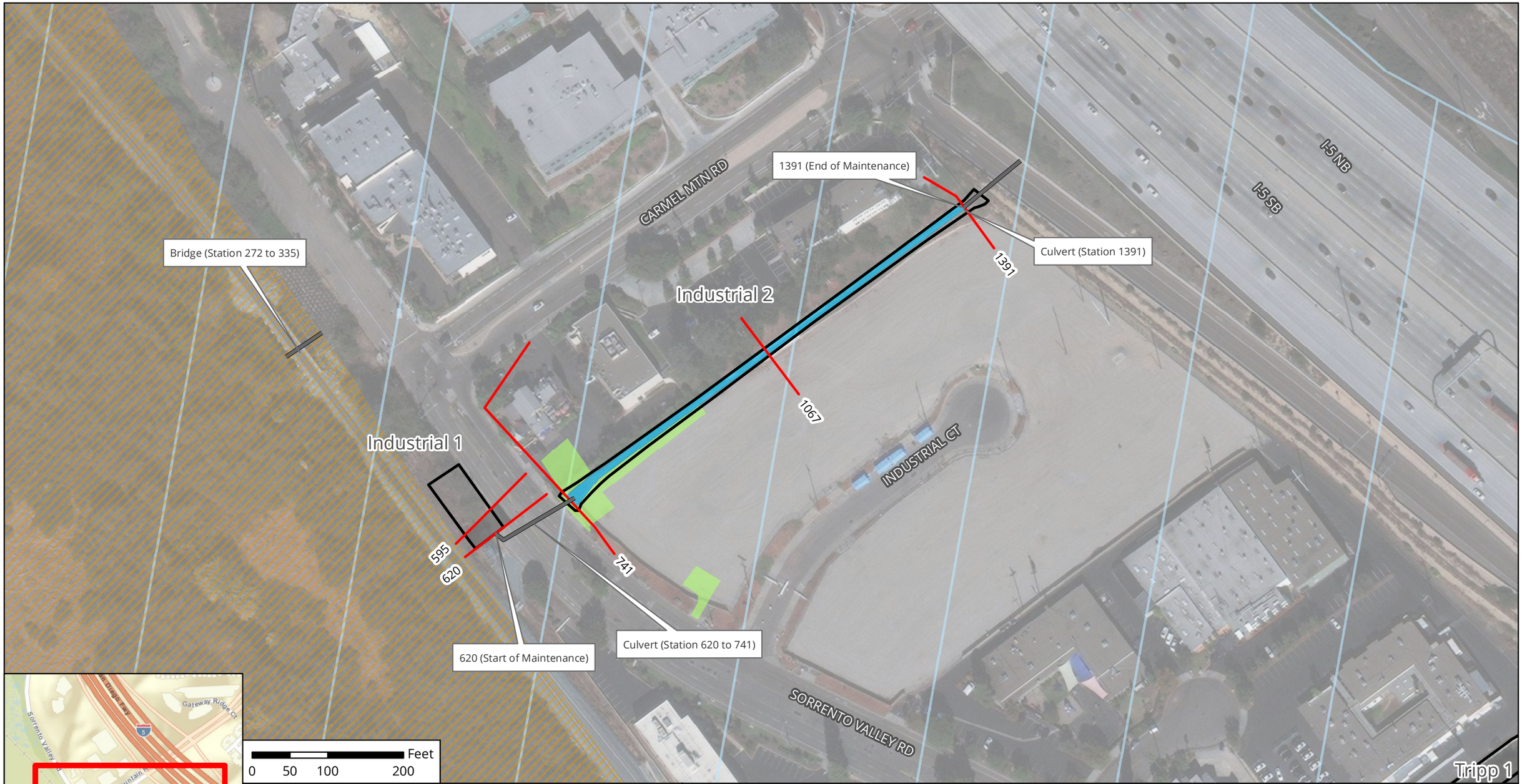
Facility Group	Los Peñasquitos Lagoon - Industrial
Segment Name	Industrial 2
Facility No.	2-01-122
Facility Location	From 150 feet west of Interstate 5 (I-5) Local Bypass to inlet of culvert 200 feet southeast of the intersection of Carmel Mountain Road and Sorrento Valley Road
Coastal Zone	CST-PMT, N-APP-1
MWMP Proposed Maintenance	Maintenance of channel, per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris and vegetation from Station 741 to Station 1391. Remove accumulated sediment and debris in culvert from Station 620 to Station 741. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 10338-D
Substrate Detail	Concrete bed and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 786 feet Top width: 9–20 feet Bottom width: 2–13 feet Depth: 2–5 feet
Authorized Facility Maintenance Area	Length: Channel: 650 feet; Culvert: 121 feet Width: 9–20 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor used to power wash channel in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	Yes; coordinate with the City of San Diego and the North County Transit District
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Los Peñasquitos Lagoon - Industrial
Segment Name: Industrial 2
Facility No: 2-01-122
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Los Peñasquitos Lagoon - Tripp Facility Group

Segment Name (Facility number):

Tripp 1 (2-01-130)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Los Peñasquitos Unnamed Tributary (01)
Facility Group Name	Los Peñasquitos Lagoon - Tripp
Segment Name (Facility Number)	Tripp 1 (2-01-130)
Substrate	Tripp 1 / Concrete
Location	West of Interstate 5 (I-5), east of Sorrento Valley Road, and about 200 feet south of Tripp Court
MMP Map No(s).	6
Facility Inspection No.	6
Other Former Names	Tripp Court Channel, 11689 Sorrento Valley Rd

Figure 1: Vicinity Map of Los Peñasquitos Lagoon - Tripp Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Los Peñasquitos Lagoon - Tripp	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Los Peñasquitos Lagoon (First downstream water body)	
Beneficial Uses	• Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Sedimentation/Siltation, Toxicity

Tripp Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Los Peñasquitos unnamed tributary, immediately upstream of Los Peñasquitos Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,835 feet
Top-of-Bank Width	Approximately 22 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 2–5 feet
Adjacent Land Use	Industrial, Transportation
As-Built Drawing Number	11935-D, 11935-6-D, 11935-7-D, & 11530-1-D
Coastal Zone	N-APP-1

Figure 1: August 2014, looking downstream at double-barrel 57-inch RCP culvert entrance; downstream end of facility group

Figure 2: Vicinity Map of Tripp Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2007: Unknown 2007: Routine maintenance conducted 2010: Emergency maintenance excavation of sediment and vegetation January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	Emergency CDP No. 784126
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 43 (Non-Notification, No USACE File # Assigned)
401	RWQCB 401 Cert No. 10C-052 (one-time maintenance authorization)
1602	LSA Emergency Notification No. 1600-2010-0193R5
Mitigation for Previous Impacts	El Cuervo del Sur HMMP (0.046 acre) Los Peñasquitos WEP (0.138 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In August 2014, the segment was observed to have light to moderate vegetation with dense vegetation at the downstream end. Sediment deposition at the downstream end was estimated to be 3 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	269	325	408	447	500	534

Hydraulic Capacity of Facility

Current Capacity	267 cfs
Proposed MWMP Maintained Capacity	267 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 658 to Station 2493. Remove accumulated sediment, debris, and vegetation from culvert at Station 658. Maintain/repair existing debris fence as needed.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Freshwater marsh (concrete-lined) • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	Although this ditch does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the channel extents and area of vegetation present are limited such that it is unlikely for wildlife to use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The ditch is located approximately 590 feet east of the nearest MHPA boundary.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-036415
Resource Type	Distribution line

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-5
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-CR-1
Solid Waste (SW)	MM-CR-2
EP-SW-2	MM-CR-3
EP-SW-3	MM-CR-4
EP-SW-4	**Noise (NOI)**
EP-SW-5	MM-NOI-1
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

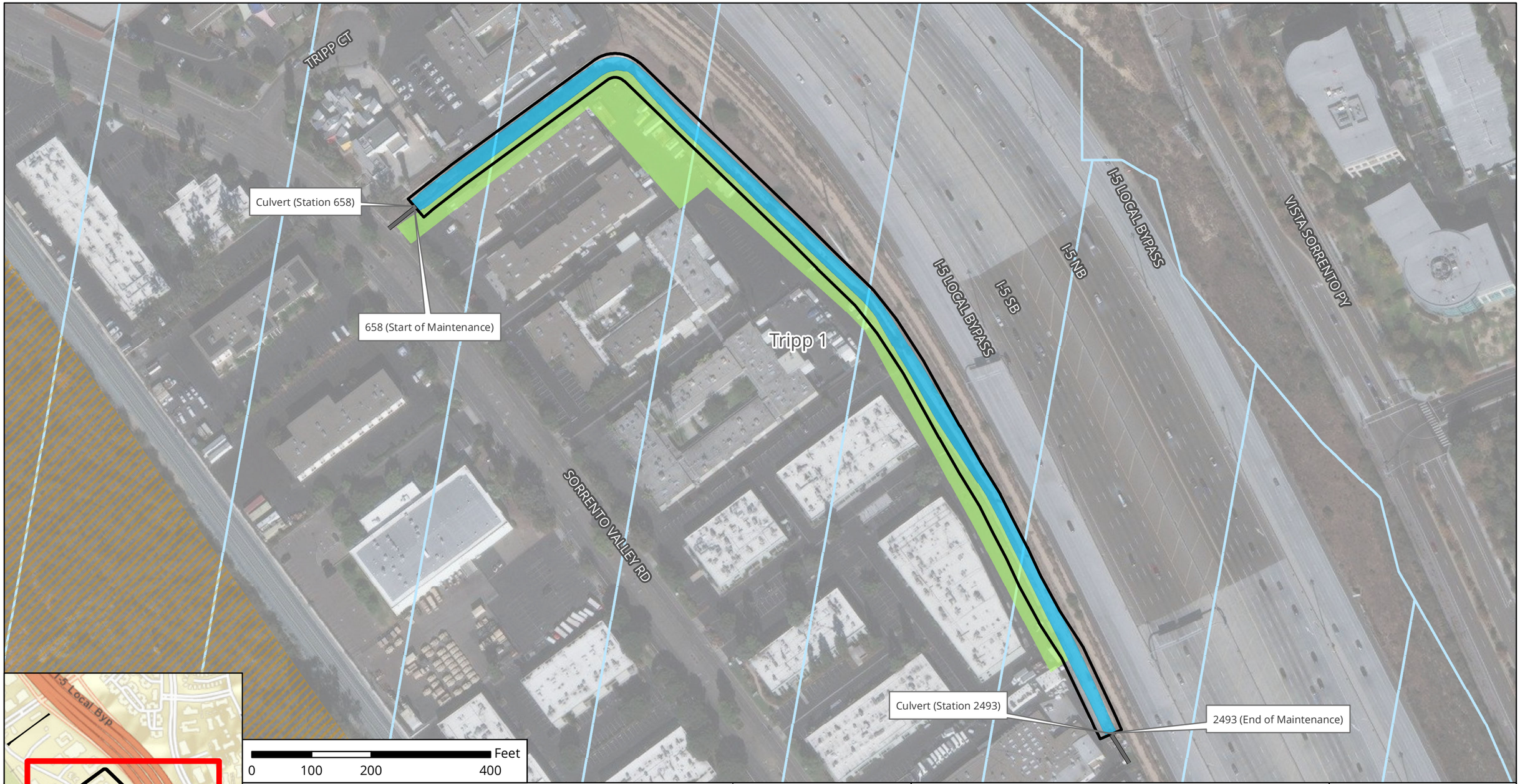
Facility Group	Los Peñasquitos Lagoon - Tripp
Segment Name	Tripp 1
Facility No.	2-01-130
Facility Location	From 1,700 feet south east of Tripp Court cul-de-sac to a pipe which conveys flow under Sorrento Valley Road
Coastal Zone	N-APP-1
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 658 to Station 2493. Remove accumulated sediment, debris, and vegetation from culvert at Station 658. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 11935-D, 11935-6-D, 11935-7-D, & 11530-1-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,835 feet Top width: 22 feet Bottom width: 4 feet Depth: 2–5 feet
Authorized Facility Maintenance Area	Length: Ditch: 1,835 feet Width: 22 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator, which scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor used to flush pipes in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Segment Names (Facility numbers):

Black Mountain 1 (2-01-200)

Black Mountain 2 (2-01-210)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Los Peñasquitos Canyon Creek Unnamed Tributary (01)
Facility Group Name	Los Peñasquitos Canyon Creek - Black Mountain
Segment Name (Facility Number)	Black Mountain 1 (2-01-200) Black Mountain 2 (2-01-210)
Substrate	Black Mountain 1 / Earthen Black Mountain 2 / Earthen
Location	About 200 feet south of Truman Street and north of Mercy Road
MMP Map No(s).	5a, 5b
Facility Inspection No.	5a, 5b
Other Former Names	None

Figure 1: Vicinity Map of Los Peñasquitos Canyon Creek - Black Mountain Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Los Peñasquitos Canyon Creek - Black Mountain	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Los Peñasquitos Creek (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphate, Total Dissolved Solids, Toxicity

Black Mountain Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and riprap banks
Location Within Watershed	Lower reach of Los Peñasquitos Canyon Creek (unnamed tributary), immediately upstream of Los Peñasquitos Canyon Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,027 feet
Top-of-Bank Width	Approximately 36–45 feet
Bottom Facility Width	Approximately 8–26 feet
Facility Depth	Approximately 5–11 feet
Adjacent Land Use	Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	20575-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at segment

Figure 2: Vicinity Map of Black Mountain Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation observed ranged from light to dense. Sediment deposition was estimated to be 1 to 2 feet at the energy dissipater, the riprap drop structures in the channel, and in the culvert.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	378	481	561	670	750	833

Hydraulic Capacity of Facility

Current Capacity	470 cfs
Proposed MWMP Maintained Capacity	650 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the energy dissipator at Station 1000 to Station 1092, from the drop structures at Station 827 to Station 869 and Station 960 to Station 1000. Remove accumulated sediment and debris in the culvert between Station 93 and Station 168. Trim the vegetation from the earthen channel bottom from Station 168 to Station 1120.
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (palm-dominated) • Freshwater marsh • Natural flood channel • Riparian scrub (mulefat scrub)
Adjacent Vegetation	• Coastal sage scrub • Developed land • Eucalyptus woodland • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	The channel itself has limited potential to support sensitive species or other wildlife since it does not contain sensitive habitat. However, eucalyptus woodland and riparian forest (southern willow forest) adjacent to the channel could support raptors and other migratory bird species. Coastal sage scrub is also present adjacent to the channel and has potential to support coastal California gnatcatcher.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The channel is located directly north (approximately 40 feet) of the nearest MHPA boundary, which is within Los Peñasquitos Creek.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Hydrology (HYD)	MM-BIO-7
EP-HYD-1	**Noise (NOI)**
Land Use (LU)	MM-NOI-1
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

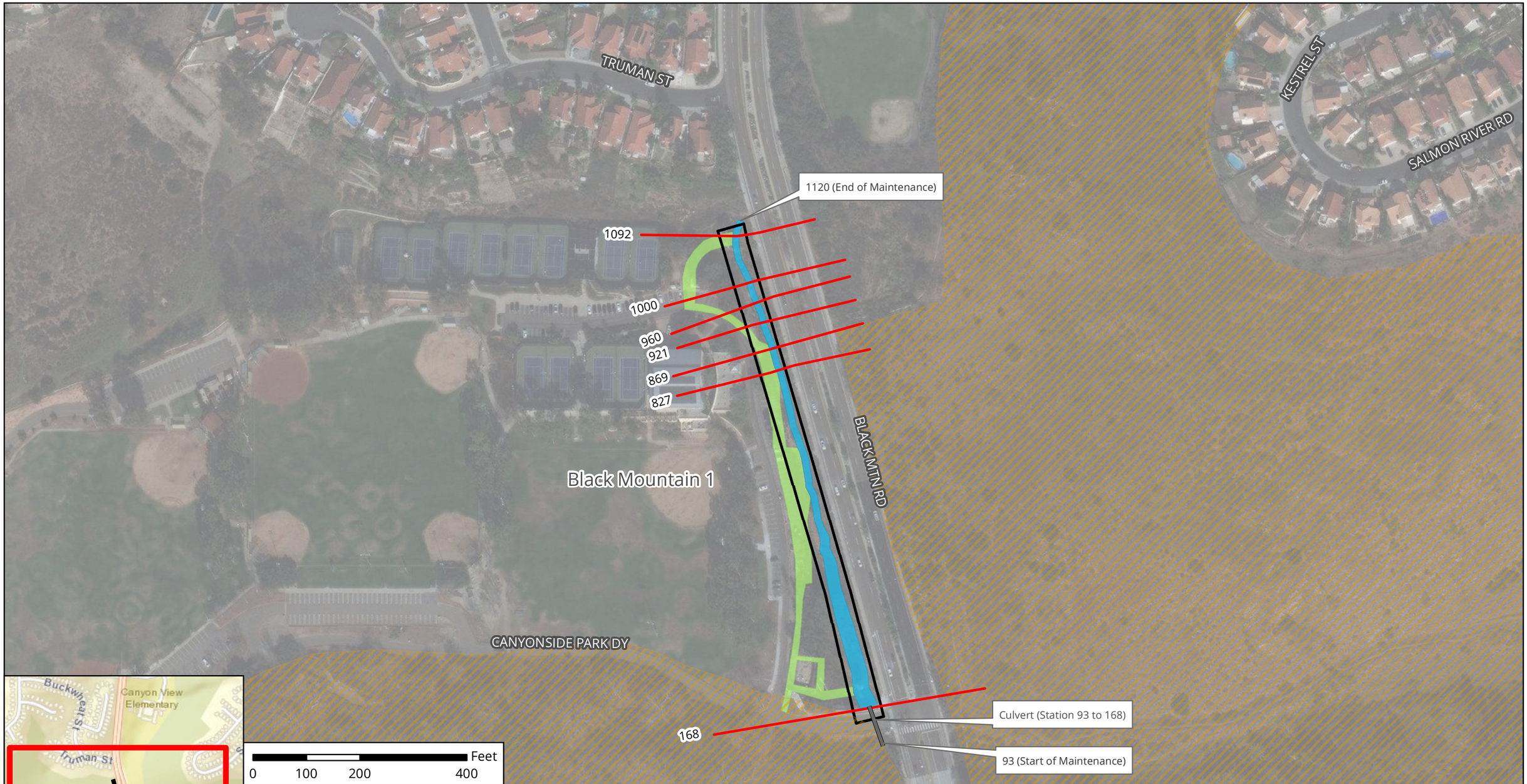
Facility Group	Los Peñasquitos Canyon Creek - Black Mountain
Segment Name	Black Mountain 1
Facility No.	2-01-200
Facility Location	From outlet of culvert 200 feet southwest of the intersection of Black Mountain Road and and Truman Street to north side of Canyonside Park Driveway
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of existing earthen channel with rip-rap side banks per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from the energy dissipator at Station 1000 to Station 1092, from the drop structures at Station 827 to Station 869 and Station 960 to Station 1000. Remove accumulated sediment and debris in the culvert between Station 93 and Station 168. Trim the vegetation from the earthen channel bottom from Station 168 to Station 1120.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Riprap replacement
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	Yes; see Appendix A-4
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 20575-D

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Substrate Detail	Earthen bottom and riprap banks
Facility Dimensions (Approximate)	Length: 1,027 feet Top width: 36–45 feet Bottom width: 8–26 feet Depth: 5–11 feet
Authorized Facility Maintenance Area	Length: Channel: 952 feet; Culvert: 75 feet Width: 12–30 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, long reach excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30–45 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes (If access on Canyonside Community Park driveway is used); coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. In-stream post-maintenance erosion control measures may occur within this facility area.
2. Concrete repair may occur within this facility area.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Los Peñasquitos Canyon Creek - Black Mountain
Segment Name: Black Mountain 1
Facility No: 2-01-200
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Black Mountain Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Los Peñasquitos Canyon Creek (unnamed tributary), immediately upstream of Los Peñasquitos Canyon Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,931 feet
Top-of-Bank Width	Approximately 24–136 feet
Bottom Facility Width	Approximately 16.5–90 feet
Facility Depth	Approximately 5–13 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Transportation
As-Built Drawing Number	16065-1-D
Coastal Zone	No

Figure 1: April 2017, looking upstream at quadruple-barrel 6-foot-diameter RCP storm drain outlet at Mercy Road

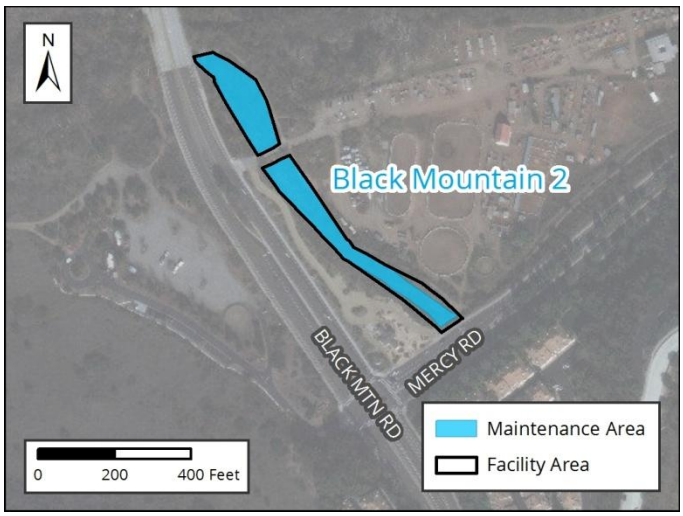


Figure 2: Vicinity Map of Black Mountain Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Dense vegetation was observed throughout the segment and sediment deposition varied from 1 to 3 feet					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	913	1,151	1,348	1,603	1,792	1,982
Hydraulic Capacity of Facility						
Current Capacity	1,000 cfs					
Proposed MWMP Maintained Capacity	1,295 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of the earthen segment from Station 87 to Station 422, and from Station 433 to Station 1057. Trim vegetation on banks from Station 87 to Station 422 and Station 433 to Station 1057. Remove accumulated sediment and debris in culverts from Station 78 to Station 87, and from Station 422 to Station 433.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Freshwater marsh • Natural flood channel • Riparian forest (southern willow forest)
Adjacent Vegetation	• Coastal sage scrub • Chamise chaparral • Developed land • Disturbed coastal sage scrub (Baccharis-dominated) • Eucalyptus woodland • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	The channel has a high potential to support sensitive and migratory bird species, such as least Bell's vireo, due to the presence of extensive suitable habitat (e.g., riparian forest [southern willow forest]) both within and adjacent to the facility. Coastal sage scrub is also present adjacent to the channel, which could support coastal California gnatcatcher.
MHPA	The northern section of the facility is located within the Multi Habitat Planning Area (MHPA) which is connected to Los Penasquitos Creek
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-1	MM-BIO-6
EP-HAZ-3	MM-BIO-7
Hydrology (HYD)	**Noise (NOI)**
EP-HYD-1	MM-NOI-1
Land Use (LU)	
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

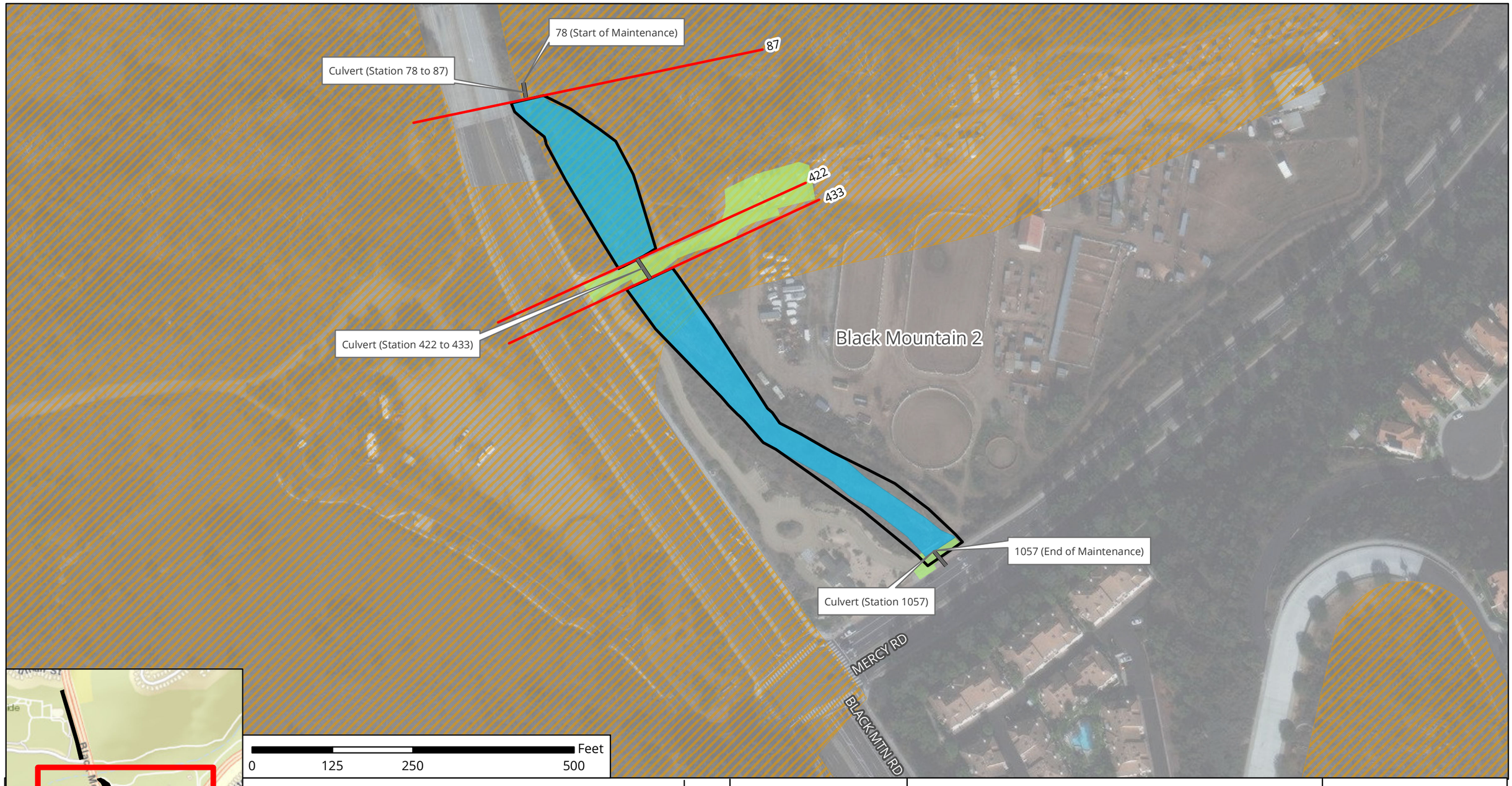
Facility Group	Los Peñasquitos Canyon Creek - Black Mountain
Segment Name	Black Mountain 2
Facility No.	2-01-210
Facility Location	From storm drain system outlet north of Mercy Road to beneath the Los Peñasquitos Canyon trail which discharges to Los Peñasquitos Creek
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of the earthen segment from Station 87 to Station 422, and from Station 433 to Station 1057. Trim vegetation on banks from Station 87 to Station 422 and Station 433 to Station 1057. Remove accumulated sediment and debris in culverts from Station 78 to Station 87, and from Station 422 to Station 433.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 16065-1-D
Substrate Detail	Earthen bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,931 feet Top width: 24–136 feet Bottom width: 16.5–90 feet Depth: 5–13 feet
Authorized Facility Maintenance Area	Length: Channel: 959 feet; Culvert: 20 feet Width: 19–43 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30–45 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. **In-stream post-maintenance erosion control measures may occur within this facility area.**
2. **Access/Loading/Staging/Stockpiling may also occur within City ROW.**
3. **Access/Loading/Staging/Stockpiling may be modified during implementation.**
4. **Stations are approximate and may not directly correspond with facility and/or maintenance lengths.**

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Los Peñasquitos Canyon Creek - Black Mountain
Segment Name: Black Mountain 2
Facility No: 2-01-210
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Soledad Canyon Creek - Sorrento Facility Group

Segment Names (Facility numbers):

- Roselle 1 (2-03-000)
- Roselle 2 (2-03-002)
- SorValRd 1 (2-03-004) (See Appendix A-5)
- SorValRd 2 (2-03-006) (See Appendix A-5)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Soledad Canyon Creek (03)
Facility Group Name	Soledad Canyon Creek - Sorrento
Segment Name (Facility Number)	Roselle 1 (2-03-000) Roselle 2 (2-03-002) SorValRd 1 (2-03-004) (See Appendix A-5) SorValRd 2 (2-03-006) (See Appendix A-5)
Substrate	Roselle 1 / Earthen Roselle 2 / Concrete SorValRd 1 / Earthen SorValRd 2 / Earthen
Location	Bordered by Carroll Canyon Road, Sorrento Valley Road, and Roselle Street
MMP Map No(s).	11, 12, 13, 14, 15
Facility Inspection No.	11, 12, 13, 14
Other Former Names	Sorrento Creek Segment 1 – Reach 2 Segment 2 – Reach 3 Segment 2 – Reach 3, Soledad Creek Channel

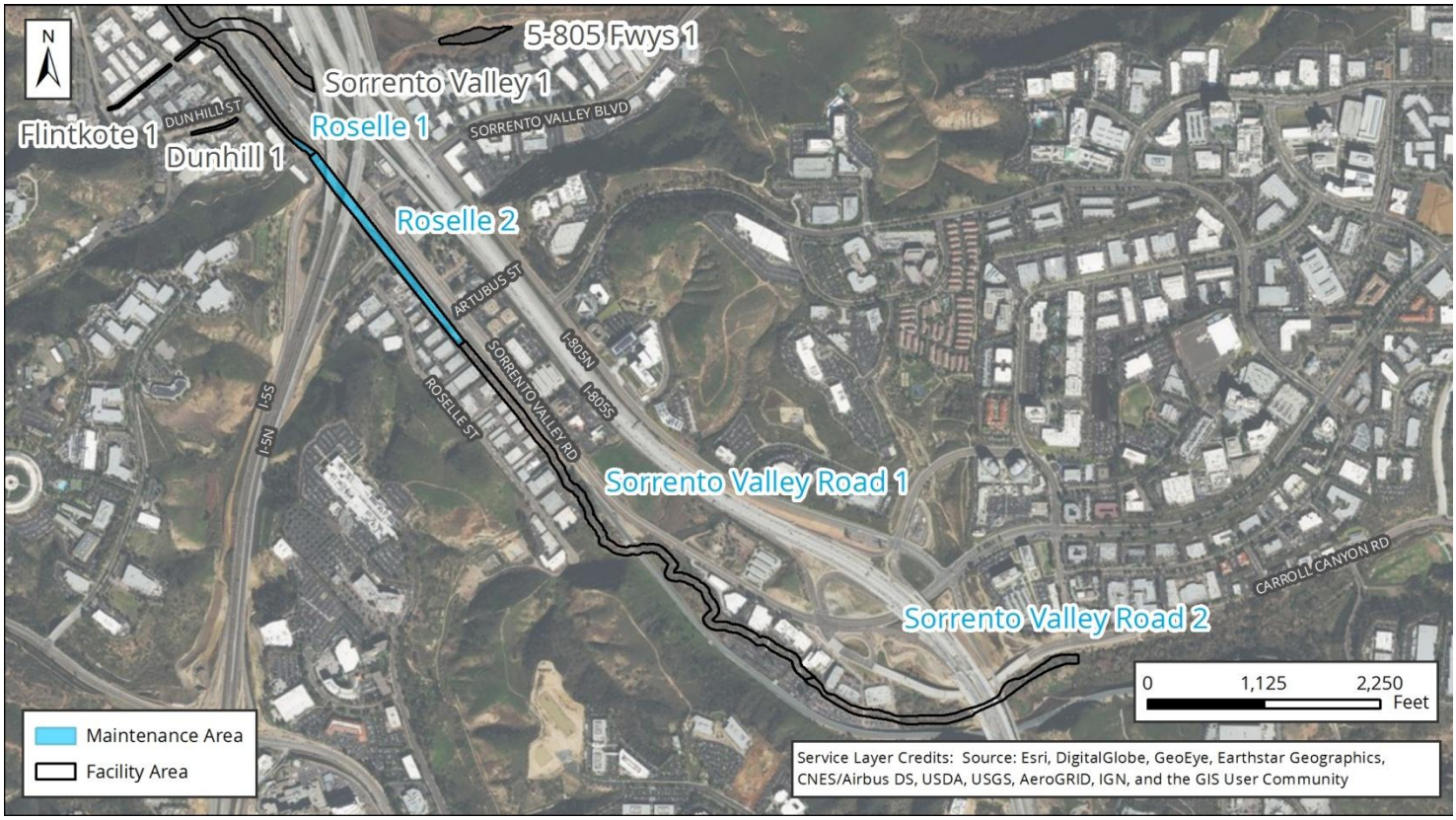


Figure 1: Vicinity Map of Soledad Canyon Creek - Sorrento Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Soledad Canyon Creek - Sorrento	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Cold Freshwater Habitat (COLD) • Wildlife Habitat (WILD)
303(d) listed Impairments	Sediment Toxicity, Selenium

Los Peñasquitos Creek (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphate, Total Dissolved Solids, Toxicity

Roselle Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Location Within Watershed	Lower reach of Soledad Canyon Creek, immediately upstream of Los Peñasquitos Lagoon
Tributaries (listed from downstream to upstream)	Soledad Canyon Creek Unnamed Tributary, Carroll Canyon Creek Soledad Canyon Creek – Flintkote Soledad Canyon Creek – Dunhill
Facility Length	Approximately 1,554 feet
Top-of-Bank Width	Approximately 10–60 feet
Bottom Facility Width	Approximately 10–20 feet
Facility Depth	Approximately 5–10 feet
Adjacent Land Use	Commercial, Industrial, Office, Open Space, Transportation
As-Built Drawing Number	Doc No. A0000128 (Caltrans)
Coastal Zone	CST-APP, N-APP-1

Figure 1: January 2016, looking downstream at the upstream end

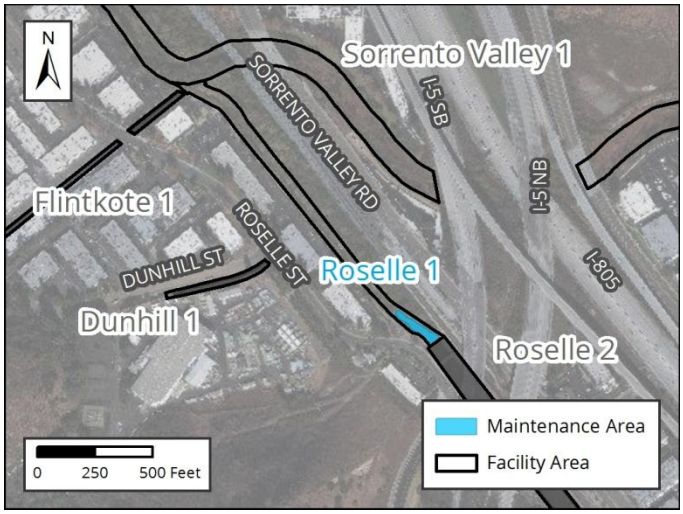


Figure 2: Vicinity Map of Roselle Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	1998: Excavation of sediment and vegetation conducted throughout segment 2011: Emergency excavation of sediment and vegetation in downstream section of channel 2016: Emergency excavation of vegetation and sediment in upstream section of channel January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	CDP No. 6-99-101 (expired November 2017)
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00198-RAG (expired July 2016)
401	WDR Order No. 96-32 401 Cert No. 995007000-BAH (covered under ACOE RGP 63 SPL-2010-01177-MBS permit); & R9-2013-0116 (expired March 2017)
1602	CDFW SAA No. 5-265-97 (expired October 2002) & 1600-2006-0183-R5 (expires August 2026)
Mitigation for Previous Impacts	El Cuervo Wetland Area WMMP (2000) (6.6 acres) Famosa Slough Off-Site Salt Marsh Mitigation (0.1 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In January 2016, the channel was observed to have moderate to dense vegetation with a sediment and debris depth of up to 18 inches deep. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	220	730	1,500	3,100	4,500	6,700

Hydraulic Capacity of Facility	
Current Capacity	1,500 cfs
Proposed MWMP Maintained Capacity	1,500 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the 215-foot transition zone (Station 3716 to Station 3931)
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Freshwater marsh • Riparian forest (southern willow forest) • Riparian scrub (southern willow scrub)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	The vegetation contained within the facility provides potential nesting and/or foraging habitat for raptors, migratory bird species, and sensitive bird species (e.g., least Bell's vireo, southern willow flycatcher, and Ridgeway's rail)
MHPA	The downstream portion of facility is contained within Multi Habitat Planning Area (MHPA) however proposed maintenace is not within or adjacent to the MHPA.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-001010
Resource Type	Destroyed Prehistoric artifact scatter

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1974 earthen channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-CR-1
Solid Waste (SW)	MM-CR-2
EP-SW-2	MM-CR-3
EP-SW-3	MM-CR-4
EP-SW-4	**Noise (NOI)**
EP-SW-5	MM-NOI-1
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

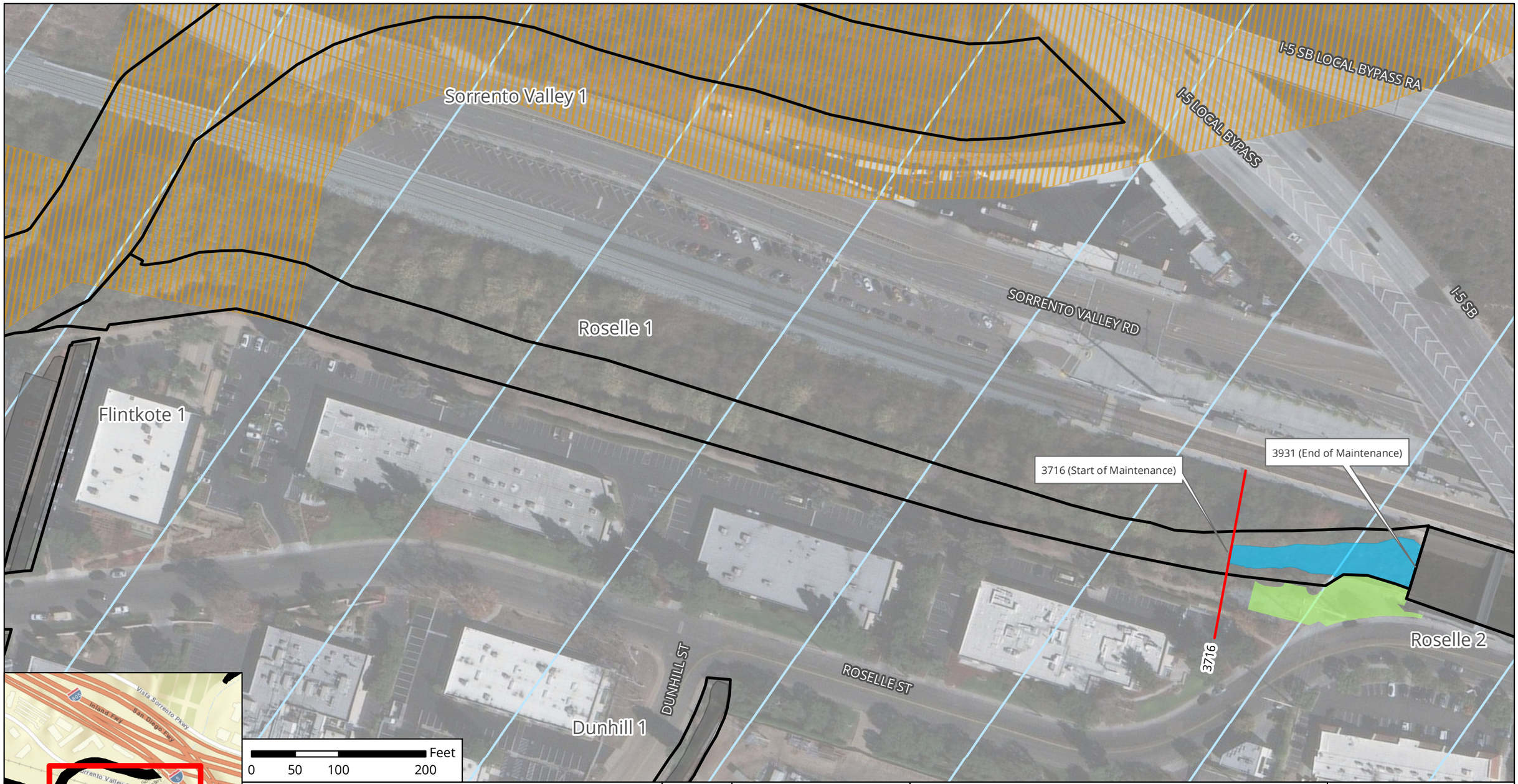
Facility Group	Soledad Canyon Creek - Sorrento
Segment Name	Roselle 1
Facility No.	2-03-000
Facility Location	From the downstream end of Roselle 2 segment to 900 feet northeast of the intersection of Dunhill Street and Roselle Street
Coastal Zone	CST-APP, N-APP-1
MWMP Proposed Maintenance	Maintenance of channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from the 215-foot transition zone (Station 3716 to Station 3931)
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; Doc No. A0000128 (Caltrans)
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Facility Dimensions (Approximate)	Length: 1,554 feet Top width: 10–60 feet Bottom width: 10–20 feet Depth: 5–10 feet
Authorized Facility Maintenance Area	Length: Channel: 215 feet Width: 23–48 feet
Maintenance Quantities	To be determined at time of maintenance

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, long reach excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 20–30 working days
Maintenance Crew	Approximately 10–18 people
Routine Maintenance Procedures	Outside of Channel: 1. Gradall/excavator and long reach excavator move along channel bank within access/loading area 2. Excavators scoop material from channel and load dump truck 3. Dump truck hauls material to legal disposal site Inside of Channel: 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator and long reach excavator at access/loading area stationed above channel bank 3. Excavators scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with Metropolitan Transit System (MTS) and the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Soledad Canyon Creek - Sorrento
Segment Name: Roselle 1
Facility No: 2-03-000
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Roselle Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Soledad Canyon Creek, immediately upstream of Soledad Canyon Creek (Segment 1)
Tributaries (listed from downstream to upstream)	Carroll Canyon Creek
Facility Length	Approximately 2,314 feet
Top-of-Bank Width	Approximately 93 feet
Bottom Facility Width	Approximately 63 feet
Facility Depth	Approximately 5–10 feet
Adjacent Land Use	Commercial, Industrial, Office, Open Space, Parks, Public Facilities and Utilities, Transportation
As-Built Drawing Number	Doc No. A0000128 (Caltrans)
Coastal Zone	CST-APP

Figure 1: January 2016, looking upstream from the northwest side of the I-5 overpass

Figure 2: Vicinity Map of Roselle Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2014 – 2017: Routine maintenance conducted December 2015 – March 2016: Emergency concrete replacement of upstream 397 feet March 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	City issued Emergency CDP No. 818358 (expired April 2011) & 2012 Master CDP No. A-6-NOC11-086 (expires November 2019)
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00198-RAG (expired July 2016); NWP 33 USACE File #SPL-2013-00432-MBS (expired March 2017)
401	RWQCB 401 Cert No. R9-2013-0116 (expired March 2017); 401 Cert. No. R9-069C-062 (one-time event); & 401 Cert. File No. 995007000-BAH (covered under ACOE RGP 63 SPL-2010-01177-MBS permit)
1602	CDFW SAA No. 1600-2013-0120-R5 (expired July 2018); CDFW Notification 2011-0002-R5 (OpLaw); CDFW SAA No. 1600-2006-0183-R5 (expires August 2026)
Mitigation for Previous Impacts	El Cuervo del Sur HMMP (1.85 acres) Los Peñasquitos WEP (5.35 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In January 2016, the channel was observed to have vegetation vary from dense at the downstream end to relatively clean concrete at the upstream end. Sediment deposition was estimated to be 1.5 feet at the downstream end to 0.5 feet in the upstream portion. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	220	730	1,500	3,100	4,500	6,700

Hydraulic Capacity of Facility

Current Capacity	1,500 cfs
Proposed MWMP Maintained Capacity	1,900 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 3931 to Station 6245
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Freshwater marsh (concrete-lined)
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, potential nesting and/or foraging habitat for raptors, migratory bird species, and sensitive bird species (e.g., least Bell's vireo, southern willow flycatcher, and Ridgeway's Rail) is present upstream and downstream of the channel section.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundaries are located approximately 580 feet to the west and 590 feet to the east. The MHPA is also downstream within Los Peñasquitos Creek.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-001010
Resource Type	Destroyed Prehistoric artifact scatter

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1974 concrete channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-CR-1
Solid Waste (SW)	MM-CR-2
EP-SW-2	MM-CR-3
EP-SW-3	MM-CR-4
EP-SW-4	**Noise (NOI)**
EP-SW-5	MM-NOI-1
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

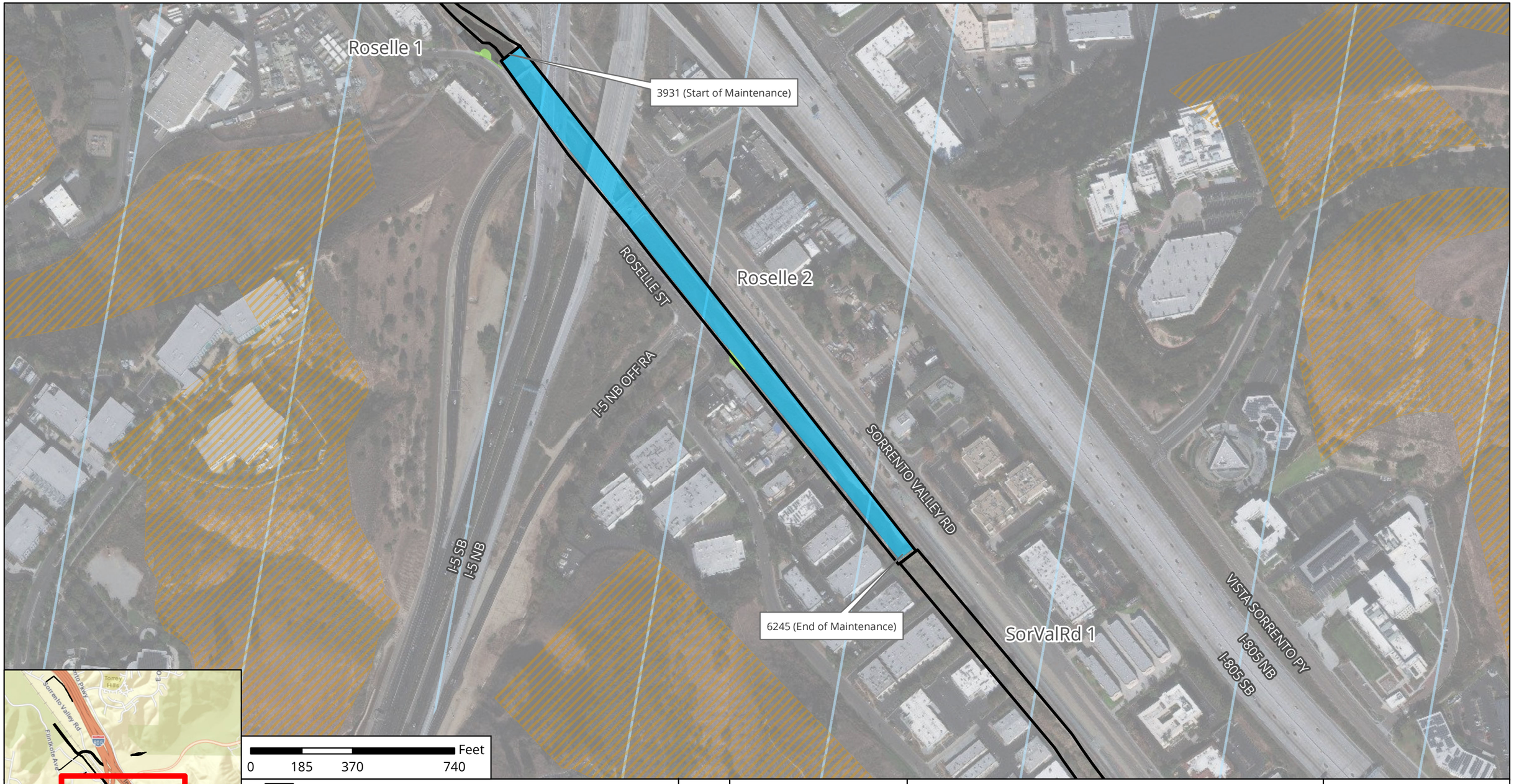
Facility Group	Soledad Canyon Creek - Sorrento
Segment Name	Roselle 2
Facility No.	2-03-002
Facility Location	From the downstream end of Soledad Canyon Creek - Sorrento Valley Road 1 segment to the upstream end of Roselle 1 segment, bordered by Sorrento Valley Road
Coastal Zone	CST-APP
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 3931 to Station 6245
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; Doc No. A0000128 (Caltrans)
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 2,314 feet Top width: 93 feet Bottom width: 63 feet Depth: 5–10 feet
Authorized Facility Maintenance Area	Length: Channel: 2,314 feet Width: 93 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 20–30 working days
Maintenance Crew	Approximately 10–18 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, loader, and dump truck enter or are lowered into channel at access/loading area 2. Gradall/excavator is stationed on pad within channel and/or at access/loading area 3. Bobcat/skid-steer makes piles for loader 4. Gradall/excavator makes piles for loader and/or loads dump truck 5. Loader loads dump truck 6. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with Metropolitan Transit System (MTS) and the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Soledad Canyon Creek - Sorrento
Segment Name: Roselle 2
Facility No: 2-03-002
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Carroll Canyon Creek - Carroll Facility Group

Segment Name (Facility number):

Carroll Canyon 1 (2-03-012)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Carroll Canyon Creek (03)
Facility Group Name	Carroll Canyon Creek - Carroll
Segment Name (Facility Number)	Carroll Canyon 1 (2-03-012)
Substrate	Carroll Canyon 1 / Earthen and concrete
Location	Runs parallel to Carroll Canyon Road with El Camino Memorial Park located to the north and a parking lot located to the south
MMP Map No(s).	17
Facility Inspection No.	17
Other Former Names	Soledad Creek Channel

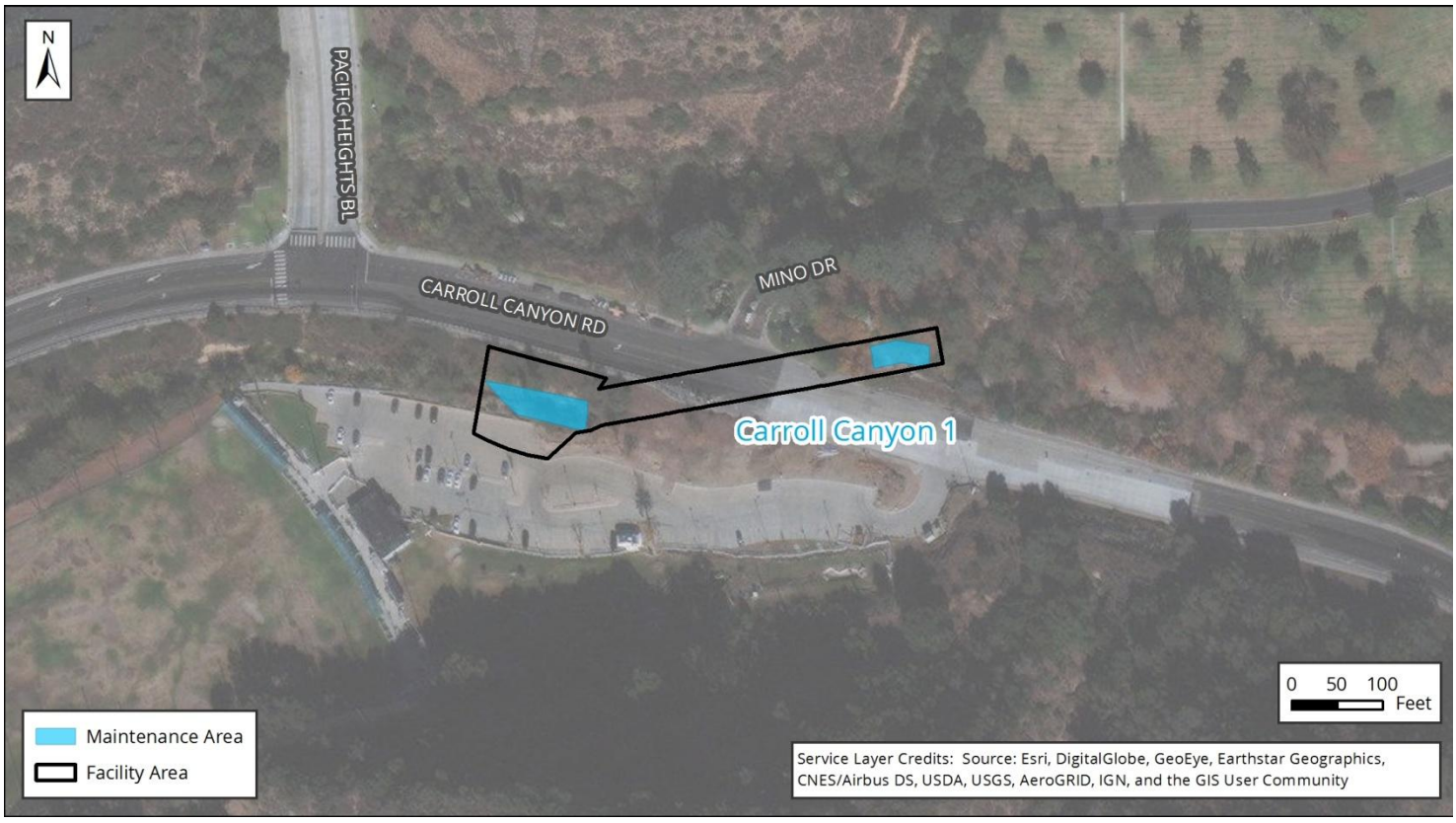


Figure 1: Vicinity Map of Carroll Canyon Creek - Carroll Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Carroll Canyon Creek - Carroll	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Carroll Canyon (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Cold Freshwater Habitat (COLD) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Toxicity

Carroll Canyon Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 17-98: Earthen bottom and banks Stations 98-178: Earthen bottom and riprap banks Stations 178-497: Culvert Stations 497-537: Concrete bottom and earthen banks Stations 537-577: Earthen bottom and banks
Location Within Watershed	Lower reach of Carroll Canyon Creek (unnamed tributary), immediately upstream of Carroll Canyon Creek (unnamed tributary)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 560 feet
Top-of-Bank Width	Approximately 45 feet
Bottom Facility Width	Approximately 14–28 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Parks, Transportation
As-Built Drawing Number	21569-D & 26930-D
Coastal Zone	No

Figure 1: May 2017, sediment and cobbles accumulated on concrete inlet apron upstream of the culvert

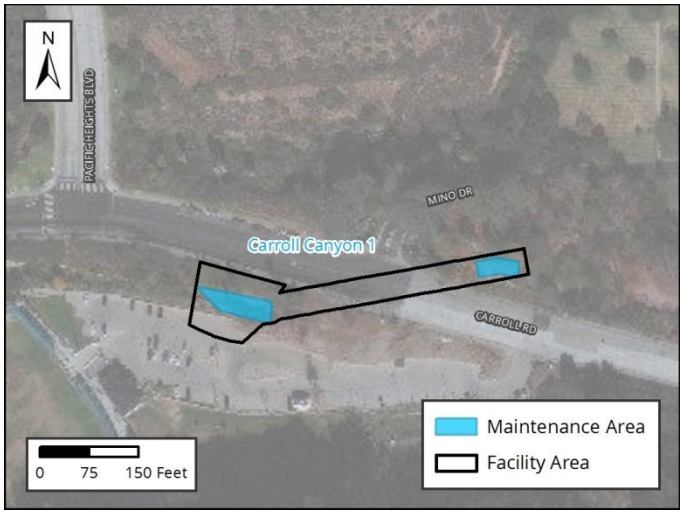


Figure 2: Vicinity Map of Carroll Canyon Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00035-MG
401	RGP 63 Verification No. R9-2016-0057;821245;lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	El Cuervo del Sur HMMP (0.03 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	The segment was observed to have minimal vegetation and up to 2.2 feet of sediment and cobble in the channel and the culvert					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	363	655	1,000	1,846	3,000	4,500
Hydraulic Capacity of Facility						
Current Capacity	400 cfs					
Proposed MWMP Maintained Capacity	900 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from channel bottom and temporary diversion berm from Station 58 to 178 and from Station 497 to Station 561. Remove sediment and debris in culvert from Station 178 to Station 497.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Natural flood channel • Ornamental plantings
Adjacent Vegetation	• Developed land • Disturbed coastal sage scrub • Disturbed freshwater marsh • Disturbed land • Disturbed riparian forest (southern riparian forest) • Natural flood channel • Ornamental plantings • Riparian forest (southern willow forest) • Riparian scrub
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife. However, suitable habitat (e.g., riparian scrub [southern willow scrub] and coastal sage scrub) is present in the areas surrounding the facility and may support sensitive bird species such as least Bell's vireo and coastal California gnatcatcher.
MHPA	Nearly the entire facility on both sides of Carroll Canyon Road is located within the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Land Use (LU)	MM-BIO-7
EP-LU-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Solid Waste (SW)	MM-CR-1
EP-SW-2	MM-CR-2
EP-SW-3	MM-CR-3
EP-SW-4	MM-CR-4
EP-SW-5	**Noise (NOI)**
EP-SW-6	MM-NOI-1
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

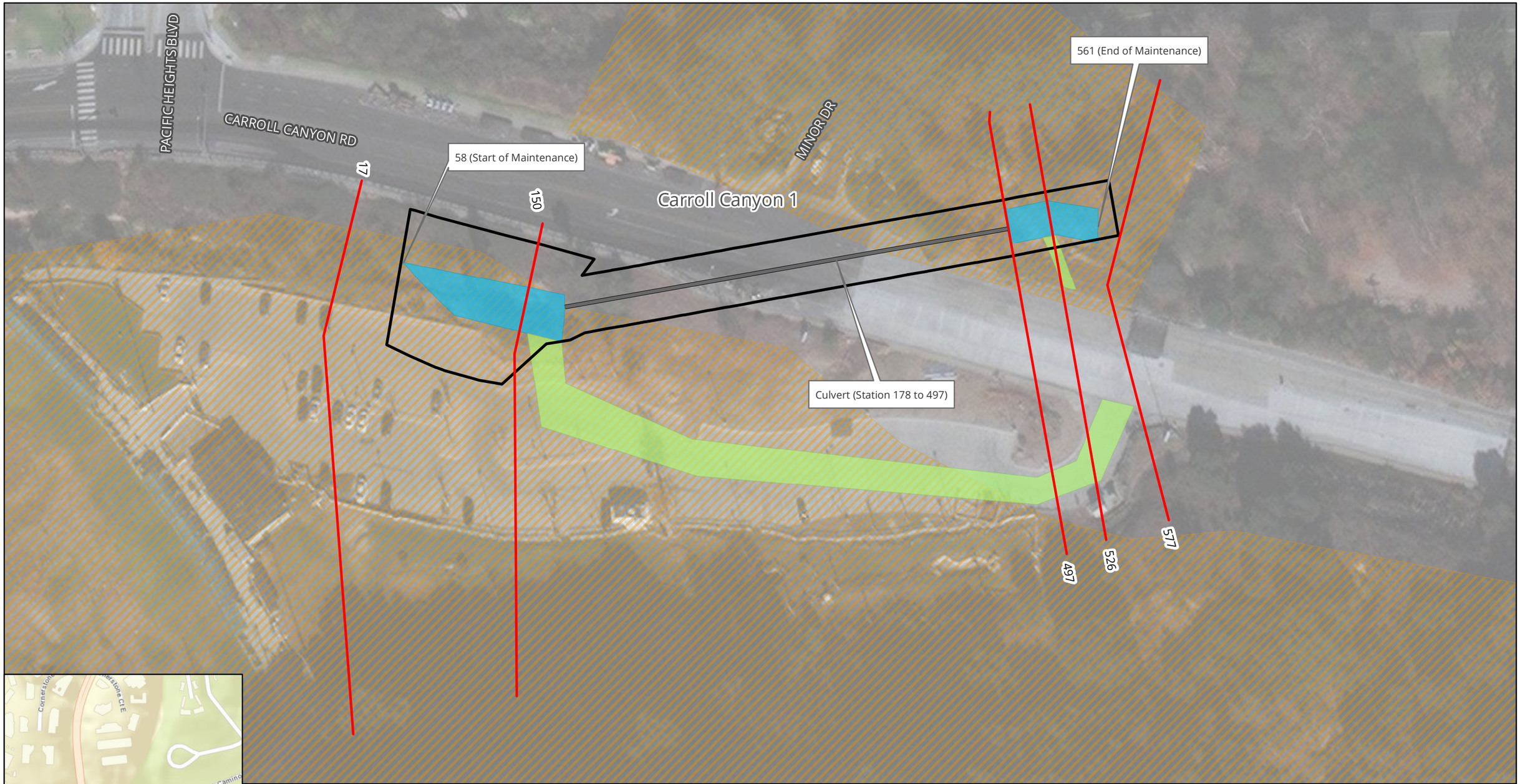
Facility Group	Carroll Canyon Creek - Carroll
Segment Name	Carroll Canyon 1
Facility No.	2-03-012
Facility Location	From the north side of Carroll Canyon Rd, approximately 315 feet east of Pacific Heights Boulevard, to the south side of Carroll Canyon Rd, approximately 715 feet east of Pacific Heights Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of Carroll Canyon Road culvert and portion of channel per previous emergency maintenance approvals and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and overgrown vegetation from channel bottom and temporary diversion berm from Station 58 to 178 and from Station 497 to Station 561. Remove sediment and debris in culvert from Station 178 to Station 497.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 21569-D & 26930-D

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Substrate Detail[3]	Stations 17-98: Earthen bottom and banks Stations 98-178: Earthen bottom and riprap banks Stations 178-497: Culvert Stations 497-537: Concrete bottom and earthen banks Stations 537-577: Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 560 feet Top width: 45 feet Bottom width: 14–28 feet Depth: 5 feet
Authorized Facility Maintenance Area	Length: Channel: 184 feet; Culvert: 319 feet Width: 25–32 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Kubota tractor (or similar style tractor), bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	Upstream Reach: 1. Tractor enters channel at access/loading area 2. Tractor scoops material from culverts and make piles for loader 3. Loader scoops material from channel and loads dump truck at access/loading area 4. Dump truck hauls material to legal disposal site Downstream Reach: 1. Tractor enters channel at access/loading area 2. Tractor scoops material from culverts and make piles for bulldozer/track-steer 3. Bulldozer/track-steer pushes material to Gradall/excavator 4. Gradall/excavator loads dump trucks 5. Dump truck hauls material to legal disposal site
Traffic Control	No

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Culvert
Station
Facility Area
Multi-Habitat Planning Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Carroll Canyon Creek - Carroll
Segment Name: Carroll Canyon 1
Facility No: 2-03-012
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Soledad Canyon Creek - Flintkote Facility Group

Segment Name (Facility number):

Flintkote 1 (2-03-100)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Soledad Canyon Creek Unnamed Tributary (03)
Facility Group Name	Soledad Canyon Creek - Flintkote
Segment Name (Facility Number)	Flintkote 1 (2-03-100)
Substrate	Flintkote 1 / Concrete
Location	About 700 feet northwest of the intersection of Tower Road and Flintkote Avenue and south of Soledad Canyon Creek
MMP Map No(s).	9
Facility Inspection No.	9
Other Former Names	Sorrento/Soledad Canyon - Reach 7

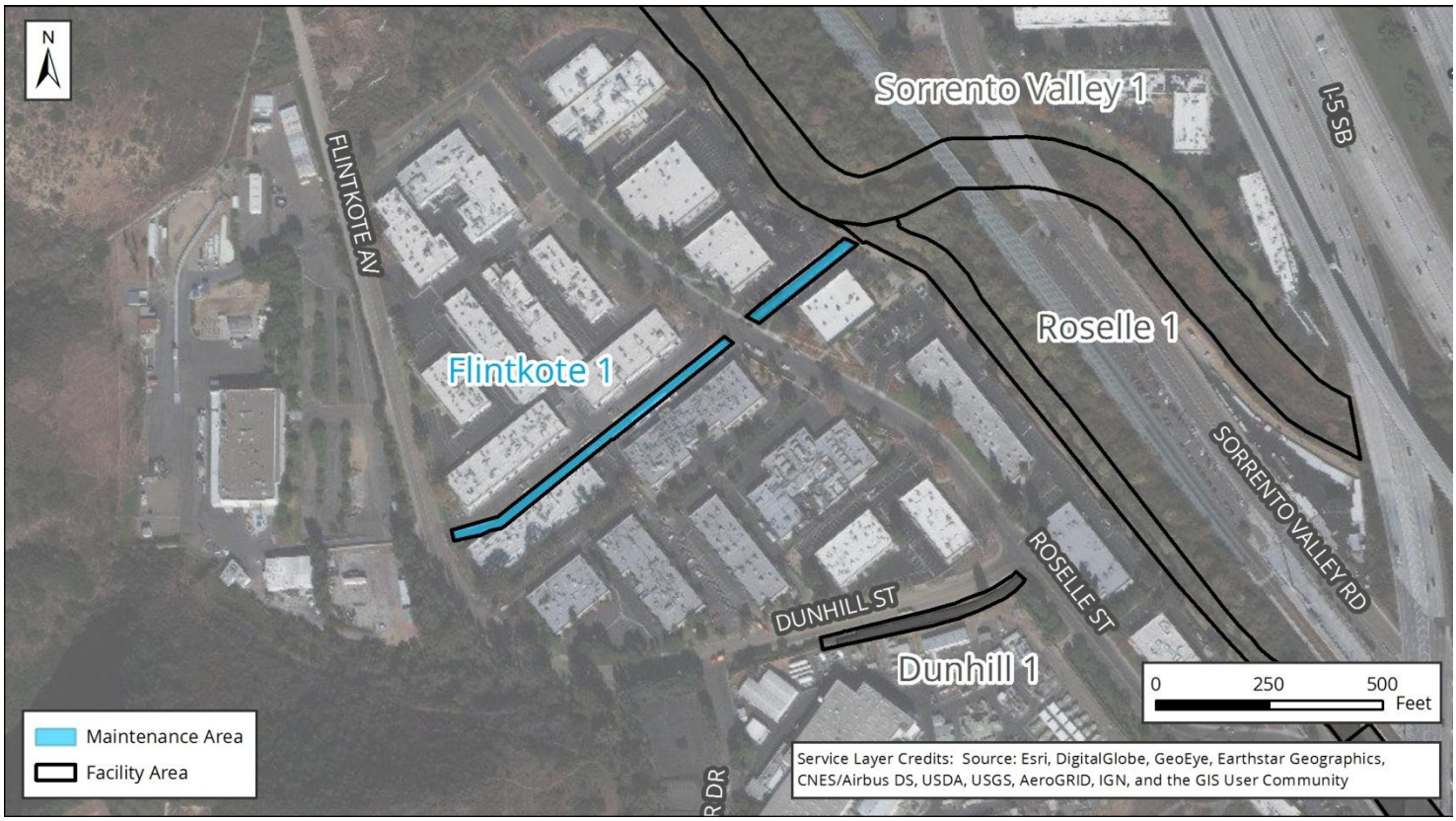


Figure 1: Vicinity Map of Soledad Canyon Creek - Flintkote Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Soledad Canyon Creek - Flintkote	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Cold Freshwater Habitat (COLD) • Wildlife Habitat (WILD)
303(d) listed Impairments	Sediment Toxicity, Selenium

Los Peñasquitos Creek (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphate, Total Dissolved Solids, Toxicity

Flintkote Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Soledad Canyon Creek unnamed tributary, immediately upstream of Soledad Canyon Creek (Roselle Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,075 feet
Top-of-Bank Width	Approximately 16–25 feet
Bottom Facility Width	Approximately 8 feet
Facility Depth	Approximately 4 feet
Adjacent Land Use	Industrial, Open Space, Transportation
As-Built Drawing Number	None
Coastal Zone	N-APP-1

Figure 1: June 2018, taken from Roselle Street looking southwest

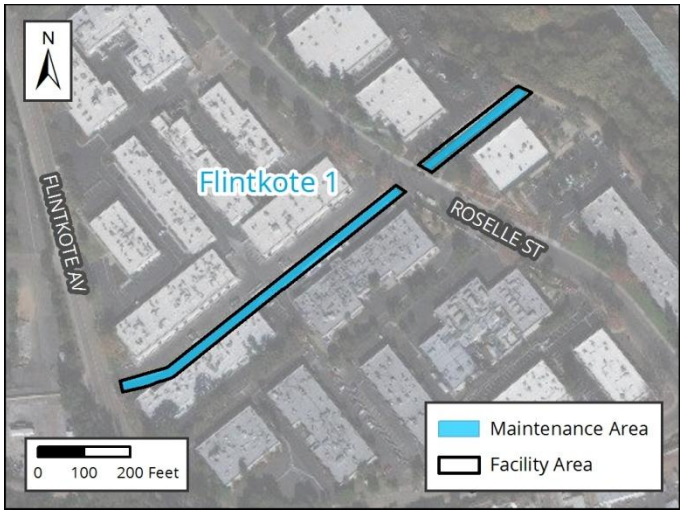


Figure 2: Vicinity Map of Flintkote Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2013: No maintenance conducted 2014 – 2017: Routine maintenance conducted April 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	2012 Master CDP No. A-6-NOC11-086-A1 (expires November 2019)
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 33 USACE File #SPL-2013-00432-MBS (expired March 2017)
401	RWQCB 401 Cert No. R9-2013-0116 (expired March 2017)
1602	CDFW SAA No. 1600-2013-0120-R5 (expired 2018)
Mitigation for Previous Impacts	El Cuervo del Sur HMMP (0.06 acre) Los Peñasquitos WEP (0.18 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In April 2013, the ditch was observed to have vegetation varying from clear to dense and the sediment deposition was estimated to be 1.25 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	76	97	112	133	145	155

Hydraulic Capacity of Facility	
Current Capacity	60 cfs
Proposed MWMP Maintained Capacity	80 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 50 to Station 300 and Station 383 to Station 1125. Remove accumulated sediment and debris in culvert from Station 300 to Station 383.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Freshwater marsh • Riparian forest (southern willow forest) • Riparian scrub (southern willow scrub)
Habitat and Wildlife	The ditch itself is concrete-lined and has a low potential to support habitat for nesting birds or special-status species. However, Ridgway's rail has been known to occur in the area, and daily surveys should be conducted during maintenance to ensure no rails have entered the ditch. Additionally, within 500 feet of the ditch boundary, raptor nesting habitat and coastal sage scrub suitable for coastal California gnatcatcher (within the Multi Habitat Planning Area [MHPA]) is present.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The downstream portion of the ditch is approximately 70 feet west of the MHPA boundary and the upstream portion is approximately 430 feet north of the MHPA boundary.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1974 concrete channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	MM-BIO-7
EP-HAZ-3	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Land Use (LU)	MM-CR-1
EP-LU-1	MM-CR-2
Solid Waste (SW)	MM-CR-3
EP-SW-2	MM-CR-4
EP-SW-3	**Noise (NOI)**
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Soledad Canyon Creek - Flintkote
Segment Name	Flintkote 1
Facility No.	2-03-100
Facility Location	From Flintkote Avenue to outlet of culvert 100 feet east of Roselle Street
Coastal Zone	N-APP-1
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 50 to Station 300 and Station 383 to Station 1125. Remove accumulated sediment and debris in culvert from Station 300 to Station 383.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	None
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,075 feet Top width: 16–25 feet Bottom width: 8 feet Depth: 4 feet
Authorized Facility Maintenance Area	Length: Ditch: 992 feet; Culvert: 83 feet Width: 16–25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 6–8 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall//Excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor used to power wash concrete ditch in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Soledad Canyon Creek - Flintkote
Segment Name: Flintkote 1
Facility No: 2-03-100
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Soledad Canyon Creek - Dunhill Facility Group

Segment Name (Facility number):

Dunhill 1 (2-03-150)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Soledad Canyon Creek Unnamed Tributary (03)
Facility Group Name	Soledad Canyon Creek - Dunhill
Segment Name (Facility Number)	Dunhill 1 (2-03-150)
Substrate	Dunhill 1 / Earthen
Location	About 300 feet east of the intersection of Tower Road and Dunhill Street, and west of the intersection of Roselle Street and Dunhill Street
MMP Map No(s).	10
Facility Inspection No.	10
Other Former Names	Sorrento/Soledad Canyon - Reach 8 and Soledad/Sorrento Creek Channel

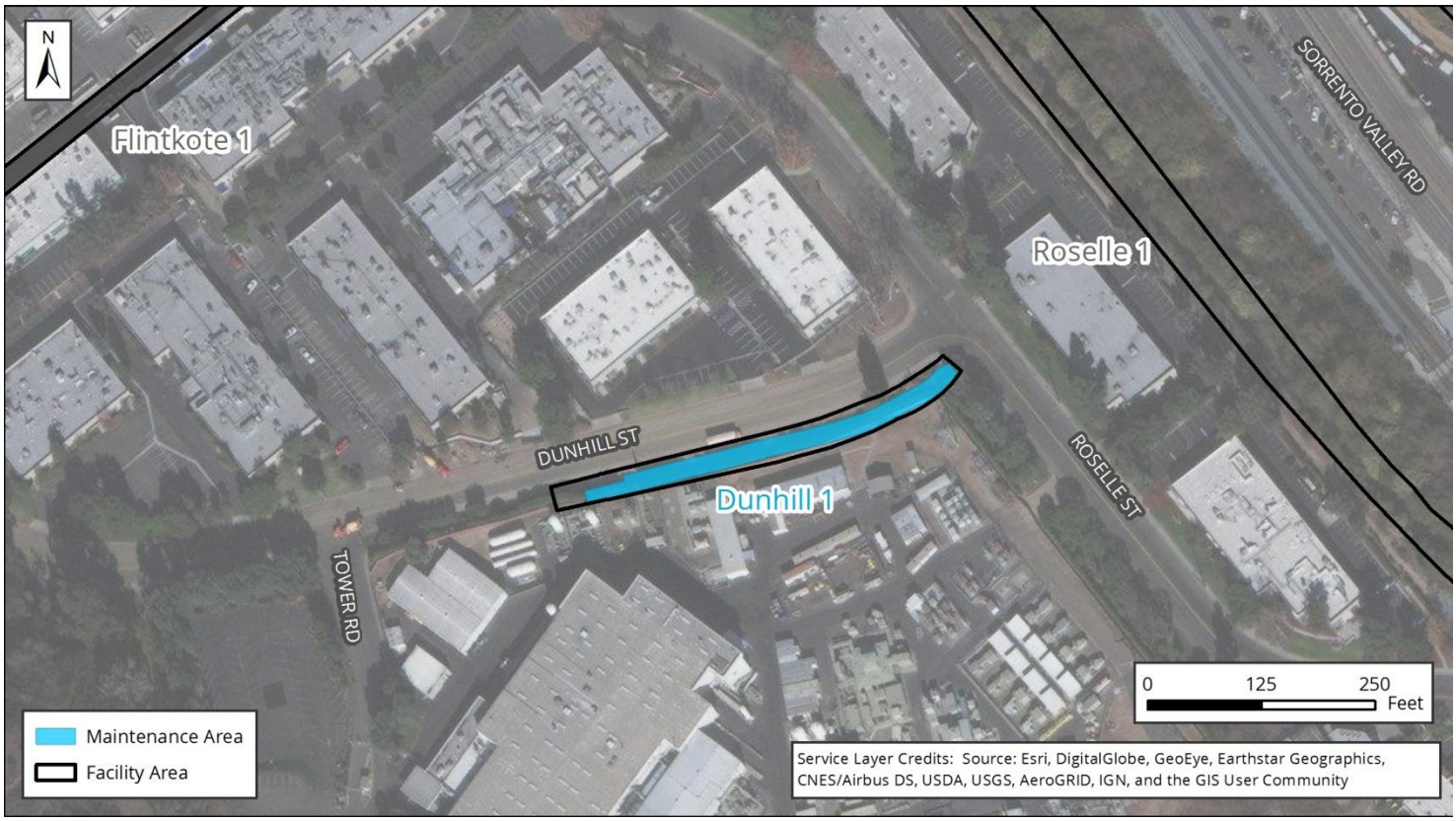


Figure 1: Vicinity Map of Soledad Canyon Creek - Dunhill Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Soledad Canyon Creek - Dunhill	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Cold Freshwater Habitat (COLD) • Wildlife Habitat (WILD)
303(d) listed Impairments	Sediment Toxicity, Selenium

Los Peñasquitos Creek (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphate, Total Dissolved Solids, Toxicity

Dunhill Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Soledad Canyon Creek unnamed tributary, immediately upstream of Soledad Canyon Creek (Roselle Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 430 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 10 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Industrial, Open Space, Transportation
As-Built Drawing Number	None
Coastal Zone	CST-APP

Figure 1: May 2017, looking downstream at vegetation and sediment in Dunhill segment

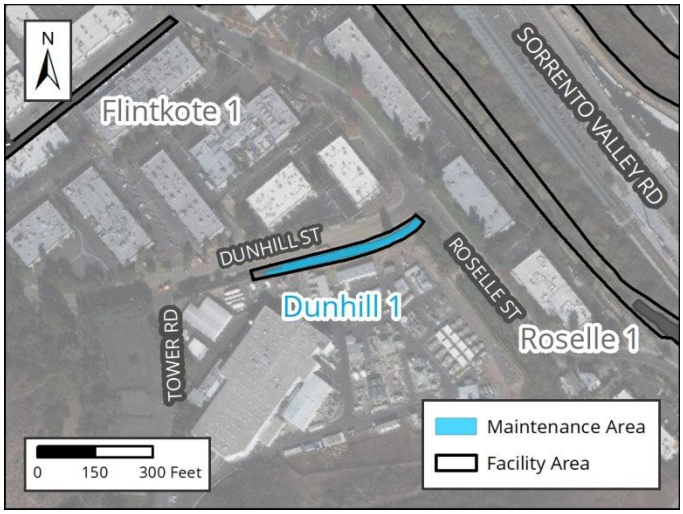


Figure 2: Vicinity Map of Dunhill Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	None
SDP	SDP No. 2034245 (2017 Addendum)
404	N/A; No permit required
401	N/A; No Permit Required
1602	N/A; No Permit Required
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to range from light to dense and sediment deposition was estimated to range from 6 inches to 3 feet					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	248	321	372	445	486	521
Hydraulic Capacity of Facility						
Current Capacity	120 cfs					
Proposed MWMP Maintained Capacity	125 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of the facility from Station 329 to Station 759. Repair bank at approximately from Station 715 to Station 759 on the north (street) side. Maintain/repair existing debris fence as needed.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland • Freshwater marsh
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility, but there is some potential for Ridgway's rail to occur in the channel due to adjacency to historic observation locations
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 570 feet southwest of the channel location.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1962 earthen channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Geologic Resources (GEO)	MM-BIO-5
EP-GEO-1	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-CR-1
Hydrology (HYD)	MM-CR-2
EP-HYD-1	MM-CR-3
Solid Waste (SW)	MM-CR-4
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

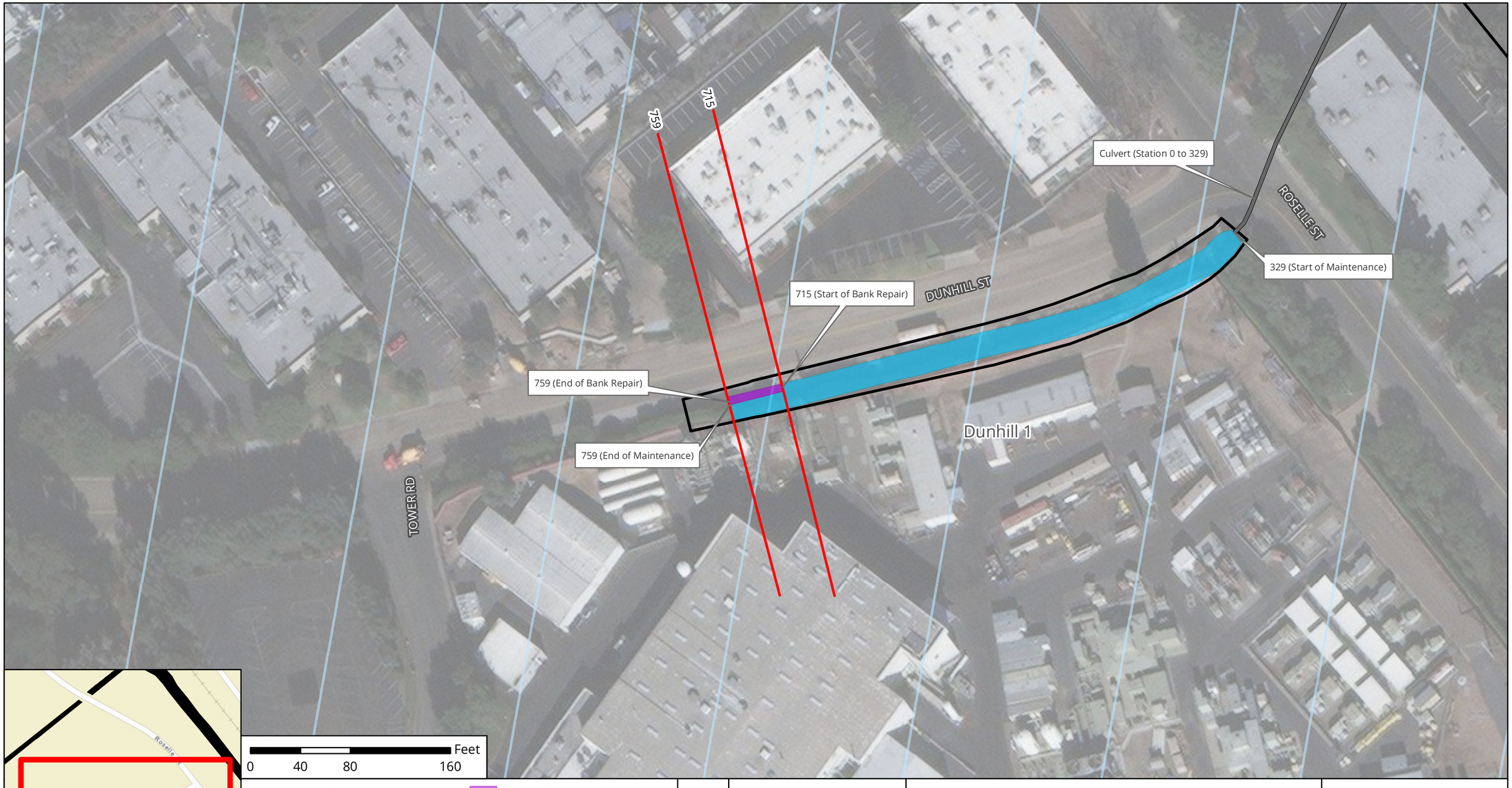
Facility Group	Soledad Canyon Creek - Dunhill
Segment Name	Dunhill 1
Facility No.	2-03-150
Facility Location	From a storm drain outfall just east of the intersection of Tower Road and Dunhill Street to inlet of culvert that passes under Roselle Street
Coastal Zone	CST-APP
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original designs and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of the facility from Station 329 to Station 759. Repair bank at approximately from Station 715 to Station 759 on the north (street) side. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary diversions Vegetation trimming Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks

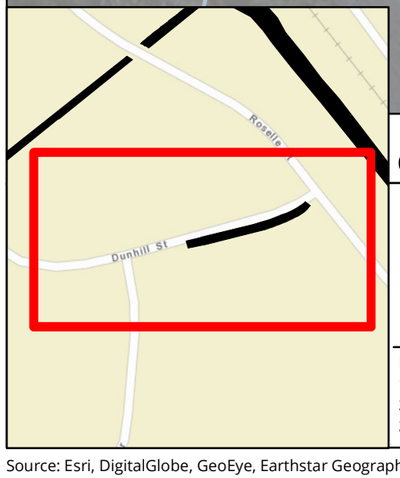
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 430 feet Top width: 30 feet Bottom width: 10 feet Depth: 5 feet
Authorized Facility Maintenance Area	Length: Channel: 430 feet Width: 20 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–10 people
Routine Maintenance Procedures	Outside of Channel: 1. Gradall/excavator moves along channel bank within access/loading area 2. Gradall/excavator scoops material from channel and loads dump truck 3. Dump truck hauls material to legal disposal site Inside of Channel: 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Other Notes	None

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors





0 40 80 160 Feet

- Culvert
- Station
- Facility Area
- Coastal Zone
- Bank Repair
- Maintenance Area

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Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Soledad Canyon Creek - Dunhill
Segment Name: Dunhill 1
Facility No: 2-03-150
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Chicarita Creek - Via San Marco Facility Group

Segment Name (Facility number):

Via San Marco 1 (2-05-140)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.20
Drainage Name (Number)	Chicarita Creek Unnamed Tributary (05)
Facility Group Name	Chicarita Creek - Via San Marco
Segment Name (Facility Number)	Via San Marco 1 (2-05-140)
Substrate	Via San Marco 1 / Concrete
Location	Bordered by Carmel Mountain Road to the west, residential development to the north and south, and Interstate 15 (I-15) to the east
MMP Map No(s).	4
Facility Inspection No.	4
Other Former Names	None

Figure 1: Vicinity Map of Chicarita Creek - Via San Marco Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.20	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Chicarita Creek - Via San Marco	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chicarita Creek (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	No impairments recorded on the 303(d) list

Via San Marco Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Gunite bottom and banks
Location Within Watershed	Unnamed tributary to Chicarita Creek, upstream of Chicarita Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 797 feet
Top-of-Bank Width	Approximately 7–12 feet
Bottom Facility Width	Approximately 3–6 feet
Facility Depth	Approximately 2–3 feet
Adjacent Land Use	Multi-Family Residential, Public Facilities and Utilities, Transportation
As-Built Drawing Number	11668-7-D
Coastal Zone	No

Figure 1: July 2017, photo depicts failure of gunite bottom of ditch, looking upstream

Figure 2: Vicinity Map of Via San Marco Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The ditch was observed to have light vegetation and estimated to have 4-6 inches of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	127	162	190	228	256	284
Hydraulic Capacity of Facility						
Current Capacity	96 cfs					
Proposed MWMP Maintained Capacity	112 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 179 to Station 481, and Station 501 to Station 896. Remove accumulated sediment and debris in the culverts at Station 179, and from Station 481 to Station 501. Repair failed gunite ditch bottom lining from Station 209 to Station 451 and 531 to Station 896.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	The ditch does not contain suitable vegetation for sensitive species. However, raptors could use the ornamental vegetation and eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 900 feet south west of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1972 concrete channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-6
EP-BIO-6	**Noise (NOI)**
Health and Safety/Hazards (HAZ)	MM-NOI-1
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

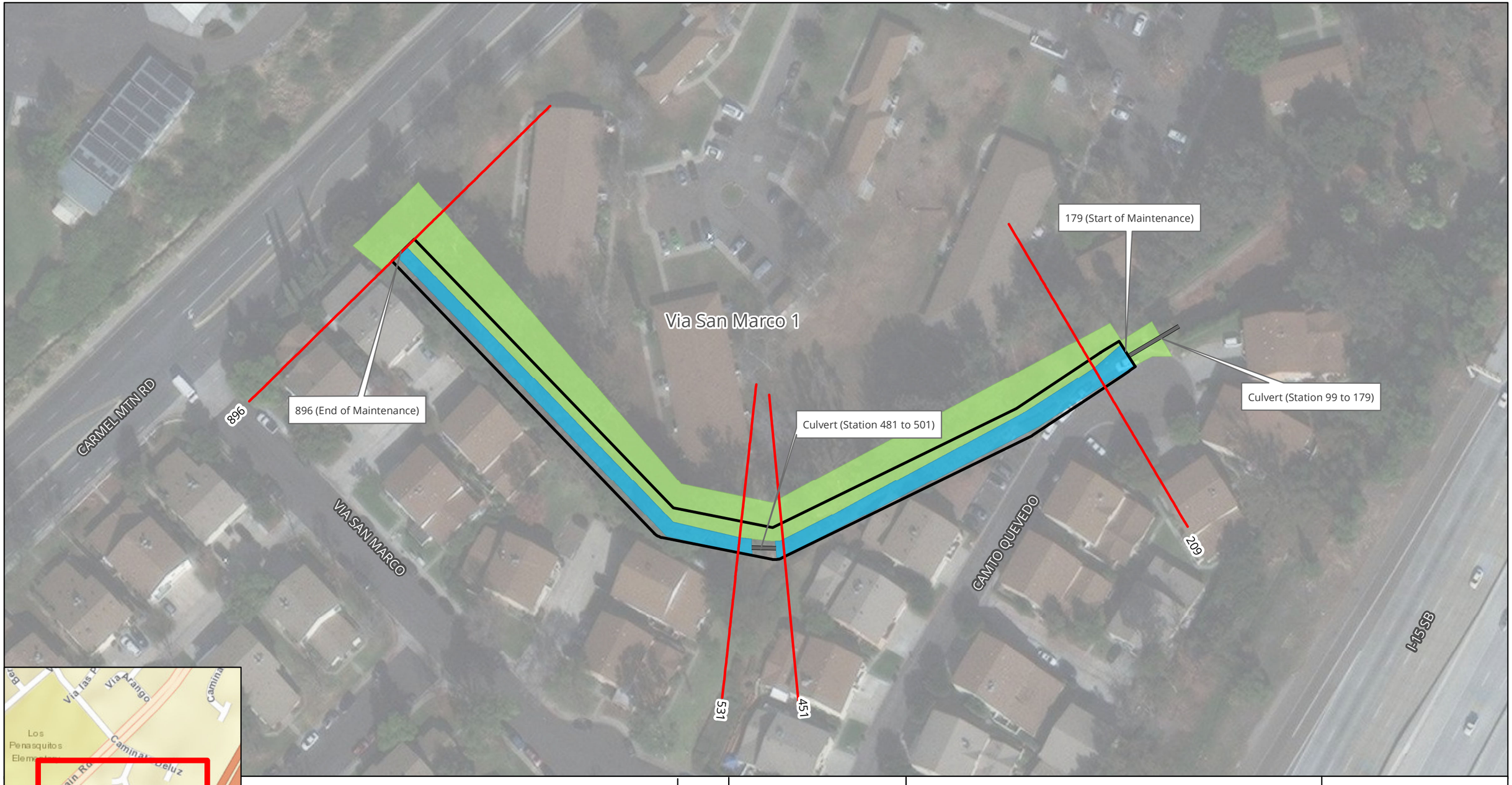
Facility Group	Chicarita Creek - Via San Marco
Segment Name	Via San Marco 1
Facility No.	2-05-140
Facility Location	From south side of Carmel Mountain Road northeast of the intersection with Via San Marco to north of the Caminito Quevedo cul-de-sac
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 179 to Station 481, and Station 501 to Station 896. Remove accumulated sediment and debris in the culverts at Station 179, and from Station 481 to Station 501. Repair failed gunite ditch bottom lining from Station 209 to Station 451 and 531 to Station 896.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 11668-7-D
Substrate Detail	Gunite bottom and banks

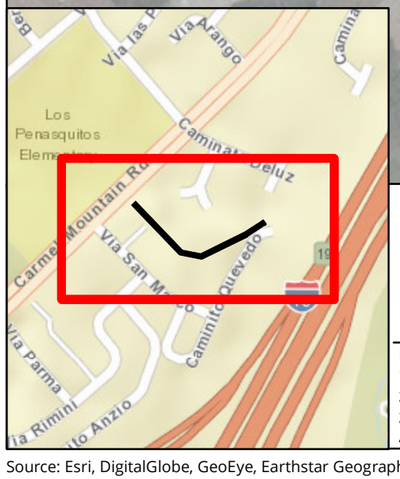
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 797 feet Top width: 7–12 feet Bottom width: 3–6 feet Depth: 2–3 feet
Authorized Facility Maintenance Area	Length: Ditch: 697 feet; Culvert: 20 feet Width: 7–12 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area. Note: where Bobcat/skid-steer cannot access, work will be completed by hand. 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from Febraury 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None





Culvert
Station
Facility Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Chicarita Creek - Via San Marco
Segment Name: Via San Marco 1
Facility No: 2-05-140
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Torrey Pines - Torrey Facility Group

Segment Name (Facility number):

Torrey Pines 1 (3-00-120)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.30
Drainage Name (Number)	Scripps (00)
Facility Group Name	Torrey Pines - Torrey
Segment Name (Facility Number)	Torrey Pines 1 (3-00-120)
Substrate	Torrey Pines 1 / Earthen
Location	About 700 feet west of La Jolla Scenic Drive North, and east of the intersection of Torrey Pines Road and Pottery Park Driveway
MMP Map No(s).	N/A
Facility Inspection No.	304
Other Former Names	Pottery Canyon

Figure 1: Vicinity Map of Torrey Pines - Torrey Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.30	
Adopted TMDLs	None, but drains to La Jolla ASBS, so ASBS special protections apply
Highest Priority Water Quality Condition	Bacteria

Torrey Pines - Torrey	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	No impairments recorded on the 303(d) List

NA (First downstream water body)	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) list

Torrey Pines Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Scripps Channel
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,185 feet
Top-of-Bank Width	Approximately 12–40 feet
Bottom Facility Width	Approximately 10–20 feet
Facility Depth	Approximately 0.3–5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, representative of light weeds in the channel segment

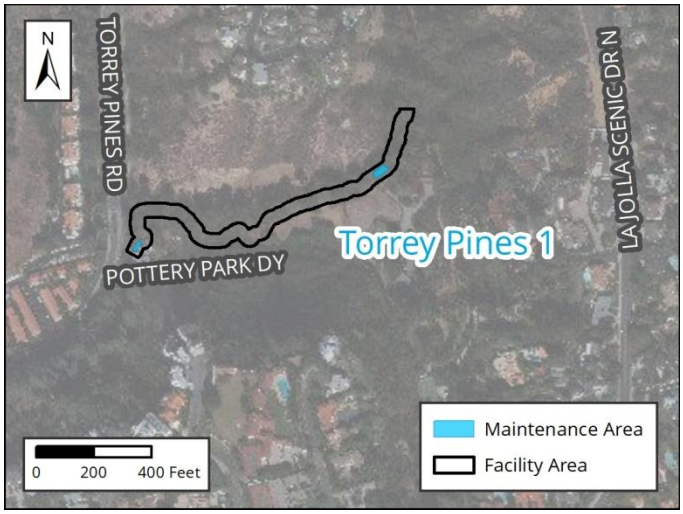


Figure 2: Vicinity Map of Torrey Pines Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to range from light to dense and sediment deposition estimated to be 1 foot upstream of the check dams/debris fences

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	66	83	96	114	127	141

Hydraulic Capacity of Facility

Current Capacity	60 cfs
Proposed MWMP Maintained Capacity	77 cfs
Maintenance Recommendation	Remove accumulated sediment and debris from directly upstream of each existing check dam located between Station 1282 to Station 1334. Remove accumulated sediment, debris, and overgrown vegetation from Station 153 to Station 193. Remove accumulated sediment, debris, and overgrown vegetation at the drop inlet at Station 153. Maintain/repair existing debris fences as needed.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Eucalyptus woodland • Natural flood channel • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within and adjacent to the facility for nesting/roosting. Other sensitive bird species could occur in sage scrub habitat adjacent to the channel (e.g. coastal California gnatcatcher).
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet west of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-031737; P-37-034756
Resource Type	Historic trash dump; pottery kiln

Historical Resources	
Resource Identified in APE	Channel; P-37-034756; 2725 Torrey Pines Rd; Pre-1953 earthen channel; pottery kiln; building more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

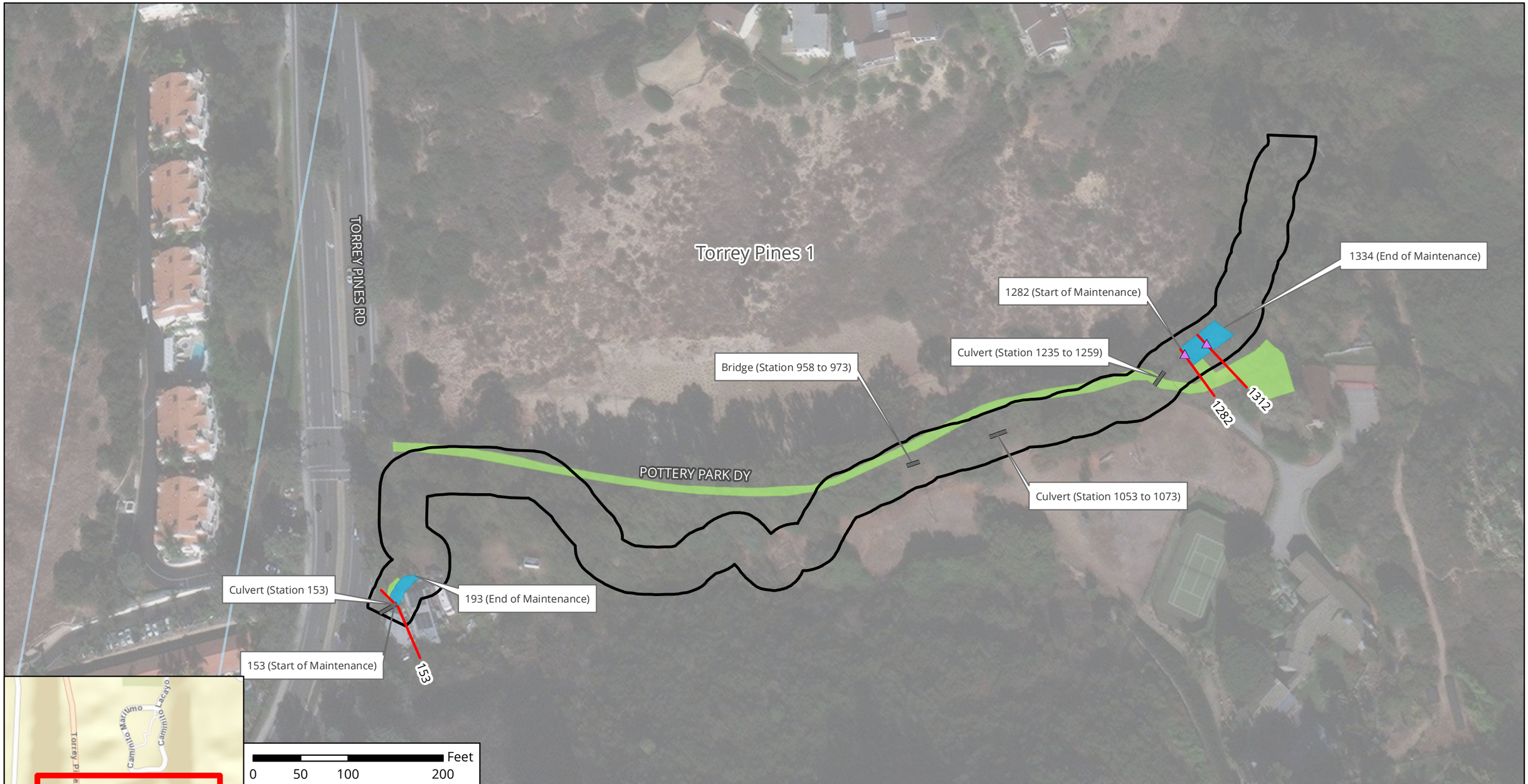
Facility Group	Torrey Pines - Torrey
Segment Name	Torrey Pines 1
Facility No.	3-00-120
Facility Location	From an undeveloped canyon to a drop inlet adjacent to Torrey Pines Road at Pottery Park Driveway
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of existing check dams and transition to drop inlet of Torrey Pines Road culvert per Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and debris from directly upstream of each existing check dam located between Station 1282 to Station 1334. Remove accumulated sediment, debris, and overgrown vegetation from Station 153 to Station 193. Remove accumulated sediment, debris, and overgrown vegetation at the drop inlet at Station 153. Maintain/repair existing debris fences as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,185 feet Top width: 12–40 feet Bottom width: 10–20 feet Depth: 0.3–5 feet
Authorized Facility Maintenance Area	Length: Channel: 92 feet Width: 12–22 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Gradall/excavator, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator at access/loading area scoops material from channel and loads dump truck 2. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Possible need for check dam repair



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Mission Bay - MBHS Facility Group

Segment Names (Facility numbers):

PB-Olney 1 (3-02-101)

MBHS 1 (3-02-103)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.40
Drainage Name (Number)	Mission Bay Unnamed Tributary (02)
Facility Group Name	Mission Bay - MBHS
Segment Name (Facility Number)	PB-Olney 1 (3-02-101) MBHS 1 (3-02-103)
Substrate	PB-Olney 1 / Earthen MBHS 1 / Concrete
Location	About 200 feet south of Grand Avenue, east of Mission Bay High School, and north of Pacific Beach Drive
MMP Map No(s).	36, 37
Facility Inspection No.	36, 37
Other Former Names	None

Figure 1: Vicinity Map of Mission Bay - MBHS Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.40	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Mission Bay - MBHS	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Mission Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Eutrophic, Lead

PB-Olney Segment 1 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Unnamed tributary to Mission Bay, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 910 feet
Top-of-Bank Width	Approximately 20–26 feet
Bottom Facility Width	Approximately 3–5 feet
Facility Depth	Approximately 5–6 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	CST-PMT

Figure 1: September 2013, downstream end looking east. High vegetation density and growth were observed

Figure 2: Vicinity Map of PB-Olney Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015 – 2016: Routine maintenance conducted January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	2012 Master CDP No. A-6-NOC11-086-A1 (expires November 2019)
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 33 USACE File #SPL-2014-00417-MBS (expired March 2017)
401	RWQCB 401 Cert No. R9-2014-0077 (expires March 2020)
1602	CDFW did not respond to application in time, so it was automatically approved as described
Mitigation for Previous Impacts	Combined with mitigation for MBHS segment: El Cuervo del Sur HMMP (0.34 acre); Los Peñasquitos WEP (0.96 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In September 2013, dense vegetation and accumulated sediment throughout the earthen ditch, with a greater density of vegetation observed in the upstream section. Sediment deposition of 6 to 8 inches was observed. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	59	80	96	110	130	143

Hydraulic Capacity of Facility

Current Capacity	59 cfs
Proposed MWMP Maintained Capacity	59 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of ditch from Station 1 to Station 8. Remove accumulated sediment, debris, and vegetation from the culvert opening at Station 1.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Ornamental plantings
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility, but there is potential for Ridgway's rail to occur in the ditch due to adjacency to suitable coastal habitat and historic observation locations
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 50 feet north of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-005017
Resource Type	Prehistoric habitation

Historical Resources	
Resource Identified in APE	Channel; 1961, 1963 earthen channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-5
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Noise (NOI)**
Land Use (LU)	MM-NOI-1
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Mission Bay - MBHS
Segment Name	PB-Olney 1
Facility No.	3-02-101
Facility Location	From downstream end of MBHS 1 segment to inlet of culvert underneath the intersection of Pacific Beach Drive and Olney Street
Coastal Zone	CST-PMT
MWMP Proposed Maintenance	Maintenance of earthen ditch per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of ditch from Station 1 to Station 8. Remove accumulated sediment, debris, and vegetation from the culvert opening at Station 1.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside of facility Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen ditch
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 910 feet Top width: 20–26 feet Bottom width: 3–5 feet Depth: 5–6 feet
Authorized Facility Maintenance Area	Length: Ditch: 910 feet Width: 20–26 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into ditch at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Mission Bay - MBHS
Segment Name: PB-Olney 1
Facility No: 3-02-101
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

MBHS Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Unnamed tributary to Mission Bay, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,058 feet
Top-of-Bank Width	Approximately 10 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 2 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	CST-APP, CST-PMT

Figure 1: September 2013, at upstream end of segment, just downstream of 27-inch-diameter RCP and headwall. High density of vegetation observed, and concrete ditch is not visible.

Figure 2: Vicinity Map of MBHS Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015 – 2016: Routine maintenance conducted January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	2012 Master CDP No. A-6-NOC11-086-A1 (expires November 2019)
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 33 USACE File #SPL-2014-00417-MBS (expired March 2017)
401	RWQCB 401 Cert No. RS-2014-0077 (expires March 2020)
1602	CDFW did not respond to application in time, so it was automatically approved as described
Mitigation for Previous Impacts	Combined with mitigation for PB-Olney segment: El Cuervo del Sur HMMP (0.34 acre); Los Peñasquitos WEP (0.96 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In September 2013, dense vegetation and sediment deposition of 3 to 4 inches was observed. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	43	58	70	80	95	104

Hydraulic Capacity of Facility	
Current Capacity	10 cfs
Proposed MWMP Maintained Capacity	43 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 8 to Station 17. Removed accumulated sediment, debris, and vegetation from the culvert opening at Station 17. Maintain/repair existing debris fence as needed.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Natural flood channel • Ornamental plantings
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility, but there is potential for Ridgway's rail to occur in the ditch due to adjacency to suitable coastal habitat and historic observation locations
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 870 feet to the southwest of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-005017
Resource Type	Prehistoric habitation

Historical Resources	
Resource Identified in APE	Channel; 1961, 1963 concrete channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

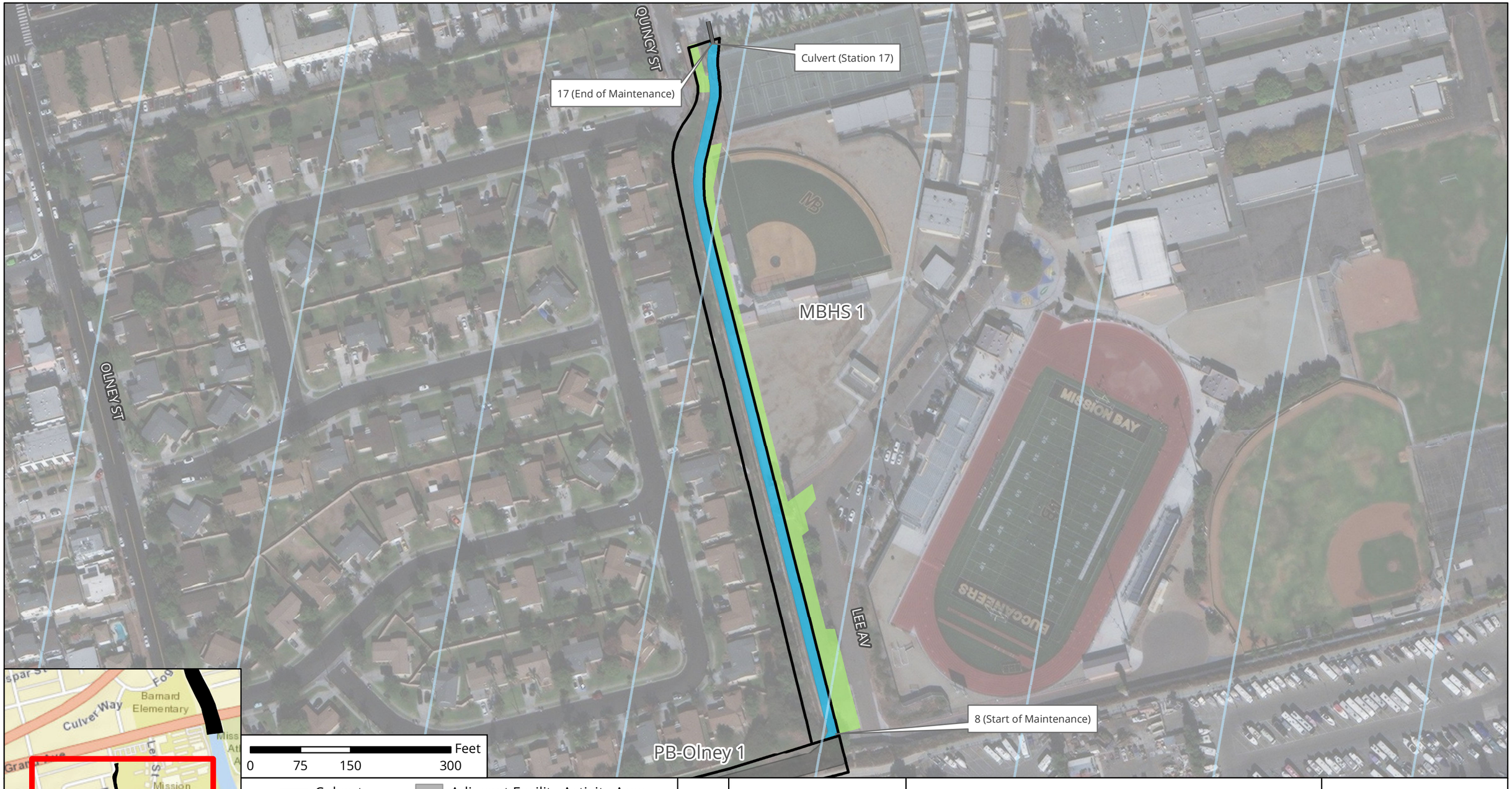
Facility Group	Mission Bay - MBHS
Segment Name	MBHS 1
Facility No.	3-02-103
Facility Location	From outlet of culvert located at southwest corner of Mission Bay High School bus loading/unloading zone to upstream end of PB-Olney 1 segment
Coastal Zone	CST-APP, CST-PMT
MWMP Proposed Maintenance	Maintenance of concrete ditch per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 8 to Station 17. Removed accumulated sediment, debris, and vegetation from the culvert opening at Station 17. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside of ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	None
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,058 feet Top width: 10 feet Bottom width: 4 feet Depth: 2 feet
Authorized Facility Maintenance Area	Length: Ditch: 1,058 feet Width: 10 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor power washes concrete portion of ditch in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert
Facility Area
Coastal Zone
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Mission Bay - MBHS
Segment Name: MBHS 1
Facility No: 3-02-103
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Mission Bay - Mission Bay Drive Facility Group

Segment Name (Facility number):

Mission Bay Drive 1 (3-02-130)

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Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.40
Drainage Name (Number)	Mission Bay Unnamed Tributary (02)
Facility Group Name	Mission Bay - Mission Bay Drive
Segment Name (Facility Number)	Mission Bay Drive 1 (3-02-130)
Substrate	Mission Bay Drive 1 / Earthen
Location	Bordered by Mission Bay Golf Course and Practice Center on the southwest and by Grand Avenue and Mission Bay Drive to the northeast
MMP Map No(s).	N/A
Facility Inspection No.	303
Other Former Names	None

Figure 1: Vicinity Map of Mission Bay - Mission Bay Drive Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.40	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Bacteria

Mission Bay - Mission Bay Drive	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Mission Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Eutrophic, Lead

Mission Bay Drive Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Unnamed tributary to Mission Bay, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,085 feet
Top-of-Bank Width	Approximately 38–41 feet
Bottom Facility Width	Approximately 20 feet
Facility Depth	Approximately 6–7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Parks, Single-Family Residential, Transportation, Undeveloped
As-Built Drawing Number	2319-D
Coastal Zone	DEF-CER

Figure 1: July 2017, representative downstream channel segment with dense vegetation

Figure 2: Vicinity Map of Mission Bay Drive Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	None
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Dense vegetation, including large trees was observed throughout the channel length. The accumulated sediment depth in the channel was estimated to range from 2 feet deep at the upstream end to 6 feet deep towards the downstream end.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	198	250	292	347	389	432

Hydraulic Capacity of Facility

Current Capacity	208 cfs
Proposed MWMP Maintained Capacity	208 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation within bed and bank from Station 245 to Station 1330. Maintain/repair existing trash rack as needed.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed freshwater marsh • Disturbed wetland • Natural flood channel
Adjacent Vegetation	• Developed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., Ridgeway's rail), the channel extents and area of vegetation present are limited such that it is unlikely for wildlife to use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-005017
Resource Type	Prehistoric habitation

Historical Resources	
Resource Identified in APE	Channel; 1956 earthen channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-5
Geologic Resources (GEO)	**Noise (NOI)**
EP-GEO-1	MM-NOI-1
Health and Safety/Hazards (HAZ)	
EP-HAZ-1	
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Mission Bay - Mission Bay Drive
Segment Name	Mission Bay Drive 1
Facility No.	3-02-130
Facility Location	From outlet of culvert underneath Grand Avenue to 500 feet southeast of intersection of Figueroa Boulevard and Grand Avenue
Coastal Zone	DEF-CER
MWMP Proposed Maintenance	Maintenance of earthen roadside channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and overgrown vegetation within bed and bank from Station 245 to Station 1330. Maintain/repair existing trash rack as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Vegetation trimming Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 2319-D
Substrate Detail	Earthen bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,085 feet Top width: 38–41 feet Bottom width: 20 feet Depth: 6–7 feet
Authorized Facility Maintenance Area	Length: Channel: 1,085 feet Width: 38–41 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 18–20 people
Routine Maintenance Procedures	Outside of Channel: 1. Gradall/excavator moves along channel bank within access/loading area 2. Gradall/excavator scoops material from channel and loads dump truck 3. Dump truck hauls material to legal disposal site Inside of Channel: 1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego. Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation

Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Mission Bay - Mission Bay Drive
Segment Name: Mission Bay Drive 1
Facility No: 3-02-130
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Miramar - Engineer Facility Group

Segment Name (Facility number):

Engineer 1 (3-03-901)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.40
Drainage Name (Number)	Miramar Unnamed Tributary (03)
Facility Group Name	Miramar - Engineer
Segment Name (Facility Number)	Engineer 1 (3-03-901)
Substrate	Engineer 1 / Concrete
Location	Runs parallel to Engineer Road, west of Mercury Road and is about 200 feet east of Brinell Street
MMP Map No(s).	47
Facility Inspection No.	47
Other Former Names	None

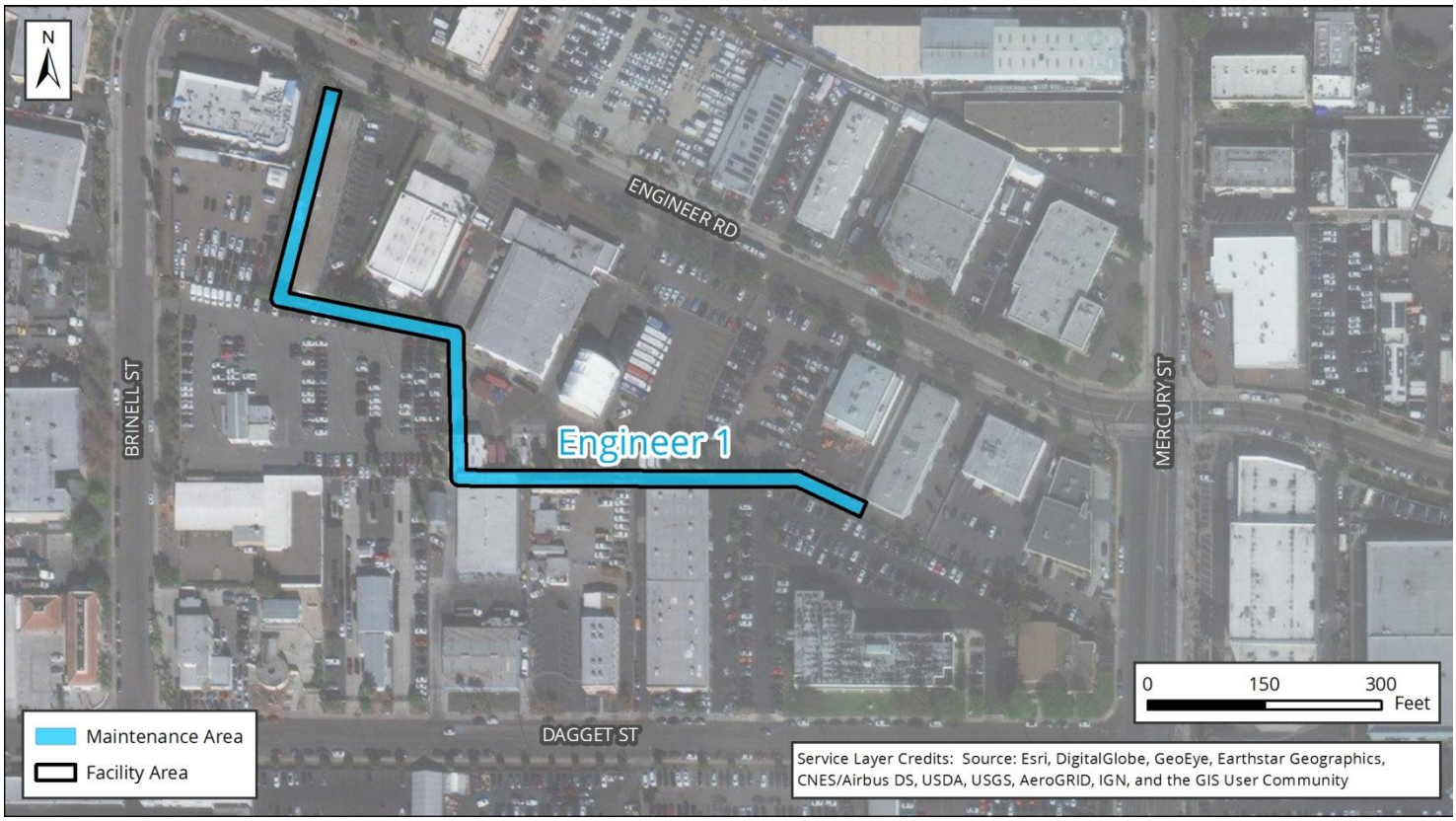


Figure 1: Vicinity Map of Miramar - Engineer Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.40	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Miramar - Engineer	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Engineer Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail[1]	Stations 11-293: Concrete bottom and banks Stations 293-1137: Asphalt/concrete bottom and banks Stations 1137-1232: Concrete bottom and banks
Location Within Watershed	Unnamed tributary to Mission Bay, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,220 feet
Top-of-Bank Width	Approximately 5–16.5 feet
Bottom Facility Width	Approximately 2–3 feet
Facility Depth	Approximately 1–4 feet
Adjacent Land Use	Commercial, Industrial, Office, Transportation
As-Built Drawing Number	9603-D, 9606-D, & 9601-1,2-D
Coastal Zone	No

Figure 1: November 2015, upstream portion of reach facing west, showing sediment and vegetation in ditch

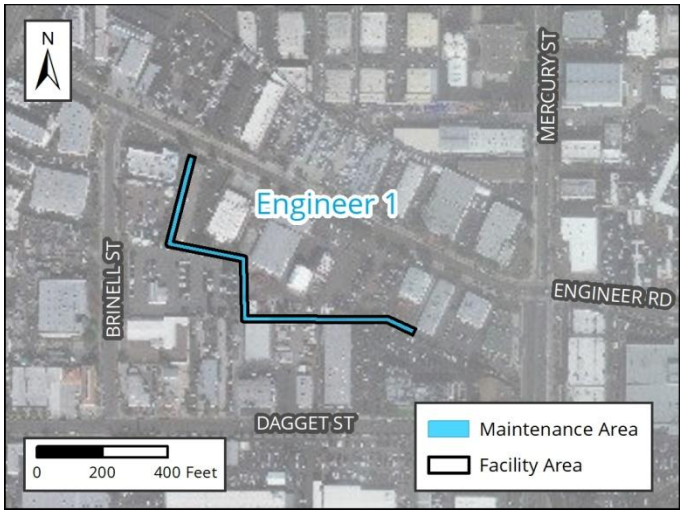


Figure 2: Vicinity Map of Engineer Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	N/A; No Permit Required
401	N/A; No Permit Required
1602	N/A; No Permit Required
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	In November 2015, the segment was observed to vary from clean concrete to dense vegetation and sediment deposition was estimated to be up to 1.5 feet					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	125	157	182	205	239	256
Hydraulic Capacity of Facility						
Current Capacity	<10 cfs					
Proposed MWMP Maintained Capacity	25 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 12 to Station 1232. Remove accumulated sediment, debris, and vegetation from culverts at Station 12 and Station 1232.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (concrete-lined)
Adjacent Vegetation	• Developed land
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 7969 Engineer Rd.; 7988 Engineer Rd.; 8025 Engineer Rd.; 8123 Engineer Rd.; 8133-8141 Engineer Rd.; 8159 Engineer Rd; 1962 concrete channel; seven buildings more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-BIO-5	MM-HR-1
EP-BIO-6	MM-HR-2
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-1	MM-NOI-1
EP-HAZ-3	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Miramar - Engineer
Segment Name	Engineer 1
Facility No.	3-03-901
Facility Location	From outlet of a pipe located behind 8141 Engineer Road to inlet of pipe crossing beneath Engineer Road and into a storm drain system
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from Station 12 to Station 1232. Remove accumulated sediment, debris, and vegetation from culverts at Station 12 and Station 1232.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 9603-D, 9606-D, & 9601-1,2-D
Substrate Detail[3]	Stations 11-293: Concrete bottom and banks Stations 293-1137: Asphalt/concrete bottom and banks Stations 1137-1232: Concrete bottom and banks

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,220 feet Top width: 5–16.5 feet Bottom width: 2–3 feet Depth: 1–4 feet
Authorized Facility Maintenance Area	Length: Ditch: 1,220 feet Width: 16.5 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, boom truck, Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, fuel-powered hand tools, wheelbarrow, sweeper
Schedule	Up to approximately 60 working days
Maintenance Crew	Approximately 10–14 people
Routine Maintenance Procedures	1. Hand tools and wheelbarrow used in ditch to move material to Gradall/excavator at access/loading area 2. Gradall/excavator scoops material from ditch and loads dump truck 3. Bobcat/skid-steer enters or is lowered into ditch at access/loading area with Gradall/excavator assistance 4. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 5. Gradall/excavator/loader/crane scoops material from ditch and loads dump truck 6. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with private property owner and the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Miramar - Engineer
Segment Name: Engineer 1
Facility No: 3-03-901
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Tecolote Creek - Chateau Facility Group

Segment Names (Facility numbers):

Chateau 1 (3-04-055)

Chateau 2 (3-04-250)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.50
Drainage Name (Number)	Tecolote Creek (04)
Facility Group Name	Tecolote Creek - Chateau
Segment Name (Facility Number)	Chateau 1 (3-04-055)
Substrate	Chateau 1 / Concrete
Location	About 200 feet south of Renex Place, parallel to Chateau Drive, and south of Castleton Way
MMP Map No(s).	40, 41, 42, 314
Facility Inspection No.	40, 41, 42, 314
Other Former Names	None

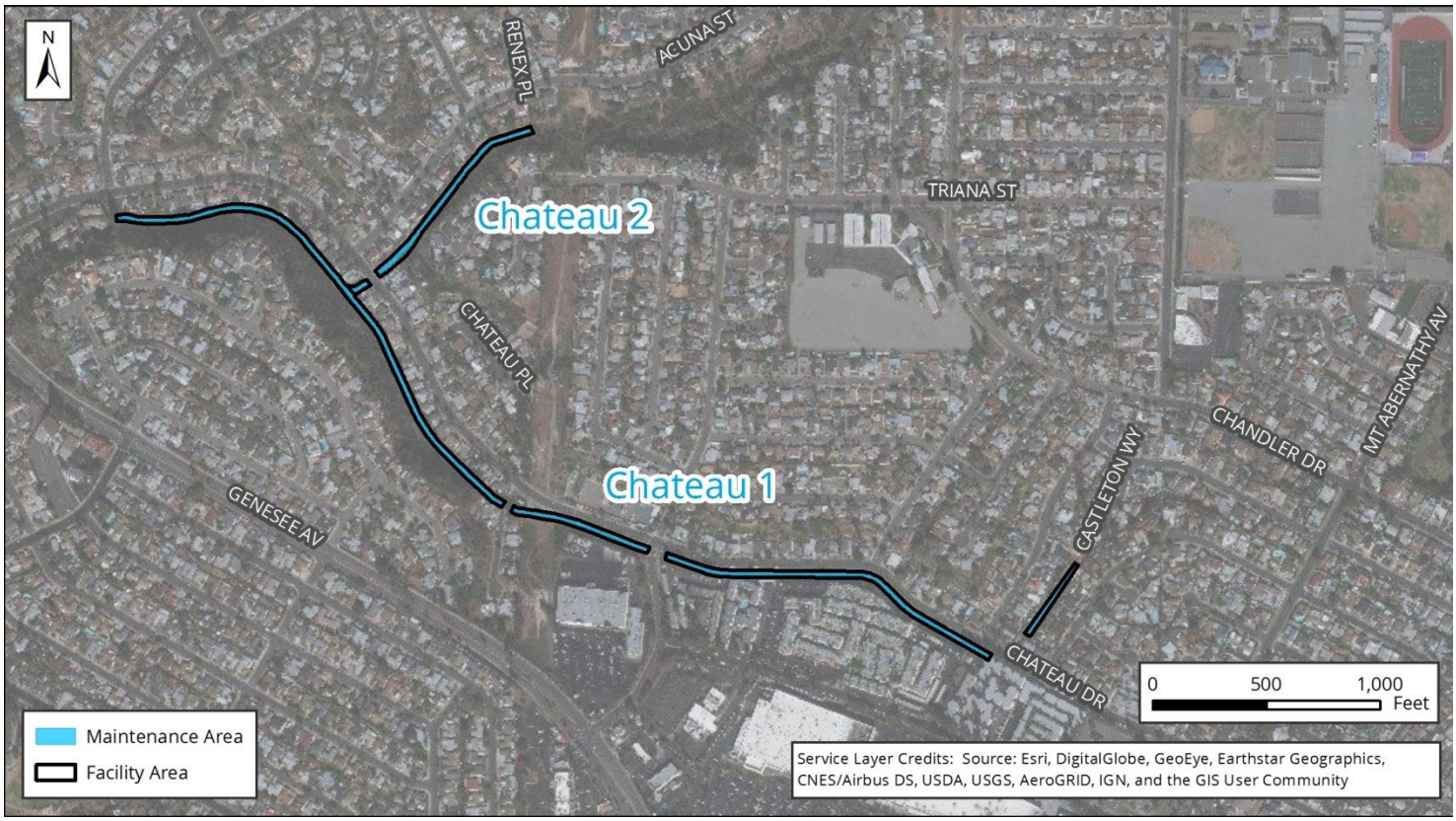


Figure 1: Vicinity Map of Tecolote Creek - Chateau Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.50	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Tecolote Creek - Chateau	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Selenium, Toxicity, Turbidity, Zinc

Mission Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Eutrophic, Lead

Chateau Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete/gunite bottom and banks
Location Within Watershed	Upper reach of Tecolote Creek, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 5,270 feet
Top-of-Bank Width	Approximately 19–23 feet
Bottom Facility Width	Approximately 3–10.5 feet
Facility Depth	Approximately 4.5–5.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	10208-6A-D, 10208-7A-D, 11473-2-D, 10476-D, 19248-3-D & 4295-D
Coastal Zone	No

Figure 1: May 2017, upstream of double 5-foot-wide by 4-foot-high RCB culvert beneath Derrick Drive

Figure 2: Vicinity Map of Chateau Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown February 2012: Routine maintenance conducted 2015/2016: Minor concrete repair conducted January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	CDFW SAA No. 1600-2011-0361-R5 (expired 1/31/2017)
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The channel was observed to be relatively clean with minor sediment, debris and vegetation in some locations					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	324	467	640	883	1,100	1,500
Hydraulic Capacity of Facility						
Current Capacity	334 cfs					
Proposed MWMP Maintained Capacity	334 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 959 to Station 3301, Station 3351 to Station 3970, Station 4064 to Station 5607, and Station 5851 to Station 6229. Remove accumulated sediment and debris in culverts from Station 3301 to 3351, Station 3970 to Station 4064, and Station 5607 to Station 5851.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife, but sage scrub habitat suitable for sensitive species, including coastal California gnatcatcher, is present in areas adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 850 feet to the west of the ditch within Tecolote Canyon.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1969 concrete channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

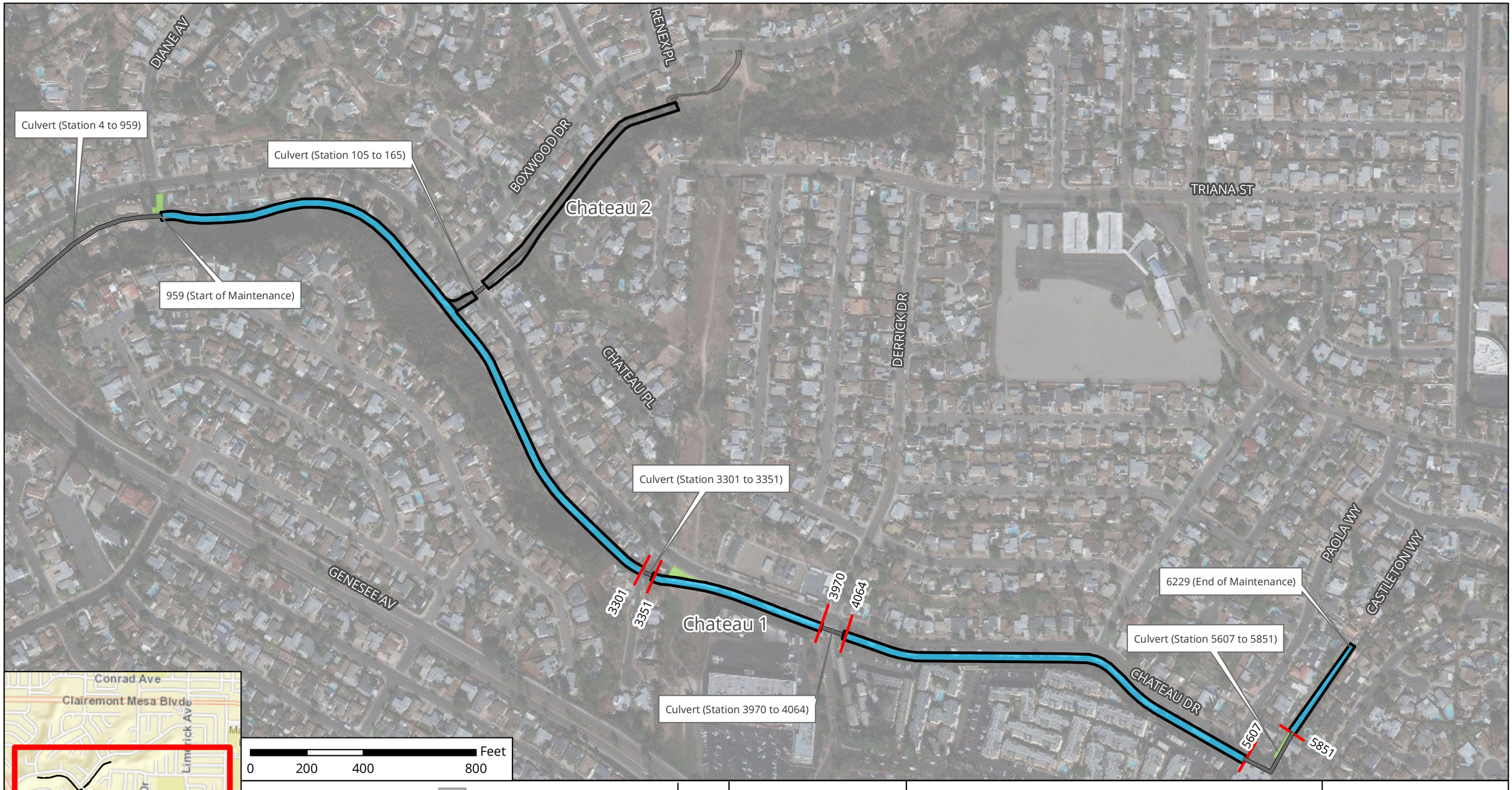
Facility Group	Tecolote Creek - Chateau
Segment Name	Chateau 1
Facility No.	3-04-055
Facility Location	From storm drain system outlet southwest of the Castelton Way cul-de-sac to inlet of culvert that crosses beneath Genesee Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 959 to Station 3301, Station 3351 to Station 3970, Station 4064 to Station 5607, and Station 5851 to Station 6229. Remove accumulated sediment and debris in culverts from Station 3301 to 3351, Station 3970 to Station 4064, and Station 5607 to Station 5851.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 10208-6A-D, 10208-7A-D, 11473-2-D, 10476-D, 19248-3-D & 4295-D
Substrate Detail	Concrete/gunite bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 5,270 feet Top width: 19–23 feet Bottom width: 3–10.5 feet Depth: 4.5–5.5 feet
Authorized Facility Maintenance Area	Length: Channel: 4,882 feet; Culvert: 388 feet Width: 19–23 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Tecolote Creek - Chateau
Segment Name: Chateau 1
Facility No: 3-04-055
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Chateau Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Tecolote Creek, upstream of Tecolote Creek (Chateau Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,117 feet
Top-of-Bank Width	Approximately 15.5–23 feet
Bottom Facility Width	Approximately 4–10 feet
Facility Depth	Approximately 4.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	10208-6A-D, 10208-7A-D, 11473-2-D, 19248-3-D, 4295-D, 10476-10-D, & 10476-11-D
Coastal Zone	No

Figure 1: May 2017, downstream of 10-foot-wide by 3-foot-high RCB culvert beneath Chateau Drive

Figure 2: Vicinity Map of Chateau Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown February 2012: Routine maintenance conducted 2015/2016: Minor concrete repair conducted January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	CDFW SAA No. 1600-2011-0361-R5 (expired 1/31/2017)
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The channel was observed to be relatively clean with minor sediment, debris and vegetation in some locations

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	236	295	354	387	442	491

Hydraulic Capacity of Facility

Current Capacity	196 cfs
Proposed MWMP Maintained Capacity	435 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 0 to Station 105 and Station 165 to Station 1117. Remove accumulated sediment and debris in culverts from Station 105 to 165.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife, but sage scrub habitat suitable for sensitive species, including coastal California gnatcatcher, is present in areas adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 850 feet to the west of the ditch within Tecolote Canyon.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1969 concrete channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tecolote Creek - Chateau
Segment Name	Chateau 2
Facility No.	3-04-250
Facility Location	From 200 feet north of the intersection of Triana Street and Almayo Avenue to the center of Chateau segment 1
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 0 to Station 105 and Station 165 to Station 1117. Remove accumulated sediment and debris in culverts from Station 105 to 165.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 10208-6A-D, 10208-7A-D, 11473-2-D, 19248-3-D, 4295-D, 10476-10-D, & 10476-11-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,117 feet Top width: 15.5–23 feet Bottom width: 4–10 feet Depth: 4.5 feet
Authorized Facility Maintenance Area	Length: Channel: 1,057 feet; Culvert: 60 feet Width: 15.5–23 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 45–60 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Tecolote Creek - Chateau
Segment Name: Chateau 2
Facility No: 3-04-250
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Tecolote Creek - Genesee Facility Group

Segment Name (Facility number):

Genesee 1 (3-04-160)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.50
Drainage Name (Number)	Tecolote Creek Unnamed Tributary (04)
Facility Group Name	Tecolote Creek - Genesee
Segment Name (Facility Number)	Genesee 1 (3-04-160)
Substrate	Genesee 1 / Earthen
Location	Bordered by an apartment complex to the north, Genesee Avenue to the west, and residential areas to the south and east
MMP Map No(s).	N/A
Facility Inspection No.	300
Other Former Names	None

Figure 1: Vicinity Map of Tecolote Creek - Genesee Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.50	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Tecolote Creek - Genesee	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Tecolote Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Selenium, Toxicity, Turbidity, Zinc

Genesee Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen and riprap bottom, earthen and riprap banks
Location Within Watershed	Upper reach of Tecolote Creek unnamed tributary, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,129 feet
Top-of-Bank Width	Approximately 25–175 feet
Bottom Facility Width	Approximately 25–50 feet
Facility Depth	Approximately 8–15 feet
Adjacent Land Use	Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at sediment, debris, and vegetation

Figure 2: Vicinity Map of Genesee Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to vary from heavy at the downstream end to minimal at the upstream end. Sediment deposition was estimated to be 1 to 3 feet.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	707	891	1,039	1,235	1,389	1,536

Hydraulic Capacity of Facility

Current Capacity	1,050 cfs
Proposed MWMP Maintained Capacity	1,120 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of the channel from Station 1592 to Station 2359. Stabilize bank erosion on west bank at Station 1592.
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed freshwater marsh • Disturbed wetland • Eucalyptus woodland • Riparian forest (coast live oak) • Riparian forest (southern riparian forest)
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Disturbed wetland • Ornamental plantings • Riparian forest (coast live oak) • Riparian forest (southern riparian forest)
Habitat and Wildlife	The habitat contained within the facility primarily provides habitat for nesting and/or foraging raptor species. Other sensitive bird species (e.g. coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the channel.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The channel is situated in close proximity to the MHPA boundary, which is located approximately 50 feet to the west.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 3406 Aveley Place; c. 1964 earthen channel; building more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Hydrology (HYD)	MM-HR-1
EP-HYD-1	MM-HR-2
Land Use (LU)	**Noise (NOI)**
EP-LU-1	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tecolote Creek - Genesee
Segment Name	Genesee 1
Facility No.	3-04-160
Facility Location	From outlet of culvert near an apartment complex to culvert under Marlesta Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of the channel from Station 1592 to Station 2359. Stabilize bank erosion on west bank at Station 1592.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Vegetation trimming Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen and riprap bottom, earthen and riprap banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,129 feet Top width: 25–175 feet Bottom width: 25–50 feet Depth: 8–15 feet
Authorized Facility Maintenance Area	Length: Channel: 767 feet Width: 20.5–60 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 20–25 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator and loader at access/loading area 3. Gradall/excavator and loader scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. In-stream post-maintenance erosion control measures may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Tecolote Creek - Genesee
Segment Name: Genesee 1
Facility No: 3-04-160
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

San Diego River - Nimitz Facility Group

Segment Names (Facility numbers):

- Nimitz 1 (4-01-103)
- Nimitz 2 (4-01-105)
- Nimitz 3 (4-01-107)

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Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	San Diego River Unnamed Tributary (01)
Facility Group Name	San Diego River - Nimitz
Segment Name (Facility Number)	Nimitz 1 (4-01-103) Nimitz 2 (4-01-105) Nimitz 3 (4-01-107)
Substrate	Nimitz 1 / Earthen Nimitz 2 / Concrete Nimitz 3 / Earthen
Location	About 200 feet south of the intersection of W Point Loma Boulevard and Nimitz Boulevard, and north of Bill Cleator Community Park
MMP Map No(s).	82
Facility Inspection No.	82
Other Former Names	Nimitz Channel

Figure 1: Vicinity Map of San Diego River - Nimitz Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

San Diego River - Nimitz	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Nimitz Segment 1 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of San Diego River unnamed tributary, upstream of the San Diego River
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 116 feet
Top-of-Bank Width	Approximately 35 feet
Bottom Facility Width	Approximately 7 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	32750-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at dual 54-inch diameter RCP culvert inlet

Figure 2: Vicinity Map of Nimitz Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted, except hand removal of non-native vegetation, trash, and debris
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to range from moderate to dense and evidence of sediment deposition was noted

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	227	290	339	407	456	505

Hydraulic Capacity of Facility

Current Capacity	120 cfs
Proposed MWMP Maintained Capacity	339 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of earthen ditch near entrance of culvert from Station 118 to Station 234
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Nimitz
Segment Name	Nimitz 1
Facility No.	4-01-103
Facility Location	From the downstream end of Nimitz 2 segment to 200 feet south of the intersection of W Point Loma Boulevard and Nimitz Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of earthen ditch near entrance of culvert from Station 118 to Station 234
Maintenance Activities	Vegetation grubbing, trimming, and removal Sediment removal Invasive plant species treatment and removal
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen ditch
Existing Plans and/or As-Builts?	Yes; 32750-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 116 feet Top width: 35 feet Bottom width: 7 feet Depth: 7 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 116 feet Width: 11 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and/or bulldozer/track-steer enter or are lowered into ditch at access/loading area 2. Bobcat/skid-steer and/or bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Culvert
Facility Area
Coastal Zone
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: San Diego River - Nimitz
Segment Name: Nimitz 1
Facility No: 4-01-103
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Nimitz Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of San Diego River unnamed tributary, immediately upstream of San Diego River unnamed tributary (Nimitz Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 291 feet
Top-of-Bank Width	Approximately 7 feet
Bottom Facility Width	Approximately 7 feet
Facility Depth	Approximately 4 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Parks, Single-Family Residential, Transportation
As-Built Drawing Number	14958-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at sediment and debris at upstream end of concrete ditch

Figure 2: Vicinity Map of Nimitz Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted, except hand removal of non-native vegetation, trash, and debris
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The segment was observed to be mostly clean with sediment, debris accumulation occurring at the transition to Nimitz 1

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	227	290	339	407	456	505

Hydraulic Capacity of Facility

Current Capacity	15 cfs
Proposed MWMP Maintained Capacity	80 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 234 to Station 525
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within and adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Nimitz
Segment Name	Nimitz 2
Facility No.	4-01-105
Facility Location	From the downstream end of Nimitz 3 segment to the upstream end of Nimitz 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch, per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 234 to Station 525
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 14958-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 291 feet Top width: 7 feet Bottom width: 7 feet Depth: 4 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 291 feet Width: 7 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: San Diego River - Nimitz
Segment Name: Nimitz 2
Facility No: 4-01-105
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Nimitz Segment 3 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of San Diego River unnamed tributary, immediately upstream of San Diego River unnamed tributary (Nimitz Segment 2)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 476 feet
Top-of-Bank Width	Approximately 100 feet
Bottom Facility Width	Approximately 7 feet
Facility Depth	Approximately 6.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Parks, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream near upstream end of facility

Figure 2: Vicinity Map of Nimitz Segment 3

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted, except hand removal of non-native vegetation, trash, and debris
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In March 2016, the vegetation was observed to range from moderate to dense with little evidence of sediment deposition

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	227	290	339	407	456	505

Hydraulic Capacity of Facility

Current Capacity	227 cfs
Proposed MWMP Maintained Capacity	290 cfs
Maintenance Recommendation	Trim vegetation from the bottom of the earthen ditch from Station 525 to Station 1001
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within and adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Nimitz
Segment Name	Nimitz 3
Facility No.	4-01-107
Facility Location	From 1,500 feet north of the intersection of Famosa Boulevard and Nimitz Boulevard to the upstream end of Nimitz 2 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Trim vegetation from the bottom of the earthen ditch from Station 525 to Station 1001
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen ditch
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 476 feet Top width: 100 feet Bottom width: 7 feet Depth: 6.5 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 476 feet Width: 11 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and/or bulldozer/track-steer enter or are lowered into ditch at access/loading area 2. Fuel powered hand tools used to trim vegetation 3. Bobcat/skid-steer and/or bulldozer/track-steer transports material to Gradall/excavator or dump truck at access/loading area 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. **Access/Loading/Staging/Stockpiling may also occur within City ROW.**
2. **Access/Loading/Staging/Stockpiling may be modified during implementation.**
3. **Stations are approximate and may not directly correspond with facility and/or maintenance lengths.**

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Map A: General Site Plan
Facility Group Name: San Diego River - Nimitz
Segment Name: Nimitz 3
Facility No: 4-01-107
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

San Diego River - Valeta Facility Group

Segment Name (Facility number):

Valeta 1 (4-01-120)

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Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	San Diego River Unnamed Tributary (01)
Facility Group Name	San Diego River - Valeta
Segment Name (Facility Number)	Valeta 1 (4-01-120)
Substrate	Valeta 1 / Concrete
Location	Northeast of the intersection of Valeta Street and Famosa Boulevard
MMP Map No(s).	83
Facility Inspection No.	83
Other Former Names	Famosa Channel

Figure 1: Vicinity Map of San Diego River - Valeta Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

San Diego River - Valeta	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Valeta Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of San Diego River unnamed tributary, upstream of the San Diego River
Tributaries (listed from downstream to upstream)	San Diego River Unnamed Tributary
Facility Length	Approximately 161 feet
Top-of-Bank Width	Approximately 19–23.9 feet
Bottom Facility Width	Approximately 2.5–7.4 feet
Facility Depth	Approximately 5.5 feet
Adjacent Land Use	Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	13550-D
Coastal Zone	CST-APP, DEF-CER

Figure 1: April 2017, looking downstream over headwall and 48-inch-diameter and 30-inch-diameter diameter RCP culvert outlet

Figure 2: Vicinity Map of Valeta Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	None
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Moderate to dense vegetation was observed in the segment. The sediment deposition observed in the segment ranged from 2 inches to 3 feet.					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	96	123	144	173	194	215
Hydraulic Capacity of Facility						
Current Capacity	55 cfs					
Proposed MWMP Maintained Capacity	215 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 254 to Station 415					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Freshwater marsh (concrete-lined) • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Freshwater marsh • Riparian forest (southern willow forest)
Habitat and Wildlife	The habitat contained within and adjacent to the facility provides potential for nesting and/or foraging of raptor and sensitive bird species, including least Bell's vireo and Ridgway's rail
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is directly downstream of the ditch within Famosa Slough.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1969 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-1	MM-BIO-6
EP-HAZ-3	MM-BIO-7
Land Use (LU)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-LU-1	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

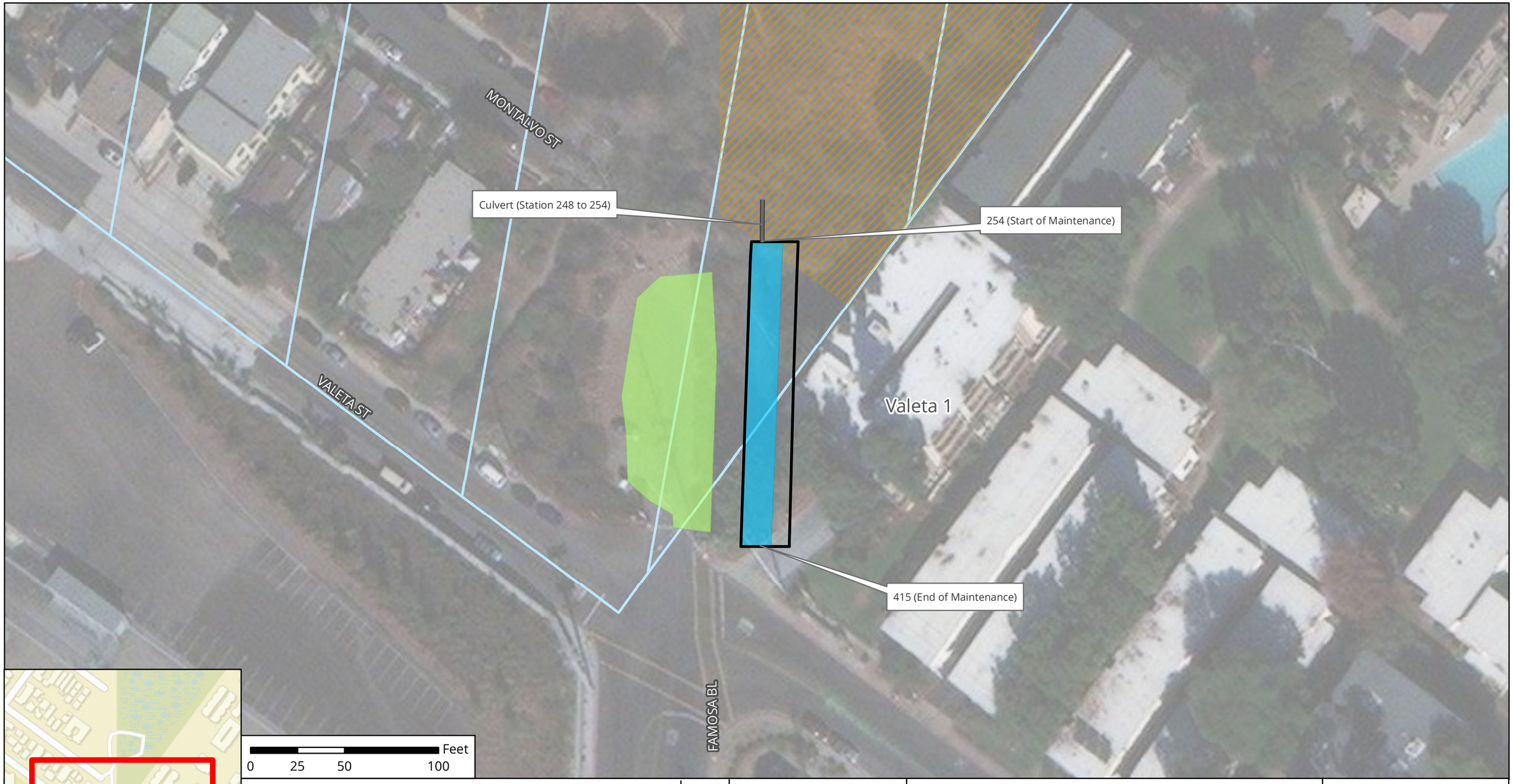
Facility Group	San Diego River - Valeta
Segment Name	Valeta 1
Facility No.	4-01-120
Facility Location	From northeast of the intersection of Valeta Street and Famosa Boulevard to privately maintained detention basins of Famosa Slough
Coastal Zone	CST-APP, DEF-CER
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions, Hydrology and Hydraulics recommendations, and implementation of future maintenance phasing
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 254 to Station 415
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 13550-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 161 feet Top width: 19–23.9 feet Bottom width: 2.5–7.4 feet Depth: 5.5 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 161 feet Width: 23.9 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator moves along ditch bank within access/loading area 2. If feasible, Bobcat/skid-steer enters or is lowered into ditch at access/loading area 3. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 4. Gradall/excavator scoops material from ditch and loads dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Gradall/excavator shall avoid impacts to coastal sage scrub vegetation between parking lot and ditch



Feet
0 25 50 100

Culvert
Facility Area
Coastal Zone
Multi-Habitat Planning Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur wtihin this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Map
Facility Group Name: San Diego River - Valeta
Segment Name: Valeta 1
Facility No: 4-01-120
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

San Diego River - Camino del Rio Facility Group

Segment Names (Facility numbers):

Camino del Arroyo 1 (4-03-101)

Camino del Rio 1 (4-03-103)

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Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	San Diego River Unnamed Tributary (03)
Facility Group Name	San Diego River - Camino del Rio
Segment Name (Facility Number)	Camino del Arroyo 1 (4-03-101) Camino del Rio 1 (4-03-103)
Substrate	Camino del Arroyo 1 / Concrete Camino del Rio 1 / Concrete
Location	South of Camino de la Reina, north of Interstate 8 (I-8), east of Camino del Arroyo, and west of Mission Center Road
MMP Map No(s).	81, 81a
Facility Inspection No.	81, 81a
Other Former Names	Camino de la Reina and Camino del Arroyo

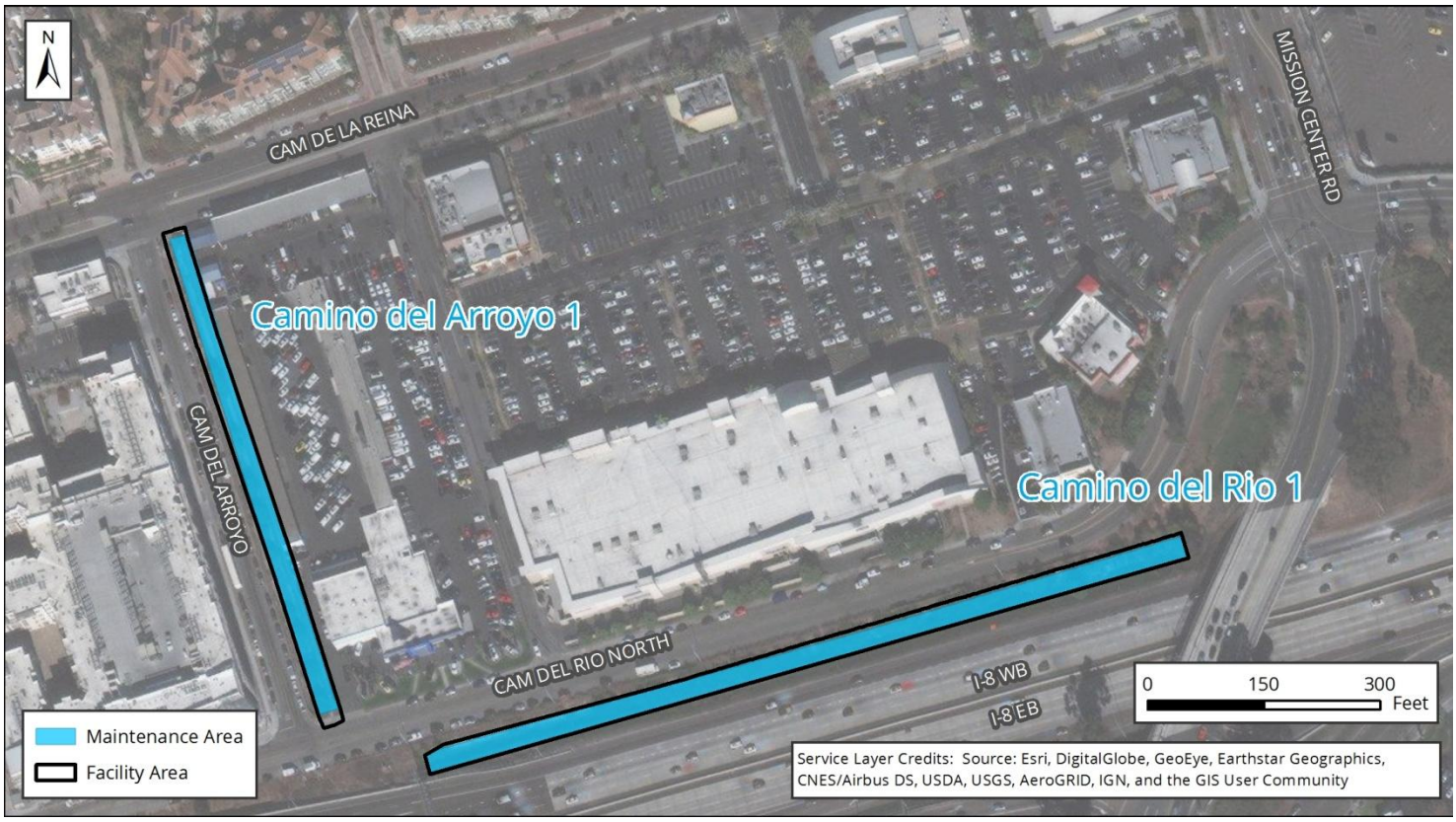


Figure 1: Vicinity Map of San Diego River - Camino del Rio Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

San Diego River - Camino del Rio	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Camino del Arroyo Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of San Diego River unnamed tributary immediately upstream of the San Diego River
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 642 feet
Top-of-Bank Width	Approximately 25 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Transportation
As-Built Drawing Number	12289-D, 24613-D, 7339-D & 11-133204-34 (Caltrans)
Coastal Zone	No

Figure 1: July 2017, looking downstream

Figure 2: Vicinity Map of Camino del Arroyo Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount vegetation was observed to vary from light to dense within the segment and the area in front of the culvert outlet was mostly clean. Sediment deposition was estimated to range from 2 feet at the upstream end to 0.5 feet within the left outlet.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	284	355	425	473	520	591

Hydraulic Capacity of Facility

Current Capacity	440 cfs
Proposed MWMP Maintained Capacity	445 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 581 to Station 1223
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings • Riparian scrub (southern willow scrub; concrete-lined)
Habitat and Wildlife	Although this ditch does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the ditch extents and area of vegetation present are limited such that it is unlikely for wildlife to use the ditch for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 450 feet north of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; Pre-1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-5
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-1	MM-HR-1
EP-HAZ-3	MM-HR-2
Solid Waste (SW)	**Noise (NOI)**
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

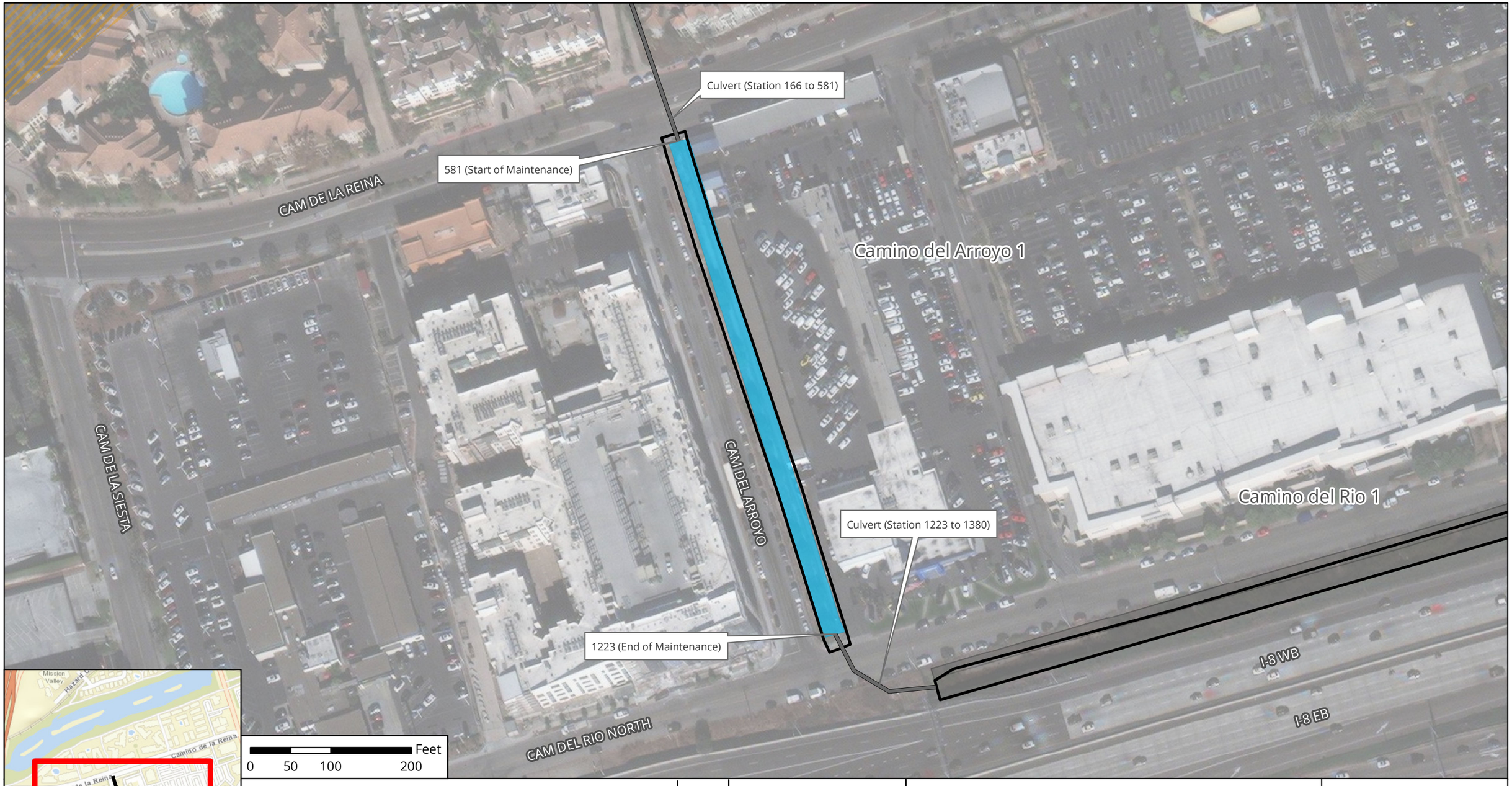
Facility Group	San Diego River - Camino del Rio
Segment Name	Camino del Arroyo 1
Facility No.	4-03-101
Facility Location	From the downstream end of Camino del Rio 1 segment to inlet of a culvert underneath the intersection of Camino del Arroyo and Camino de la Reina
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 581 to Station 1223
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 12289-D, 24613-D, 7339-D & 11-133204-34 (Caltrans)
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 642 feet Top width: 25 feet Bottom width: 4 feet Depth: 7 feet

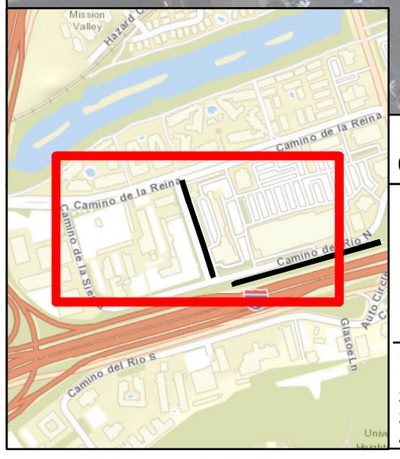
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 642 feet Width: 25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, trash pump, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area. 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None





Culvert
Facility Area
Multi-Habitat Planning Area
Adjacent Facility Activity Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: San Diego River - Camino del Rio
Segment Name: Camino del Arroyo 1
Facility No: 4-03-101
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Camino del Rio Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of San Diego River unnamed tributary, immediately upstream of San Diego River unnamed tributary (Camino del Arroyo)
Tributaries (listed from downstream to upstream)	San Diego River Unnamed Tributary
Facility Length	Approximately 1,176 feet
Top-of-Bank Width	Approximately 25 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Commercial, Transportation
As-Built Drawing Number	7340-D, 7339-D, 7345-D, & 11-133204-34 (Caltrans)
Coastal Zone	No

Figure 1: July 2017, looking downstream

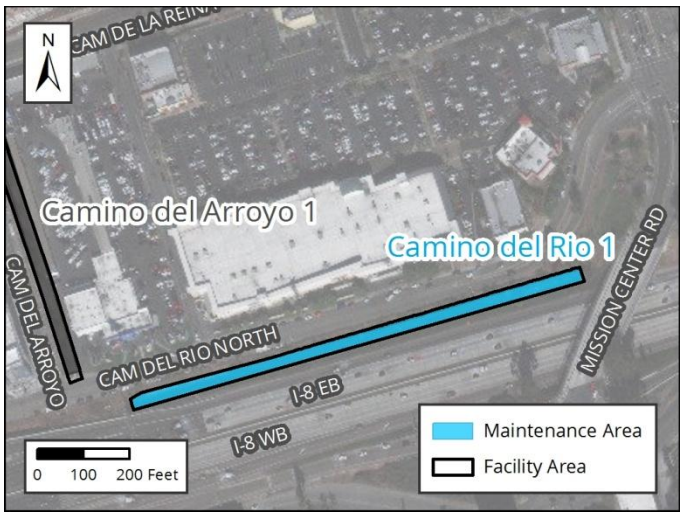


Figure 2: Vicinity Map of Camino del Rio Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation was observed to be dense with sediment accumulation ranging from 4 feet at the upstream end to 3 feet at the downstream end. The culvert at the downstream end was estimated to have 2.5 feet of accumulated sediment.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	184	235	276	328	368	409

Hydraulic Capacity of Facility

Current Capacity	290 cfs
Proposed MWMP Maintained Capacity	330 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from Station 1380 to Station 2399. Remove accumulated sediment and debris in culvert from Station 1223 to Station 1380.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings • Riparian scrub (southern willow scrub; concrete-lined)
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the ditch extents and area of vegetation present are limited such that it is unlikely for wildlife to use the ditch for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet south of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1961, 1966 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Solid Waste (SW)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-SW-2	MM-HR-1
EP-SW-3	MM-HR-2
EP-SW-4	**Noise (NOI)**
EP-SW-5	MM-NOI-1
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	San Diego River - Camino del Rio
Segment Name	Camino del Rio 1
Facility No.	4-03-103
Facility Location	From east of Mission Center Road to the upstream end of Camino del Arroyo 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and overgrown vegetation from Station 1380 to Station 2399. Remove accumulated sediment and debris in culvert from Station 1223 to Station 1380.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 7340-D, 7339-D, 7345-D, & 11-133204-34 (Caltrans)
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,176 feet Top width: 25 feet Bottom width: 4 feet Depth: 7 feet
Authorized Facility Maintenance Area	Length: Ditch: 1,019 feet; Culvert: 157 feet Width: 25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, sweeper
Schedule	Up to approximately 10 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: San Diego River - Camino del Rio
Segment Name: Camino del Rio 1
Facility No: 4-03-103
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Murphy Canyon Creek - Stadium Facility Group

Segment Names (Facility numbers):

- Stadium 1 (4-04-000)
- Stadium 2 (4-04-002)
- Murphy Canyon 1 (4-04-006)
- Murphy Canyon 2 (4-04-008) (See Appendix A-5)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Murphy Canyon Creek (04)
Facility Group Name	Murphy Canyon Creek - Stadium
Segment Name (Facility Number)	Stadium 1 (4-04-000) Stadium 2 (4-04-002) Murphy Canyon 1 (4-04-006) Murphy Canyon 2 (4-04-008) (See Appendix A-5)
Substrate	Stadium 1 / Earthen Stadium 2 / Concrete Murphy Canyon 1 / Concrete Murphy Canyon 2 / Earthen
Location	About 1,500 feet south of Stonecrest Boulevard and 850 feet north of Interstate 8 (I-8)
MMP Map No(s).	58, 58a
Facility Inspection No.	58, 58a, 300x
Other Former Names	Murphy Canyon Channel, Stadium, Tank Farms

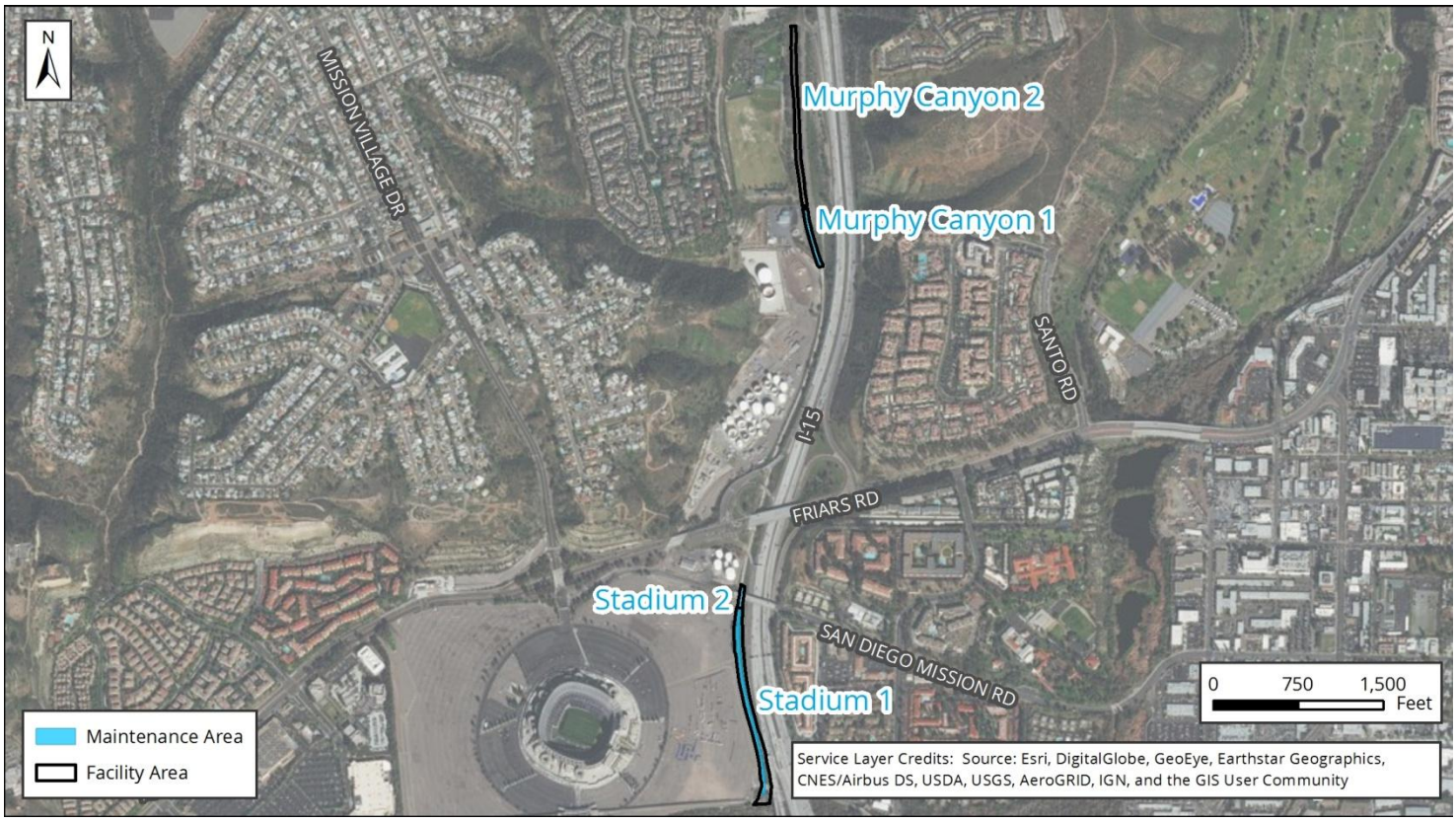


Figure 1: Vicinity Map of Murphy Canyon Creek - Stadium Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Murphy Canyon Creek - Stadium	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Stadium Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Murphy Canyon Creek, immediately upstream of the San Diego River
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,661 feet
Top-of-Bank Width	Approximately 50 feet
Bottom Facility Width	Approximately 20 feet
Facility Depth	Approximately 10–12 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Recreation, Transportation
As-Built Drawing Number	14684-L
Coastal Zone	No

Figure 1: March 2013, heavily vegetated channel bottom near the downstream end of the facility group

Figure 2: Vicinity Map of Stadium Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2014/15: Routine maintenance conducted January 2015 – March 2019: Invasive vegetation removal conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 31 USACE File #SPL-2013-00494-MBS (expired March 2017)
401	RWQCB 401 Cert No. R9-2013-0124 (expired March 2017)
1602	CDFW SAA No. 1600-2010-0269-R5 (expires 10/31/2019)
Mitigation for Previous Impacts	Stadium (4.28 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Sediment deposition of 1 to 3 feet was found through a majority of the channel, however in one location, the sediment depths were estimated to be as high as 6 to 7 feet. Vegetation ranged from dense to moderately dense throughout the segment length. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	510	1,050	1,500	2,000	2,700	3,500

Hydraulic Capacity of Facility	
Current Capacity	<510 cfs
Proposed MWMP Maintained Capacity	1,050 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 119 to Station 1780
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland • Disturbed wetland (Arundo-dominated) • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed wetland • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	The channel has potential to support sensitive species and other migratory birds, such as least Bell's vireo and Ridgway's rail. This potential is especially high in the southern section due to the presence of large expanses of sensitive habitat (e.g., riparian forest [southern willow forest]) both within and downstream of the facility.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 25 feet south of the channel within the San Diego River.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Land Use (LU)	
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

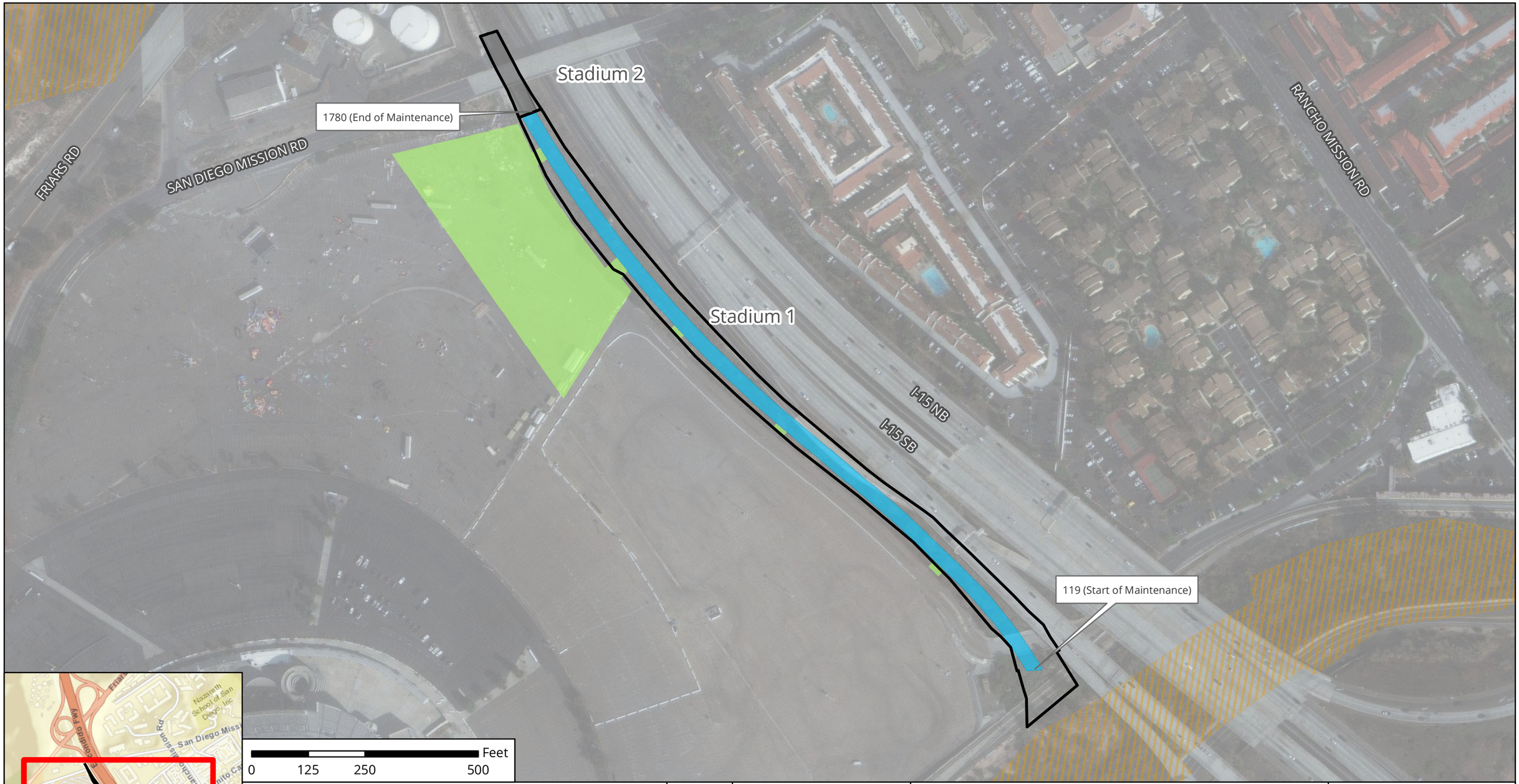
Facility Group	Murphy Canyon Creek - Stadium
Segment Name	Stadium 1
Facility No.	4-04-000
Facility Location	From north of San Diego Mission Road bridge to 40 feet south of the Stadium Road bridge at the property line
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 119 to Station 1780
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Temporary stockpiling Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 14684-L
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 1,661 feet Top width: 50 feet Bottom width: 20 feet Depth: 10–12 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 1,661 feet Width: 24–32 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 90 working days
Maintenance Crew	Approximately 12–18 people
Routine Maintenance Procedures	1. Bulldozer/track-steer and loader enter channel at access/loading area. 2. Bulldozer/track-steer and loader push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck short-hauls material to stockpile area 5. At staging area: loader manages stockpiles and loads dump truck 6. Dump truck hauls material to appropriate disposal facility
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Determine location of Miramar gas line in vicinity of maintenance area



Facility Area
Multi-Habitat Planning Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Murphy Canyon - Stadium
Segment Name: Stadium 1
Facility No: 4-04-000
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Stadium Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Murphy Canyon Creek, immediately upstream of Murphy Canyon Creek (Stadium Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 207 feet
Top-of-Bank Width	Approximately 40 feet
Bottom Facility Width	Approximately 20 feet
Facility Depth	Approximately 10–12 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Other Residential, Recreation, Transportation
As-Built Drawing Number	14684-L
Coastal Zone	No

Figure 1: March 2013, looking upstream near area of recommended maintenance

Figure 2: Vicinity Map of Stadium Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2014/15: Routine maintenance conducted January 2015 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 31 USACE File #SPL-2013-00494-MBS (expired March 2017)
401	RWQCB 401 Cert No. R9-2013-0124 (expired March 2017)
1602	CDFW SAA No. 1600-2010-0269-R5 (expires 10/31/2019)
Mitigation for Previous Impacts	Stadium (4.28 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Fairly dense vegetation was observed and sediment deposition was estimated to be 1 foot. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	510	1,050	1,500	2,000	2,700	3,500

Hydraulic Capacity of Facility

Current Capacity	<510 cfs
Proposed MWMP Maintained Capacity	2,700 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 1780 to Station 1987
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed wetland • Ornamental plantings
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility. However, there is potential for sensitive species, such as least Bell's vireo and Ridgway's rail, to occur in suitable habitat downstream of the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet south of the channel within the San Diego River.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1963–1974 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-5
EP-BIO-5	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-BIO-6	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Murphy Canyon Creek - Stadium
Segment Name	Stadium 2
Facility No.	4-04-002
Facility Location	From south of San Diego Mission Road to the upstream end of Stadium 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 1780 to Station 1987
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 14684-L
Substrate Detail[3]	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 207 feet Top width: 40 feet Bottom width: 20 feet Depth: 10–12 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 207 feet Width: 40 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 12–18 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and loader enter channel at access/loading area 2. Bobcat/skid-steer and loader push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck short-hauls material to stockpile area 5. At staging area, loader manages stockpiles and loads dump truck 6. Dump truck hauls material to appropriate disposal facility
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Miramar gas line in vicinity of maintenance area

1987 (End of Maintenance)

1780 (Start of Maintenance)

Stadium 2

Stadium 1

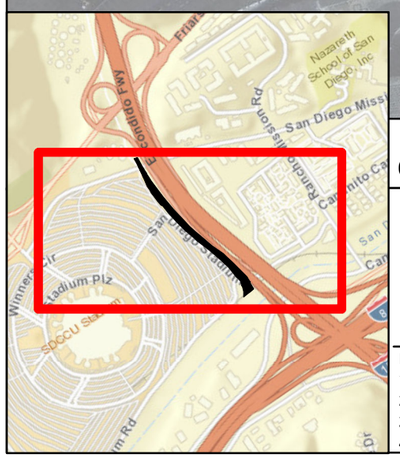
FRIARS RD

SAN DIEGO MISSION RD

RANCHO MISSION RD

I-15 NB

I-15 SB



0 125 250 500 Feet

Facility Area

Multi-Habitat Planning Area

Adjacent Facility Activity Area

Maintenance Area

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Murphy Canyon Creek - Stadium
Segment Name: Stadium 2
Facility No: 4-04-002
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Murphy Canyon Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Murphy Canyon Creek, upstream of Murphy Canyon Creek (Stadium Segment 2)
Tributaries (listed from downstream to upstream)	Murphy Canyon Creek
Facility Length	Approximately 532 feet
Top-of-Bank Width	Approximately 31–56 feet
Bottom Facility Width	Approximately 10–29 feet
Facility Depth	Approximately 8–12 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Transportation
As-Built Drawing Number	14684-19-L
Coastal Zone	No

Figure 1: March 2013, looking downstream towards access road bridge near the upstream limit of concrete channel lining

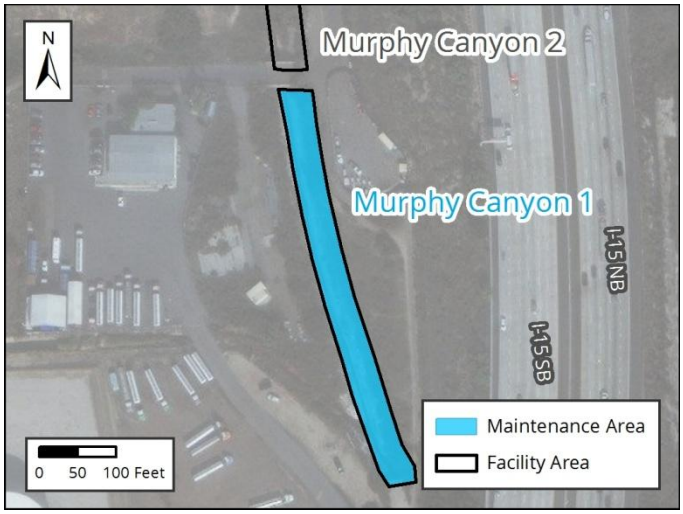


Figure 2: Vicinity Map of Murphy Canyon Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In March 2013, the channel was observed to have light vegetation and little to no sediment deposition throughout the segment. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	300	680	1,100	1,700	2,400	3,000

Hydraulic Capacity of Facility

Current Capacity	1,100 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (concrete-lined) • Freshwater marsh (concrete-lined)
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland • Ornamental plantings • Riparian scrub (southern willow scrub)
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility itself. However, there is potential for sensitive species, such as least Bell's vireo and coastal California gnatcatcher, to occur in suitable habitat upstream or adjacent to the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 700 feet to the east of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-7
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

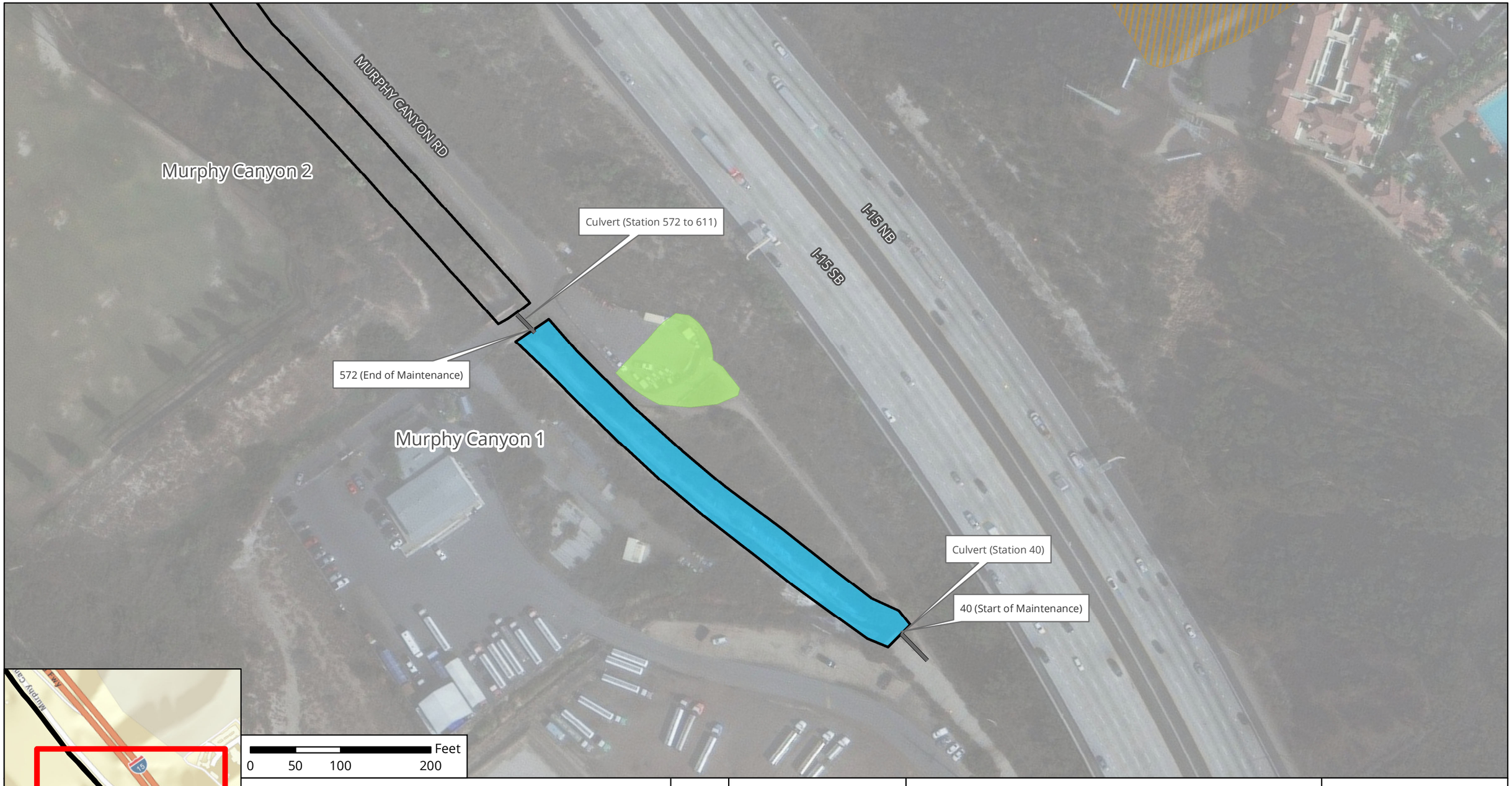
Facility Group	Murphy Canyon Creek - Stadium
Segment Name	Murphy Canyon 1
Facility No.	4-04-006
Facility Location	From downstream end of Murphy Canyon 2 segment to inlet of culvert to the northeast of the Kinder-Morgan facility
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel, per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 14684-19-L
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 532 feet Top width: 31–56 feet Bottom width: 10–29 feet Depth: 8–12 feet

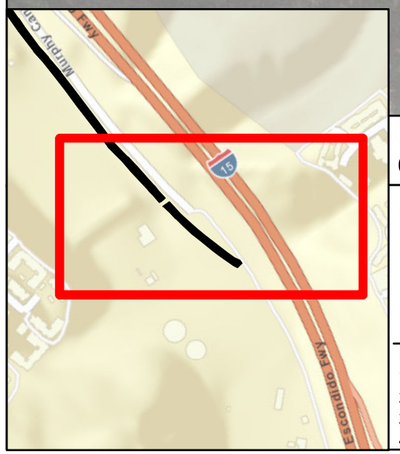
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 532 feet Width: 31–56 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; Bicycle and pedestrian path may be closed during maintenance activities. A detour and signage will be provided as-needed.
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Miramar gas line in vicinity of maintenance area





0 50 100 200 Feet

Culvert
Facility Area
Multi-Habitat Planning Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

Notes:
1. Concrete repair may occur in this area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Murphy Canyon Creek - Stadium
Segment Name: Murphy Canyon 1
Facility No: 4-04-006
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Alvarado Canyon Creek - Mission Gorge Facility Group

Segment Names (Facility numbers):

- Mission Gorge 1 (4-07-002)
- Mission Gorge 2 (4-07-004)
- Mission Gorge 3 (4-07-009)
- Mission Gorge 4 (4-07-011)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Alvarado Canyon Creek (07)
Facility Group Name	Alvarado Canyon Creek - Mission Gorge
Segment Name (Facility Number)	Mission Gorge 1 (4-07-002) Mission Gorge 2 (4-07-004) Mission Gorge 3 (4-07-009) Mission Gorge 4 (4-07-011)
Substrate	Mission Gorge 1 / Earthen and concrete Mission Gorge 2 / Concrete Mission Gorge 3 / Earthen and concrete Mission Gorge 4 / Concrete
Location	Starts east of Waring Road along Zephyr Lane, extends west along the north side of Interstate 8 (I-8) past Fairmount Avenue
MMP Map No(s).	59, 60, 61, 62
Facility Inspection No.	59, 60, 61, 62
Other Former Names	Alvarado Channel, Lower Alvarado, Mission Gorge Place

Figure 1: Vicinity Map of Alvarado Canyon Creek - Mission Gorge Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Alvarado Canyon Creek - Mission Gorge	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Nitrogen, Selenium

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Mission Gorge Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail	Concrete/earthen bottom, concrete and riprap banks
Location Within Watershed	Lower reach of Alvarado Canyon Creek, immediately upstream of the San Diego River
Tributaries (listed from downstream to upstream)	Alvarado Canyon Creek
Facility Length	Approximately 1,013 feet
Top-of-Bank Width	Approximately 46–59.7 feet
Bottom Facility Width	Approximately 30 feet
Facility Depth	Approximately 8–12 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Transportation
As-Built Drawing Number	21772-D, 21647-D, & I-172 (12) (Caltrans)
Coastal Zone	No

Figure 1: August 2014, looking upstream at the triple 12-foot-wide by 8-foot-tall RCB culvert beneath Fairmount Avenue

Figure 2: Vicinity Map of Mission Gorge Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2010: Unknown 2010 – 2011: Emergency maintenance conducted 2011 – 2014: No maintenance conducted 2015 – 2017: Routine maintenance and concrete repair conducted January 2018 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 31/33 USACE File #SPL-2015-00423-MBT (expired March 2018)
401	RWQCB 401 Cert No. R9-2015-0102 (expired March 2017)
1602	CDFW SAA No. 1600-2015-0107-R5 (expires September 2020)
Mitigation for Previous Impacts	Stadium (3.91 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Moderate to dense vegetation was observed in the channel bottom with sediment deposition ranging from 0.2 to 0.9 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,180	2,050	2,700	3,800	4,500	5,100

Hydraulic Capacity of Facility	
Current Capacity	1,250 cfs
Proposed MWMP Maintained Capacity	1,800 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from Station 819 to Station 1156 and Station 1305 to Station 1686. Remove accumulated sediment and debris in culvert from Station 1156 to Station 1305.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Freshwater marsh • Natural flood channel
Adjacent Vegetation	• Disturbed land • Disturbed wetland • Disturbed wetland (Arundo-dominated; concrete-lined) • Developed land • Eucalyptus woodland • Ornamental plantings • Riparian forest (southern willow forest) • Riparian scrub (mulefat scrub) • Riparian scrub (southern willow scrub)
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility itself. However, there is extensive suitable habitat directly west of the western section of the channel that has high potential to support sensitive and migratory bird species, such as least Bell's vireo.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 250 feet west of the channel within the San Diego River.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

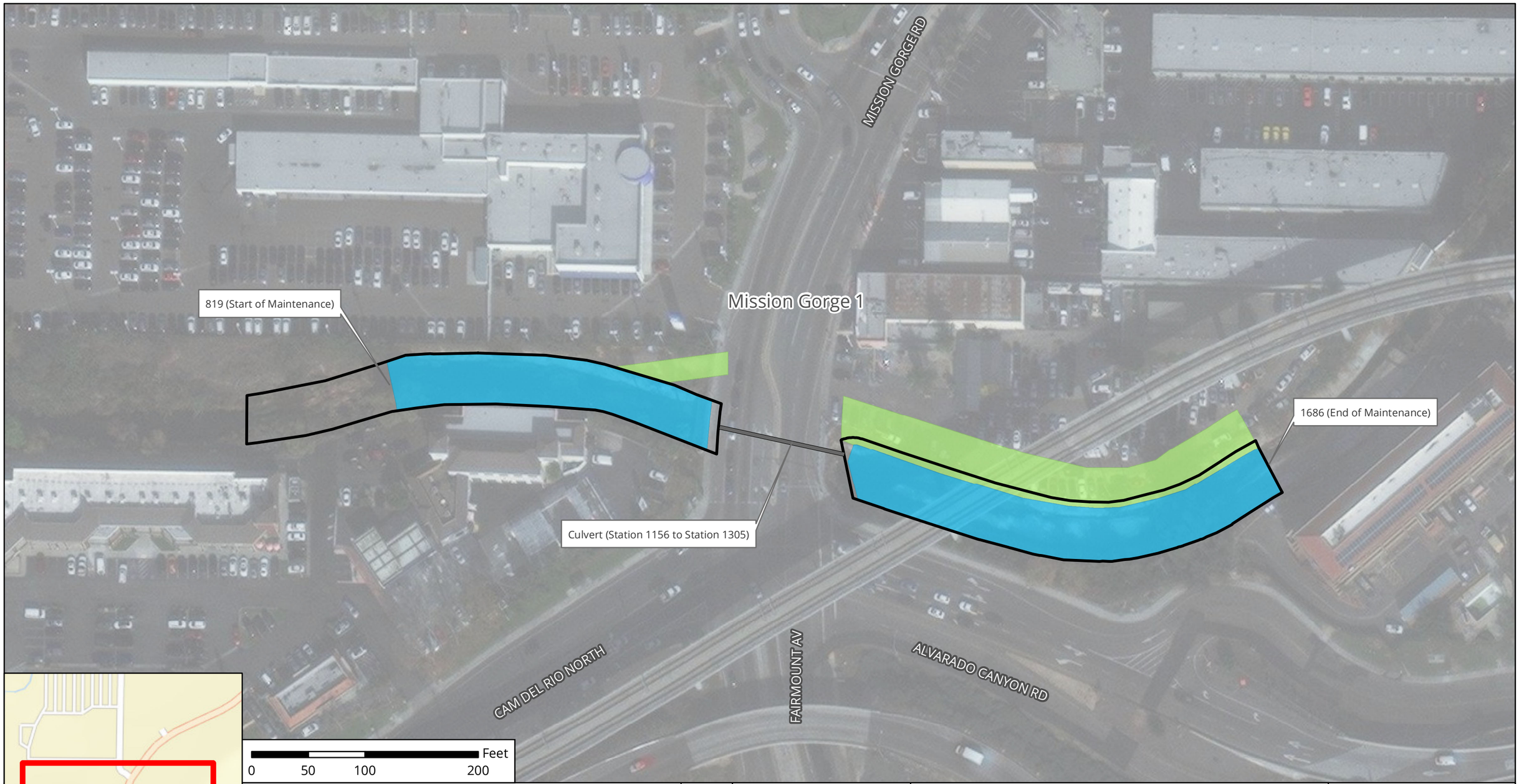
Facility Group	Alvarado Canyon Creek - Mission Gorge
Segment Name	Mission Gorge 1
Facility No.	4-07-002
Facility Location	From 400 feet east of Fairmount Avenue to 300 feet downstream of outlet of culvert beneath Fairmount Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and overgrown vegetation from Station 819 to Station 1156 and Station 1305 to Station 1686. Remove accumulated sediment and debris in culvert from Station 1156 to Station 1305.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 21772-D, 21647-D, & I-172 (12) (Caltrans)
Substrate Detail	Concrete/earthen bottom, concrete and riprap banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,013 feet Top width: 46–59.7 feet Bottom width: 30 feet Depth: 8–12 feet
Authorized Facility Maintenance Area	Length: Channel: 718 feet; Culvert: 149 feet Width: 46–59.7 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, loader, and bulldozer/track-steer enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer and bulldozer/track-steer push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck. Backhoe may also be used. 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Alvarado Canyon Creek - Mission Gorge
Segment Name: Mission Gorge 1
Facility No: 4-07-002
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Mission Gorge Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Alvarado Canyon Creek, immediately upstream of Alvarado Canyon Creek (Segment 1)
Tributaries (listed from downstream to upstream)	Alvarado Canyon Creek
Facility Length	Approximately 521 feet
Top-of-Bank Width	Approximately 49 feet
Bottom Facility Width	Approximately 25 feet
Facility Depth	Approximately 8 feet
Adjacent Land Use	Commercial, Industrial, Transportation
As-Built Drawing Number	16540-D
Coastal Zone	No

Figure 1: August 2014, looking downstream from the south side

Figure 2: Vicinity Map of Mission Gorge Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015 – 2017: Routine maintenance conducted January 2018 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 31/33 USACE File #SPL-2015-00423-MBT (expired March 2017)
401	RWQCB 401 Cert No. R9-2015-0102 (expired March 2017)
1602	CDFW SAA No. 1600-2015-0107-R5 (expires September 2020)
Mitigation for Previous Impacts	Stadium (3.91 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation in the channel bottom ranged from light to heavy and sediment accumulation varied from 0.25 to 1.1 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	1,180	2,050	2,700	3,800	4,500	5,100

Hydraulic Capacity of Facility

Current Capacity	950 cfs
Proposed MWMP Maintained Capacity	1,300 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from Station 3006 to Station 3527
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (Arundo-dominated)
Adjacent Vegetation	• Developed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 940 feet south of the channel within the San Diego River.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	**Noise (NOI)**
EP-BIO-5	MM-NOI-1
EP-BIO-6	
Health and Safety/Hazards (HAZ)	
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alvarado Canyon Creek - Mission Gorge
Segment Name	Mission Gorge 2
Facility No.	4-07-004
Facility Location	From outlet of culvert beneath the Mission Gorge Place commercial area 300 feet south of Mission Gorge Place to upstream end of segment owned by San Diego Metropolitan Transit Development Board
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and overgrown vegetation from Station 3006 to Station 3527
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 16540-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 521 feet Top width: 49 feet Bottom width: 25 feet Depth: 8 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 521 feet Width: 49 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and loader enter or are lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer and loader push material to Gradall/excavator at access/ loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

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Map A: General Site Map
Facility Group Name: Alvarado Canyon Creek - Mission Gorge
Segment Name: Mission Gorge 2
Facility No: 4-07-004
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Mission Gorge Segment 3 Detail

Facility Type	Earthen and concrete channel
Substrate Detail	Concrete/earthen bottom and concrete banks
Location Within Watershed	Lower reach of Alvarado Canyon Creek, immediately upstream of Alvarado Canyon Creek (Mission Gorge)
Tributaries (listed from downstream to upstream)	Alvarado Canyon Creek
Facility Length	Approximately 935 feet
Top-of-Bank Width	Approximately 28–68 feet
Bottom Facility Width	Approximately 28–44.5 feet
Facility Depth	Approximately 7–8.5 feet
Adjacent Land Use	Commercial, Industrial, Public Facilities and Utilities, Transportation, Vacant
As-Built Drawing Number	19862-D, Caltrans Contract No. 59-11VC12, Caltrans Contract No. 11-169664
Coastal Zone	No

Figure 1: May 2017, looking at the downstream end of segment, towards the triple 9-foot wide by 8-foot high RCB culvert beneath Mission Gorge Place

Figure 2: Vicinity Map of Mission Gorge Segment 3

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation in the channel bottom ranged from light to medium, with heavy vegetation along the side slopes. Sediment accumulation within the channel was estimated to be up to 2.5 feet deep.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	1,180	2,050	2,700	3,800	4,500	5,100

Hydraulic Capacity of Facility

Current Capacity	1,956 cfs
Proposed MWMP Maintained Capacity	2,165 cfs
Maintenance Recommendation	Remove accumulated sediment, debris and overgrown vegetation from Station 4160 to Station 4345. Trim overgrown vegetation from Station 4345 to Station 4860 within the City owned portion of the segment. The remainder of Mission Gorge 3 is recommended to be maintained by Caltrans to remove accumulated sediment, debris and overgrown vegetation, trim overgrown vegetation, and to remove accumulated sediment and debris in the culvert.
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed riparian forest (southern willow forest) • Disturbed wetland • Disturbed wetland (Arundo-dominated; concrete-lined)
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings • Riparian scrub
Habitat and Wildlife	Although this channel does contain suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the channel extents and vegetation present are limited, and several of the roadways adjacent to the channel are elevated to be even with the canopy height such that it is unlikely that wildlife would use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 500 feet south of the channel across Interstate 8.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1965 concrete channel (segment under Waring Road)
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Hydrology (HYD)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HYD-1	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

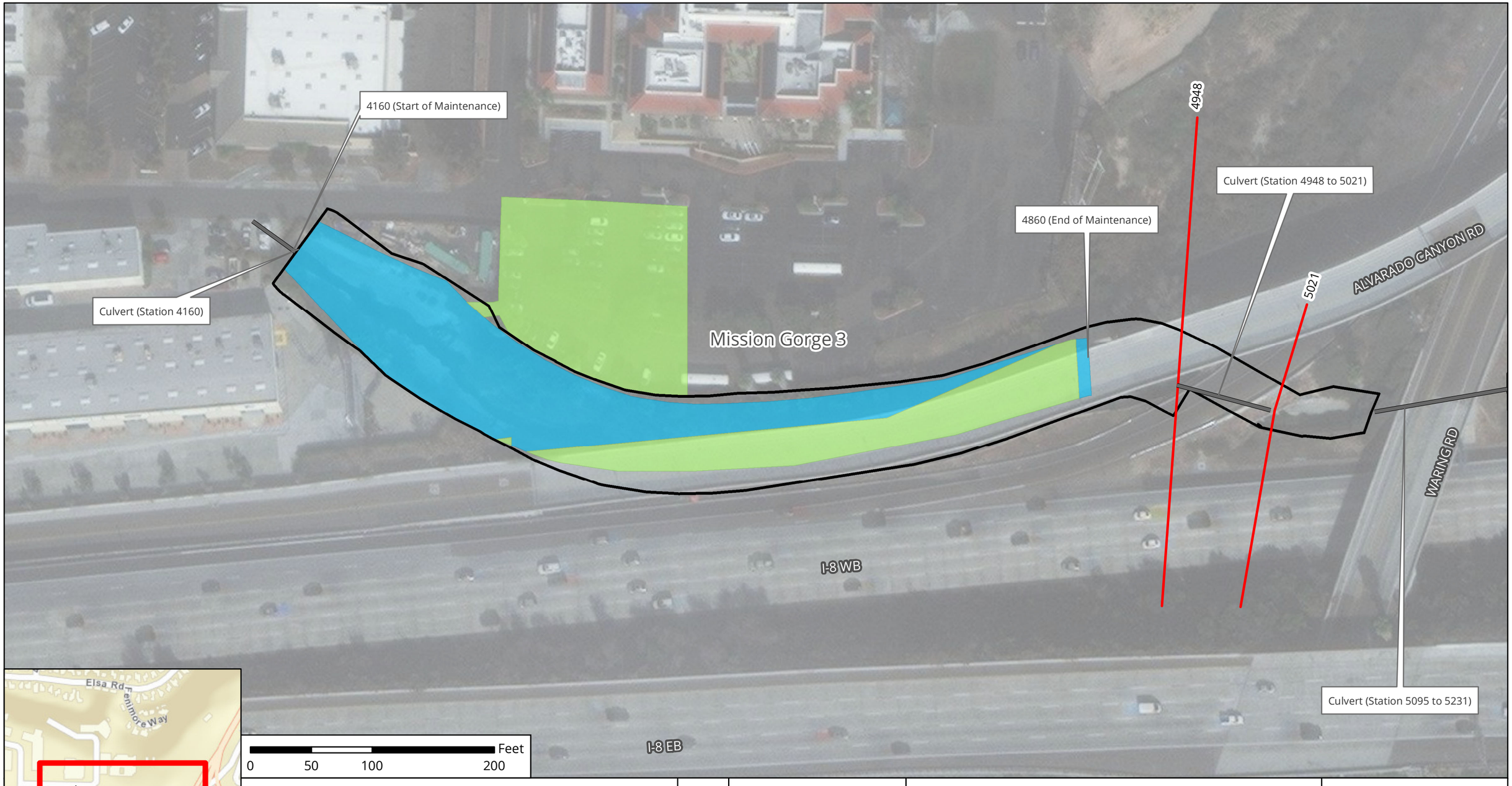
Facility Group	Alvarado Canyon Creek - Mission Gorge
Segment Name	Mission Gorge 3
Facility No.	4-07-009
Facility Location	From outlet of culvert beneath Waring Road just north of Interstate 8 (I-8) to inlet of culvert beneath the Mission Gorge Place commercial area
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen and concrete channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris and overgrown vegetation from Station 4160 to Station 4345. Trim overgrown vegetation from Station 4345 to Station 4860 within the City owned portion of the segment. The remainder of Mission Gorge 3 is recommended to be maintained by Caltrans to remove accumulated sediment, debris and overgrown vegetation, trim overgrown vegetation, and to remove accumulated sediment and debris in the culvert.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Existing Plans and/or As-Builts?	Yes; 19862-D, Caltrans Contract No. 59-11VC12, Caltrans Contract No. 11-169664
Substrate Detail	Concrete/earthen bottom and concrete banks
Facility Dimensions (Approximate)	Length: 935 feet Top width: 28–68 feet Bottom width: 28–44.5 feet Depth: 7–8.5 feet
Authorized Facility Maintenance Area	Length: Channel: 700 feet Width: 28–68 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 60 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, bulldozer/track-steer, and two loaders enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer, bulldozer/track-steer, and loaders push/scoop material and transport to Gradall/excavator at access/loading area 3. Gradall/excavator scoop material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:

1. Concrete repair may occur within this facility.
2. In-stream post-maintenance erosion control measures may occur within this facility area.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Alvarado Canyon Creek - Mission Gorge
Segment Name: Mission Gorge 3
Facility No: 4-07-009
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Mission Gorge Segment 4 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Alvarado Canyon Creek, immediately upstream of Alvarado Canyon Creek (Segment 2)
Tributaries (listed from downstream to upstream)	Alvarado Canyon Creek
Facility Length	Approximately 1,501 feet
Top-of-Bank Width	Approximately 28–46 feet
Bottom Facility Width	Approximately 10–33 feet
Facility Depth	Approximately 5.5–10 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Transportation, Vacant
As-Built Drawing Number	12840-D, 14592-D, Caltrans Contract No. 59-11VC12, Caltrans Contract No. 11-169664
Coastal Zone	No

Figure 1: May 2017, looking downstream from the upstream end

Figure 2: Vicinity Map of Mission Gorge Segment 4

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation in the channel bottom ranged from light to medium, with heavy vegetation along the side slopes. Sediment accumulation within the channel was estimated to be up to 2.5 feet deep.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	1,180	2,050	2,700	3,800	4,500	5,100

Hydraulic Capacity of Facility

Current Capacity	2,540 cfs
Proposed MWMP Maintained Capacity	2,837 cfs
Maintenance Recommendation	Remove accumulated sediment, debris and overgrown vegetation from Station 6081 to Station 6596. The remainder of Mission Gorge 4 is recommended to be maintained by the private property owners and Caltrans to remove accumulated sediment, debris and overgrown vegetation from the channel and culverts.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife; however, coastal sage scrub habitat, suitable for coastal California gnatcatcher, is present in areas adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 350 feet north of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1965 concrete channel (segment under Waring Road)
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-BIO-6	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

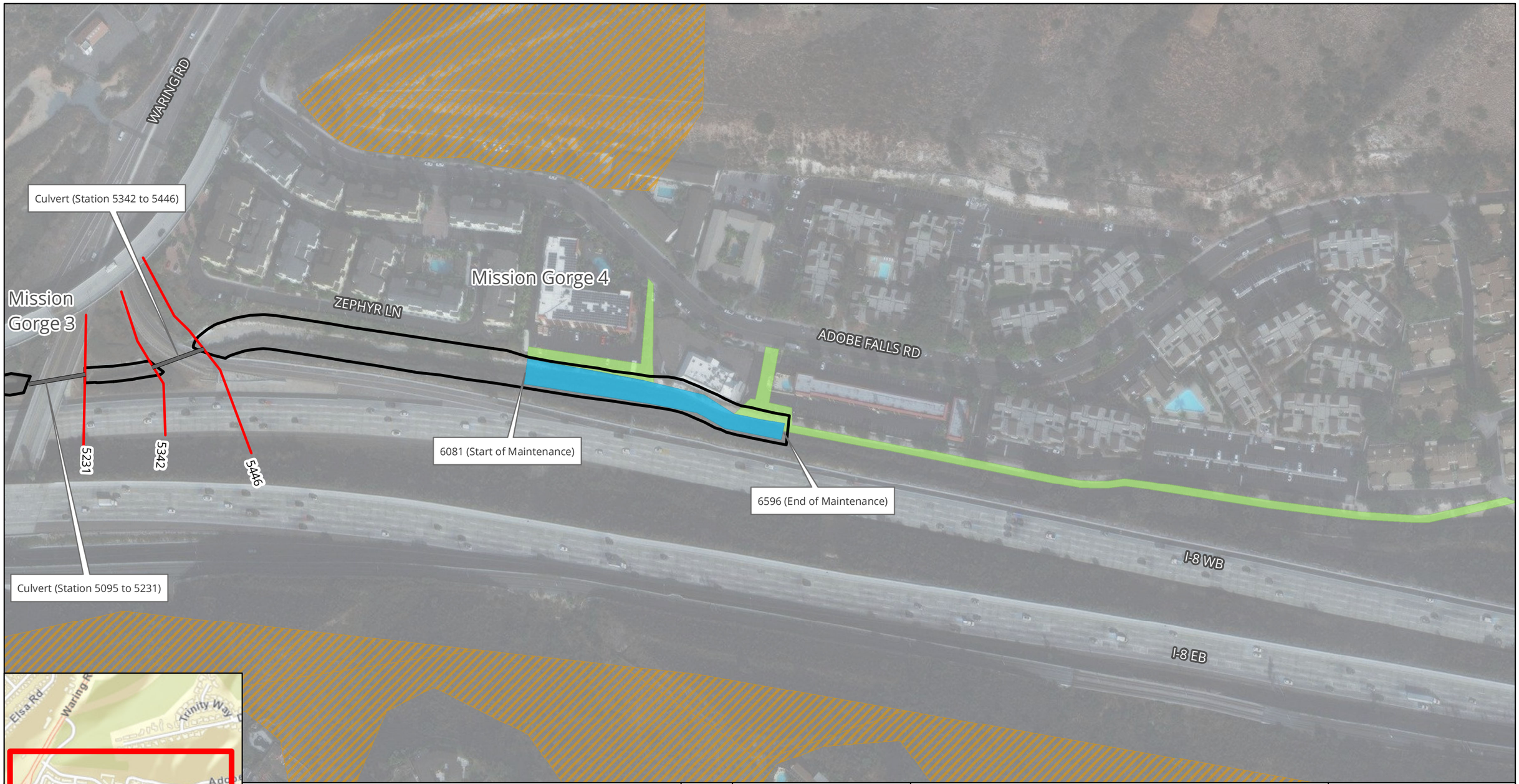
Facility Group	Alvarado Canyon Creek - Mission Gorge
Segment Name	Mission Gorge 4
Facility No.	4-07-011
Facility Location	From 1300 feet east of Waring Road, along Zephyr Lane and the north side of Interstate 8 (I-8), to inlet of culvert beneath Waring Road just north of Interstate 8 (I-8)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris and overgrown vegetation from Station 6081 to Station 6596. The remainder of Mission Gorge 4 is recommended to be maintained by the private property owners and Caltrans to remove accumulated sediment, debris and overgrown vegetation from the channel and culverts.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 12840-D, 14592-D, Caltrans Contract No. 59-11VC12, Caltrans Contract No. 11-169664
Substrate Detail	Concrete bottom and banks

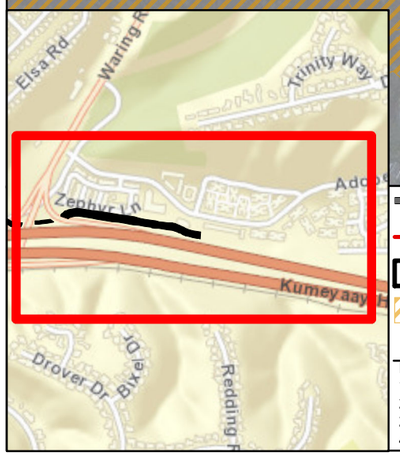
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,501 feet Top width: 28–46 feet Bottom width: 10–33 feet Depth: 5.5–10 feet
Authorized Facility Maintenance Area	Length: Channel: 515 feet Width: 28–46 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None





- Culvert
- Station
- Facility Area
- Multi-Habitat Planning Area
- Adjacent Facility Activity Area
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Alvarado Canyon Creek - Mission Gorge
Segment Name: Mission Gorge 4
Facility No: 4-07-011
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Alvarado Canyon Creek - Alvarado Facility Group

Segment Names (Facility numbers):

- Alvarado 1 (4-07-021)
- Alvarado 2 (4-07-023)
- Alvarado 3 (4-07-250)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Alvarado Canyon Creek (07)
Facility Group Name	Alvarado Canyon Creek - Alvarado
Segment Name (Facility Number)	Alvarado 1 (4-07-021) Alvarado 2 (4-07-023) Alvarado 3 (4-07-250)
Substrate	Alvarado 1 / Earthen and concrete Alvarado 2 / Concrete Alvarado 3 / Concrete
Location	Located south of Alvarado Road, north of Cleo Street, west of Reservoir Drive, and east of Brockbank Place
MMP Map No(s).	64
Facility Inspection No.	63, 64
Other Former Names	Upper Alvarado Channel

Figure 1: Vicinity Map of Alvarado Canyon Creek - Alvarado Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Alvarado Canyon Creek - Alvarado	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Nitrogen, Selenium

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved, Phosphorus, Total Dissolved Solids, Toxicity

Alvarado Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 2335-3419: Earthen bottom, concrete right bank, and earthen left bank
Location Within Watershed	Upper reach of Alvarado Canyon Creek, upstream of Alvarado Canyon Creek (Mission Gorge Segment 4)
Tributaries (listed from downstream to upstream)	Murray Reservoir Unnamed Tributary
Facility Length	Approximately 1,102 feet
Top-of-Bank Width	Approximately 37 feet
Bottom Facility Width	Approximately 19 feet
Facility Depth	Approximately 9 feet
Adjacent Land Use	Commercial, Open Space, Other Residential, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	13526-D
Coastal Zone	No

Figure 1: August 2014, from east side of channel, directly upstream of State of California maintenance boundary, looking downstream

Figure 2: Vicinity Map of Alvarado Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015 – 2016: Routine maintenance conducted January 2017 – March 2019: No maintenance conducted, except removal of debris fence
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 18/31/33 USACE File #SPL-2015-00423-MBT (expired March 2018)
401	RWQCB 401 Cert No. R9-2015-0102 (expired March 2018)
1602	CDFW SAA No. 1600-2015-0107-R5 (expires 2020)
Mitigation for Previous Impacts	Stadium (3.91 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	In August 2014, the amount of vegetation was observed to range from light to moderate, and sediment deposition was estimated to range from 0.2 to 1.7 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,000	1,700	2,100	2,558	3,400	3,900

Hydraulic Capacity of Facility

Current Capacity	1,700 cfs
Proposed MWMP Maintained Capacity	<3,400 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 2317 to Station 3419. Previously designed post-maintenance erosion control measure at Station 2335 to be installed and maintained as necessary.
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station 2537

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	Although the channel is intersected by the Multi Habitat Planning Area (MHPA), there are limited biological resources suitable for sensitive species use within the facility itself. Upstream of the facility there is suitable habitat (e.g., riparian forest [southern willow forest]) for least Bell's vireo.
MHPA	The Multi Habitat Planning Area (MHPA) boundary intersects the channel limits and extends south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Hydrology (HYD)	
EP-HYD-1	
Land Use (LU)	
EP-LU-1	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alvarado Canyon Creek - Alvarado
Segment Name	Alvarado 1
Facility No.	4-07-021
Facility Location	From downstream end of Alvarado 2 segment to 15 feet north of sewer lateral over the channel on the 6300 block of Alvarado Court
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel immediately upstream of State of California property per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 2317 to Station 3419. Previously designed post-maintenance erosion control measure at Station 2335 to be installed and maintained as necessary.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 13526-D
Substrate Detail[3]	Stations 2335-3419: Earthen bottom, concrete right bank, and earthen left bank

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,102 feet Top width: 37 feet Bottom width: 19 feet Depth: 9 feet
Authorized Facility Maintenance Area	Length: Channel: 1,102 feet Width: 29 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 20 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, bulldozer/track-steer and/or loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer and/or bulldozer/track-steer pushes material to loader. Loader scoops up materials from channel and loads onto dump truck. 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station 2537
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

In-Stream Erosion Control
Station
Facility Area
Multi-Habitat Planning Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2. In-stream post-maintenance erosion control measures may occur within this facility area.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Alvarado Canyon Creek - Alvarado
Segment Name: Alvarado 1
Facility No: 4-07-021
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Alvarado Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Alvarado Canyon Creek, upstream of Alvarado Canyon Creek (Alvarado Segment 1)
Tributaries (listed from downstream to upstream)	Murray Reservoir Unnamed Tributary
Facility Length	Approximately 1,192 feet
Top-of-Bank Width	Approximately 37 feet
Bottom Facility Width	Approximately 19 feet
Facility Depth	Approximately 9 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	59-11vc12 (Caltrans), 12897-7-D, & 12897-2-D
Coastal Zone	No

Figure 1: August 2014, from north side of the channel within 100% concrete portion of channel at 90-degree bend, looking downstream

Figure 2: Vicinity Map of Alvarado Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In August 2014, the channel was relatively clean with very little evidence of vegetation or sediment deposition. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,000	1,700	2,100	2,558	3,400	3,900

Hydraulic Capacity of Facility

Current Capacity	3,900 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	Although the channel is intersected by the Multi-Habitat Planning Area (MHPA), there are limited biological resources suitable for sensitive species use within the facility
MHPA	The Multi Habitat Planning Area (MHPA) boundary intersects the channel limits and extends south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Land Use (LU)	
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

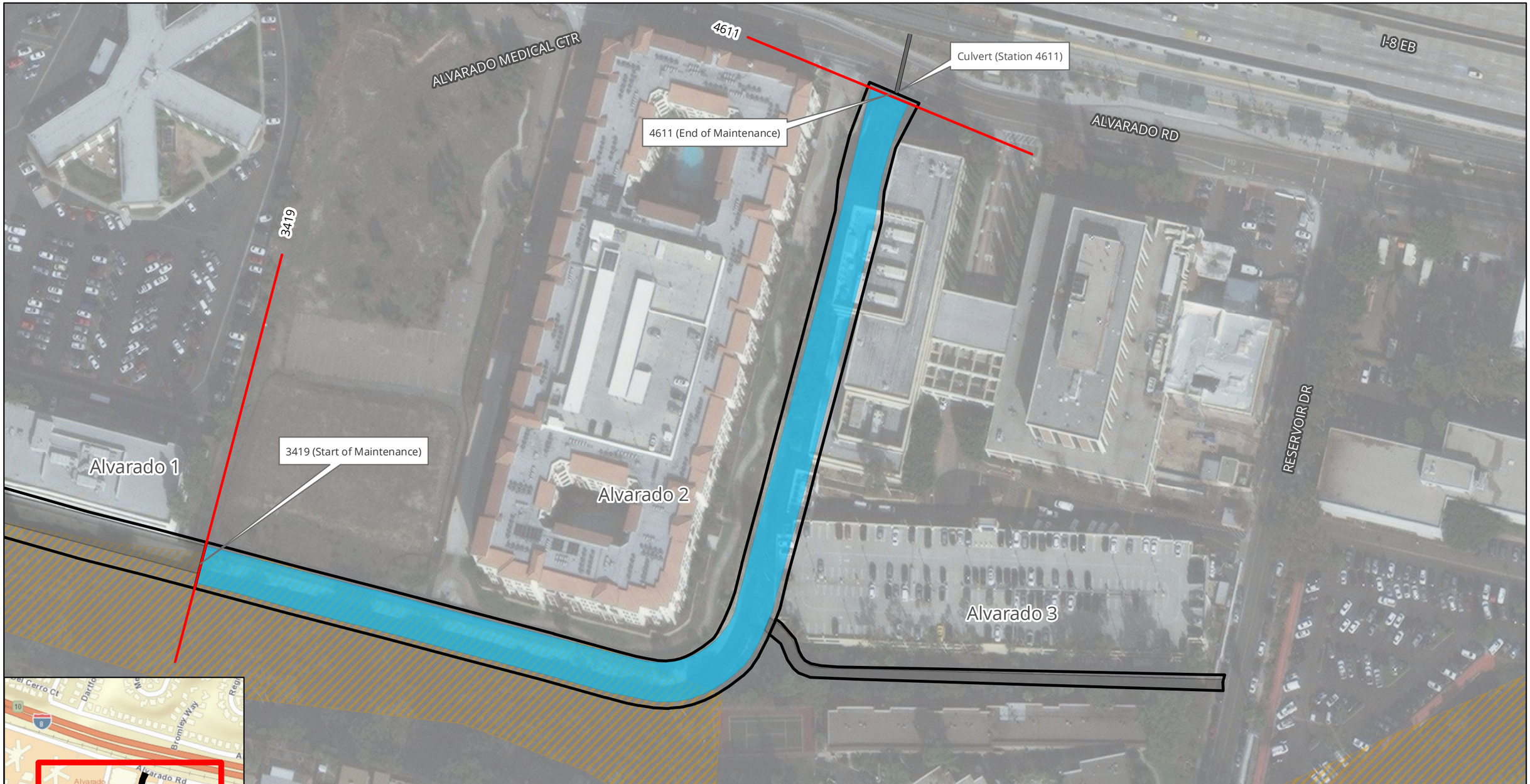
Facility Group	Alvarado Canyon Creek - Alvarado
Segment Name	Alvarado 2
Facility No.	4-07-023
Facility Location	From immediately south of Alvarado Road to upstream end of Alvarado 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 59-11vc12 (Caltrans), 12897-7-D, & 12897-2-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,192 feet Top width: 37 feet Bottom width: 19 feet Depth: 9 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 1,192 feet Width: 33–37 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 20 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to loader at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert
Station
Facility Area
Multi-Habitat Planning Area
Adjacent Facility Activity Area
Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Alvarado Canyon Creek - Alvarado
Segment Name: Alvarado 2
Facility No: 4-07-023
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Alvarado Segment 3 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Alvarado Canyon Creek, upstream of Alvarado Canyon Creek (Alvarado Segment 2)
Tributaries (listed from downstream to upstream)	Murray Reservoir Unnamed Tributary
Facility Length	Approximately 517 feet
Top-of-Bank Width	Approximately 9–12.5 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 4–4.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	59-11vc12 (Caltrans) & 12897-7-D
Coastal Zone	No

Figure 1: September 2017, facing the upstream end of the segment, at the location of the recent concrete lining repair work

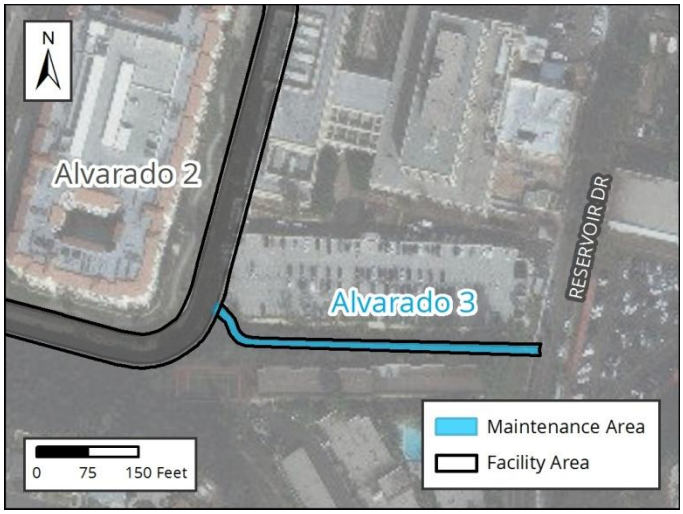


Figure 2: Vicinity Map of Alvarado Segment 3

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2015: No maintenance conducted 2016: Minor maintenance conducted (hand removal of sediment) 2018: Concrete repair conducted January 2019 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The ditch was relatively clean with very little evidence of vegetation or sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	239	305	358	433	488	544
Hydraulic Capacity of Facility						
Current Capacity	426 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental planting
Habitat and Wildlife	Although the ditch is intersected by the Multi-Habitat Planning Area (MHPA), there are limited biological resources suitable for sensitive species use within the facility
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 80 feet to the southwest of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Land Use (LU)	
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

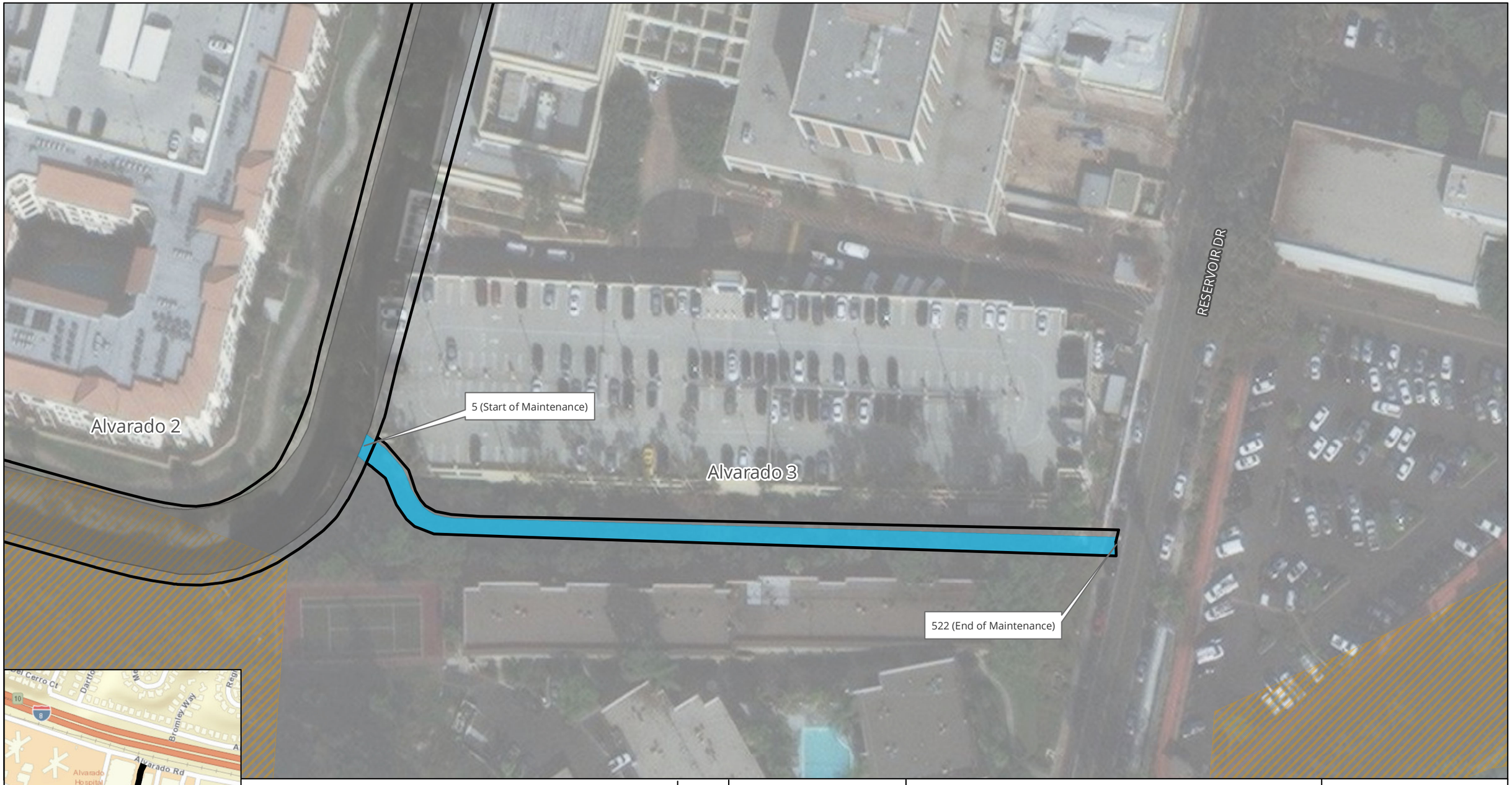
Facility Group	Alvarado Canyon Creek - Alvarado
Segment Name	Alvarado 3
Facility No.	4-07-250
Facility Location	From west of Reservoir Drive and south of Alvarado Road to Alvarado 2 segment between Station 3913 and Station 4057
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 59-11vc12 (Caltrans) & 12897-7-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 517 feet Top width: 9–12.5 feet Bottom width: 4 feet Depth: 4–4.5 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 517 feet Width: 9–12.5 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 20 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedur
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Facility Area

Multi-Habitat Planning Area

Adjacent Facility Activity Area

Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Alvarado Canyon Creek - Alvarado
Segment Name: Alvarado 3
Facility No: 4-07-250
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Murray Reservoir - Cowles Mountain Facility Group

Segment Names (Facility numbers):

Cowles Mountain 1 (4-07-901)

Cowles Mountain 2 (4-07-911)

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Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Murray Reservoir Unnamed Tributary (07)
Facility Group Name	Murray Reservoir - Cowles Mountain
Segment Name (Facility Number)	Cowles Mountain 1 (4-07-901) Cowles Mountain 2 (4-07-911)
Substrate	Cowles Mountain 1 / Concrete Cowles Mountain 2 / Concrete
Location	Southeast of the intersection of Navajo Road and Cowles Mountain Boulevard, and about 100 feet north of Lake Cayuga Drive
MMP Map No(s).	53, 54 amended
Facility Inspection No.	53, 54 amended
Other Former Names	Beaver Lake, San Carlos, Cowles Mountain Channel, Lake Badin, Golf Course

Figure 1: Vicinity Map of Murray Reservoir - Cowles Mountain Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Murray Reservoir - Cowles Mountain	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Lake Murray (First downstream water body)	
Beneficial Uses	• Municipal and Domestic Supply (MUN) • Industrial Service Supply (IND) • Hydropower Generation (POW) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Cold Freshwater Habitat (COLD) • Wildlife Habitat (WILD)
303(d) listed Impairments	Nitrogen, pH

Cowles Mountain Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail[1]	Concrete bottom and banks
Location Within Watershed	Upper reach of unnamed tributary to Murray Reservoir, north of Murray Reservoir unnamed tributary (Cowles Mountain Segment 2)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 697 feet
Top-of-Bank Width	Approximately 9.5–22 feet
Bottom Facility Width	Approximately 5 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	10721-D
Coastal Zone	No

Figure 1: October 2018, upstream of culvert

Figure 2: Vicinity Map of Cowles Mountain Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2017: No maintenance conducted 2018: Minor maintenance 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	In November 2014, the vegetation was observed to vary from light to heavy as well as sections of clean concrete to approximately 0.5 foot of sediment

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	355	457	537	645	729	812

Hydraulic Capacity of Facility

Current Capacity	317 cfs
Proposed MWMP Maintained Capacity	340 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of the ditch from Station 709 to Station 1406. Remove accumulated sediment and debris in culverts at Station 709 and at Station 1406.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Ornamental plantings • Riparian scrub
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1963 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	**Noise (NOI)**
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Murray Reservoir - Cowles Mountain
Segment Name	Cowles Mountain 1
Facility No.	4-07-901
Facility Location	From outlet of culvert underneath Navajo Road to inlet of culvert behind residences at the intersection of Cowles Mountain Boulevard and San Carlos Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch, per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from bottom of the ditch from Station 709 to Station 1406. Remove accumulated sediment and debris in culverts at Station 709 and at Station 1406.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 10721-D
Substrate Detail	Concrete bottom and banks

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 697 feet Top width: 9.5–22 feet Bottom width: 5 feet Depth: 6 feet
Authorized Facility Maintenance Area	Length: Ditch: 697 feet Width: 9.5–22 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Murray Reservoir - Cowles Mountain
Segment Name: Cowles Mountain 1
Facility No: 4-07-901
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Cowles Mountain Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of unnamed tributary to Murray Reservoir
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 2,891 feet
Top-of-Bank Width	Approximately 22–38 feet
Bottom Facility Width	Approximately 5–11 feet
Facility Depth	Approximately 4–6 feet
Adjacent Land Use	Parks, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	9741-9-D & 9741-10-D
Coastal Zone	No

Figure 1: December 2016, above inlet culvert on the Boulder Lake end of channel

Figure 2: Vicinity Map of Cowles Mountain Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2013: No maintenance conducted 2014/2015: Emergency removal of debris, sediment, and vegetation 2018: Minor maintenance conducted 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891; EIR Addendum
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	Stadium (0.036 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In November 2014, the vegetation was observed to vary from light to heavy as well as section of clean concrete to approximately 2.5 feet of sediment

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	284	365	429	517	583	649

Hydraulic Capacity of Facility

Current Capacity	148 cfs
Proposed MWMP Maintained Capacity	272 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the channel from Station 0 to Station 209, Station 785 to Station 1735 and from Station 1855 to Station 2891. Remove accumulated sediment and debris in culverts from Station 209 to Station 785 and from Station 1735 to Station 1855.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1963 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

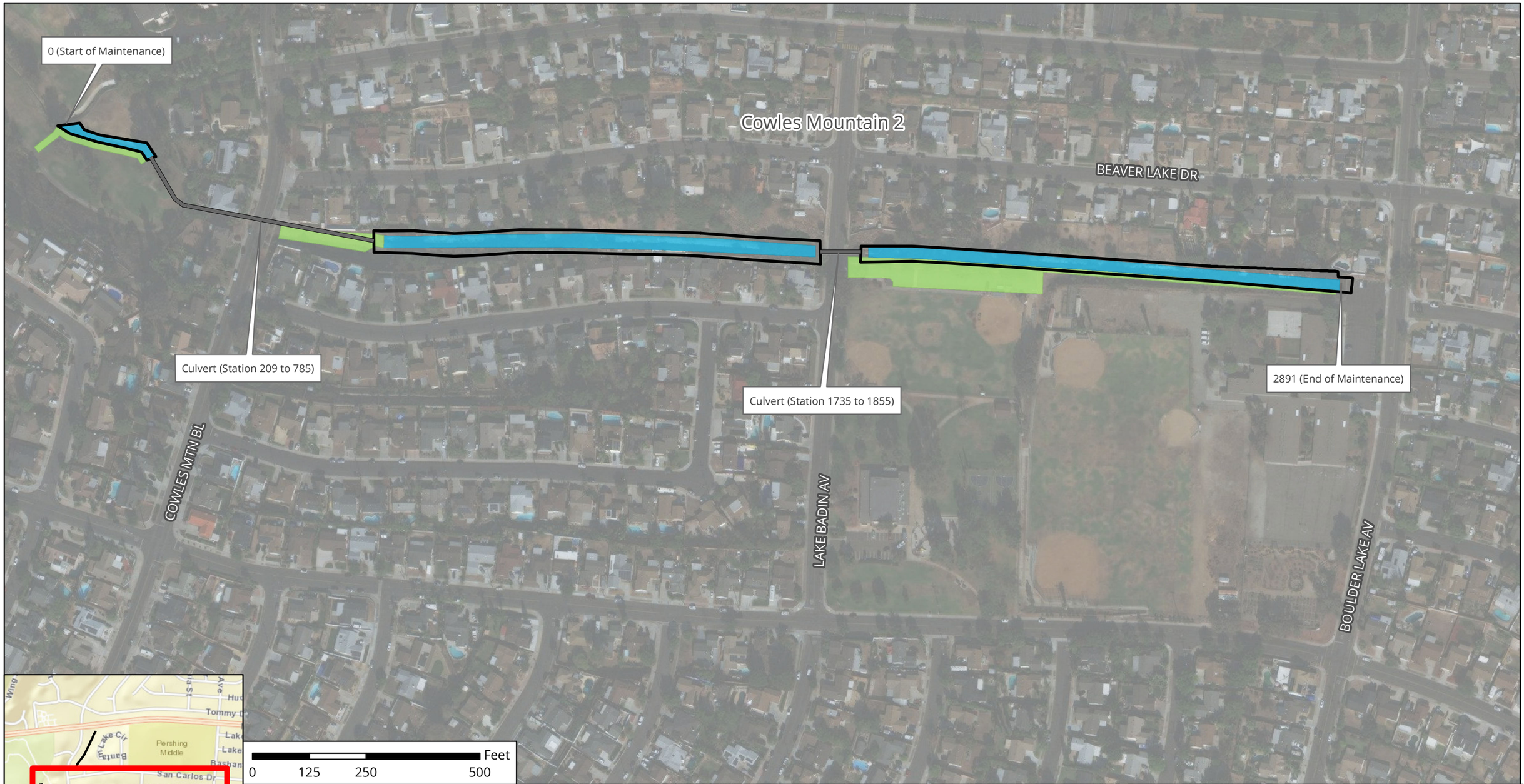
Facility Group	Murray Reservoir - Cowles Mountain
Segment Name	Cowles Mountain 2
Facility No.	4-07-911
Facility Location	From outlet of culvert 100 feet east of Boulder Lake Avenue to San Carlos Golf Course
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from the channel from Station 0 to Station 209, Station 785 to Station 1735 and from Station 1855 to Station 2891. Remove accumulated sediment and debris in culverts from Station 209 to Station 785 and from Station 1735 to Station 1855.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 9741-9-D & 9741-10-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 2,891 feet Top width: 22–38 feet Bottom width: 5–11 feet Depth: 4–6 feet
Authorized Facility Maintenance Area	Length: Channel: 2,195 feet; Culvert: 696 feet Width: 22–38 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel with assistance from Gradall/excavator at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Murray Reservoir - Cowles Mountain
Segment Name: Cowles Mountain 2
Facility No: 4-07-911
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Norfolk Canyon Creek - Fairmount Facility Group

Segment Names (Facility numbers):

- Fairmount 1 (4-08-008)
- Fairmount 2 (4-08-011)
- Fairmount 3 (4-08-014)
- Fairmount 4 (4-08-017)
- Baja 1 (4-08-105)
- Aldine 1 (4-08-150) (See Appendix A-5)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego River
Watershed (Number)	San Diego River (4)
Hydrologic Subarea	907.11
Drainage Name (Number)	Norfolk Canyon Creek (08)
Facility Group Name	Norfolk Canyon Creek - Fairmount
Segment Name (Facility Number)	Fairmount 1 (4-08-008) Fairmount 2 (4-08-011) Fairmount 3 (4-08-014) Fairmount 4 (4-08-017) Baja 1 (4-08-105) Aldine 1 (4-08-150) (See Appendix A-5)
Substrate	Fairmount 1 / Concrete Fairmount 2 / Concrete Fairmount 3 / Earthen Fairmount 4 / Concrete Baja 1 / Earthen and concrete Aldine 1 / Earthen
Location	Runs parallel to the west side of Fairmount Avenue from about 900 feet north of the intersection of Meade Avenue and Fairmount Avenue, and the Aldine Drive-Fairmount Avenue interchange
MMP Map No(s).	65a, 65b, 65c, 66
Facility Inspection No.	65a, 65b, 65c, 66
Other Former Names	Fairmount Canyon, Montezuma Channel

Figure 1: Vicinity Map of Norfolk Canyon Creek - Fairmount Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Norfolk Canyon Creek - Fairmount	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved Phosphorus, Total Dissolved Solids, Toxicity

Fairmount Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Norfolk Canyon Creek, upstream of the San Diego River
Tributaries (listed from downstream to upstream)	Norfolk Canyon Creek
Facility Length	Approximately 248 feet
Top-of-Bank Width	Approximately 25 feet
Bottom Facility Width	Approximately 10 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	6928-D & 6948-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at concrete channel

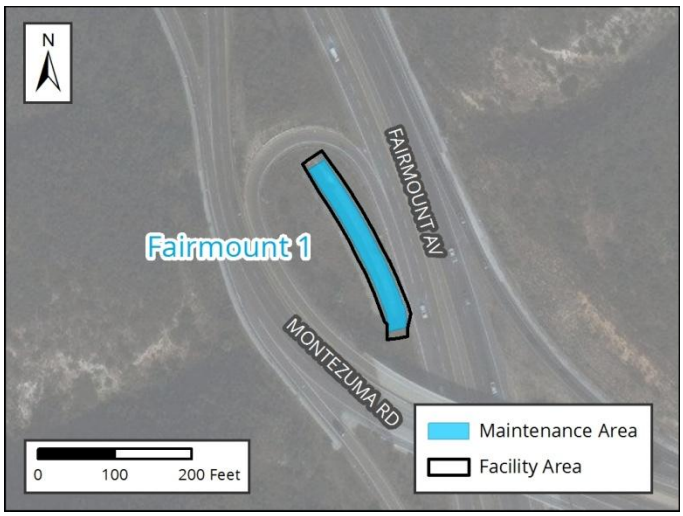


Figure 2: Vicinity Map of Fairmount Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The segment was observed to be mostly clean with a film of algae/moss along the bottom					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	390	499	583	699	784	868
Hydraulic Capacity of Facility						
Current Capacity	600 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Chaparral • Developed land • Disturbed land
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, migratory species may use the surrounding chaparral habitat within the Multi Habitat Planning Area (MHPA).
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundaries are located approximately 100 feet west and 150 feet east of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-BIO-6	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	**Noise (NOI)**
Land Use (LU)	MM-NOI-1
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

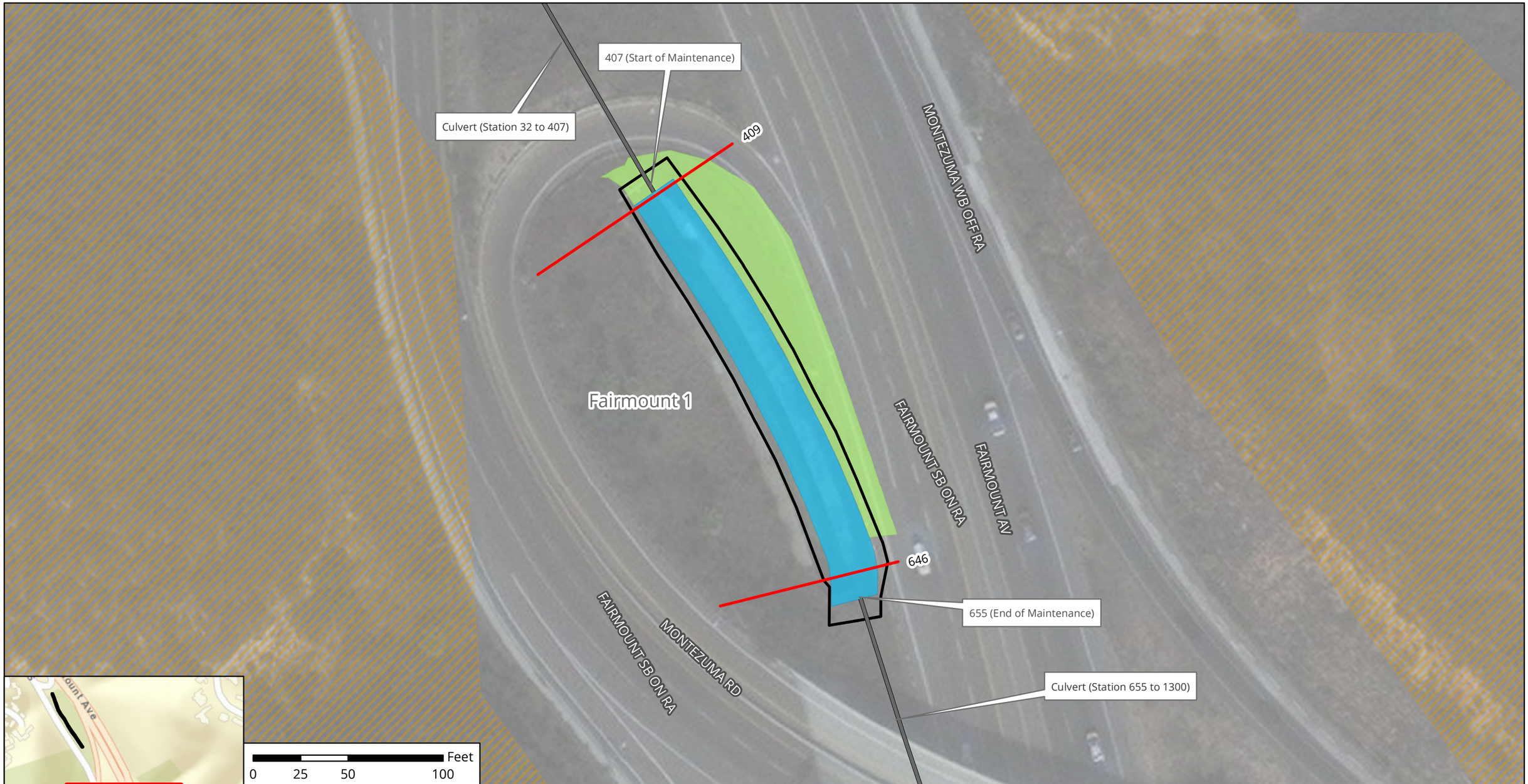
Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Fairmount 1
Facility No.	4-08-008
Facility Location	From outlet of culvert that crosses under the Montezuma-Fairmount interchange to outlet of culvert
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per estimated original dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 6928-D & 6948-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 248 feet Top width: 25 feet Bottom width: 10 feet Depth: 5 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 248 feet Width: 25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Feet
0 25 50 100

- Culvert
- Station
- Facility Area
- Multi-Habitat Planning Area
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Norfolk Canyon Creek - Fairmount
Segment Name: Fairmount 1
Facility No: 4-08-008
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Fairmount Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of Norfolk Canyon Creek (south), immediately upstream of Norfolk Canyon Creek (Fairmount Segment 1)
Tributaries (listed from downstream to upstream)	Norfolk Canyon Creek
Facility Length	Approximately 1,220 feet
Top-of-Bank Width	Approximately 20 feet
Bottom Facility Width	Approximately 7 feet
Facility Depth	Approximately 4.5 feet
Adjacent Land Use	Open Space, Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	6929-D & 6948-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at vegetation concrete ditch

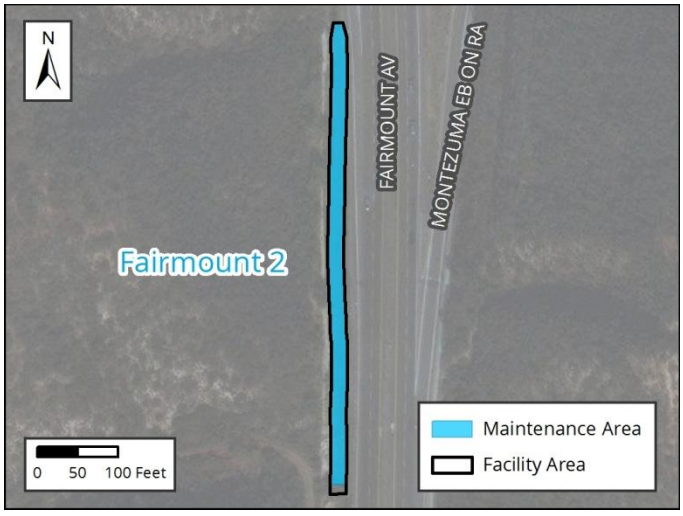


Figure 2: Vicinity Map of Fairmount Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Sediment accumulation of up to 4 feet was observed in portions of the segment along with vegetation growth ranging from light to heavy

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	390	499	583	699	784	868

Hydraulic Capacity of Facility

Current Capacity	50 cfs
Proposed MWMP Maintained Capacity	563 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 1300 to Station 1875. Remove accumulated sediment and debris in culvert from Station 655 to Station 1300.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Chaparral • Coastal sage scrub • Developed land • Disturbed land
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the surrounding habitat for nesting/roosting. Other sensitive bird species could occur in sage scrub habitat adjacent to the ditch (e.g., coastal California gnatcatcher).
MHPA	The facility is partially within the Multi Habitat Planning Area (MHPA) along the entire western side of the ditch
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1960 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

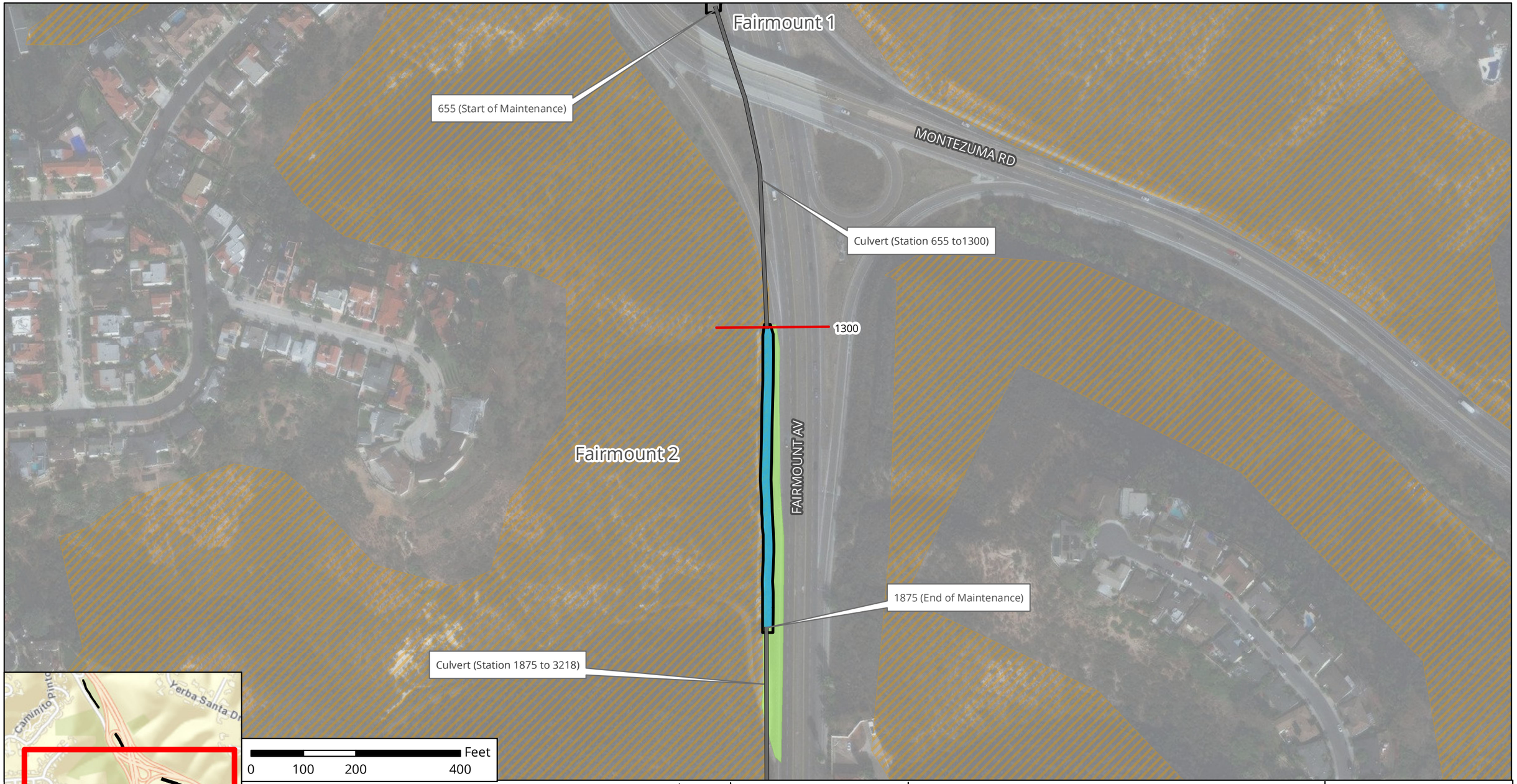
Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Fairmount 2
Facility No.	4-08-011
Facility Location	From 900 feet south of Montezuma-Fairmount interchange to inlet of culvert that crosses under the Montezuma-Fairmount interchange
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 1300 to Station 1875. Remove accumulated sediment and debris in culvert from Station 655 to Station 1300.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 6929-D & 6948-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,220 feet Top width: 20 feet Bottom width: 7 feet Depth: 4.5 feet
Authorized Facility Maintenance Area	Length: Ditch: 575 feet; Culvert: 645 feet Width: 20 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Norfolk Canyon Creek - Fairmount
Segment Name: Fairmount 2
Facility No: 4-08-011
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Fairmount Segment 3 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Norfolk Canyon Creek (south), immediately upstream of Norfolk Canyon Creek (Fairmount Segment 2)
Tributaries (listed from downstream to upstream)	Norfolk Canyon Creek
Facility Length	Approximately 820 feet
Top-of-Bank Width	Approximately 40–60 feet
Bottom Facility Width	Approximately 15–25 feet
Facility Depth	Approximately 6–10 feet
Adjacent Land Use	Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	6930-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at scour pool at channel outfall

Figure 2: Vicinity Map of Fairmount Segment 3

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The segment was observed to have vegetation ranging from moderate to dense. A scour pond was observed at the outlet of the upstream culvert.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	390	499	583	699	784	868

Hydraulic Capacity of Facility

Current Capacity	670 cfs
Proposed MWMP Maintained Capacity	670 cfs
Maintenance Recommendation	Restore riprap from Station 4009 to Station 4038 at the culvert outlet
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Chaparral • Disturbed wetland (palm-dominated)
Adjacent Vegetation	• Chaparral • Coastal sage scrub • Developed concrete-lined channel • Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings • Scrub oak chaparral
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife; however, raptors or other sensitive bird species, such as coastal California gnatcatcher, may use the surrounding chaparral, eucalyptus woodland, or coastal sage scrub habitat within the Multi Habitat Planning Area (MHPA)
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA) and access intersects the MHPA which extends west of the channel
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1960 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Fairmount 3
Facility No.	4-08-014
Facility Location	From 200 feet north of Aldine Drive-Fairmount Avenue interchange to north 810 feet to a culvert inlet
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Restore riprap from Station 4009 to Station 4038 at the culvert outlet
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 6930-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 820 feet Top width: 40–60 feet Bottom width: 15–25 feet Depth: 6–10 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 29 feet Width: 25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	Riprap Restoration: 1. Gradall/excavator stationed above channel places riprap into channel 2. Bulldozer/track-steer and/or Gradall/excavator enters channel at access/loading area 3. Bulldozer/track-steer and/or Gradall/excavator clears area and places riprap into place 4. Gradall/excavator scoops material from channel and loads dump truck 5. Dump truck hauls material to legal disposal site Routine Maintenance: 1. Bobcat/skid-steer and/or bulldozer/track-steer enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer and/or bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Norfolk Canyon Creek - Fairmount
Segment Name: Fairmount 3
Facility No: 4-08-014
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Fairmount Segment 4 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Norfolk Canyon Creek (south), immediately downstream of Norfolk Canyon Creek (Fairmount Segment 3)
Tributaries (listed from downstream to upstream)	Norfolk Canyon Creek
Facility Length	Approximately 1,849 feet
Top-of-Bank Width	Approximately 16 feet
Bottom Facility Width	Approximately 4 feet
Facility Depth	Approximately 4 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	6930-D, 6931-D, & 6947-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at sediment, debris and vegetation in concrete ditch

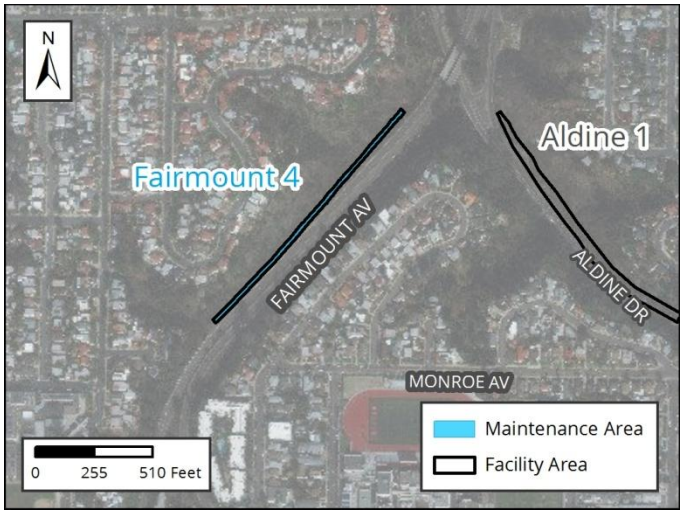


Figure 2: Vicinity Map of Fairmount Segment 4

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Sediment accumulation of up to 2 feet was observed in portions of the segment along with vegetation growth ranging from light to heavy

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	83	106	124	148	166	184

Hydraulic Capacity of Facility

Current Capacity	120 cfs
Proposed MWMP Maintained Capacity	120 cfs
Maintenance Recommendation	Remove sediment, debris, and vegetation from segment from Station 4637 to Station 5887. Remove sediment and debris in culvert from Station 4038 to Station 4637.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (concrete-lined)
Adjacent Vegetation	• Chaparral • Coastal sage scrub • Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings • Scrub oak chaparral
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the ditch.
MHPA	The facility is intersected by the Multi Habitat Planning Area (MHPA) intermittently along the entire length of the ditch
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Land Use (LU)	MM-HR-1
EP-LU-1	MM-HR-2
Solid Waste (SW)	**Noise (NOI)**
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Fairmount 4
Facility No.	4-08-017
Facility Location	From 400 feet northwest of Monroe Avenue to outlet of culvert under Aldine Drive-Fairmount Avenue interchange
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove sediment, debris, and vegetation from segment from Station 4637 to Station 5887. Remove sediment and debris in culvert from Station 4038 to Station 4637.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 6930-D, 6931-D, & 6947-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,849 feet Top width: 16 feet Bottom width: 4 feet Depth: 4 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 1,250 feet; Culvert: 599 feet Width: 16 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Norfolk Canyon Creek - Fairmount
Segment Name: Fairmount 4
Facility No: 4-08-017
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Baja Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 6-281: Concrete bottom and banks Stations 281-569: Earthen bottom, concrete north bank, and earthen/graded south bank Stations 569-1507: Concrete bottom and banks
Location Within Watershed	Upper reach of Norfolk Canyon Creek, immediately upstream of Norfolk Canyon Creek, southeast (Fairmount Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,369 feet
Top-of-Bank Width	Approximately 13–32 feet
Bottom Facility Width	Approximately 4–20 feet
Facility Depth	Approximately 3.5–4 feet
Adjacent Land Use	Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	10657-5-D
Coastal Zone	No

Figure 1: November 2016, facing downstream end of facility group; towards 60-inch-diameter RCP culvert beneath the Collwood Villas Apartments and Collwood Boulevard

Figure 2: Vicinity Map of Baja Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2017: No maintenance conducted 2018 – 2019: Routine maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 18/33 USACE File #SPL-2018-00362-SRR (expires March 2022)
401	RWQCB 401 Cert No. R9-2018-0107 (expires March 2022)
1602	None
Mitigation for Previous Impacts	Stadium (0.078 acre); Marron Valley Cornerstone Lands Conservation Bank (0.021 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	In November 2016, the amount of vegetation was observed to vary from light to heavy and broken concrete lining was noted					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	593	730	867	958	1,049	1,232
Hydraulic Capacity of Facility						
Current Capacity	250 cfs					
Proposed MWMP Maintained Capacity	250 cfs					
Maintenance Recommendation	From Station 6 to Station 281: No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change. From Station 281 to Station 589: Partially remove vegetation; cut down existing palm trees, leaving 2-foot-tall stumps with root balls intact in the ground. Stumps should be left in place to help mitigate velocities. Remove all fallen palm tree trunks and debris. Leave all other existing vegetation and sediment in place. From Station 589 to Station 646: Remove palm tree growing out of a crack in the concrete lining and repair/replace the broken and missing concrete lining to match the existing flow line. Previously designed post-maintenance erosion control measures at Station 281 and Station 488 to be installed and maintained as necessary. Repair/replacement of broken concrete lining from Station 281 to Station 646. From Station 788 to Station 1507: No maintenance currently proposed; however vegetation, sediment and debris removal or concrete repair/replacement activities should be performed if the conditions change.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station 281 and Station 488					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (palm-dominated; concrete-lined)
Adjacent Vegetation	• Chaparral • Developed land • Disturbed land • Eucalyptus woodland
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within the facility for nesting/roosting.
MHPA	The facility is partially adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 150 feet south of the channel location.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Hydrology (HYD)	
EP-HYD-1	
Land Use (LU)	
EP-LU-1	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Norfolk Canyon Creek - Fairmount
Segment Name	Baja 1
Facility No.	4-08-105
Facility Location	From upstream end of a natural segment south of Baja Drive and northeast of the Maisel Way cul-de-sac to culvert beneath the Collwood Villa Apartments
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	From Station 6 to Station 281: No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change. From Station 281 to Station 589: Partially remove vegetation; cut down existing palm trees, leaving 2-foot-tall stumps with root balls intact in the ground. Stumps should be left in place to help mitigate velocities. Remove all fallen palm tree trunks and debris. Leave all other existing vegetation and sediment in place. From Station 589 to Station 646: Remove palm tree growing out of a crack in the concrete lining and repair/replace the broken and missing concrete lining to match the existing flow line. Previously designed post-maintenance erosion control measures at Station 281 and Station 488 to be installed and maintained as necessary. Repair/replacement of broken concrete lining from Station 281 to Station 646. From Station 788 to Station 1507: No maintenance currently proposed; however vegetation, sediment and debris removal or concrete repair/replacement activities should be performed if the conditions change.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 10657-5-D
Substrate Detail[3]	Stations 6-281: Concrete bottom and banks Stations 281-569: Earthen bottom, concrete north bank, and earthen/graded south bank Stations 569-1507: Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,369 feet Top width: 13–32 feet Bottom width: 4–20 feet Depth: 3.5–4 feet
Authorized Facility Maintenance Area	Length: Channel: 1,369 feet Width: 13–32 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and/or track steer enter or are lowered into channel at access/loading area 2. Crews cut and drop palm tree in channel 3. Crews chain and drag palm tree in channel 4. Gradall/excavator scoops material from channel and loads dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	No

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station 281 and Station 488
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Notes:
1. Concrete repair may occur within this facility area.
2. In-stream post-maintenance erosion control measures may occur within this facility area.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Norfolk Canyon Creek - Fairmount
Segment Name: Baja 1
Facility No: 4-08-105
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Washington Canyon Creek - Washington Facility Group

Segment Names (Facility numbers):

Washington 1 (5-02-151)

Washington 2 (5-02-153)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.21
Drainage Name (Number)	Washington Canyon Creek (02)
Facility Group Name	Washington Canyon Creek - Washington
Segment Name (Facility Number)	Washington 1 (5-02-151) Washington 2 (5-02-153)
Substrate	Washington 1 / Earthen Washington 2 / Concrete
Location	About 650 feet south of Washington Place and 400 feet northeast of San Diego Avenue
MMP Map No(s).	84
Facility Inspection No.	84
Other Former Names	Washington Channel

Figure 1: Vicinity Map of Washington Canyon Creek - Washington Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.21	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Washington Canyon Creek - Washington	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

Washington Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of Washington Canyon Creek, upstream of San Diego Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 217 feet
Top-of-Bank Width	Approximately 80 feet
Bottom Facility Width	Approximately 35 feet
Facility Depth	Approximately 8 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking upstream at transition from Washington 2

Figure 2: Vicinity Map of Washington Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation November 2015: Cluster of palm tree removed January 2016 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00012-RAG
401	RGP 63 Verification No. R9-2016-0045;821330;lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (No mitigation required)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Vegetation was observed to be light to dense with up to 1 foot of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	82	105	123	147	165	183
Hydraulic Capacity of Facility						
Current Capacity	162 cfs					
Proposed MWMP Maintained Capacity	162 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 89 to Station 306. Maintain/repair existing debris fence as needed.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland • Natural flood channel • Ornamental plantings
Adjacent Vegetation	• Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 800 feet north of the channel.
Mitigation Within Facility	Proposed as part of the RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1941–1953 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-6
EP-BIO-6	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Hydrology (HYD)	**Noise (NOI)**
EP-HYD-1	MM-NOI-1
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Washington Canyon Creek - Washington
Segment Name	Washington 1
Facility No.	5-02-151
Facility Location	From the downstream end of Washington 2 segment to 100 feet northeast of the intersection of India Street and Washington Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 89 to Station 306. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 217 feet Top width: 80 feet Bottom width: 35 feet Depth: 8 feet
Authorized Facility Maintenance Area	Length: Channel: 217 feet Width: 10–80 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 6–8 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, and loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer or bulldozer/track-steer pushes material to loader 3. Gradall/excavator makes piles for loader 4. Loader scoops material from channel and loads waiting dump truck at access/loading area 5. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. In-stream post-maintenance erosion control measures may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Washington Canyon Creek - Washington
Segment Name: Washington 1
Facility No: 5-02-151
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Washington Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of Washington Canyon Creek, upstream of Washington Canyon Creek (Washington Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 2,210 feet
Top-of-Bank Width	Approximately 13 feet
Bottom Facility Width	Approximately 5 feet
Facility Depth	Approximately 4 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at transition to Washington 1

Figure 2: Vicinity Map of Washington Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00012-RAG
401	RGP 63 Verification No. R9-2016-0045;821330;lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.07 acre); an additional 0.01 acre for FWM needed for City mitigation

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Vegetation was observed to be light to dense with up to 1 foot of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	82	105	123	147	165	183
Hydraulic Capacity of Facility						
Current Capacity	70 cfs					
Proposed MWMP Maintained Capacity	183 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation in concrete ditch from Station 306 to Station 2516					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting and roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 750 feet north of the ditch.
Mitigation Within Facility	Adjacent to facility proposed as part of RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 3715 India St.; 3717 India St.; 3731 India St.; 3735 India St.; 3737 India St.; 3741 India St.; c. 1941–1953 concrete channel; historic properties
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-6
EP-BIO-6	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-1	MM-HR-2
EP-HAZ-3	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Washington Canyon Creek - Washington
Segment Name	Washington 2
Facility No.	5-02-153
Facility Location	From 650 feet south of Washington Place to upstream end of Washington 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per estimated original design dimensions previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation in concrete ditch from Station 306 to Station 2516
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	None
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 2,210 feet Top width: 13 feet Bottom width: 5 feet Depth: 4 feet
Authorized Facility Maintenance Area	Length: Ditch: 2,210 feet Width: 13 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 6–8 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and loader enter or are lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to loader 3. Loader scoops material from ditch and loads dump truck at access/loading area 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Facility Area

Multi-Habitat Planning Area

Adjacent Facility Activity Area

Maintenance Area

N

The City of SAN DIEGO

Notes:

1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Washington Canyon Creek - Washington
Segment Name: Washington 2
Facility No: 5-02-153
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Mission Hills Canyon Creek - Titus Facility Group

Segment Name (Facility number):

Titus 1 (5-02-162)

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Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.21
Drainage Name (Number)	Mission Hills Canyon Creek (02)
Facility Group Name	Mission Hills Canyon Creek - Titus
Segment Name (Facility Number)	Titus 1 (5-02-162)
Substrate	Titus 1 / Earthen
Location	About 200 feet southeast of Guy Street and 120 feet northeast of Titus Street
MMP Map No(s).	84a
Facility Inspection No.	84a
Other Former Names	None

Figure 1: Vicinity Map of Mission Hills Canyon Creek - Titus Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.21	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Mission Hills Canyon Creek - Titus	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

Titus Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Mission Hills Canyon Creek, upstream of San Diego Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 207 feet
Top-of-Bank Width	Approximately 40 feet
Bottom Facility Width	Approximately 10–20 feet
Facility Depth	Approximately 3–8 feet
Adjacent Land Use	Multi-Family Residential, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at sediment and debris accumulated at debris fence

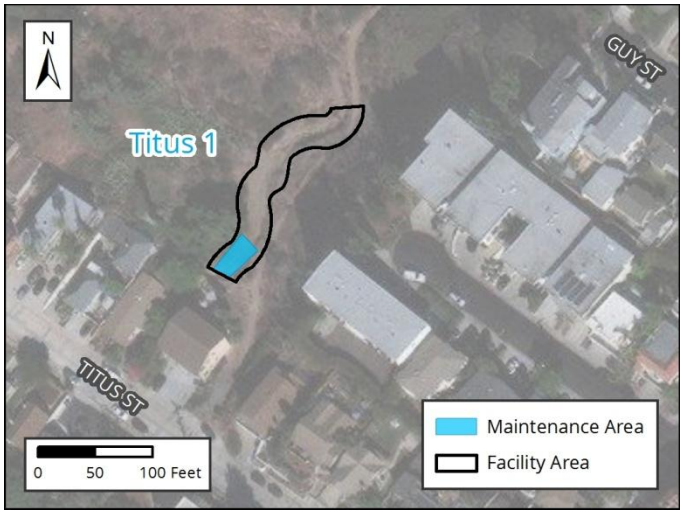


Figure 2: Vicinity Map of Titus Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	RGP 63 (No USACE File # Assigned)
401	RGP 63 Verification No. R9-2016-0030:821649:lhonma
1602	LSA Emergency Notification submitted 01/14/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (No mitigation required)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Little vegetation was observed and sediment deposition was estimated to be 3 feet upstream of the debris fence

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	52	66	77	92	104	115

Hydraulic Capacity of Facility

Current Capacity	17 cfs
Proposed MWMP Maintained Capacity	88 cfs
Maintenance Recommendation	Remove accumulated sediment and debris from Station 110 to Station 149. Maintain/repair existing debris fence as needed.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the channel.
MHPA	The facility is located entirely within the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1850 Titus St.; c. 1966–1972 earthen channel; building more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	MM-BIO-7
EP-HAZ-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

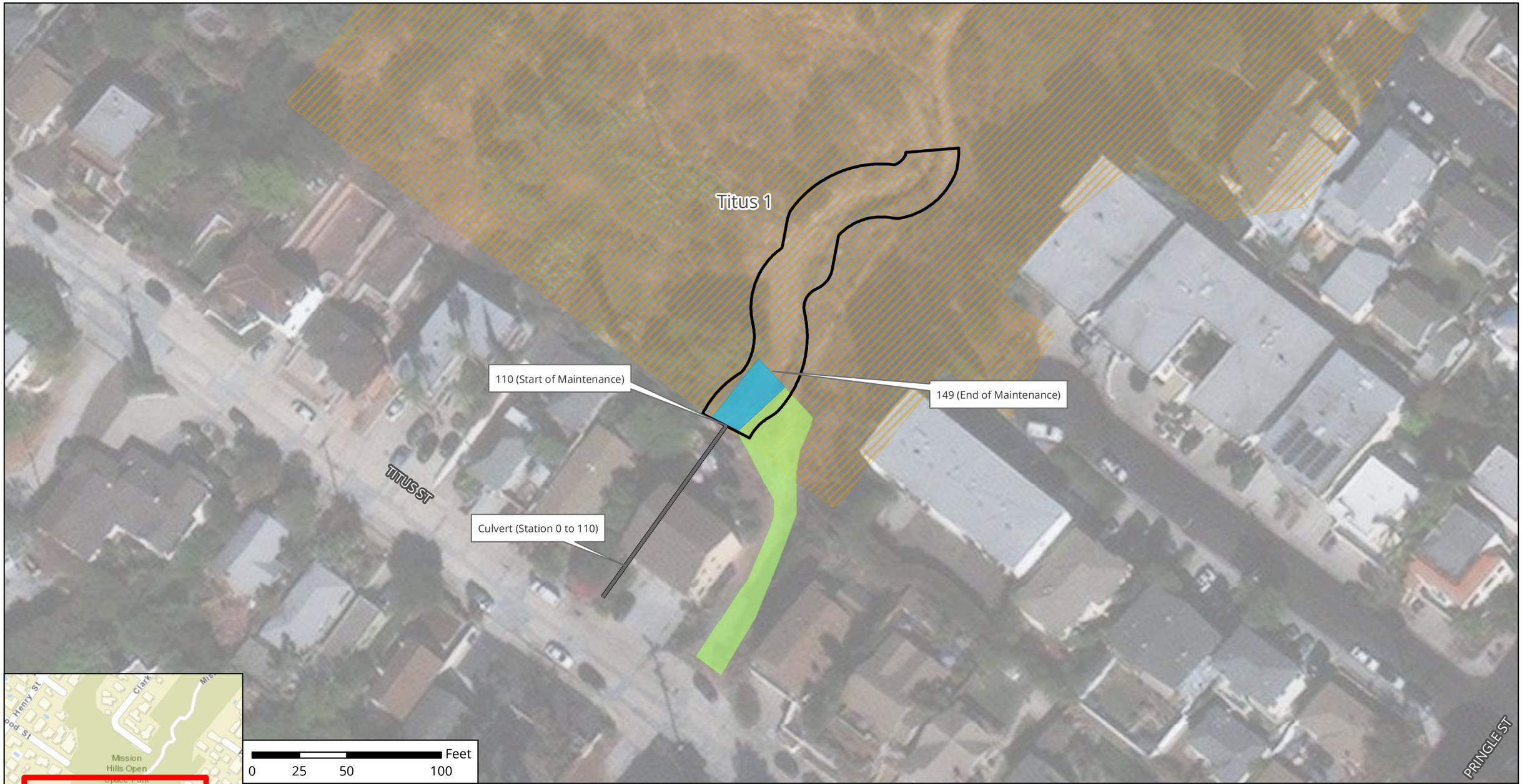
Facility Group	Mission Hills Canyon Creek - Titus
Segment Name	Titus 1
Facility No.	5-02-162
Facility Location	About 200 feet southeast of Guy Street and 120 feet northeast of Titus Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel/culvert inlet area per estimated original design dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and debris from Station 110 to Station 149. Maintain/repair existing debris fence as needed.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail[3]	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 207 feet Top width: 40 feet Bottom width: 10–20 feet Depth: 3–8 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 39 feet Width: 14–24 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Mission Hill Canyon Creek Titus
Segment Name: Titus 1
Facility No: 5-02-162
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Powerhouse Canyon Creek - Pershing Facility Group

Segment Names (Facility numbers):

Pershing 1 (5-03-011)

Pershing 2 (5-03-100)

The City *of* SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Powerhouse Canyon Creek (03)
Facility Group Name	Powerhouse Canyon Creek - Pershing
Segment Name (Facility Number)	Pershing 1 (5-03-011) Pershing 2 (5-03-100)
Substrate	Pershing 1 / Concrete Pershing 2 / Concrete
Location	Runs parallel to Pershing Drive and about 700 feet east of Interstate 5 (I-5)
MMP Map No(s).	86
Facility Inspection No.	86, 300x
Other Former Names	Florida Canyon, Pershing Channel

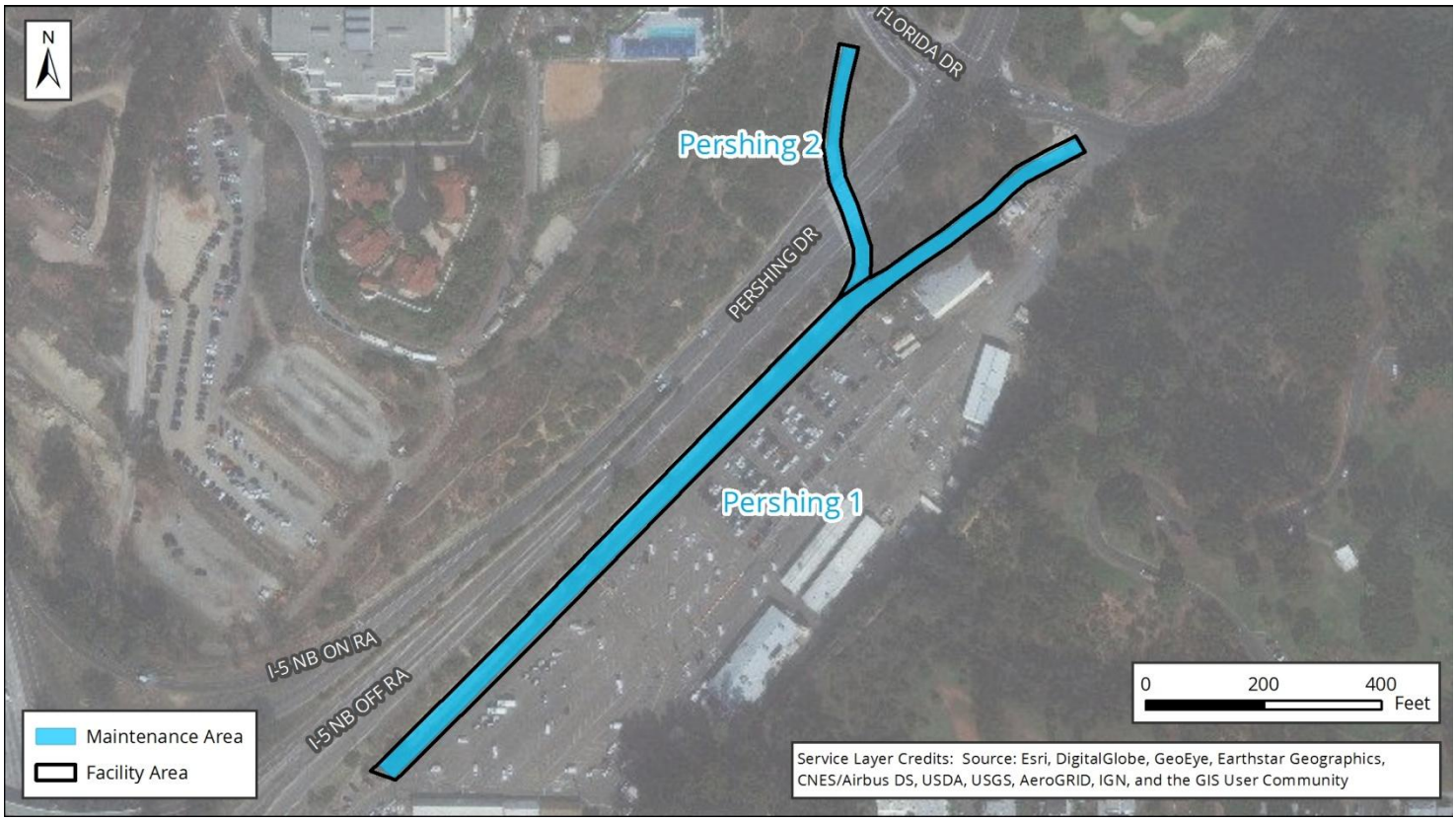


Figure 1: Vicinity Map of Powerhouse Canyon Creek - Pershing Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Powerhouse Canyon Creek - Pershing	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Not Listed in Basin Plan (First downstream water body)	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) list

Pershing Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Powerhouse Canyon Creek, upstream of the San Diego Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,598 feet
Top-of-Bank Width	Approximately 24–33.5 feet
Bottom Facility Width	Approximately 7–14 feet
Facility Depth	Approximately 5.5–9.5 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Parks, Transportation
As-Built Drawing Number	9890-1-D
Coastal Zone	No

Figure 1: May 2017, Looking upstream near the downstream end of the segment

Figure 2: Vicinity Map of Pershing Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The segment was observed to vary from clean concrete to dense vegetation					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	386	554	675	1,048	1,540	1,870
Hydraulic Capacity of Facility						
Current Capacity	630 cfs					
Proposed MWMP Maintained Capacity	633 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 332 to Station 1930					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Developed land • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland • Ornamental plantings • Riparian forest (coast live oak)
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within and adjacent to the facility for nesting/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 360 feet north of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-016659
Resource Type	San Diego Flume System

Historical Resources	
Resource Identified in APE	Channel; 1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	**Noise (NOI)**
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

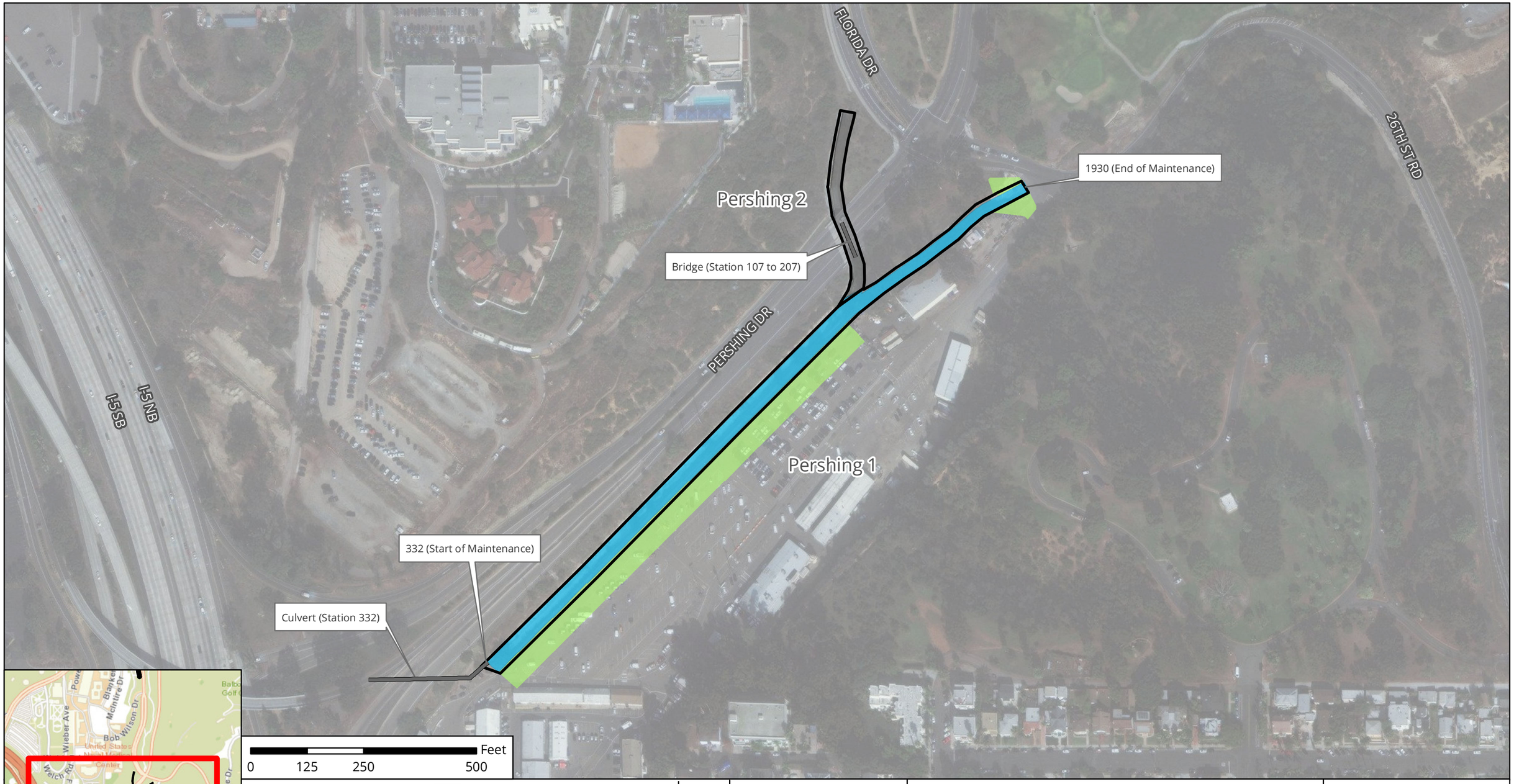
Facility Group	Powerhouse Canyon Creek - Pershing
Segment Name	Pershing 1
Facility No.	5-03-011
Facility Location	From 700 feet east of Interstate 5 (I-5) to 100 feet east of the intersection of Florida Drive and Pershing Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 332 to Station 1930
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 9890-1-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,598 feet Top width: 24–33.5 feet Bottom width: 7–14 feet Depth: 5.5–9.5 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 1,598 feet Width: 24–33.5 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, trash pump, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Bridge/Culvert
Facility Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Powerhouse Canyon Creek - Pershing
Segment Name: Pershing 1
Facility No: 5-03-011
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Pershing Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Powerhouse Canyon Creek, upstream of Powerhouse Canyon Creek (Pershing Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 437 feet
Top-of-Bank Width	Approximately 24–28 feet
Bottom Facility Width	Approximately 7–14 feet
Facility Depth	Approximately 6.5–10 feet
Adjacent Land Use	Commercial, Industrial, Open Space, Parks, Transportation
As-Built Drawing Number	9890-1-D
Coastal Zone	No

Figure 1: May 2017, looking upstream from the Pershing Drive bridge

Figure 2: Vicinity Map of Pershing Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The segment was observed to be relatively clean					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	280	402	490	761	1,120	1,350
Hydraulic Capacity of Facility						
Current Capacity	1,350 cfs					
Proposed MWMP Maintained Capacity	1,350 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 0 to Station 437					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Developed land • Eucalyptus woodland • Disturbed coastal sage scrub • Disturbed land • Ornamental plantings • Riparian forest (coast live oak)
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present within and adjacent to the facility for nesting/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 360 feet north of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

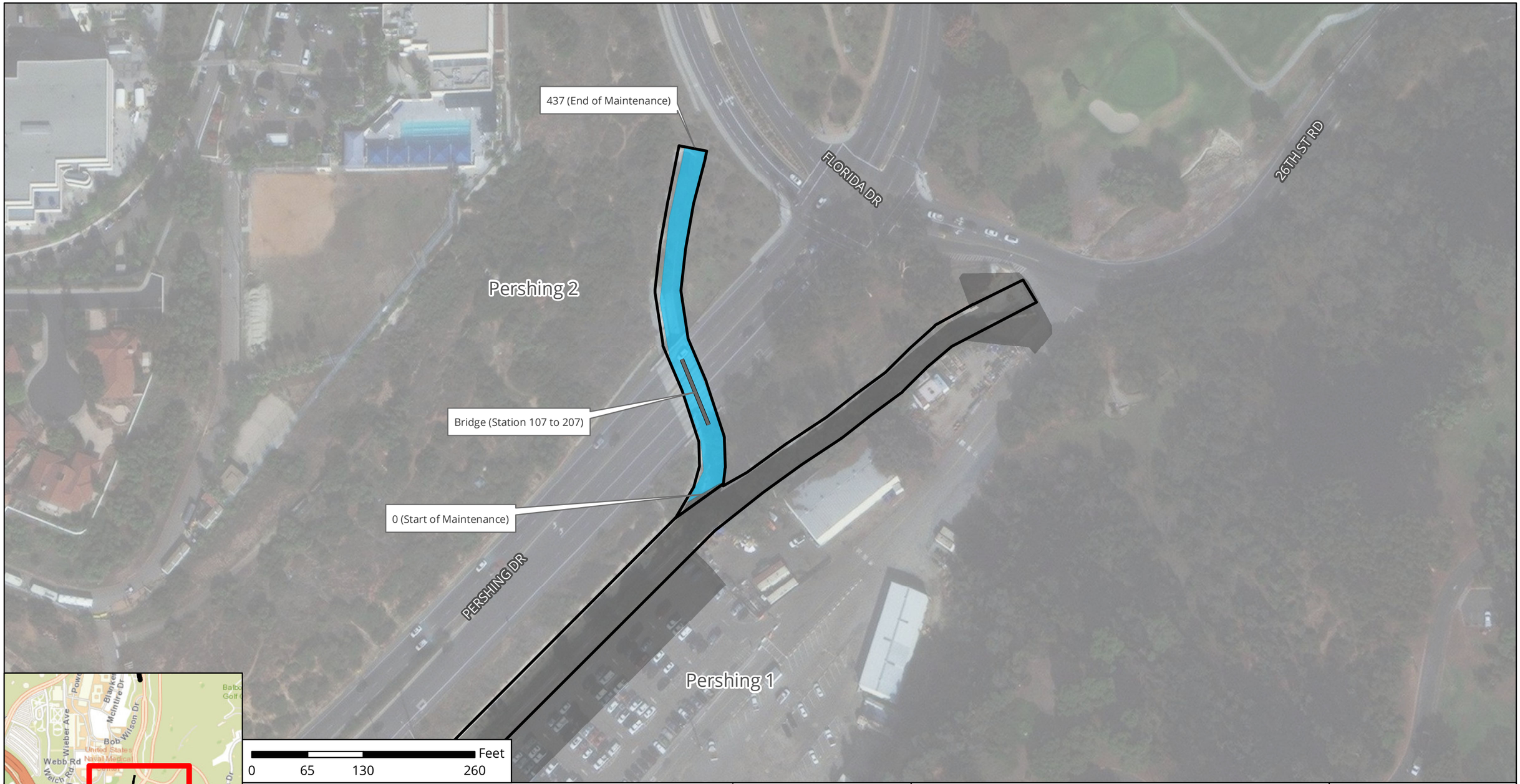
Facility Group	Powerhouse Canyon Creek - Pershing
Segment Name	Pershing 2
Facility No.	5-03-100
Facility Location	From storm drain beneath Florida Drive to Pershing 1 segment upstream of Station 1441
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 0 to Station 437
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 9890-1-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 437 feet Top width: 24–28 feet Bottom width: 7–14 feet Depth: 6.5–10 feet

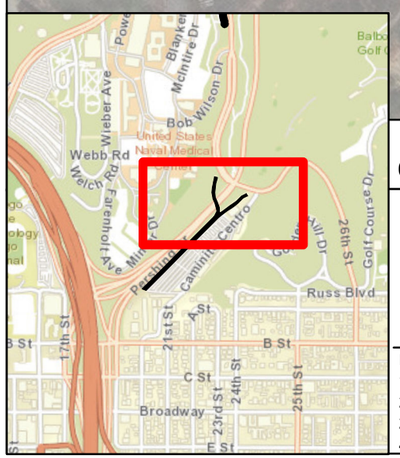
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 437 feet Width: 24–28 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, trash pump, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. For channel segment northwest of Pershing, Bobcat/skid-steer accesses through culvert 3. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 4. Gradall/excavator scoops material from channel and loads dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None





Bridge
Facility Area
Adjacent Facility Activity Area
Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Powerhouse Canyon Creek - Pershing
Segment Name: Pershing 2
Facility No: 5-03-100
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

San Diego Bay - 28th St Facility Group

Segment Name (Facility number):

28th St 1 (5-03-901)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	San Diego Bay Unnamed Tributary (03)
Facility Group Name	San Diego Bay - 28th St
Segment Name (Facility Number)	28th St 1 (5-03-901)
Substrate	28th St 1 / Earthen
Location	Bordered by 28th Street to the east and G Street to the north
MMP Map No(s).	87
Facility Inspection No.	87
Other Former Names	None

Figure 1: Vicinity Map of San Diego Bay - 28th St Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

San Diego Bay - 28th St	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

28th St Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upstream of San Diego Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 67 feet
Top-of-Bank Width	Approximately 37–42 feet
Bottom Facility Width	Approximately 5–11 feet
Facility Depth	Approximately 9.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: July 2017, looking upstream towards the eroded eastern sidewall

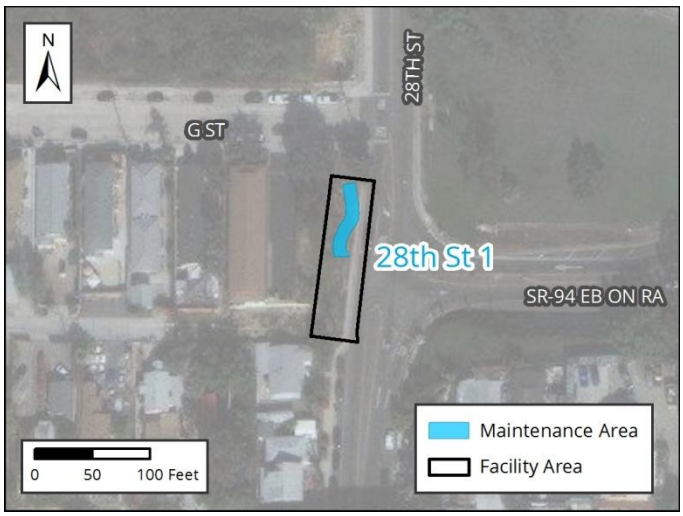


Figure 2: Vicinity Map of 28th St Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation was observed to be moderate with little evidence of sediment deposition. Erosion of the eastern bank near the downstream culvert was noted.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	43	55	64	77	86	96

Hydraulic Capacity of Facility

Current Capacity	50 cfs
Proposed MWMP Maintained Capacity	50 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of earthen segment from Station 72 to Station 139. Perform bank repair on the eroded eastern sidewall over a length of approximately 50 feet (Station 84 to Station 134).
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland • Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Geologic Resources (GEO)	MM-BIO-6
EP-GEO-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Paleontological Resources (PAL)	**Noise (NOI)**
EP-PAL-1	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

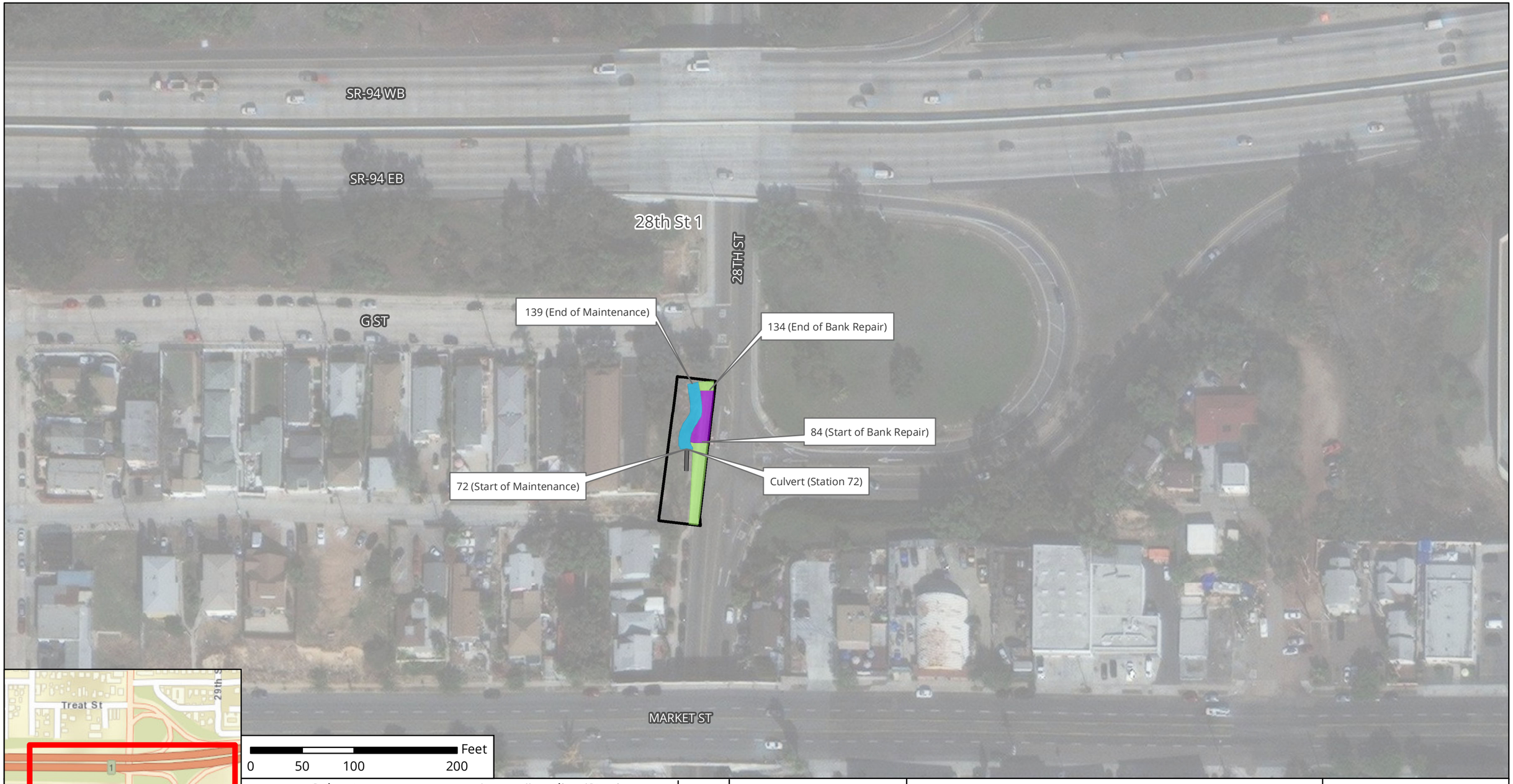
Facility Group	San Diego Bay - 28th St
Segment Name	28th St 1
Facility No.	5-03-901
Facility Location	From outlet of culvert south of G Street to inlet of culvert that discharges to the storm drain system
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of earthen segment from Station 72 to Station 139. Perform bank repair on the eroded eastern sidewall over a length of approximately 50 feet (Station 84 to Station 134).
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail[3]	Earthen bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 67 feet Top width: 37–42 feet Bottom width: 5–11 feet Depth: 9.5 feet
Authorized Facility Maintenance Area	Length: Channel: 67 feet Width: 11–42 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, sweeper
Schedule	Up to approximately 60 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: San Diego Bay - 28th St
Segment Name: 28th St 1
Facility No: 5-03-901
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Chollas Creek - National Facility Group

Segment Names (Facility numbers):

National 1 (5-04-004)

National 2 (5-04-006)

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Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek (04)
Facility Group Name	Chollas Creek - National
Segment Name (Facility Number)	National 1 (5-04-004) National 2 (5-04-006)
Substrate	National 1 / Earthen and concrete National 2 / Concrete
Location	Extends south from Webster Avenue and flows parallel to Interstate 15 (I-15) along its western side
MMP Map No(s).	91, 93
Facility Inspection No.	91, 93
Other Former Names	Chollas Creek Channel, Gregory, Logan

Figure 1: Vicinity Map of Chollas Creek - National Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - National	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Not Listed in Basin Plan (First downstream water body)	
Beneficial Uses	
303(d) listed Impairments	Benthic Community Effects, Sediment Toxicity

National Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail	Earthen bottom and earthen/concrete banks
Location Within Watershed	Lower reach of Chollas Creek, upstream of the San Diego Bay
Tributaries (listed from downstream to upstream)	Chollas Creek, Auburn Creek
Facility Length	Approximately 1,976 feet
Top-of-Bank Width	Approximately 82–162 feet
Bottom Facility Width	Approximately 35–50 feet
Facility Depth	Approximately 10–15 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	1979-D
Coastal Zone	No

Figure 1: October 2009, looking upstream where the channel crosses under National Avenue, representative of low vegetation

Figure 2: Vicinity Map of National Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2010: Unknown 2010/2011 and 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00887-RAG
401	RGP 63 Verification No. R9-2015-0198:820036:lhonma
1602	LSA Emergency Notification submitted 01/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.46 acre); an additional 0.46 acre for FWM, 0.08 acre for OW, and 0.68 acre for NFC needed for City mitigation

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In October 2009 Existing Conditions report, low vegetation was observed throughout the channel. The sediment depth was estimated to be 0.5 to 3 feet. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2019 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	900	2,000	3,000	4,000	6,000	7,900

Hydraulic Capacity of Facility

Current Capacity	3,095 cfs
Proposed MWMP Maintained Capacity	3,095 cfs
Maintenance Recommendation	Remove sediment, debris, and vegetation from channel bottom from Station 1250 to Station 1746. Remove vegetation from the earthen channel bottom only from Station 1746 to Station 2066.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (Arundo-dominated) • Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	The channel does not contain suitable vegetation for sensitive species; however, due to the adjacency of the channel to suitable coastal and mudflat areas, there is some potential for Ridgway's rails to occur in the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Proposed as part of the "FY16 Emergency Wetlands Mitigation Plan"

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-012091; P-37-025853
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric habitation refuse

Historical Resources	
Resource Identified in APE	Channel; 1954 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-1	MM-CR-1
EP-HAZ-3	MM-CR-2
Solid Waste (SW)	MM-CR-3
EP-SW-2	MM-CR-4
EP-SW-3	MM-HR-1
EP-SW-4	MM-HR-2
EP-SW-5	**Noise (NOI)**
EP-SW-6	MM-NOI-1
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Chollas Creek - National
Segment Name	National 1
Facility No.	5-04-004
Facility Location	From upstream end of Oceanview segment 1 to just upstream of where Chollas Creek confluences with South Las Chollas Creek, south of Interstate 15 (I-15)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove sediment, debris, and vegetation from channel bottom from Station 1250 to Station 1746. Remove vegetation from the earthen channel bottom only from Station 1746 to Station 2066.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 1979-D
Substrate Detail	Earthen bottom and earthen/concrete banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,976 feet Top width: 82–162 feet Bottom width: 35–50 feet Depth: 10–15 feet
Authorized Facility Maintenance Area	Length: Channel: 816 feet Width: 15–65 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 45–60 working days
Maintenance Crew	Approximately 15–20 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to stockpile area or legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

National 2

2066 (End of Maintenance)

2066

1746

NATIONAL AV

National 1

1250 (Start of Maintenance)

S 32ND ST

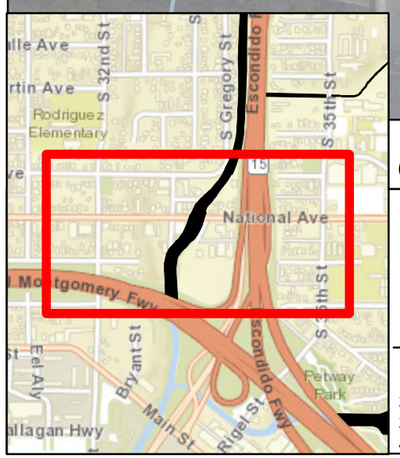
I-5 SB ON RA

I-15 NB ON RA

S 35TH ST

I-5 NB

I-5 SB



0 125 250 500 Feet

- Station
- Facility Area
- Coastal Zone
- Adjacent Facility Activity Area
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

N

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Notes:
1. **Concrete repair may occur within this facility area.**
2. **Access/Loading/Staging/Stockpiling may also occur within City ROW.**
3. **Access/Loading/Staging/Stockpiling may be modified during implementation.**
4. **Stations are approximate and may not directly correspond with facility and/or maintenance lengths.**

November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - National
Segment Name: National 1
Facility No: 5-04-004
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

National Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Chollas Creek, immediately upstream of Chollas Creek (National Segment 1)
Tributaries (listed from downstream to upstream)	Chollas Creek, Auburn Creek
Facility Length	Approximately 3,028 feet
Top-of-Bank Width	Approximately 50–60 feet
Bottom Facility Width	Approximately 20–50 feet
Facility Depth	Approximately 10–15 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	1979-D
Coastal Zone	No

Figure 1: October 2009, looking downstream, representative of medium to dense vegetation

Figure 2: Vicinity Map of National Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2010: Unknown 2010/2011 and 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00887-RAG
401	RGP 63 Verification No. R9-2015-0198:820036:lhonma
1602	LSA Emergency Notification submitted 01/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (1.6 acres); an additional 1.6 acres for FWM needed for City mitigation

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In October 2009, moderate to dense vegetation was observed throughout the channel. The sediment depth was estimated to be 0.3 to 1 foot. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2019 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	900	2,000	3,000	4,000	6,000	7,900

Hydraulic Capacity of Facility

Current Capacity	2,000 cfs
Proposed MWMP Maintained Capacity	4,350 cfs
Maintenance Recommendation	Remove sediment, debris and vegetation throughout the channel from Station 2066 to 4774
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Freshwater marsh (concrete-lined channel)
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Natural flood channel • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive species; however, due to the adjacency of the channel to suitable coastal and mudflat areas, there is some potential for Ridgway's rail to occur in the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-025852
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric shell scatter

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-CR-1
Solid Waste (SW)	MM-CR-2
EP-SW-2	MM-CR-3
EP-SW-3	MM-CR-4
EP-SW-4	MM-HR-1
EP-SW-5	MM-HR-2
EP-SW-6	**Noise (NOI)**
EP-SW-7	MM-NOI-1
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Chollas Creek - National
Segment Name	National 2
Facility No.	5-04-006
Facility Location	From Access/Maintenance Ramp near Webster Avenue along the west side of Interstate 15 (I-15) to 320 feet south of Logan Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove sediment, debris and vegetation throughout the channel from Station 2066 to 4774
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 1979-D
Substrate Detail[3]	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 3,028 feet Top width: 50–60 feet Bottom width: 20–50 feet Depth: 10–15 feet
Authorized Facility Maintenance Area	Length: Channel: 2,743 feet Width: 50–60 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 45–60 working days
Maintenance Crew	Approximately 15–20 people
Routine Maintenance Procedures	1. Loader and dump truck enter channel at access/loading area 2. Loader scoops material from channel and loads dump truck 3. Dump truck hauls material to stockpile area or legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Station

Facility Area

Adjacent Facility Activity Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

Notes:

1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - National
Segment Name: National 2
Facility No: 5-04-006
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Chollas Creek - Rolando Facility Group

Segment Names (Facility numbers):

- Cartagena 1 (5-04-044)
- Rolando 1 (5-04-046)
- Rolando 2 (5-04-048)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek (04)
Facility Group Name	Chollas Creek - Rolando
Segment Name (Facility Number)	Cartagena 1 (5-04-044) Rolando 1 (5-04-046) Rolando 2 (5-04-048)
Substrate	Cartagena 1 / Concrete Rolando 1 / Concrete Rolando 2 / Earthen
Location	Bordered by Aragon Drive to the east, by commercial development to the north, by residential development to the south, and by College Avenue to the west
MMP Map No(s).	71, 72
Facility Inspection No.	71, 72
Other Former Names	Chollas Creek Channel

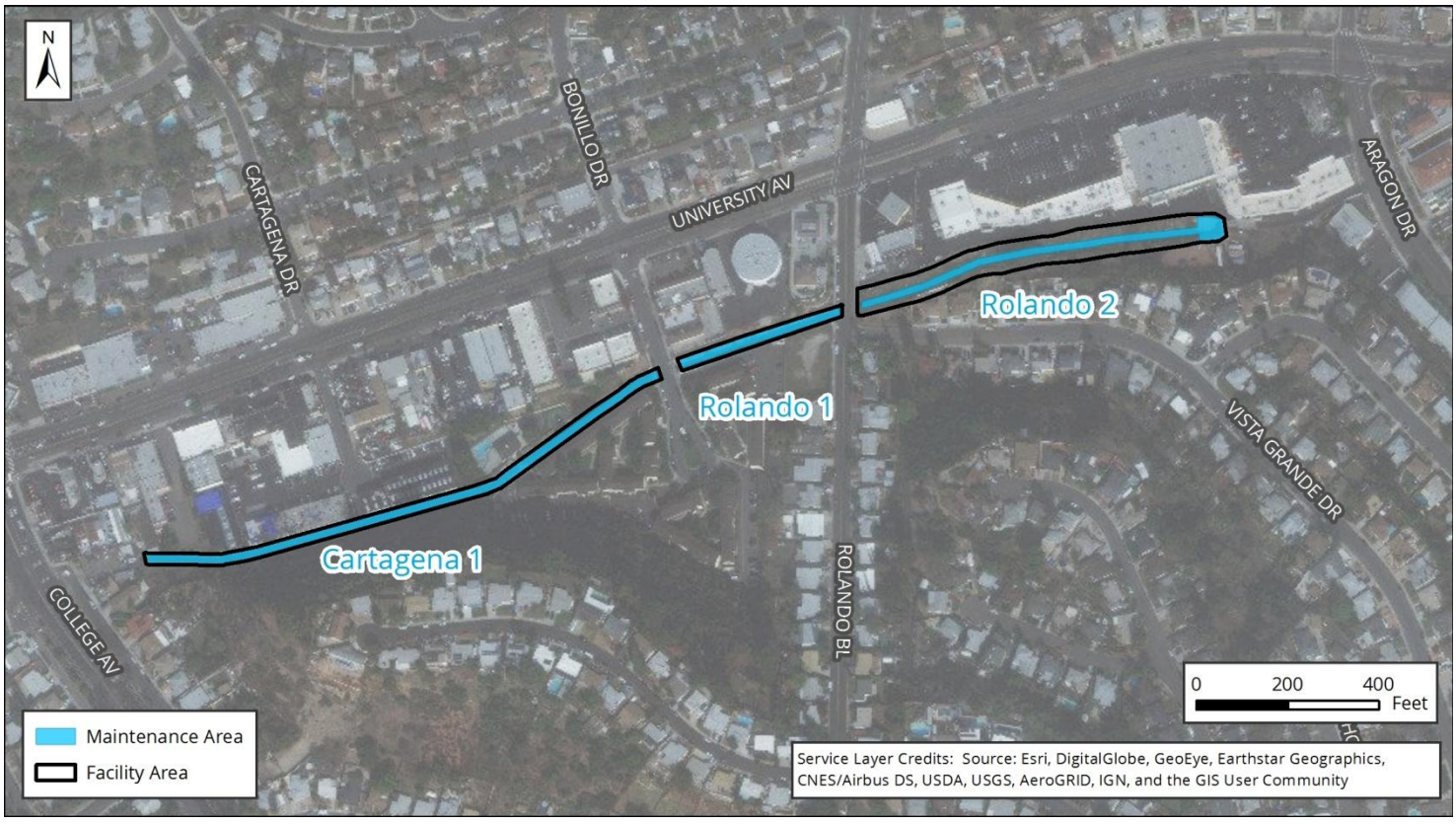

Figure 1: Vicinity Map of Chollas Creek - Rolando Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - Rolando	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Cartagena Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Unnamed tributary to Chollas Creek, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,225 feet
Top-of-Bank Width	Approximately 16–21 feet
Bottom Facility Width	Approximately 8–20 feet
Facility Depth	Approximately 6.5 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Office, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	20597-D
Coastal Zone	No

Figure 1: July 2017, looking upstream; missing sidewall and eroded bank at center

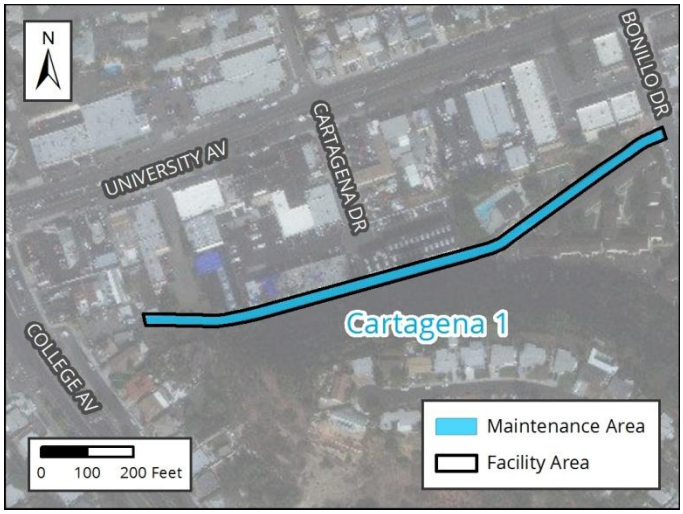

Figure 2: Vicinity Map of Cartagena Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted, except section of wall that had collapsed into channel was removed in 2016 (no permits required)
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The segment bottom is relatively clean with minor vegetation present. The side slopes range from light to heavy vegetation.					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,306	1,738	1,928	2,328	2,434	2,739
Hydraulic Capacity of Facility						
Current Capacity	1,132 cfs					
Proposed MWMP Maintained Capacity	1,826 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 4997 to Station 6222					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility, and the majority of coastal sage scrub present adjacent to the facility is dominated by lemonade berry (Rhus integrifolia); as such, it is not suitable for coastal California gnatcatcher
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Solid Waste (SW)	**Noise (NOI)**
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Chollas Creek - Rolando
Segment Name	Cartagena 1
Facility No.	5-04-044
Facility Location	From outlet of culvert underneath Bonillo Drive to inlet of culvert 100 feet east of College Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 4997 to Station 6222
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 20597-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,225 feet Top width: 16–21 feet Bottom width: 8–20 feet Depth: 6.5 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 1,225 feet Width: 21 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Culvert
Facility Area

Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - Rolando
Segment Name: Cartagena 1
Facility No: 5-04-044
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

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Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Rolando Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Chollas Creek (unnamed tributary), upstream of Chollas Creek (Oceanview Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 424 feet
Top-of-Bank Width	Approximately 21 feet
Bottom Facility Width	Approximately 8 feet
Facility Depth	Approximately 6.5 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Office, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	11287-3-D
Coastal Zone	No

Figure 1: July 2017, looking upstream from downstream end segment

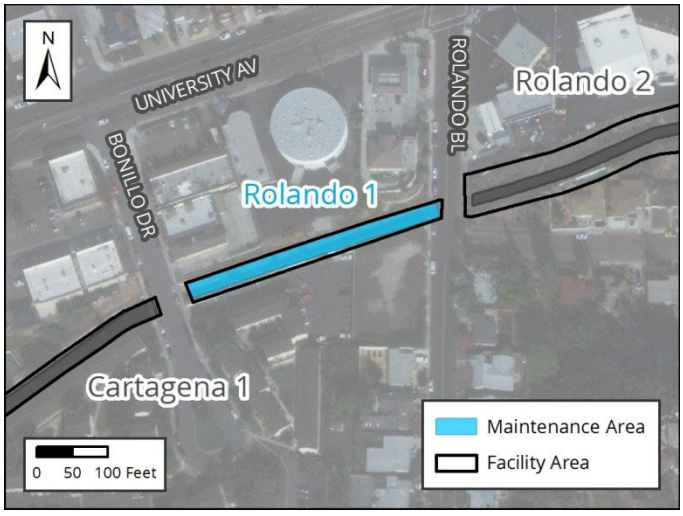


Figure 2: Vicinity Map of Rolando Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The segment was observed to be relatively clean and light vegetation was observed in some locations					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	577	707	793	943	986	1,157
Hydraulic Capacity of Facility						
Current Capacity	829 cfs					
Proposed MWMP Maintained Capacity	829 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 6272 to Station 6646. Remove accumulated sediment and debris in culvert from Station 6222 to Station 6272.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings • Natural flood channel
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1965 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Solid Waste (SW)	**Noise (NOI)**
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

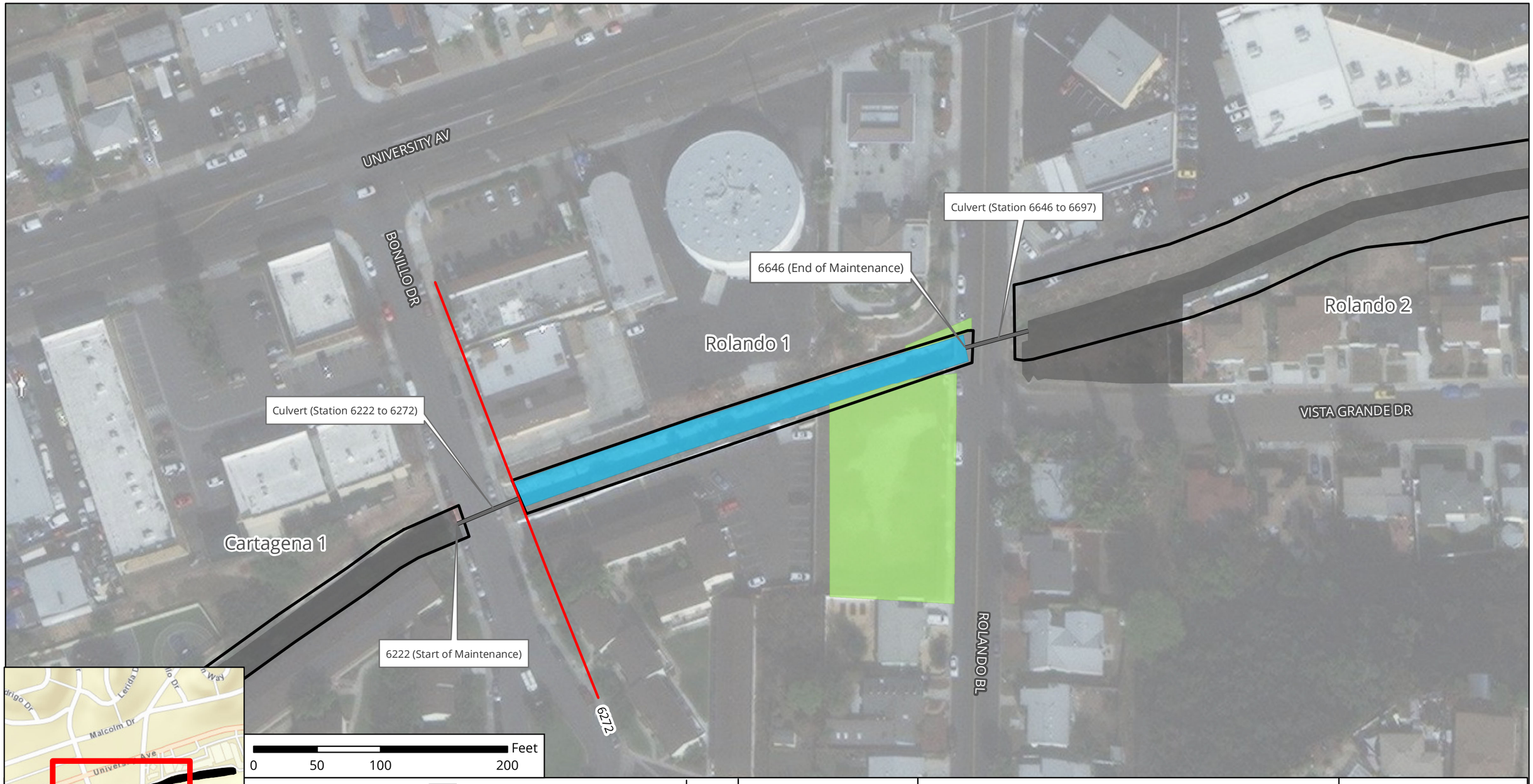
Facility Group	Chollas Creek - Rolando
Segment Name	Rolando 1
Facility No.	5-04-046
Facility Location	From outlet of culvert beneath Rolando Boulevard to inlet of tall culvert beneath Bonillo Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 6272 to Station 6646. Remove accumulated sediment and debris in culvert from Station 6222 to Station 6272.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 11287-3-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 424 feet Top width: 21 feet Bottom width: 8 feet Depth: 6.5 feet
Authorized Facility Maintenance Area	Length: Ditch: 374 feet; Culvert: 50 feet Width: 21 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30–45 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert
Station
Facility Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - Rolando
Segment Name: Rolando 1
Facility No: 5-04-046
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Rolando Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen and riprap bottom, and earthen, rip-rap and gunite banks
Location Within Watershed	Upper reach of Chollas Creek, immediately upstream of Chollas Creek (unnamed tributary, Rolando Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 871 feet
Top-of-Bank Width	Approximately 36 feet
Bottom Facility Width	Approximately 15 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Office, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	12701-L
Coastal Zone	No

Figure 1: May 2015, looking towards the double 8-foot wide by 5-foot, 2-inch tall RCB culvert at downstream end of segment

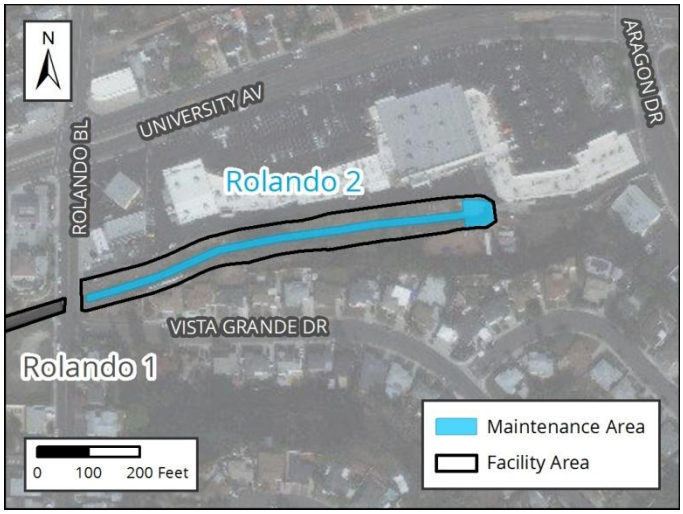

Figure 2: Vicinity Map of Rolando Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00924-MG
401	RGP 63 Verification No. R9-2015-0212:820311:lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.06 acre); an additional 0.12 acre for SWS and 0.12 acre for NFC needed for City mitigation

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In May 2015, moderate to dense vegetation was observed and sediment deposition was estimated to be 0.7 foot					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	577	707	793	943	986	1,157
Hydraulic Capacity of Facility						
Current Capacity	235 cfs					
Proposed MWMP Maintained Capacity	235 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 6697 to Station 7517. Remove accumulated sediment and debris in culvert from Station 6646 to Station 6697. Perform bank repair on the eroded northern bank over a length of approximately 160 feet (Station 6917 to Station 7077). Perform concrete bank repair on the side slopes over a length of approximately 55 feet (Station 7462 to Station 7517).					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel • Riparian scrub (southern willow scrub)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1956 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Geologic Resources (GEO)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-GEO-1	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	**Noise (NOI)**
Hydrology (HYD)	MM-NOI-1
EP-HYD-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Chollas Creek - Rolando
Segment Name	Rolando 2
Facility No.	5-04-048
Facility Location	From 400 feet southwest of the intersection of University Avenue and Aragon Drive, to inlet of culvert beneath Rolando Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from segment bottom from Station 6697 to Station 7517. Remove accumulated sediment and debris in culvert from Station 6646 to Station 6697. Perform bank repair on the eroded northern bank over a length of approximately 160 feet (Station 6917 to Station 7077). Perform concrete bank repair on the side slopes over a length of approximately 55 feet (Station 7462 to Station 7517).
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Riprap replacement
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 12701-L
Substrate Detail	Earthen and rip-rap bottom, and earthen, riprap and gunite banks
Facility Dimensions (Approximate)	Length: 871 feet Top width: 36 feet Bottom width: 15 feet Depth: 7 feet
Authorized Facility Maintenance Area	Length: Channel: 820 feet; Culvert: 51 feet Width: 10–36 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30–45 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Notes:
1. **In-stream post-maintenance erosion control measures may occur within this facility area.**
2. **Access/Loading/Staging/Stockpiling may also occur within City ROW.**
3. **Access/Loading/Staging/Stockpiling may be modified during implementation.**
4. **Stations are approximate and may not directly correspond with facility and/or maintenance lengths.**

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Map A: General Site Plan
Facility Group Name: Chollas Creek - Rolando
Segment Name: Rolando 2
Facility No: 5-04-048
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Chollas Creek - Martin Facility Group

Segment Name (Facility number):

Martin 1 (5-04-101)

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Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek Unnamed Tributary (04)
Facility Group Name	Chollas Creek - Martin
Segment Name (Facility Number)	Martin 1 (5-04-101)
Substrate	Martin 1 / Earthen and concrete
Location	Bordered by 36th Street to the east, Interstate 15 (I-15) to the west, single-family residential developments to the north, and multi-family residential developments to the south
MMP Map No(s).	92
Facility Inspection No.	92
Other Former Names	None

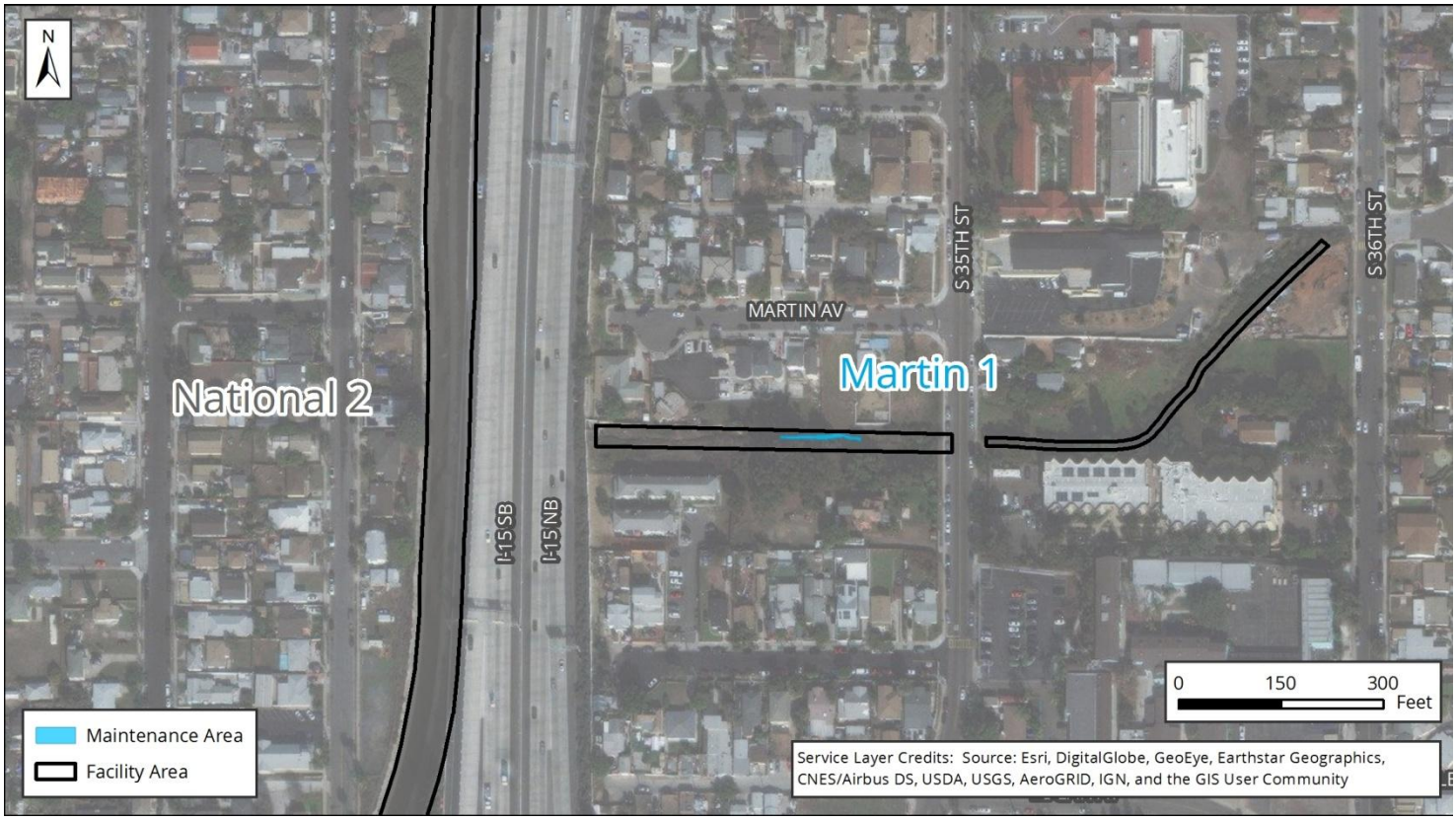


Figure 1: Vicinity Map of Chollas Creek - Martin Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - Martin	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Martin Segment 1 Detail

Facility Type	Earthen and concrete ditch
Substrate Detail[1]	Stations 235-825: Earthen bottom and banks Stations 825-1035: Earthen bottom , earthen right bank, concrete left bank Stations 1035-1428: Earthen bottom and banks
Location Within Watershed	Lower reach of Chollas Creek unnamed tributary, immediately upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,195 feet
Top-of-Bank Width	Approximately 25–70 feet
Bottom Facility Width	Approximately 3–7 feet
Facility Depth	Approximately 4–8 feet
Adjacent Land Use	Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: July 2017, looking downstream at scoured ditch bed

Figure 2: Vicinity Map of Martin Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	The vegetation observed ranged from light to medium with no evidence of sediment deposition. A scoured area was identified during the site visit.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	118	151	176	211	237	262

Hydraulic Capacity of Facility

Current Capacity	228 cfs
Proposed MWMP Maintained Capacity	228 cfs
Maintenance Recommendation	Repair and restabilize scoured ditch bed between Station 496 to Station 616
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (castor bean dominated) • Natural flood channel • Ornamental plantings
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (castor bean dominated) • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-025853
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric habitation refuse

Historical Resources	
Resource Identified in APE	Channel; 3463 Martin St.; 3487 Martin St.; pre-1953 earthen channel; two buildings more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Hydrology (HYD)	MM-CR-1
EP-HYD-1	MM-CR-2
Paleontological Resources (PAL)	MM-CR-3
EP-PAL-1	MM-CR-4
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	**Noise (NOI)**
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

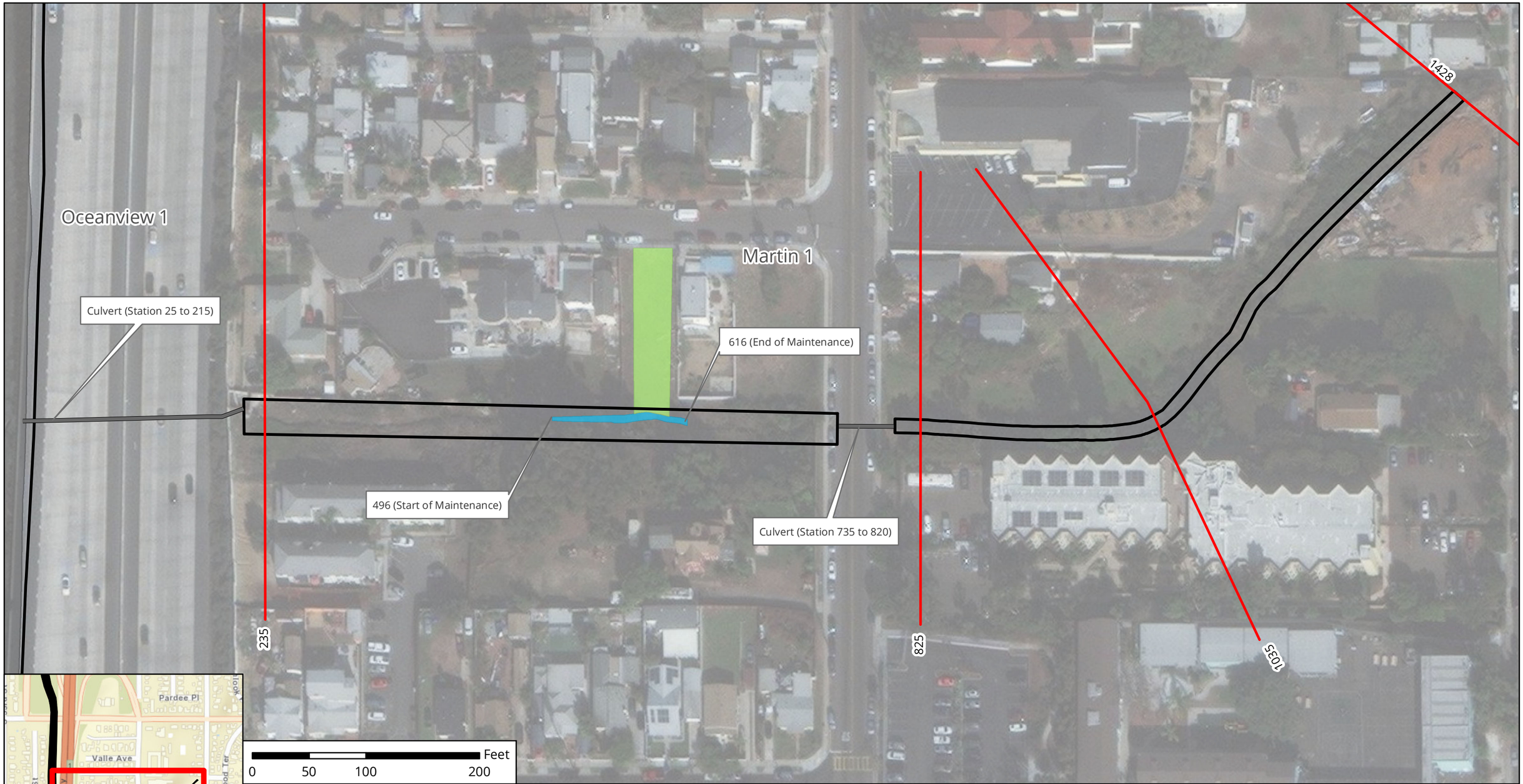
Facility Group	Chollas Creek - Martin
Segment Name	Martin 1
Facility No.	5-04-101
Facility Location	From outlet of culvert at southwest corner of Hemlock Street and 36th Street to outlet of culvert located on the west side of Interstate 15 (I-15)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Repair and restabilize scoured ditch bed between Station 496 to Station 616
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete ditch
Existing Plans and/or As-Builts?	None
Substrate Detail[3]	Stations 235-825: Earthen bottom and banks Stations 825-1035: Earthen bottom , earthen right bank, concrete left bank Stations 1035-1428: Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 1,195 feet Top width: 25–70 feet Bottom width: 3–7 feet Depth: 4–8 feet

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 120 feet Width: 7–11 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator and/or bulldozer/track-steer enter or are lowered into ditch at access/loading area 2. Gradall/excavator and/or bulldozer/track-steer place material into scour hole 3. Bulldozer/track-steer compact material
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



0 50 100 200 Feet

- Culvert
- Station
- Facility Area
- Adjacent Facility Activity Area
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

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Notes:
1. Concrete repair may occur within this facility area.
2. In-stream post-maintenance erosion control measures may occur within this facility area.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - Martin
Segment Name: Martin 1
Facility No: 5-04-101
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Chollas Creek - J St Facility Group

Segment Name (Facility number):

J St 1 (5-04-163)

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Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek Unnamed Tributary (04)
Facility Group Name	Chollas Creek - J St
Segment Name (Facility Number)	J St 1 (5-04-163)
Substrate	J St 1 / Earthen
Location	Bordered by single-family residential developments, community garden along Market Street, and Toyne Street to the west
MMP Map No(s).	100
Facility Inspection No.	100
Other Former Names	None

Figure 1: Vicinity Map of Chollas Creek - J St Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - J St	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

J St Segment 1 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Chollas Creek unnamed tributary, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 404 feet
Top-of-Bank Width	Approximately 4–22 feet
Bottom Facility Width	Approximately 4–6 feet
Facility Depth	Approximately 0.4–3 feet
Adjacent Land Use	Single-Family Residential, Transportation
As-Built Drawing Number	28415-D
Coastal Zone	No

Figure 1: April 2018, looking west at bank repair

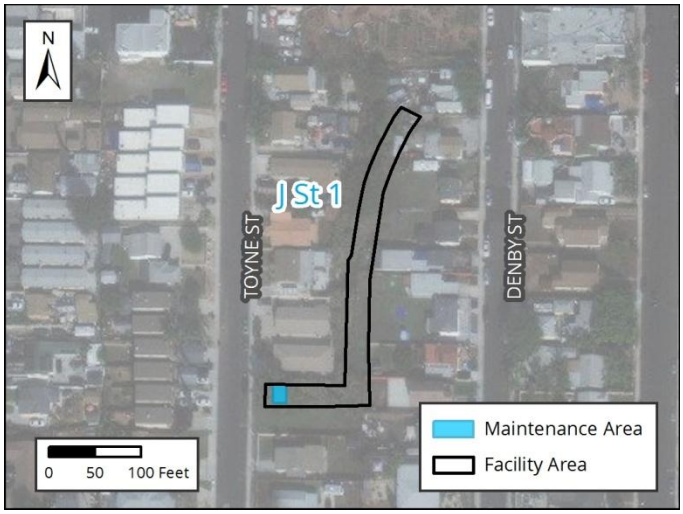

Figure 2: Vicinity Map of J St Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation was observed to range from moderate to dense and no evidence of sediment deposition was noted

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	29	37	43	51	57	64

Hydraulic Capacity of Facility

Current Capacity	17 cfs
Proposed MWMP Maintained Capacity	17 cfs
Maintenance Recommendation	Trim vegetation and remove invasive vegetation between Station 10 and Station 25. The remainder of J St is recommended to be maintained by private property owners from Station 25 to Station 193 to trim vegetation, remove invasive vegetation, and remove sediment, debris, and vegetation at the culvert outlets located at Station 108and Station 414. Remove sediment and debris in culvert at Station 10.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Adjacent Vegetation	• Disturbed land • Disturbed wetland (Arundo-dominated) • Natural flood channel • Ornamental plantings • Riparian scrub (southern willow scrub) • Urban / Developed
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the ornamental plantings within and adjacent to the facility for nesting/rooting.
MHPA	The facility is not within or adjacent to the Multi-Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 425-435 Toyne St.; pre-1953 earthen channel; two buildings more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Chollas Creek - J St
Segment Name	J St 1
Facility No.	5-04-163
Facility Location	From outlet of culvert 150 feet south of Market Street to inlet of culvert at the east side of Toyne Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Trim vegetation and remove invasive vegetation between Station 10 and Station 25. The remainder of J St is recommended to be maintained by private property owners from Station 25 to Station 193 to trim vegetation, remove invasive vegetation, and remove sediment, debris, and vegetation at the culvert outlets located at Station 108and Station 414. Remove sediment and debris in culvert at Station 10.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen ditch
Existing Plans and/or As-Builts?	Yes; 28415-D
Substrate Detail	Earthen bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 404 feet Top width: 4–22 feet Bottom width: 4–6 feet Depth: 0.4–3 feet
Authorized Facility Maintenance Area	Length: Ditch: 15 feet Width: 8–15 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 3–5 working days
Maintenance Crew	Approximately 9–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into ditch at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material and loads dump truck on street 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. **In-stream post-maintenance erosion control measures may occur within this facility area.**
2. **Access/Loading/Staging/Stockpiling may also occur within City ROW.**
3. **Access/Loading/Staging/Stockpiling may be modified during implementation.**
4. **Stations are approximate and may not directly correspond with facility and/or maintenance lengths.**

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Map A: General Site Plan
Facility Group Name: Chollas Creek - J St
Segment Name: J St 1
Facility No: 5-04-163
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Auburn Creek - Home Facility Group

Segment Names (Facility numbers):

- Home 1 (5-04-220)
- Home 2 (5-04-224)
- Home 3 (5-04-227)
- Home 4 (5-04-229) (See Appendix A-5)
- Home 5 (5-04-231)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Auburn Creek (04)
Facility Group Name	Auburn Creek - Home
Segment Name (Facility Number)	Home 1 (5-04-220) Home 2 (5-04-224) Home 3 (5-04-227) Home 4 (5-04-229) (See Appendix A-5) Home 5 (5-04-231)
Substrate	Home 1 / Earthen Home 2 / Earthen Home 3 / Concrete Home 4 / Earthen and concrete Home 5 / Earthen and concrete
Location	About 300 feet northeast of Fairmount Avenue and northeast of the intersection of Home Avenue and Federal Boulevard
MMP Map No(s).	70, 76, 77
Facility Inspection No.	70, 76, 77
Other Former Names	Home Avenue Channel

Figure 1: Vicinity Map of Auburn Creek - Home Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Auburn Creek - Home	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Home Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Location Within Watershed	Lower reach of Auburn Creek, immediately upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 489 feet
Top-of-Bank Width	Approximately 33–82 feet
Bottom Facility Width	Approximately 10–25 feet
Facility Depth	Approximately 7–10.5 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Public Facilities and Utilities, Transportation
As-Built Drawing Number	57-11VC1P
Coastal Zone	No

Figure 1: February 2017, standing along east bank of segment, looking southwest at erosion behind east wing wall at downstream end

Figure 2: Vicinity Map of Home Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation and bank repair (riprap) January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00211-RAG
401	RGP 63 Verification No. R9-2016-0085;822782;lhonma
1602	LSA Emergency Notification submitted 03/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.09 acre); an additional 0.12 acre for NFC needed for City mitigation

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In March 2016, the vegetation was observed to range from light to heavy and sediment deposition was observed to be 1 foot in the culvert					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	120	290	430	630	950	1,200
Hydraulic Capacity of Facility						
Current Capacity	957 cfs					
Proposed MWMP Maintained Capacity	1,028 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the in-line weir at Station 641. Remove accumulated sediment, debris, and vegetation from Station 295 to Station 710. Remove accumulated sediment and debris in culvert from Stations 221 to Station 295.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the channel extents and area of vegetation present are limited such that it is unlikely for wildlife to use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Hydrology (HYD)	
EP-HYD-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

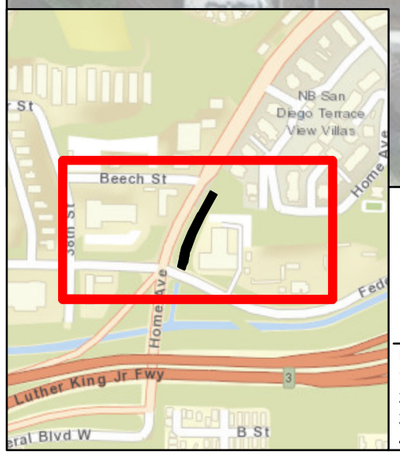
Facility Group	Auburn Creek - Home
Segment Name	Home 1
Facility No.	5-04-220
Facility Location	From outlet of culvert underneath the existing Terrace View Villas to inlet of culvert beneath Federal Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from the in-line weir at Station 641. Remove accumulated sediment, debris, and vegetation from Station 295 to Station 710. Remove accumulated sediment and debris in culvert from Stations 221 to Station 295.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	Yes; see Appendix A-4
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 57-11VC1P
Substrate Detail	Earthen bottom, earthen and partial riprap banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 489 feet Top width: 33–82 feet Bottom width: 10–25 feet Depth: 7–10.5 feet
Authorized Facility Maintenance Area	Length: Channel: 415 feet; Culvert: 74 feet Width: 13–30 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer, and loader enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert
Station
Facility Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

The City of SAN DIEGO

Notes:
1. In-stream post-maintenance erosion control measures may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Home
Segment Name: Home 1
Facility No: 5-04-220
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Home Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Location Within Watershed	Lower reach of Auburn Creek, immediately upstream of Auburn Creek (Home, Segment 1)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 920 feet
Top-of-Bank Width	Approximately 45–55 feet
Bottom Facility Width	Approximately 12–22 feet
Facility Depth	Approximately 5–11 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Office, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	3706-D
Coastal Zone	No

Figure 1: March 2016, looking upstream at the vegetation and displaced riprap downstream of the double 7-foot wide by 6-foot tall RCB culvert

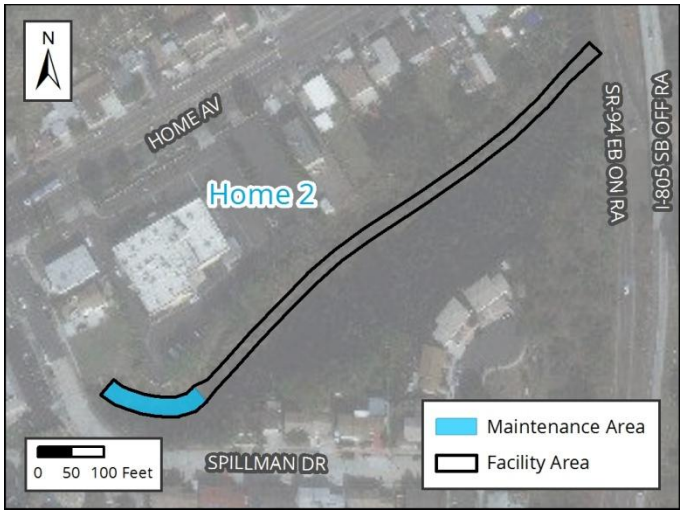


Figure 2: Vicinity Map of Home Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2017: No maintenance conducted January 2018 – 2019: Routine maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 31/33 USACE File #SPL-2018-00276-SRR (expires March 2022)
401	RWQCB 401 Cert No. R9-2018-0076 (expires March 2022)
1602	No 1602 required per CDFW letter reference No. 1600-2018-0123-R5
Mitigation for Previous Impacts	Stadium (0.06 acre); Marron Valley Cornerstone Lands Conservation Bank (0.005 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In February 2017, the channel was observed to contain extensive sediment as well as cobbles along the bottom of the channel and dense vegetation at the upstream end

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	120	290	430	630	950	1,200

Hydraulic Capacity of Facility

Current Capacity	630 cfs
Proposed MWMP Maintained Capacity	1,200 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the bed and banks of the segment from Station 5 to Station 165. Remove accumulated sediment, debris, and vegetation from culvert at Station 5.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (Arundo-dominated) • Natural flood channel • Riparian forest (coast live oak) • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species, such as least Bell's vireo, the channel extents and area of vegetation present are limited such that it is unlikely for these species to use the channel for nesting or foraging. However, there is potential for raptors and other migratory species to use the vegetation within and adjacent to the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 550 feet east of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1956 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Auburn Creek - Home
Segment Name	Home 2
Facility No.	5-04-224
Facility Location	From downstream end of outlet of culvert beneath Interstate 805 (I-805) to inlet of culvert under Spillman Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from the bed and banks of the segment from Station 5 to Station 165. Remove accumulated sediment, debris, and vegetation from culvert at Station 5.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 3706-D
Substrate Detail	Earthen bottom, earthen and partial riprap banks
Facility Dimensions (Approximate)	Length: 920 feet Top width: 45–55 feet Bottom width: 12–22 feet Depth: 5–11 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 160 feet Width: 30 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer, and excavator enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Culvert

Facility Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

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Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Home
Segment Name: Home 2
Facility No: 5-04-224
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Home Segment 3 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Auburn Creek, immediately upstream of Auburn Creek (Home, Segment 2)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 1,237 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 12 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	12728-2-L
Coastal Zone	No

Figure 1: March 2016, looking downstream towards 7-foot wide by 6-foot tall double RCB culvert. Note clean channel.

Figure 2: Vicinity Map of Home Segment 3

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The channel was relatively clean with very little evidence of vegetation or sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	120	290	430	630	950	1,200
Hydraulic Capacity of Facility						
Current Capacity	950 cfs					
Proposed MWMP Maintained Capacity	950 cfs					
Maintenance Recommendation	Concrete repair and replacement from Station 1793 to Station 2162. Remove accumulated sediment, debris and vegetation from Station 1793 to Station 2162.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife; however, suitable habitat is present in the areas surrounding the facility for sensitive bird species, such as coastal California gnatcatcher
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 45 feet south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; Pre-1963 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-6
EP-BIO-6	MM-BIO-7
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

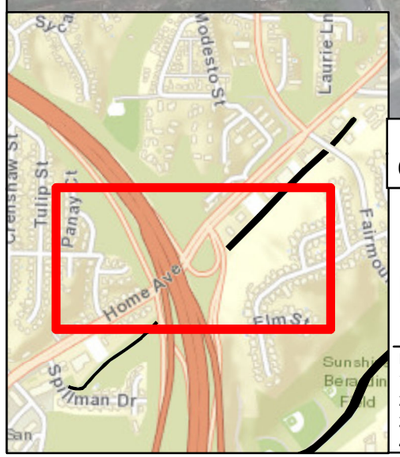
Facility Group	Auburn Creek - Home
Segment Name	Home 3
Facility No.	5-04-227
Facility Location	From downstream end of Home 4 segment to inlet of culvert beneath Interstate 805 (I-805)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Concrete repair and replacement from Station 1793 to Station 2162. Remove accumulated sediment, debris and vegetation from Station 1793 to Station 2162.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 12728-2-L
Substrate Detail[3]	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,237 feet Top width: 30 feet Bottom width: 12 feet Depth: 6 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 369 feet Width: 30 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–10 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with private property owner
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert
Station
Facility Area
Multi-Habitat Planning Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur in this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Home
Segment Name: Home 3
Facility No: 5-04-227
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Home Segment 5 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 3018-3293: Earthen bottom and concrete right bank Stations 3018-3166: Earthen bottom and shotcrete left bank Stations 3166-3293: Earthen bottom and earthen left bank
Location Within Watershed	Lower reach of Auburn Creek, immediately upstream of Auburn Creek (unnamed tributary, Home, Segment 4)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 377 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 12 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	12728-2-L
Coastal Zone	No

Figure 1: March 2016, looking upstream at the double-barrel 74-inch-diameter RCP culvert

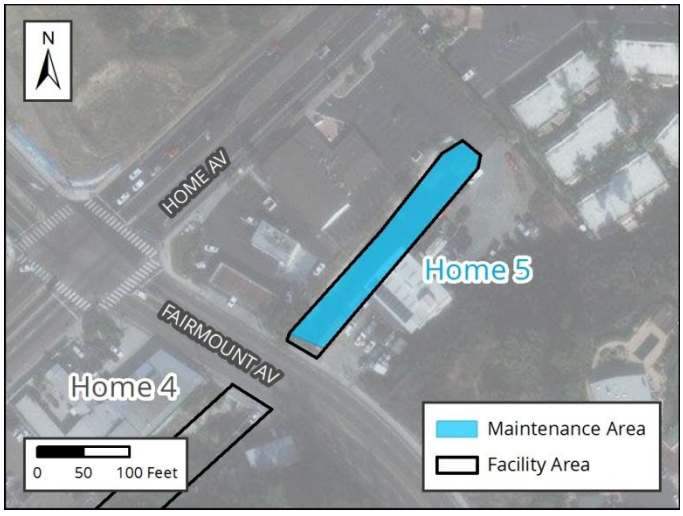


Figure 2: Vicinity Map of Home Segment 5

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation 2018: Routine maintenance conducted 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00945-RAG; NWP 31/33 USACE File #SPL-2018-00276-SRR (expires March 2022)
401	RGP 63 Verification No. R9-2016-0043:821318;lhonma; RWQCB 401 Cert No. R9-2018-0076 (expires March 2022)
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance to 0.10 acre. Added Otay Reed Wetland Mitigation Plan (0.16 acre).

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	In February 2017, the amount of vegetation in the channel was observed to be light to medium and cobbles were observed along the bottom					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	120	290	430	630	950	1,200
Hydraulic Capacity of Facility						
Current Capacity	630 cfs					
Proposed MWMP Maintained Capacity	630 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 3018 to Station 3293. Remove accumulated sediment and debris from culvert at Station 2916 to Station 3018.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed concrete-lined channel • Developed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife; however, suitable habitat for sensitive bird species, such as coastal California gnatcatcher, is present in the areas surrounding the facility
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 90 feet south of the channel.
Mitigation Within Facility	None

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1956 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Auburn Creek - Home
Segment Name	Home 5
Facility No.	5-04-231
Facility Location	From 290 feet northeast of Fairmount Avenue to inlet of culvert underneath Fairmount Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions, previous maintenance approval, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 3018 to Station 3293. Remove accumulated sediment and debris from culvert at Station 2916 to Station 3018.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 12728-2-L
Substrate Detail[3]	Stations 3018-3293: Earthen bottom and concrete right bank Stations 3018-3166: Earthen bottom and shotcrete left bank Stations 3166-3293: Earthen bottom and earthen left bank

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 377 feet Top width: 30 feet Bottom width: 12 feet Depth: 6 feet
Authorized Facility Maintenance Area	Length: Channel: 275 feet; Culvert: 102 feet Width: 30 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer and loader enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with private property owner and the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Home 5

Culvert (Station 3293)

3293 (End of Maintenance)

HOME AV

3018

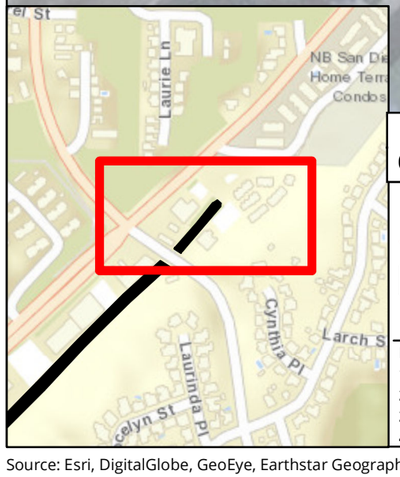
FAIRMOUNT AV

3293

3166

Culvert (Station 2916 to 3018)

2916 (Start of Maintenance)



Feet
0 25 50 100

- Culvert
- Station
- Facility Area
- Multi-Habitat Planning Area
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

N

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Home
Segment Name: Home 5
Facility No: 5-04-231
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Auburn Creek - Wightman Facility Group

Segment Names (Facility numbers):

Wightman 1 (5-04-239)

Wightman 2 (5-04-241)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Auburn Creek (04)
Facility Group Name	Auburn Creek - Wightman
Segment Name (Facility Number)	Wightman 1 (5-04-239) Wightman 2 (5-04-241)
Substrate	Wightman 1 / Earthen and concrete Wightman 2 / Earthen
Location	Extends north to south between Euclid Avenue and 54th Street, crossing beneath University Avenue
MMP Map No(s).	67, 68
Facility Inspection No.	67, 68
Other Former Names	Home Avenue Channel

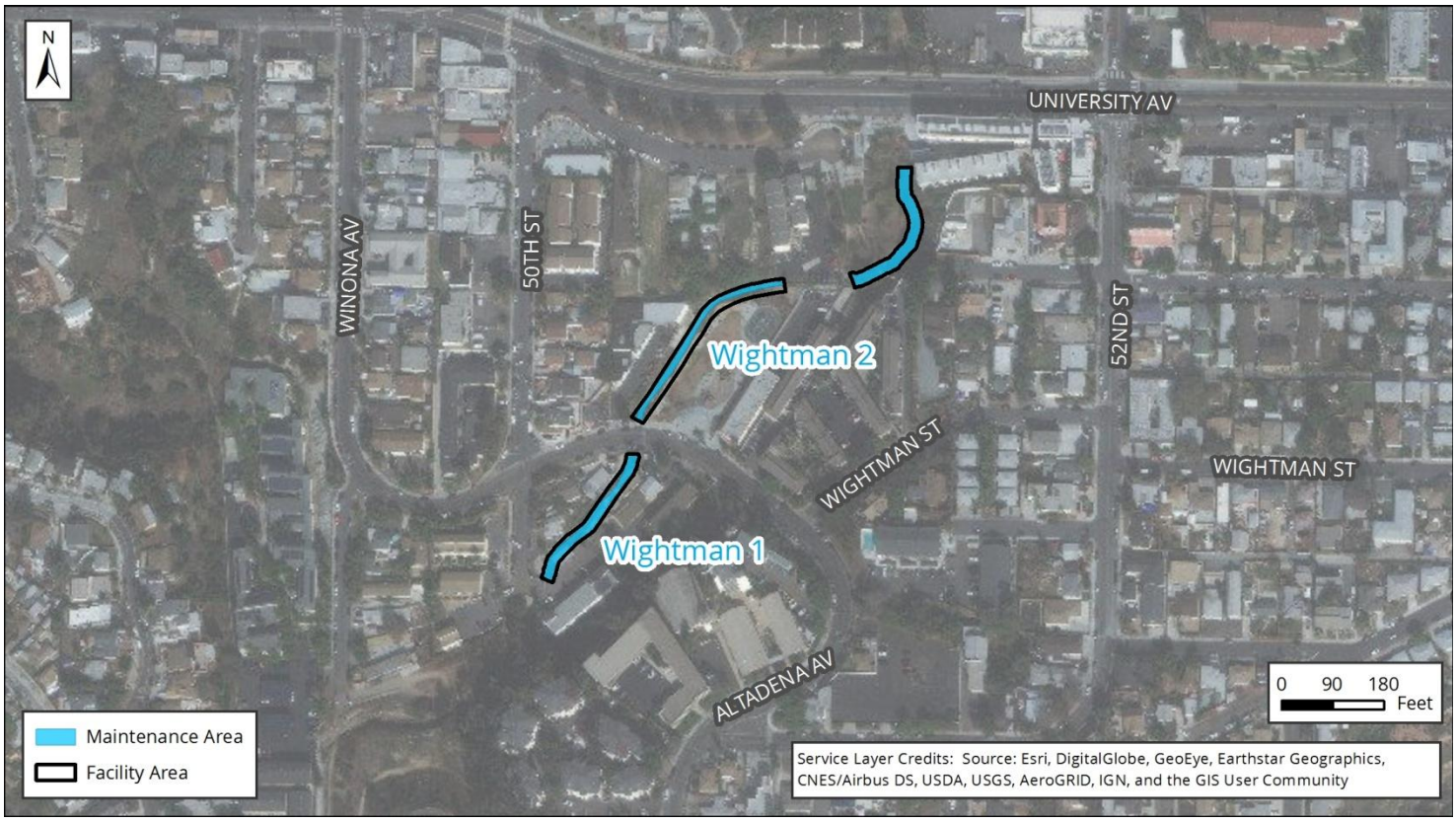


Figure 1: Vicinity Map of Auburn Creek - Wightman Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Paleta Creek - Cottonwood	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego Bay (First downstream water body)	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Wightman Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 5830-5870: Concrete bottom and banks Stations 5870-5910: Earthen bottom and banks Stations 5910-6127: Concrete bottom and banks
Location Within Watershed	Upper reach of Auburn Creek (unnamed tributary), immediately upstream of Auburn Creek (unnamed tributary, Wightman, Segment 1)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 332 feet
Top-of-Bank Width	Approximately 13–34.5 feet
Bottom Facility Width	Approximately 3.5–13.5 feet
Facility Depth	Approximately 2–6 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: August 2017, looking upstream just after transition from concrete to earthen lining; deep sediment observed

Figure 2: Vicinity Map of Wightman Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00862-RAG
401	RGP 63 Verification No. R9-2015-0192;819895;lhonma
1602	LSA Emergency Notification submitted 12/2015
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	The channel was relatively clean with very little evidence of vegetation or sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	116	172	220	343	500	630
Hydraulic Capacity of Facility						
Current Capacity	248 cfs					
Proposed MWMP Maintained Capacity	248 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 5830 to Station 6127. Remove accumulated sediment and debris in culvert from Station 5795 to Station 5830.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (Arundo-dominated) • Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife species. Suitable habitat for sensitive wildlife species (e.g., least Bell's vireo) is present adjacent to the facility. However, the vegetation present is both limited and isolated by residential development such that it is unlikely for sensitive bird species to use the habitat for nesting or foraging.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Cobble substrate restored onsite following previous maintenance

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1968 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Hydrology (HYD)	MM-HR-2
EP-HYD-1	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

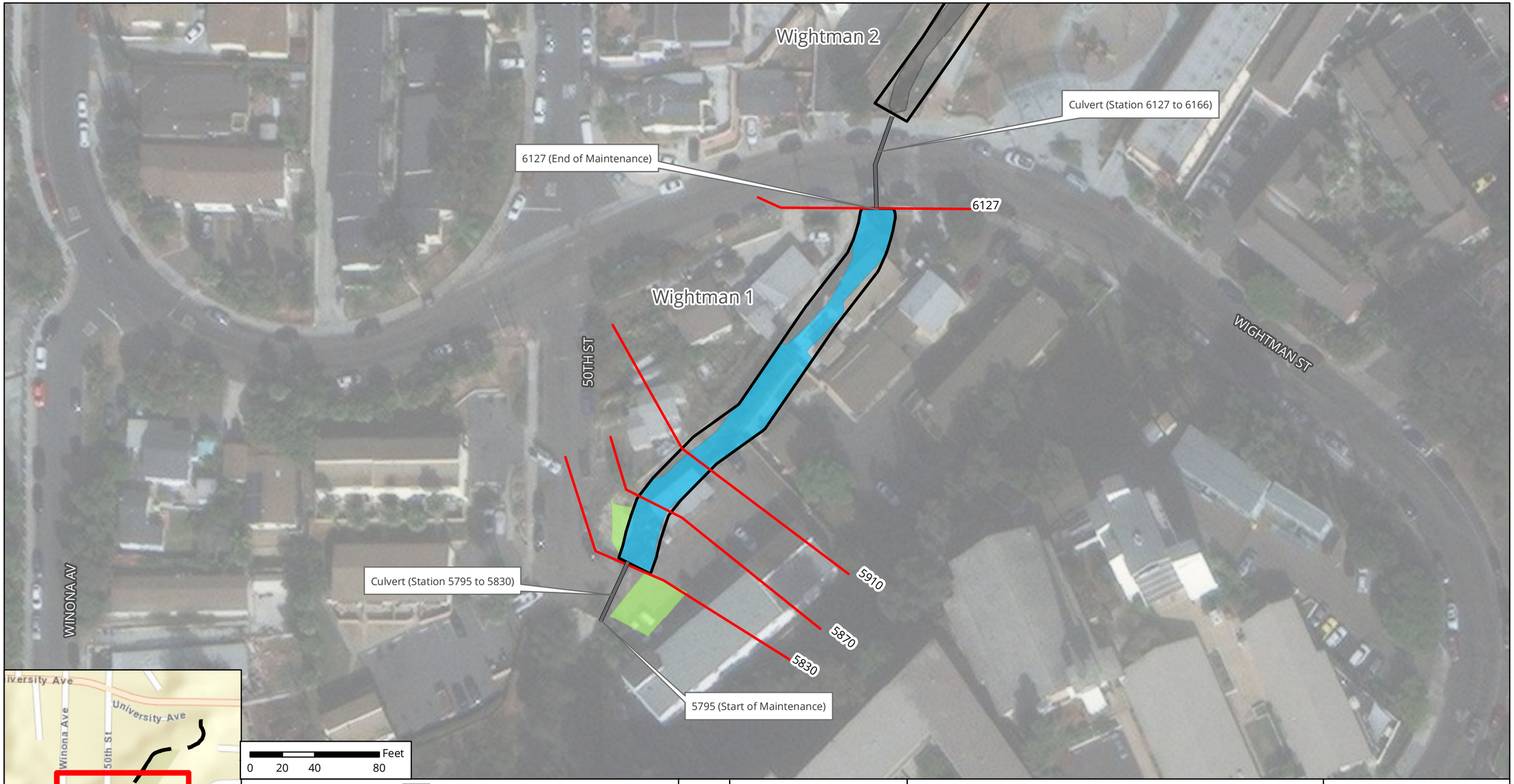
Facility Group	Auburn Creek - Wightman
Segment Name	Wightman 1
Facility No.	5-04-239
Facility Location	From outlet of culvert beneath Wightman Street to inlet of culvert at the southern terminus of 50th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen and concrete channel per estimated original design dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 5830 to Station 6127. Remove accumulated sediment and debris in culvert from Station 5795 to Station 5830.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	None
Substrate Detail[3]	Stations 5830-5870: Concrete bottom and banks Stations 5870-5910: Earthen bottom and banks Stations 5910-6127: Concrete bottom and banks

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 332 feet Top width: 13–34.5 feet Bottom width: 3.5–13.5 feet Depth: 2–6 feet
Authorized Facility Maintenance Area	Length: Channel: 297 feet; Culvert: 35 feet Width: 22 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and/or bulldozer/track-steer enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer and/or bulldozer/track-steer push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility area.
2. In-stream post-maintenance erosion control measures may occur within this facility area.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Auburn Creek - Wightman
Segment Name: Wightman 1
Facility No: 5-04-239
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Wightman Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Auburn Creek (unnamed tributary), upstream of Auburn Creek (unnamed tributary, Home, Segment 5)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 801 feet
Top-of-Bank Width	Approximately 18–39 feet
Bottom Facility Width	Approximately 2.5–13.5 feet
Facility Depth	Approximately 2–7 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	12983-1-D & 12983-2-D
Coastal Zone	No

Figure 1: August 2017, looking downstream toward channel bank failure/erosion

Figure 2: Vicinity Map of Wightman Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00862-RAG
401	RGP 63 Verification No. R9-2015-0192;819895;lhonma
1602	LSA Emergency Notification submitted 12/2015
Mitigation for Previous Impacts	Onsite restoration for NFC (0.09 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Amount of vegetation was observed to range from medium to dense, however, there was little evidence of sediment deposition. Earthen and channel bank failures were noted.					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	86	127	160	248	360	450
Hydraulic Capacity of Facility						
Current Capacity	160 cfs					
Proposed MWMP Maintained Capacity	160 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 6166 to Station 6542, and Station 6659 to Station 6928. Remove accumulated sediment and debris in culvert from Station 6127 to Station 6166, and Station 6542 to Station 6659. Perform bank repair between Station 6780 to Station 6850. Perform concrete repair/replacement between Station 6353 to Station 6403 and Station 6659 to Station 6710.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (Arundo-dominated) • Natural flood channel • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the channel extents and area of vegetation present are both limited and isolated from other suitable habitat by residential development such that it is unlikely for sensitive bird species to use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Cobble substrate restored onsite following previous maintenance

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1968 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-5
Geologic Resources (GEO)	MM-BIO-6
EP-GEO-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Hydrology (HYD)	**Noise (NOI)**
EP-HYD-1	MM-NOI-1
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

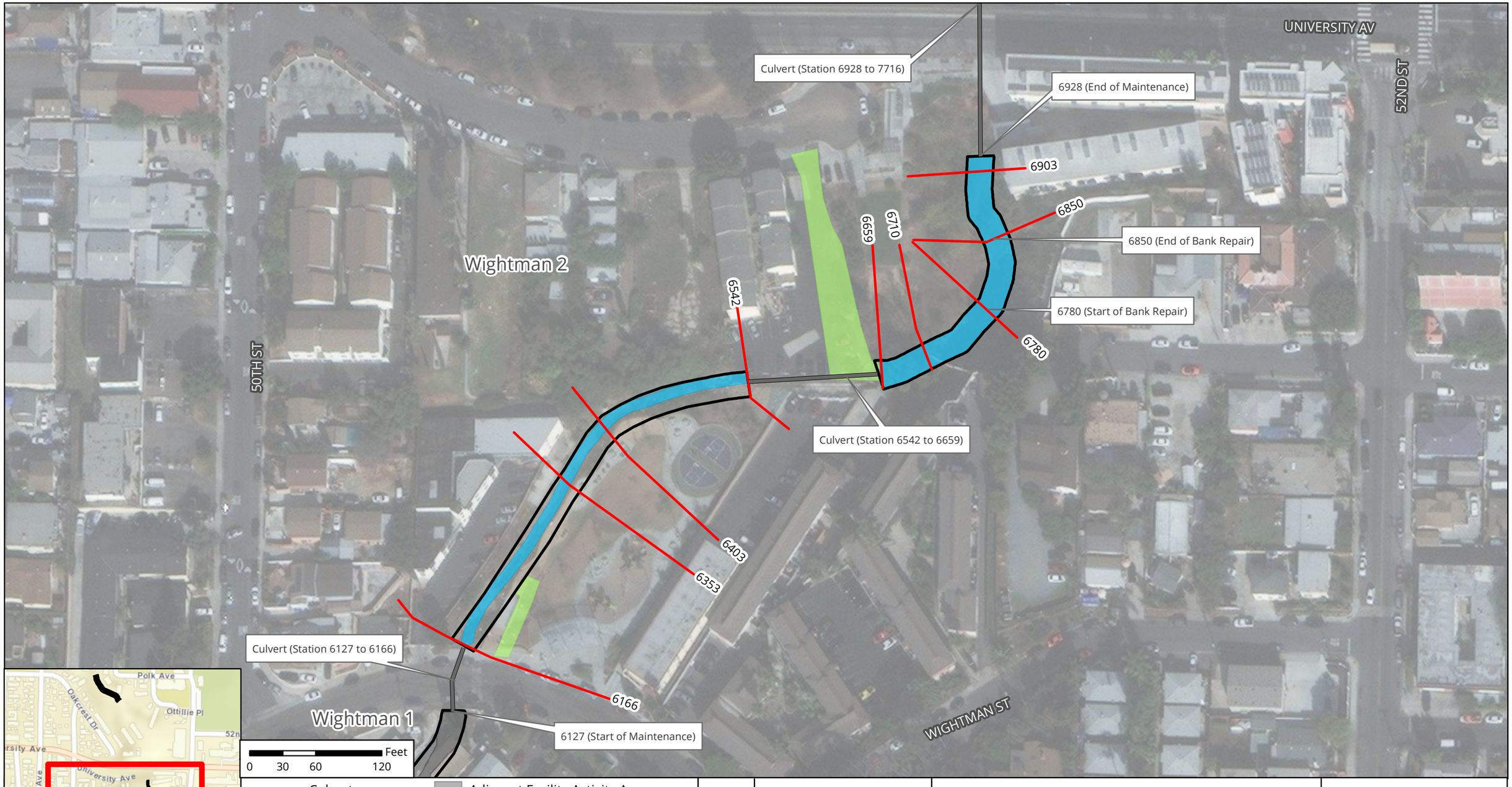
Facility Group	Auburn Creek - Wightman
Segment Name	Wightman 2
Facility No.	5-04-241
Facility Location	From outlet of culvert beneath University Avenue to inlet of culvert beneath Wightman Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 6166 to Station 6542, and Station 6659 to Station 6928. Remove accumulated sediment and debris in culvert from Station 6127 to Station 6166, and Station 6542 to Station 6659. Perform bank repair between Station 6780 to Station 6850. Perform concrete repair/replacement between Station 6353 to Station 6403 and Station 6659 to Station 6710.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair Bank repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Existing Plans and/or As-Builts?	Yes; 12983-1-D & 12983-2-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 801 feet Top width: 18–39 feet Bottom width: 2.5–13.5 feet Depth: 2–7 feet
Authorized Facility Maintenance Area	Length: Channel: 645 feet; Culvert: 156 feet Width: 13–26 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert
Station
Facility Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2. In-stream post-maintenance erosion control measures may occur within this facility area.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Auburn Creek - Wightman
Segment Name: Wightman 2
Facility No: 5-04-241
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Chollas Creek - Megan Facility Group

Segment Names (Facility numbers):

Megan 1 (5-04-260)

Megan 2 (5-04-262)

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Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek Unnamed Tributary (04)
Facility Group Name	Chollas Creek - Megan
Segment Name (Facility Number)	Megan 1 (5-04-260) Megan 2 (5-04-262)
Substrate	Megan 1 / Concrete Megan 2 / Earthen
Location	About 400 feet southwest of the intersection of Megan Way and Euclid Avenue
MMP Map No(s).	N/A
Facility Inspection No.	312
Other Former Names	None

Figure 1: Vicinity Map of Chollas Creek - Megan Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - Megan	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Megan Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Chollas Creek unnamed tributary, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 849 feet
Top-of-Bank Width	Approximately 15–24 feet
Bottom Facility Width	Approximately 3–6 feet
Facility Depth	Approximately 4–6 feet
Adjacent Land Use	Open Space, Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	16653-D (Reach 1) & 11812-D (Reach 2)
Coastal Zone	No

Figure 1: July 2017, looking upstream at concrete ditch

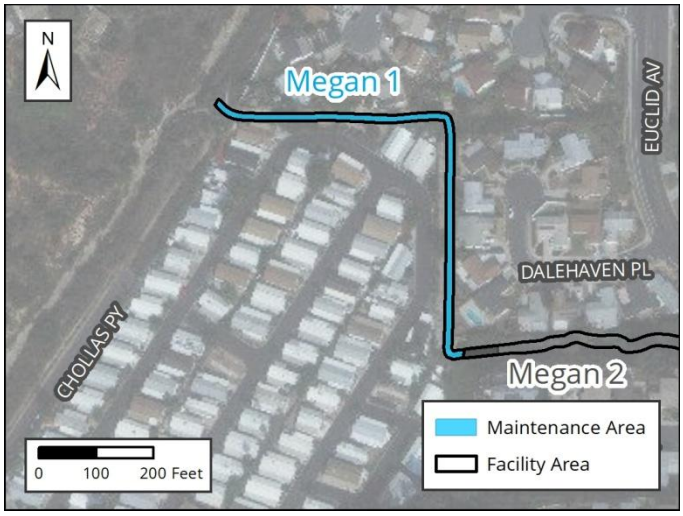

Figure 2: Vicinity Map of Megan Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation in the segment varied from light to moderate and sediment deposition was observed in some portions of the segment and the culverts

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	295	430	502	602	675	747

Hydraulic Capacity of Facility

Current Capacity	602 cfs
Proposed MWMP Maintained Capacity	747 cfs
Maintenance Recommendation	Remove deposited sediment, debris, and vegetation from Station 2 to Station 851. Concrete repair/replacement between Stations 2 and 851. Perform bank repair behind right (north/northeast) bank of concrete ditch from Station 846 to 851. Perform bank repair and riprap replacement at Station 2.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Coastal sage scrub (baccharis-dominated) • Developed land • Disturbed coastal sage scrub • Natural flood channel • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, suitable coastal sage scrub habitat for coastal California gnatcatcher is present to the west of the channel.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 40 feet west of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1966 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Geologic Resources (GEO)	MM-BIO-6
EP-GEO-1	MM-BIO-7
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Chollas Creek - Megan
Segment Name	Megan 1
Facility No.	5-04-260
Facility Location	From downstream end of Megan 2 segment to Chollas Creek just downstream of a pedestrian bridge
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove deposited sediment, debris, and vegetation from Station 2 to Station 851. Concrete repair/replacement between Stations 2 and 851. Perform bank repair behind right (north/northeast) bank of concrete ditch from Station 846 to 851. Perform bank repair and riprap replacement at Station 2.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair Bank repair
Maintenance Method	Excavation; mechanized equipment outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 16653-D (Reach 1) & 11812-D (Reach 2)
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 849 feet Top width: 15–24 feet Bottom width: 3–6 feet Depth: 4–6 feet
Authorized Facility Maintenance Area	Length: Ditch: 849 feet Width: 15–24 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, wheelbarrow, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–16 people
Routine Maintenance Procedures	1. Hand tools and wheelbarrow used in ditch to move material to Gradall/excavator at access/loading area 2. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 3. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 4. Gradall/excavator scoops material from ditch and loads dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - Megan
Segment Name: Megan 1
Facility No: 5-04-260
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Megan Segment 2 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Chollas Creek unnamed tributary, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 464 feet
Top-of-Bank Width	Approximately 23 feet
Bottom Facility Width	Approximately 5 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	11812-D
Coastal Zone	No

Figure 1: July 2017, looking upstream near upstream end at vegetation

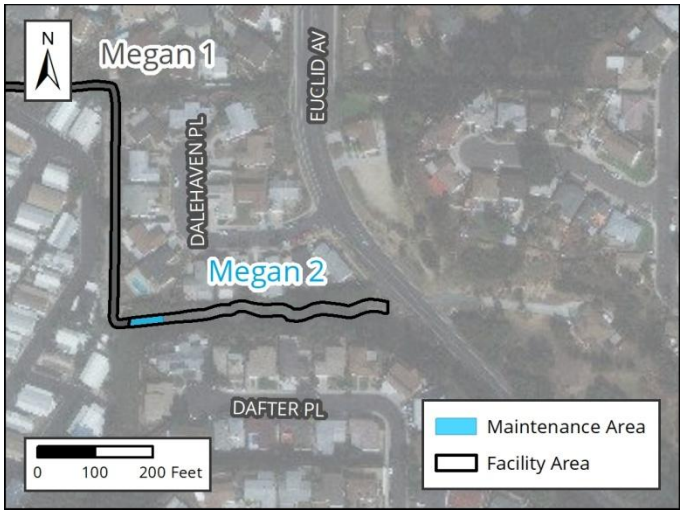


Figure 2: Vicinity Map of Megan Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation observed ranged from medium to dense with the flow path of the ditch mainly unobstructed. At the transition to the concrete ditch, sediment deposition was noted within the earthen ditch flowline as well as failure of a portion of the earthen bank.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	106	204	239	286	321	355

Hydraulic Capacity of Facility

Current Capacity	355 cfs
Proposed MWMP Maintained Capacity	355 cfs
Maintenance Recommendation	Remove accumulated sediment and vegetation from the south side (left bank) of the ditch between Stations 851 and 913 to return the ditch flow path to originally designed condition.
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed coastal sage scrub • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility and the majority of coastal sage scrub present adjacent to the facility is disturbed and not suitable for coastal California gnatcatcher
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 600 feet north west of the ditch.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Hydrology (HYD)	MM-HR-1
EP-HYD-1	MM-HR-2
Paleontological Resources (PAL)	**Noise (NOI)**
EP-PAL-1	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

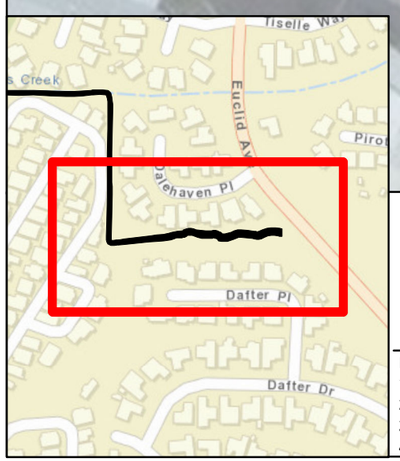
Facility Group	Chollas Creek - Megan
Segment Name	Megan 2
Facility No.	5-04-262
Facility Location	From outlet of culvert that crosses under Euclid Avenue to upstream end of Megan 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen ditch per as-built dimensions and Hydrology and Hydraulics recommendations. Additionally, vegetation may be trimmed/removed within portions of the facility identified as access.
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and vegetation from the south side (left bank) of the ditch between Stations 851 and 913 to return the ditch flow path to originally designed condition.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen ditch
Existing Plans and/or As-Builts?	Yes; 11812-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 464 feet Top width: 23 feet Bottom width: 5 feet Depth: 6 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 62 feet Width: 5 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–16 people
Routine Maintenance Procedures	Riprap Restoration: 1. Gradall/excavator stationed above ditch places riprap into ditch 2. Bulldozer/track-steer, and/or Gradall/excavator enters ditch at access/loading area 3. Bulldozer/track-steer, loader, and/or Gradall/excavator clears area and transports/places riprap into place 4. Gradall/excavator scoops material from ditch and loads dump truck 5. Dump truck hauls material to legal disposal site Routine Maintenance: 1. Bulldozer/track-steer enters or is lowered into ditch at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Facility Area

Adjacent Facility Activity Area

Access/Loading/Staging/Stockpiling Area

Maintenance Area

N

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Notes:

1. In-stream post-maintenance erosion control measures may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - Megan
Segment Name: Megan 2
Facility No: 5-04-262
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Chollas Creek - 54th St Facility Group

Segment Name (Facility number):

54th St 1 (5-04-280)

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Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	Chollas Creek Unnamed Tributary (04)
Facility Group Name	Chollas Creek - 54th St
Segment Name (Facility Number)	54th St 1 (5-04-280)
Substrate	54th St 1 / Concrete
Location	South of Redwood Street and is bound by 54th Street to the west and by Thornton Place to the east
MMP Map No(s).	N/A
Facility Inspection No.	305
Other Former Names	None

Figure 1: Vicinity Map of Chollas Creek - 54th St Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek - 54th St	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

54th St Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Gunite bottom and banks
Location Within Watershed	Upper reach of Chollas Creek unnamed tributary, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 346 feet
Top-of-Bank Width	Approximately 6–20 feet
Bottom Facility Width	Approximately 3 feet
Facility Depth	Approximately 3.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	9373-L
Coastal Zone	No

Figure 1: July 2017, looking downstream towards the culvert; conveys flows beneath parking lot, then discharges back into ditch

Figure 2: Vicinity Map of 54th St Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Accumulated sediment and patches of dense vegetation in the bottom of the ditch were observed and sediment deposition was estimated to be 2 inches within the ditch and up to 2 feet within the culvert

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	73	93	108	130	146	163

Hydraulic Capacity of Facility

Current Capacity	40 cfs
Proposed MWMP Maintained Capacity	93 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 34 to Station 135, and Station 217 to 380. Remove accumulated sediment and debris in the culvert from Station 135 to 217, and at Station 34.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1966–1968 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

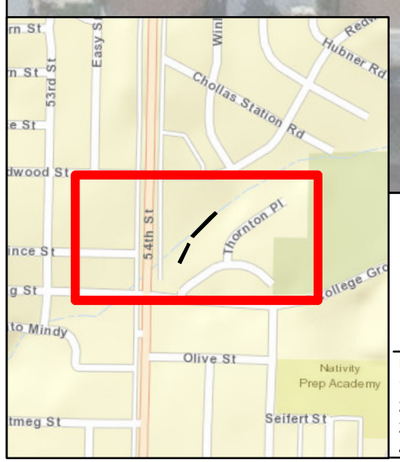
Facility Group	Chollas Creek - 54th St
Segment Name	54th St 1
Facility No.	5-04-280
Facility Location	From 200 feet south of Redwood Street to culvert entrance to the storm drain system in 54th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 34 to Station 135, and Station 217 to 380. Remove accumulated sediment and debris in the culvert from Station 135 to 217, and at Station 34.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 9373-L
Substrate Detail	Gunite bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 346 feet Top width: 6–20 feet Bottom width: 3 feet Depth: 3.5 feet
Authorized Facility Maintenance Area	Length: Ditch: 264 feet; Culvert: 82 feet Width: 6–19 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, wheelbarrow, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Hand tools and wheelbarrow used in ditch to move material to Gradall/excavator at access/loading area 2. Bobcat/skid-steer enters or is lowered into ditch at access/loading area 3. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 4. Gradall/excavator scoops material from ditch and loads dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert
Station
Facility Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Chollas Creek - 54th St
Segment Name: 54th St 1
Facility No: 5-04-280
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

South Chollas Creek - Southcrest Facility Group

Segment Names (Facility numbers):

Alpha 1 (5-05-006)

Ocean View 1 (5-05-008)

The City *of* SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek (05)
Facility Group Name	South Chollas Creek - Southcrest
Segment Name (Facility Number)	Alpha 1 (5-05-006) Ocean View 1 (5-05-008)
Substrate	Alpha 1 / Earthen and concrete Ocean View 1 / Earthen and concrete
Location	About 500 feet upstream of the Ocean View Boulevard bridge to 600 feet upstream of Interstate 5 (I-5)
MMP Map No(s).	95, 97, 97a, 98
Facility Inspection No.	95, 97, 97a, 98
Other Former Names	Southcrest, 40th Street

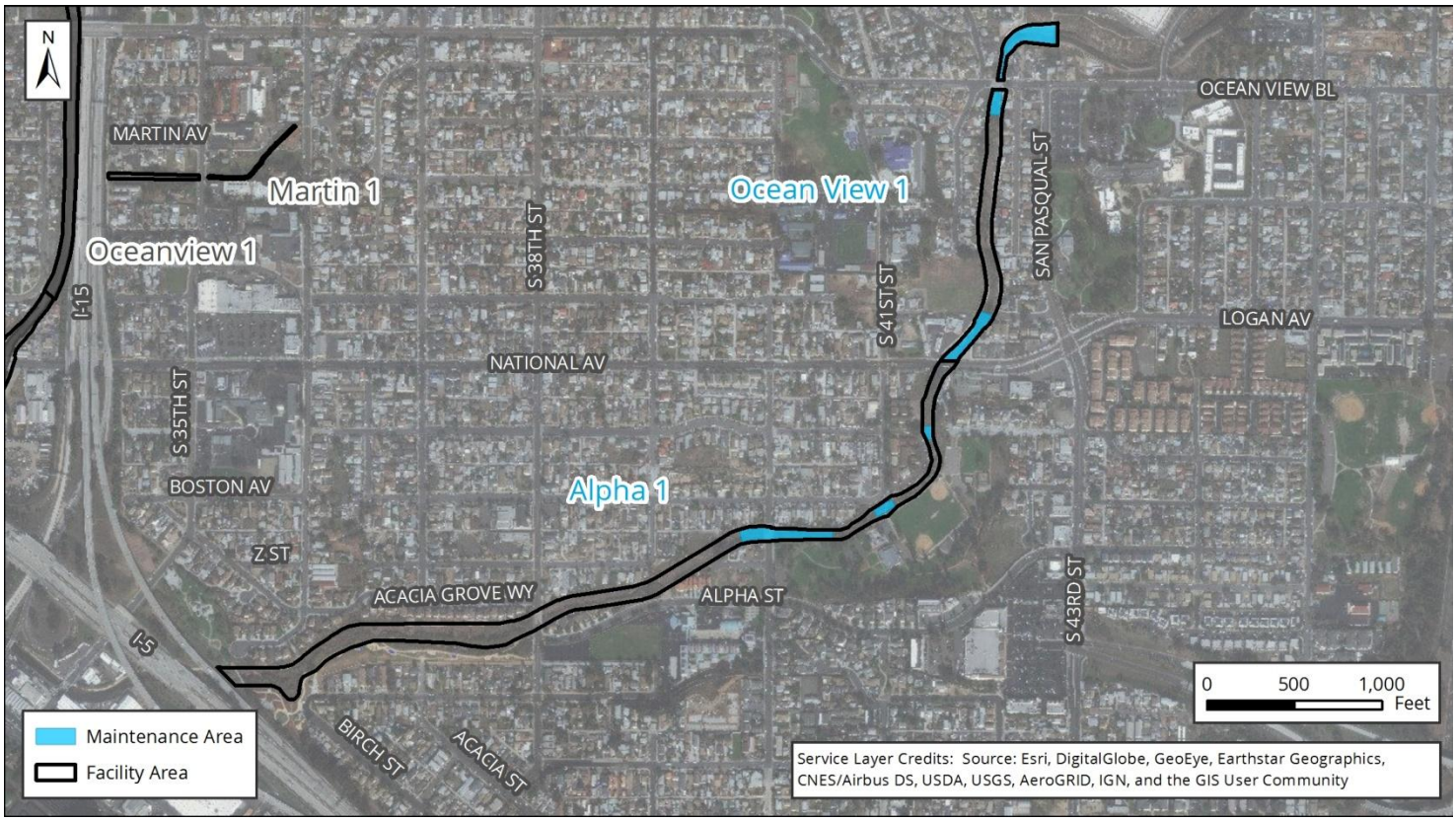


Figure 1: Vicinity Map of South Chollas Creek - Southcrest Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek - Southcrest	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Alpha Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 1662-3467: Earthen bottom, earthen left bank, and concrete right bank Stations 3467-5135: Earthen bottom and concrete banks Stations 5135-5627: Earthen bottom and banks Stations 5627-6437: Earthen bottom, earthen left bank, and concrete right bank Stations 6437-6580: Earthen bottom and riprap banks Stations 6580-6687: Concrete bottom and banks
Location Within Watershed	Lower reach of South Chollas Creek, upstream of Chollas Creek
Tributaries (listed from downstream to upstream)	South Chollas Creek, South Chollas Creek Encanto Branch
Facility Length	Approximately 5,024 feet
Top-of-Bank Width	Approximately 46–105 feet
Bottom Facility Width	Approximately 16–85 feet
Facility Depth	Approximately 6–16 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Office, Open Sapce, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	2420-2423-D, 7662-7669-D, 11275-D, 15690-D, 18816-D, 18817-D, & 5796-5798-L
Coastal Zone	No

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Figure 1: July 2017, looking downstream under the pedestrian bridge located just east of I-5

Figure 2: Vicinity Map of Alpha Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2015: No maintenance conducted 2016: Invasive vegetation removal conducted January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	The vegetation observed ranged from light to dense with evidence of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	550	1,300	2,000	3,000	3,900	5,300
Hydraulic Capacity of Facility						
Current Capacity	550 cfs					
Proposed MWMP Maintained Capacity	1,300 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from Station 4788 to Station 5135, Station 5613 to Station 5734, and Station 6195 to 6277. Trim vegetation from Station 5135 to Station 5316. Perform bank repair on the earthen bank from Station 5456 to Station 5556. Private segments to be maintained by private property owners (Station 5734 to Station 6195 and Station 6277 to Station 6580).					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Natural flood channel • Riparian forest (southern willow forest) • Riparian scrub
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	The habitat within and adjacent to the facility provides potential nesting and/or foraging for raptor and sensitive bird species, including least Bell's vireo and coastal California gnatcatcher
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Proposed as part of the "FY16 Emergency Wetlands Mitigation Plan"

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-025706; P-37-034479
Resource Identified Adjacent to APE	None
Resource Type	Shell scatter; Pedestrian bridge

Historical Resources	
Resource Identified in APE	Channel; 1959, 1964 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Geologic Resources (GEO)	MM-BIO-5
EP-GEO-1	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Hydrology (HYD)	MM-HR-2
EP-HYD-1	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

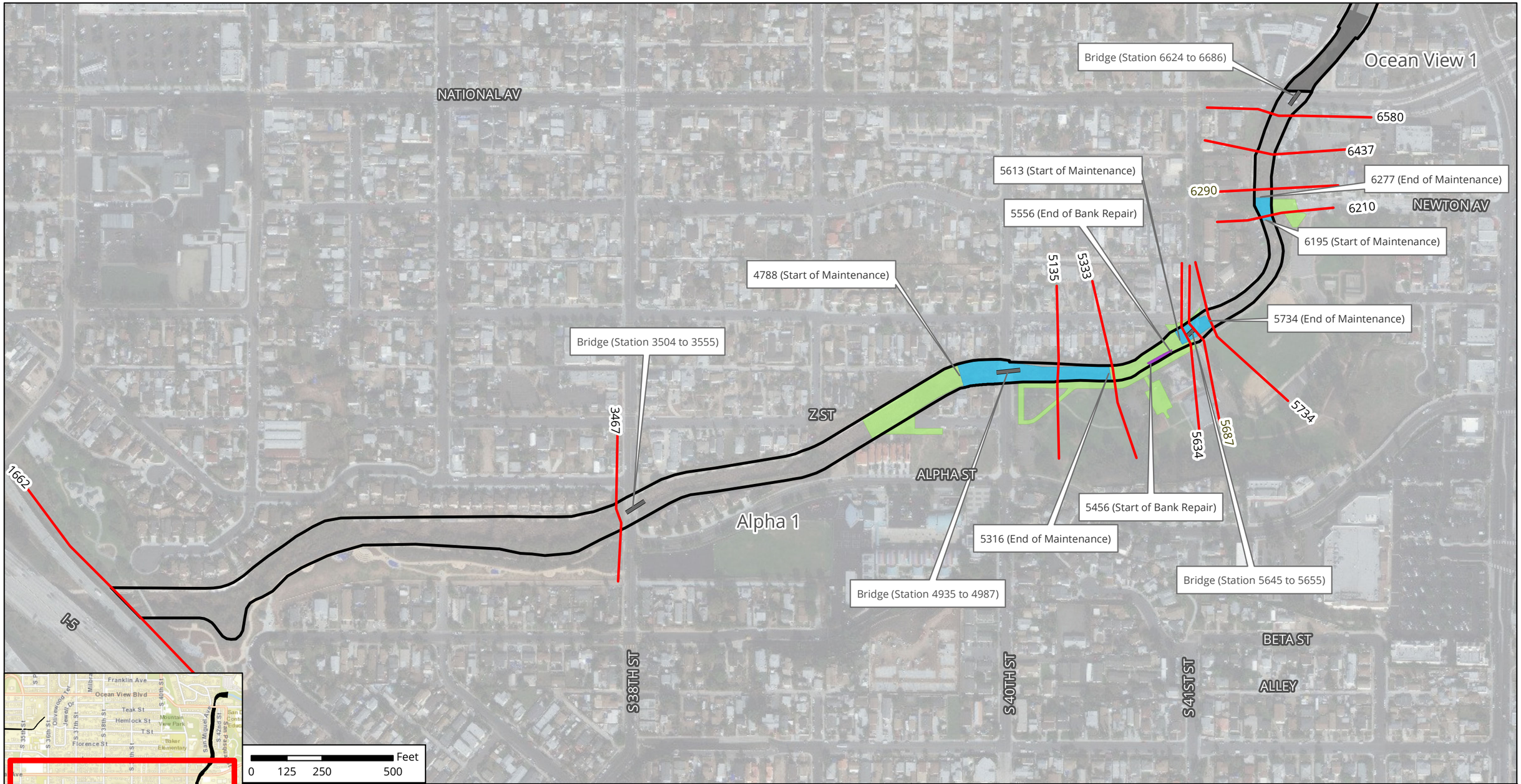
Facility Group	South Chollas Creek - Southcrest
Segment Name	Alpha 1
Facility No.	5-05-006
Facility Location	From the downstream end of the Ocean View segment to 600 feet upstream of Interstate 5 (I-5)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and overgrown vegetation from Station 4788 to Station 5135, Station 5613 to Station 5734, and Station 6195 to 6277. Trim vegetation from Station 5135 to Station 5316. Perform bank repair on the earthen bank from Station 5456 to Station 5556. Private segments to be maintained by private property owners (Station 5734 to Station 6195 and Station 6277 to Station 6580).
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Existing Plans and/or As-Builts?	Yes; 2420-2423-D, 7662-7669-D, 11275-D, 15690-D, 18816-D, 18817-D, & 5796-5798-L
Substrate Detail[3]	Stations 1662-3467: Earthen bottom, earthen left bank, and concrete right bank Stations 3467-5135: Earthen bottom and concrete banks Stations 5135-5627: Earthen bottom and banks Stations 5627-6437: Earthen bottom, earthen left bank, and concrete right bank Stations 6437-6580: Earthen bottom and riprap banks Stations 6580-6687: Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 5,024 feet Top width: 46–105 feet Bottom width: 16–85 feet Depth: 6–16 feet
Authorized Facility Maintenance Area	Length: Channel: 1,007 feet Width: 20–68 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 70 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator, loader, and bulldozer/track-steer enter channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator and loader scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation

Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation 7. If maintenance occurs in privately owned sections, post-maintenance erosion control measures are recommended to be evaluated by the private property owners
Other Notes	None

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Notes:
1. Concrete repair may occur within this facility area.
2. In-stream post-maintenance erosion control measrues may occur within this facility area.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek - Southcrest
Segment Name: Alpha 1
Facility No: 5-05-006
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Ocean View Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 6687-6942: Concrete bottom and banks Stations 6942-8200: Earthen bottom and concrete banks Stations 8200-8910: Concrete bottom and banks
Location Within Watershed	Lower reach of South Chollas Creek, immediately upstream of Chollas Creek (Alpha Segment 1)
Tributaries (listed from downstream to upstream)	South Chollas Creek, South Chollas Creek Encanto Branch
Facility Length	Approximately 2,223 feet
Top-of-Bank Width	Approximately 53–195 feet
Bottom Facility Width	Approximately 11–100 feet
Facility Depth	Approximately 8–14 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Office, Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	20117-D & 20116-D
Coastal Zone	No

Figure 1: July 2017, looking downstream toward the start of the concrete bottom channel

Figure 2: Vicinity Map of Ocean View Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	The channel was relatively clean with very little evidence of vegetation or sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	550	1,300	2,000	3,000	3,900	5,300
Hydraulic Capacity of Facility						
Current Capacity	1,300 cfs					
Proposed MWMP Maintained Capacity	1,300 cfs					
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change					
In-Stream Post-Maintenance Erosion Control Recommendation	If maintenance occurs in privately owned section of downstream segment (Alpha 1), in-stream post-maintenance erosion control measures are recommended to be evaluated by the private property owners					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (Arundo-dominated; concrete-lined) • Ornamental plantings (concrete-lined) • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Natural flood channel • Ornamental plantings
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility; however, there is potential for sensitive species, such as coastal California gnatcatcher, to occur in coastal sage scrub habitat adjacent to the channel
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Proposed as part of the "FY16 Emergency Wetlands Mitigation Plan"

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-1	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

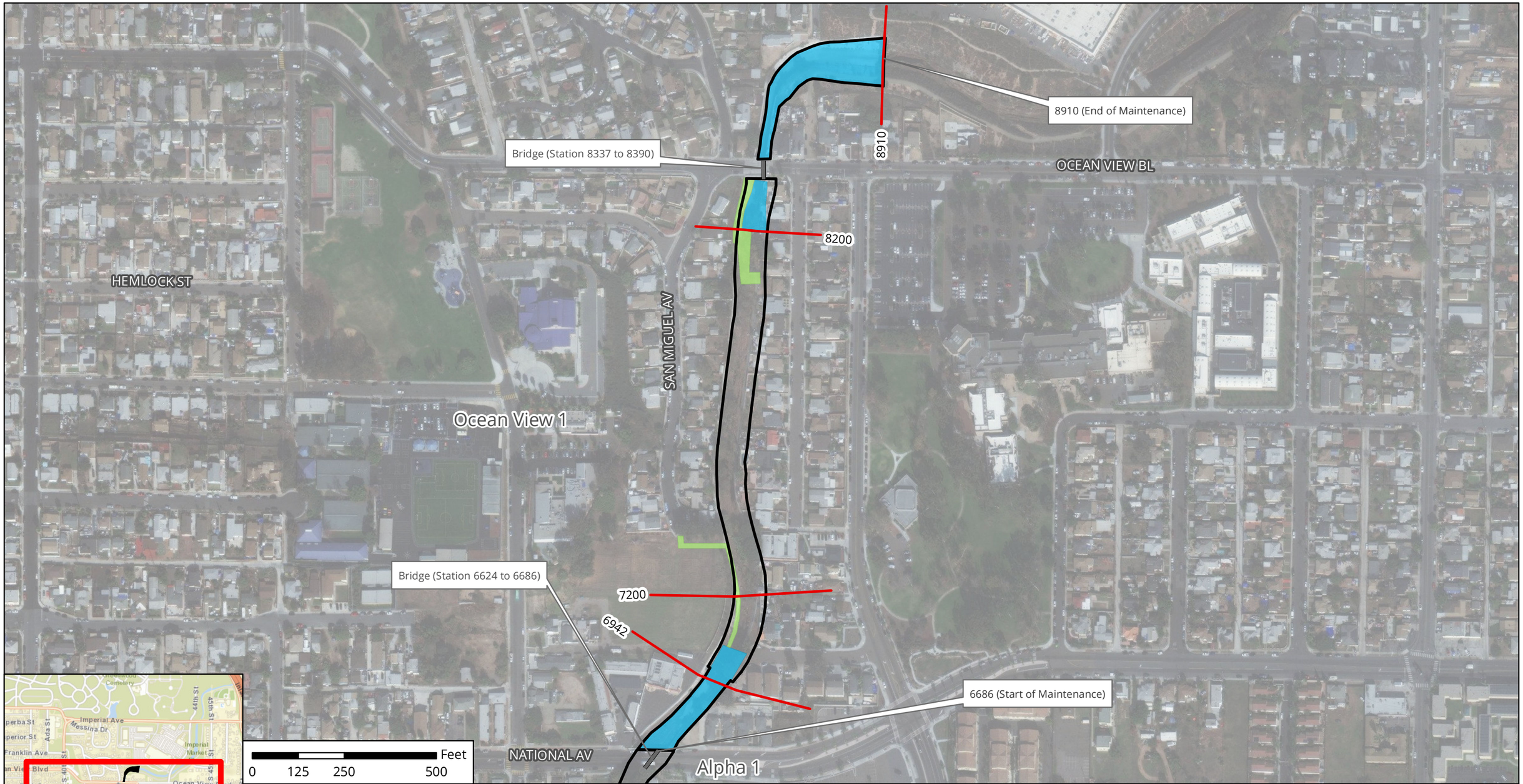
Facility Group	South Chollas Creek - Southcrest
Segment Name	Ocean View 1
Facility No.	5-05-008
Facility Location	From about 500 feet upstream of the Ocean View Boulevard bridge, where the concrete channel segment begins, to the upstream side of the National Avenue bridge
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete Repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 20117-D & 20116-D
Substrate Detail[3]	Stations 6687-6942: Concrete bottom and banks Stations 6942-8200: Earthen bottom and concrete banks Stations 8200-8910: Concrete bottom and banks

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 2,223 feet Top width: 53–195 feet Bottom width: 11–100 feet Depth: 8–14 feet
Authorized Facility Maintenance Area	Length: Channel: 1,010 feet Width: 53–195 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator, loader, bulldozer/track-steer enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer and/or loader push material to Gradall/excavator and loader at access/loading area 3. Gradall/excavator and loader scoop material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	If maintenance occurs in privately owned section of downstream segment (Alpha 1), in-stream post-maintenance erosion control measures are recommended to be evaluated by the private property owners
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility area.
2. If maintenance occurs in privately owned section of downstream segment (Alpha 1), in-stream post-maintenance erosion control measures are recommended to be evaluated by the private property owners.
3. Access/Loading/Staging/Stockpiling may also occur within City ROW.
4. Access/Loading/Staging/Stockpiling may be modified during implementation.
5. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek - Southcrest
Segment Name: Ocean View 1
Facility No: 5-05-008
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

South Chollas Creek - Euclid Facility Group

Segment Names (Facility numbers):

- Euclid 1 (5-05-019) (See Appendix A-5)
- Euclid 2 (5-05-021)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek (05)
Facility Group Name	South Chollas Creek - Euclid
Segment Name (Facility Number)	Euclid 1 (5-05-019) (See Appendix A-5) Euclid 2 (5-05-021)
Substrate	Euclid 1 / Earthen Euclid 2 / Concrete
Location	About 250 feet southeast of the intersection of Hilltop Drive and Euclid Avenue, northwest of the intersection of Market Street and Euclid Avenue
MMP Map No(s).	104
Facility Inspection No.	104
Other Former Names	Guymon

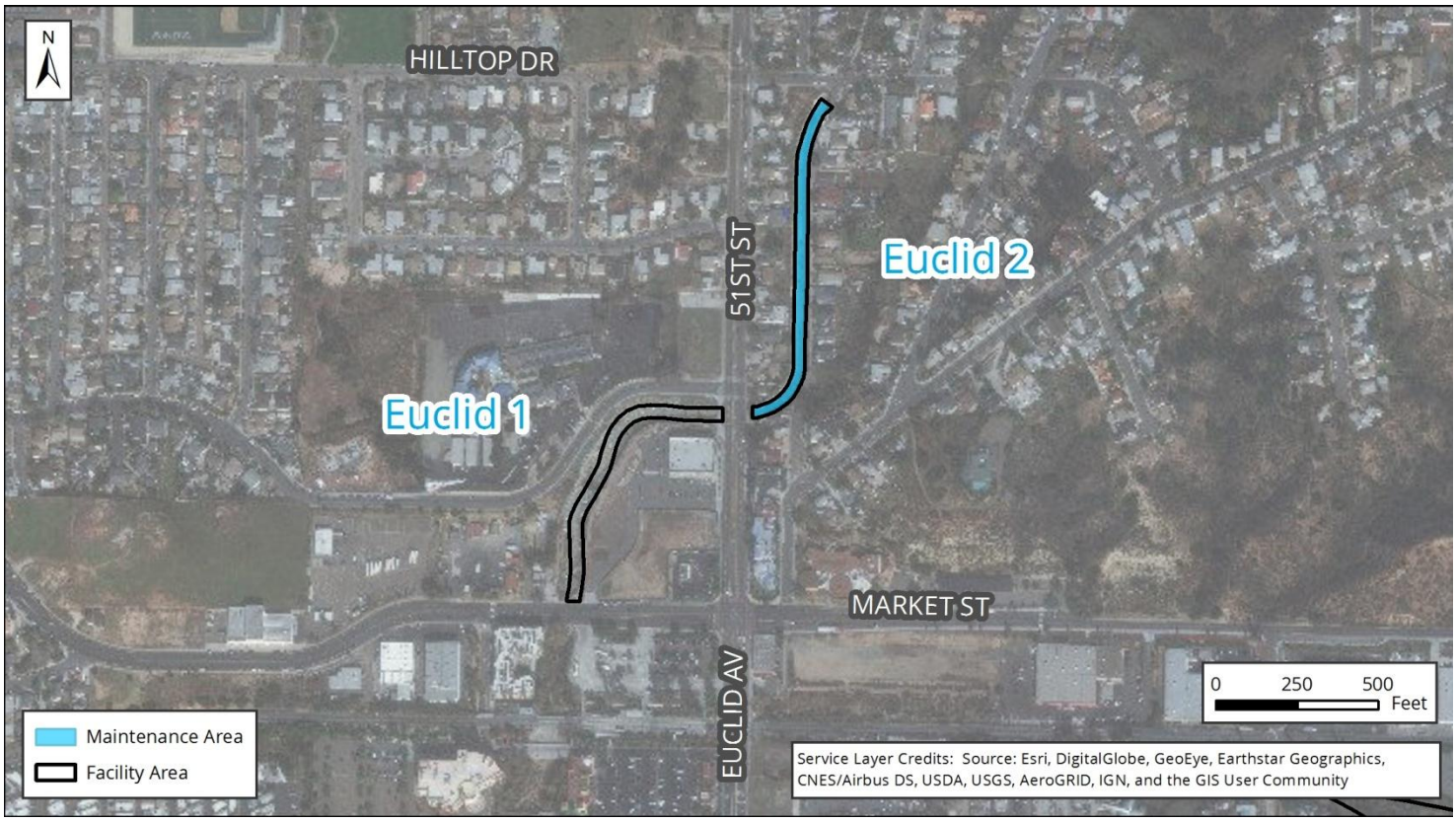


Figure 1: Vicinity Map of South Chollas Creek - Euclid Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek - Euclid	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Euclid Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of South Chollas Creek, upstream of South Chollas Creek (Euclid Segment 1)
Tributaries (listed from downstream to upstream)	South Chollas Creek
Facility Length	Approximately 1,142 feet
Top-of-Bank Width	Approximately 18–39 feet
Bottom Facility Width	Approximately 10–21 feet
Facility Depth	Approximately 4–6 feet
Adjacent Land Use	Open Space, Other Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	2420-2423-D, 7662-7669-D, & 9983-6-D
Coastal Zone	No

Figure 1: April 2017, representative of concrete portion of channel

Figure 2: Vicinity Map of Euclid Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The channel was observed to be relatively clean with very little evidence of vegetation or sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	540	1,250	2,000	3,000	3,900	5,300
Hydraulic Capacity of Facility						
Current Capacity	225 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed chaparral • Disturbed land • Disturbed wetland • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet north of the channel.
Mitigation Within Facility	Proposed as part of the "FY16 Emergency Wetlands Mitigation Plan"

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-1	MM-NOI-1
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	South Chollas Creek - Euclid
Segment Name	Euclid 2
Facility No.	5-05-021
Facility Location	From the southwest corner of Hilltop Drive and 51st Street to inlet of box culvert beneath Euclid Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 2420-2423-D, 7662-7669-D, & 9983-6-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,142 feet Top width: 18–39 feet Bottom width: 10–21 feet Depth: 4–6 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 1,045 feet; Culvert: 97 feet Width: 18–39 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and/or loader enter or are lowered into ditch at access/loading area 2. Bobcat/skid-steer and/or loader push material to loader at access/loading area 3. Loader scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek - Euclid
Segment Name: Euclid 2
Facility No: 5-05-021
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

South Chollas Creek - Federal Facility Group

Segment Names (Facility numbers):

Federal 1 (5-05-035)

Federal 2 (5-05-037)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek (05)
Facility Group Name	South Chollas Creek - Federal
Segment Name (Facility Number)	Federal 1 (5-05-035) Federal 2 (5-05-037)
Substrate	Federal 1 / Earthen and concrete Federal 2 / Concrete
Location	About 300 feet north of the intersection of Federal Boulevard and Winnett Street, 500 feet north of the intersection of Federal Boulevard and 60th Street, and 65 feet south of State Route 94
MMP Map No(s).	101
Facility Inspection No.	101
Other Former Names	None

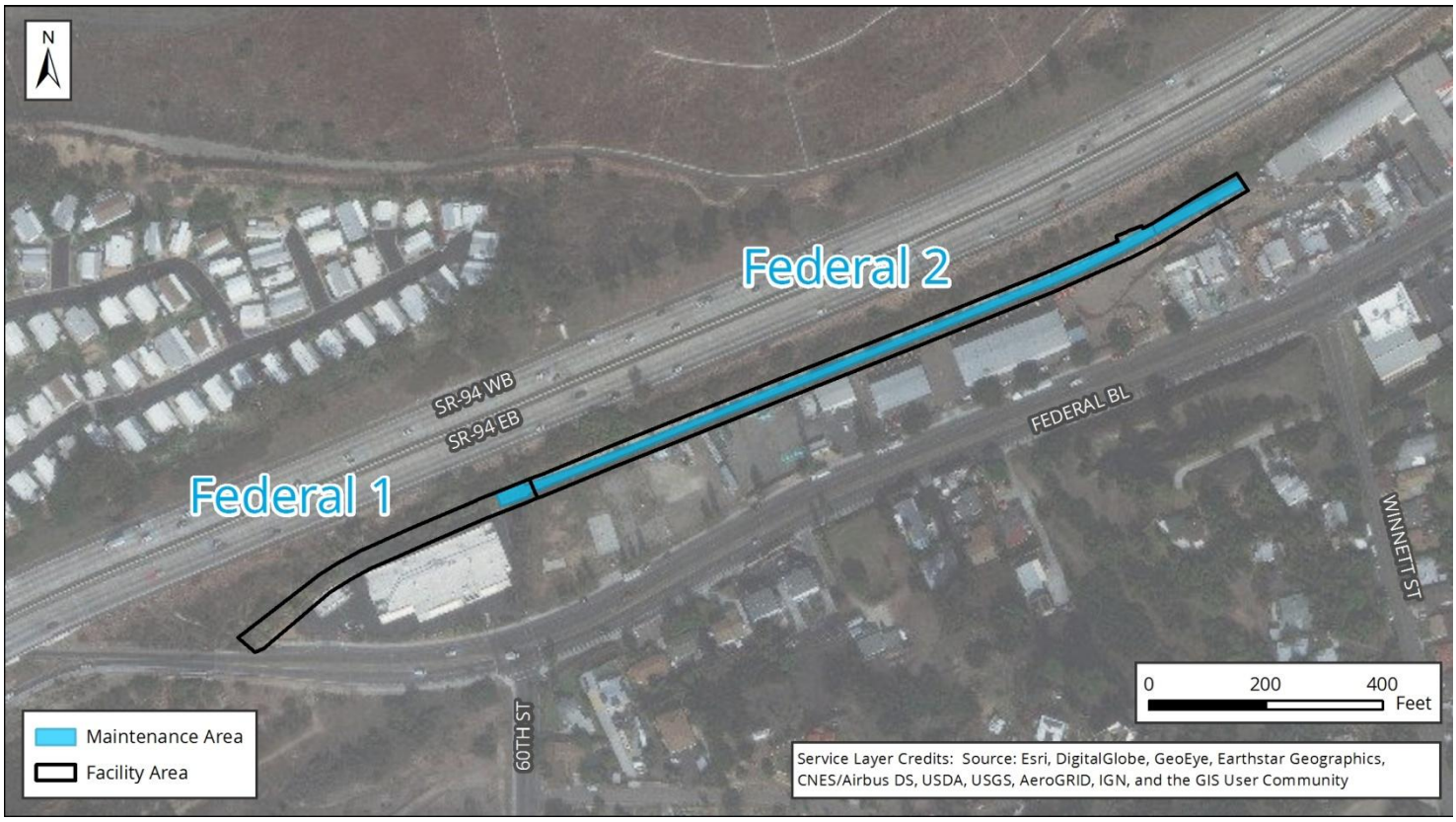


Figure 1: Vicinity Map of South Chollas Creek - Federal Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek - Federal	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Federal Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 363-927: Earthen bottom, earthen right bank, and concrete/vertical retaining wall left bank Stations 927-977: Riprap bottom, earthen right bank, and concrete/vertical retaining wall on left bank
Location Within Watershed	Upper reach of South Chollas Creek, immediately upstream of South Chollas Creek (Euclid Segment 2)
Tributaries (listed from downstream to upstream)	South Chollas Creek
Facility Length	Approximately 614 feet
Top-of-Bank Width	Approximately 28 feet
Bottom Facility Width	Approximately 24 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Industrial, Multi-Family Residential, Open Space, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	14482-D & 20039-D
Coastal Zone	No

Figure 1: December 2016, looking upstream

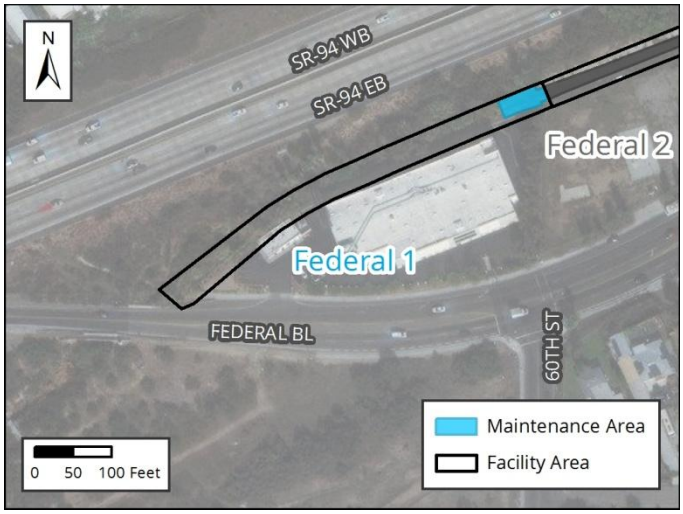


Figure 2: Vicinity Map of Federal Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2017: No maintenance conducted 2018 – 2019: Routine maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 31/33 USACE File #SPL-2018-00364-MAL (expires March 2022)
401	RWQCB 401 Cert No. R9-2018-0089 (expires March 2022)
1602	CDFW SAA No. 1600-2018-0167-R5 Op Law Letter (expires 03/15/2023)
Mitigation for Previous Impacts	HAF/Cornerstone (0.04 acre); Stadium (0.12 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	In November 2016, the vegetation was observed to be dense with evidence of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	167	370	580	830	1,100	1,500
Hydraulic Capacity of Facility						
Current Capacity	580 cfs					
Proposed MWMP Maintained Capacity	830 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom and banks in the riprap portion of the channel from Station 927 to Station 977					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Ornamental plantings
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 500 feet to the southwest of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-011165
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric midden and artifact scatter

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	MM-BIO-7
EP-HAZ-3	**Noise (NOI)**
Land Use (LU)	MM-NOI-1
EP-LU-1	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

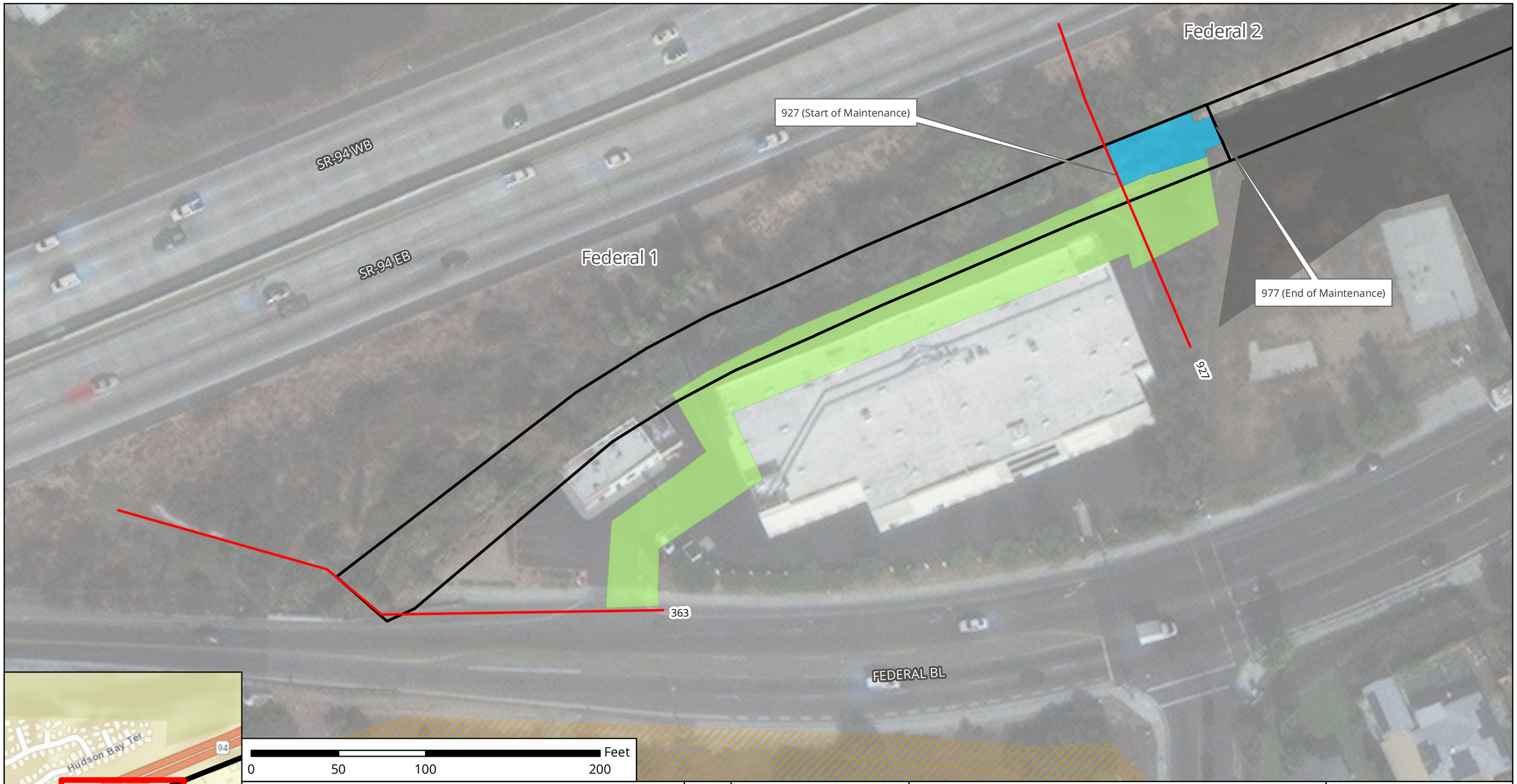
Facility Group	South Chollas Creek - Federal
Segment Name	Federal 1
Facility No.	5-05-035
Facility Location	From the downstream end of Federal 2 segment to a single-span bridge at Federal Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of channel per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from channel bottom and banks in the riprap portion of the channel from Station 927 to Station 977
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Riprap replacement
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 14482-D & 20039-D
Substrate Detail[3]	Stations 363-927: Earthen bottom, earthen right bank, and concrete/vertical retaining wall left bank Stations 927-977: Riprap bottom, earthen right bank, and concrete/vertical retaining wall on left bank

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 614 feet Top width: 28 feet Bottom width: 24 feet Depth: 6 feet
Authorized Facility Maintenance Area	Length: Channel: 61 feet Width: 17–28 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and bulldozer/track-steer are lowered into channel at access/loading area 2. Bobcat/skid-steer and bulldozer/track-steer push material to Gradall/excavator at access/loading area. Bobcat/skid-steer to be used on concrete section (Federal 2), and bulldozer/track-steer to be used on earthen section (Federal 1) 3. Gradall/excavator and backhoe scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Overnight equipment storage required



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4.Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek - Federal
Segment Name: Federal 1
Facility No: 5-05-035
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Federal Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of South Chollas Creek, immediately upstream of South Chollas Creek (Federal Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,329 feet
Top-of-Bank Width	Approximately 28 feet
Bottom Facility Width	Approximately 8 feet
Facility Depth	Approximately 5–9 feet
Adjacent Land Use	Industrial, Multi-Family Residential, Open Space, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	14482-D & 20039-D
Coastal Zone	No

Figure 1: November 2016, looking northeast at the concrete-lined ditch. Note the minimal vegetation established within the ditch.

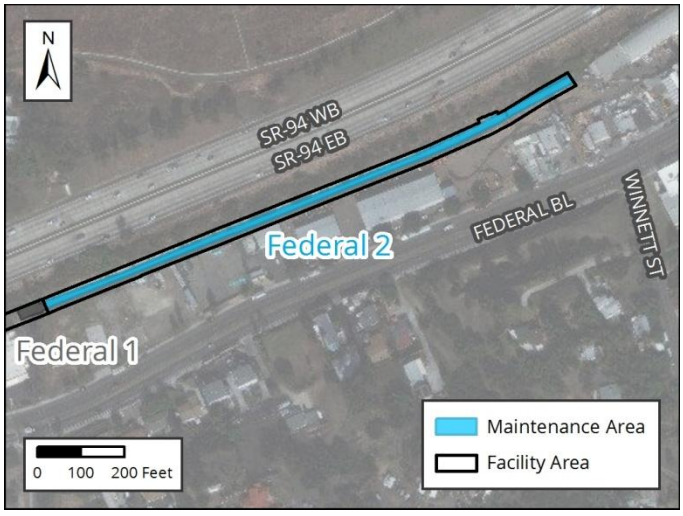


Figure 2: Vicinity Map of Federal Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2017: No maintenance conducted 2018 – 2019: Routine maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 31/33 USACE File #SPL-2018-00364-MAL (expires March 2022)
401	RWQCB 401 Cert No. R9-2018-0089 (expires March 2022)
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In November 2016, the amount of vegetation was observed to be mostly clean concrete ditch with portions of minor sediment deposit and light vegetation					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	167	370	580	830	1,100	1,500
Hydraulic Capacity of Facility						
Current Capacity	1,500 cfs					
Proposed MWMP Maintained Capacity	1,500 cfs					
Maintenance Recommendation	Remove vegetation from ditch bottom from Station 977 to Station 2306					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the ditch.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1972 concrete channel
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	South Chollas Creek - Federal
Segment Name	Federal 2
Facility No.	5-05-037
Facility Location	From 300 feet north of the intersection of Federal Boulevard and Winnett Street to the upstream end of Federal 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove vegetation from ditch bottom from Station 977 to Station 2306
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 14482-D & 20039-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,329 feet Top width: 28 feet Bottom width: 8 feet Depth: 5–9 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 1,329 feet Width: 28 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, backhoe, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer is lowered into ditch at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator and backhoe scoop material from ditch and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Overnight equipment storage required

Facility Area

Adjacent Facility Activity Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek - Federal
Segment Name: Federal 2
Facility No: 5-05-037
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

South Chollas Creek Encanto Branch - Castana Facility Group

Segment Name (Facility number):

Castana 1 (5-05-205)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek Encanto Branch (05)
Facility Group Name	South Chollas Creek Encanto Branch - Castana
Segment Name (Facility Number)	Castana 1 (5-05-205)
Substrate	Castana 1 / Earthen and concrete
Location	About 350 feet south of Groveland Drive and 120 east of Euclid Avenue
MMP Map No(s).	105
Facility Inspection No.	105
Other Former Names	None

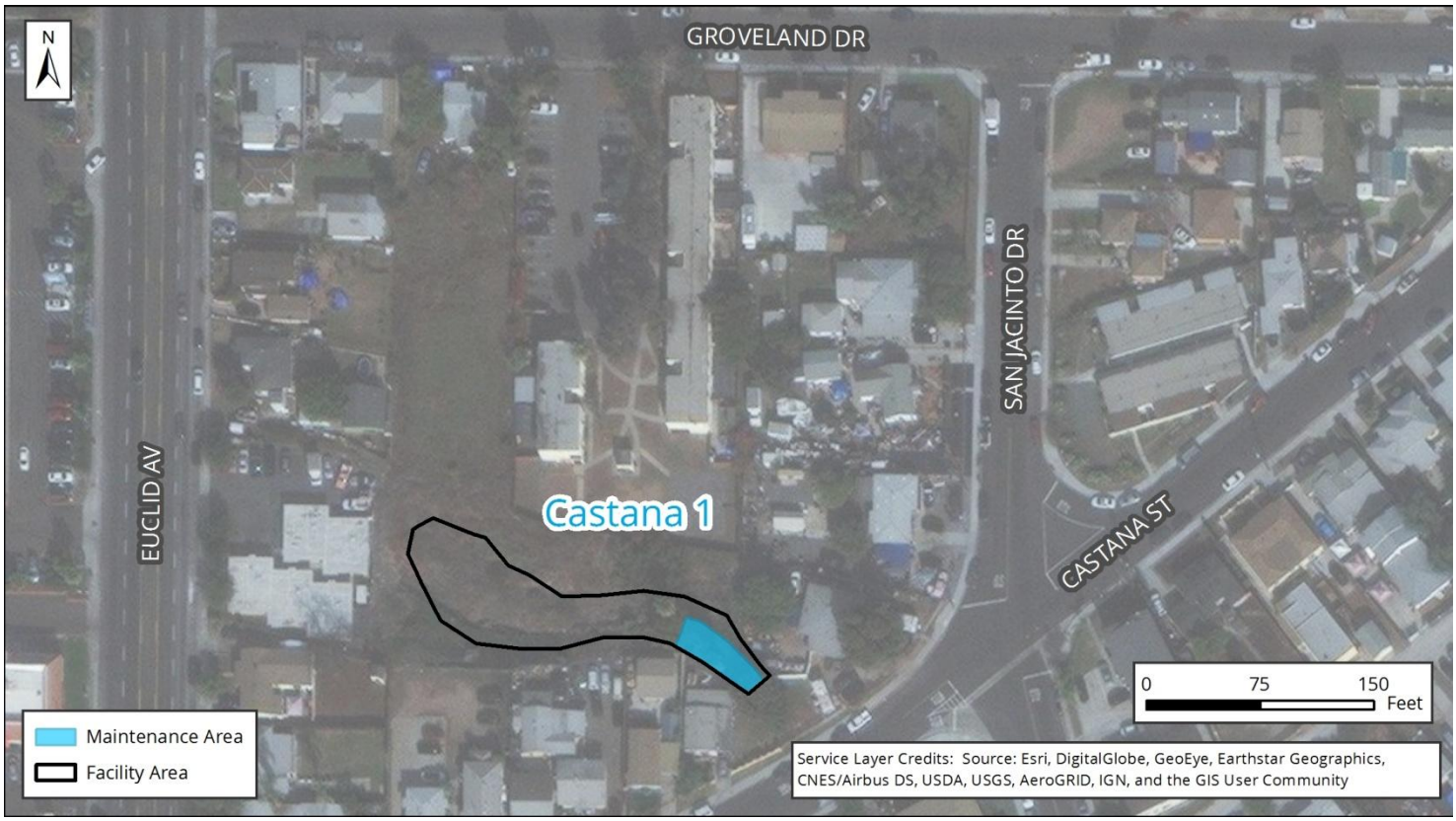


Figure 1: Vicinity Map of South Chollas Creek Encanto Branch - Castana Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek Encanto Branch - Castana	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Not Listed in Basin Plan (First downstream water body)	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) list

Castana Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 122-316: Earthen bottom and banks Stations 316-382: Earthen bottom, earthen right bank, gunite left bank
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 260 feet
Top-of-Bank Width	Approximately 20–70 feet
Bottom Facility Width	Approximately 4–10 feet
Facility Depth	Approximately 4–10 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Office, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at vegetation and gunite lining on left bank

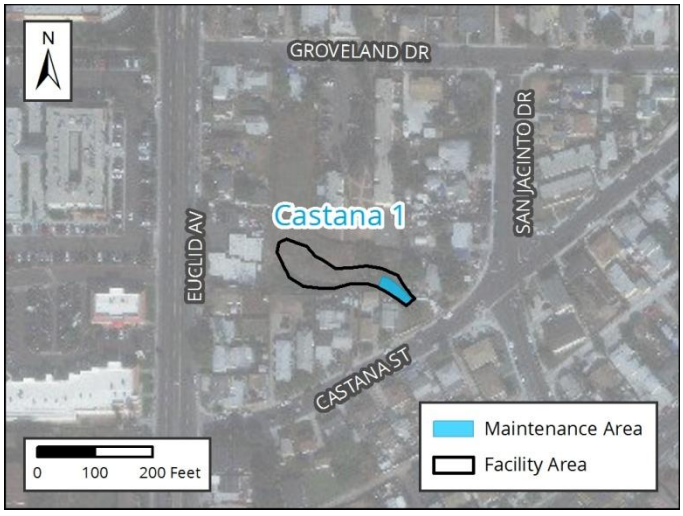


Figure 2: Vicinity Map of Castana Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	The amount of vegetation was observed to be light to medium with no evidence of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	25	32	38	45	51	56
Hydraulic Capacity of Facility						
Current Capacity	49 cfs					
Proposed MWMP Maintained Capacity	49 cfs					
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland
Adjacent Vegetation	• Developed land • Disturbed land
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet north of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	**Noise (NOI)**
Health and Safety/Hazards (HAZ)	MM-NOI-1
EP-HAZ-3	
Hydrology (HYD)	
EP-HYD-1	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	South Chollas Creek Encanto Branch - Castana
Segment Name	Castana 1
Facility No.	5-05-205
Facility Location	From 170 feet west of the intersection of San Jacinto Drive and Castana Street to 120 east of Euclid Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete and earthen-lined channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	None
Substrate Detail[3]	Stations 122-316: Earthen bottom and banks Stations 316-382: Earthen bottom, earthen right bank, gunite left bank

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 260 feet Top width: 20–70 feet Bottom width: 4–10 feet Depth: 4–10 feet
Authorized Facility Maintenance Area	Length: Channel: 66 feet Width: 20–70 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Crane, boom truck, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	Palm Removal Methodology: 1. Man in boom truck or use of crane cuts section of the palm tree from top to bottom. 2. Crane lowers cut material in the channel. 3. Bobcat/skid-steer in channel pushes cut material to loading point. 4. Gradall/excavator scoops material from channel at loading area. 5. Gradall/excavator dumps material on stockpile area or directly into dump truck. 6. If stockpiled, gradall/excavator scoops material from stockpile to dump truck. Routine Maintenance: 1. Bobcat/skid-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck
Traffic Control	
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation

Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

0 50 100 200 Feet

Culvert

Facility Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creel Encanto Branch - Castana
Segment Name: Castana 1
Facility No: 5-05-055
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

South Chollas Creek Encanto Branch - Imperial Facility Group

Segment Names (Facility numbers):

- Imperial 1 (5-05-304) (See Appendix A-5)
- Imperial 2 (5-05-306)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek Encanto Branch (05)
Facility Group Name	South Chollas Creek Encanto Branch - Imperial
Segment Name (Facility Number)	Imperial 1 (5-05-304) (See Appendix A-5) Imperial 2 (5-05-306)
Substrate	Imperial 1 / Earthen Imperial 2 / Concrete
Location	Southwest of 60th Street and East of Euclid Avenue
MMP Map No(s).	107
Facility Inspection No.	107
Other Former Names	Encanto Channel, Akins

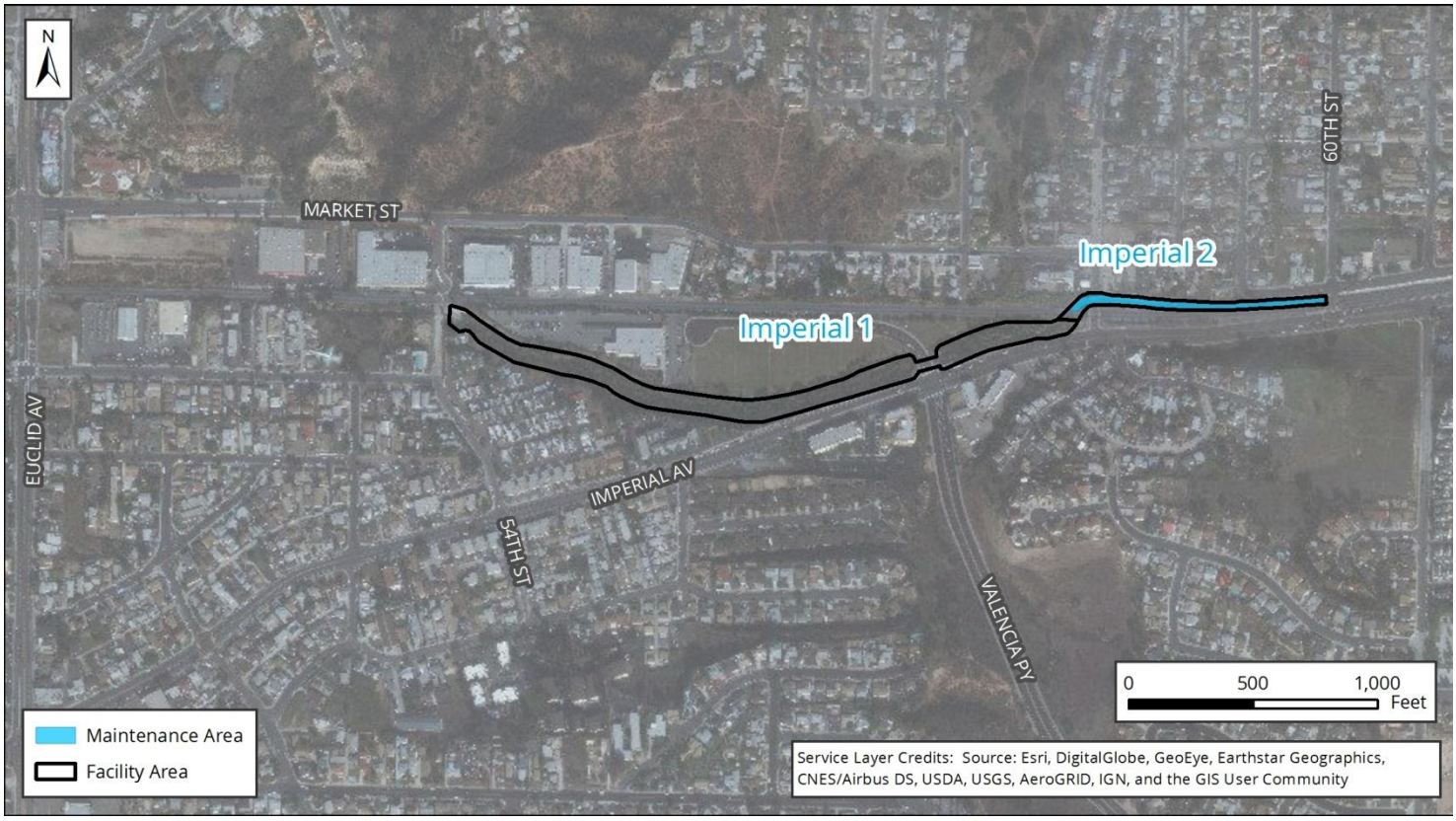


Figure 1: Vicinity Map of South Chollas Creek Encanto Branch - Imperial Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek Encanto Branch - Imperial	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Imperial Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch, immediately upstream of South Chollas Creek Encanto Branch (Imperial Segment 1)
Tributaries (listed from downstream to upstream)	South Chollas Creek Encanto Branch
Facility Length	Approximately 1,074 feet
Top-of-Bank Width	Approximately 22–34 feet
Bottom Facility Width	Approximately 10–30 feet
Facility Depth	Approximately 5–10 feet
Adjacent Land Use	Commercial, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	11556-3-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at concrete channel near 60th Street

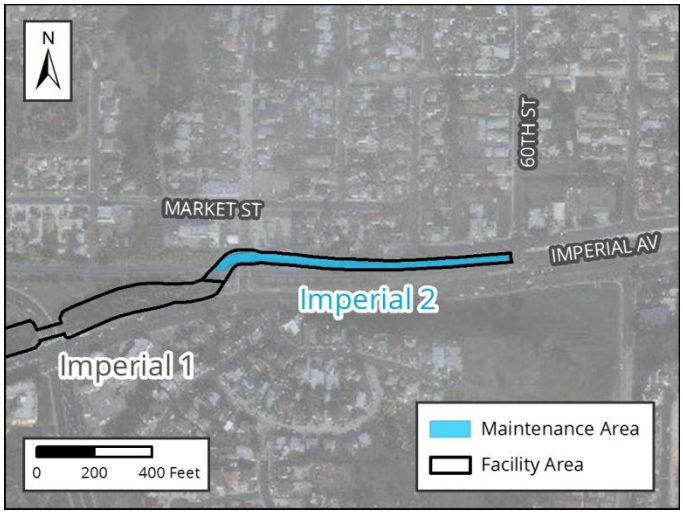


Figure 2: Vicinity Map of Imperial Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The channel was observed to be relatively clean with very little evidence of vegetation or sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	563	851	1,100	1,762	2,600	3,400
Hydraulic Capacity of Facility						
Current Capacity	3,400 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility, but raptors or other migratory species may use the tall trees in the disturbed wetland habitat downstream of the channel
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 470 feet northwest of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-1	MM-NOI-1
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

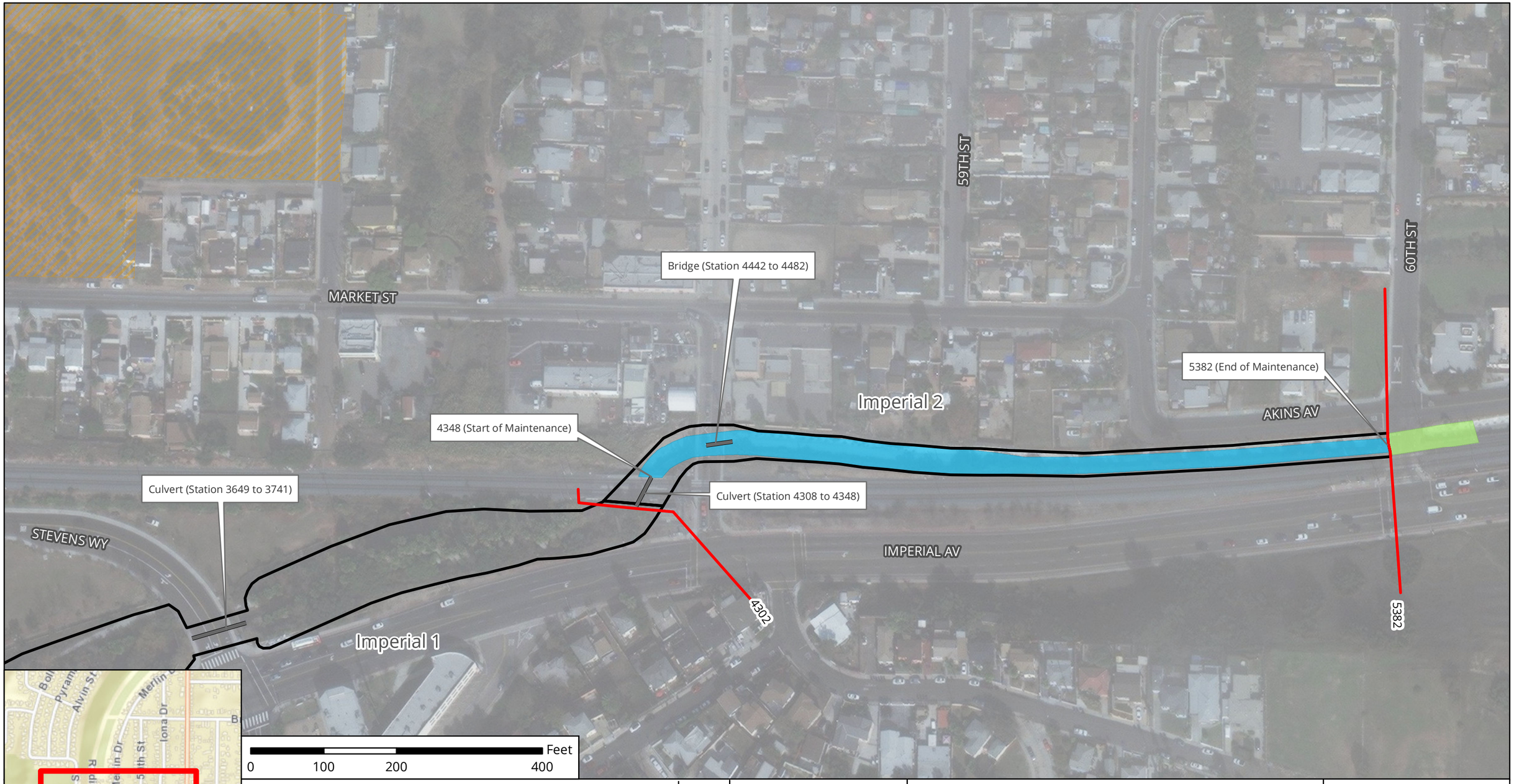
Facility Group	South Chollas Creek Encanto Branch - Imperial
Segment Name	Imperial 2
Facility No.	5-05-306
Facility Location	From west of 60th Street to the upstream end of Imperial 1 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 11556-3-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,074 feet Top width: 22–34 feet Bottom width: 10–30 feet Depth: 5–10 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 1,074 feet Width: 22–34 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego and Metropolitan Transit Board
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek Encanto Branch - Imperial
Segment Name: Imperial 2
Facility No: 5-05-306
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

South Chollas Creek Encanto Branch - Jamacha Facility Group

Segment Names (Facility numbers):

- Jamacha 1 (5-05-603)
- Jamacha 2 (5-05-606) (See Appendix A-5)
- Jamacha 3 (5-05-610) (See Appendix A-5)
- Lobrico 1 (5-05-702) (See Appendix A-5)
- Cadman 1 (5-05-802) (See Appendix A-5)

The City *of* SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.22
Drainage Name (Number)	South Chollas Creek Encanto Branch (05)
Facility Group Name	South Chollas Creek Encanto Branch - Jamacha
Segment Name (Facility Number)	Jamacha 1 (5-05-603) Jamacha 2 (5-05-606) (See Appendix A-5) Jamacha 3 (5-05-610) (See Appendix A-5) Lobrico 1 (5-05-702) (See Appendix A-5) Cadman 1 (5-05-802) (See Appendix A-5)
Substrate	Jamacha 1 / Earthen Jamacha 2 / Earthen Jamacha 3 / Earthen Lobrico 1 / Earthen Cadman 1 / Earthen
Location	About 1,100 feet west of Cardiff Street and southeast of the intersection of Imperial Avenue and Woodman Street
MMP Map No(s).	113, 114, 115
Facility Inspection No.	113, 114, 115, 301, 309
Other Former Names	Jamacha Channel, Jamacha Expressway

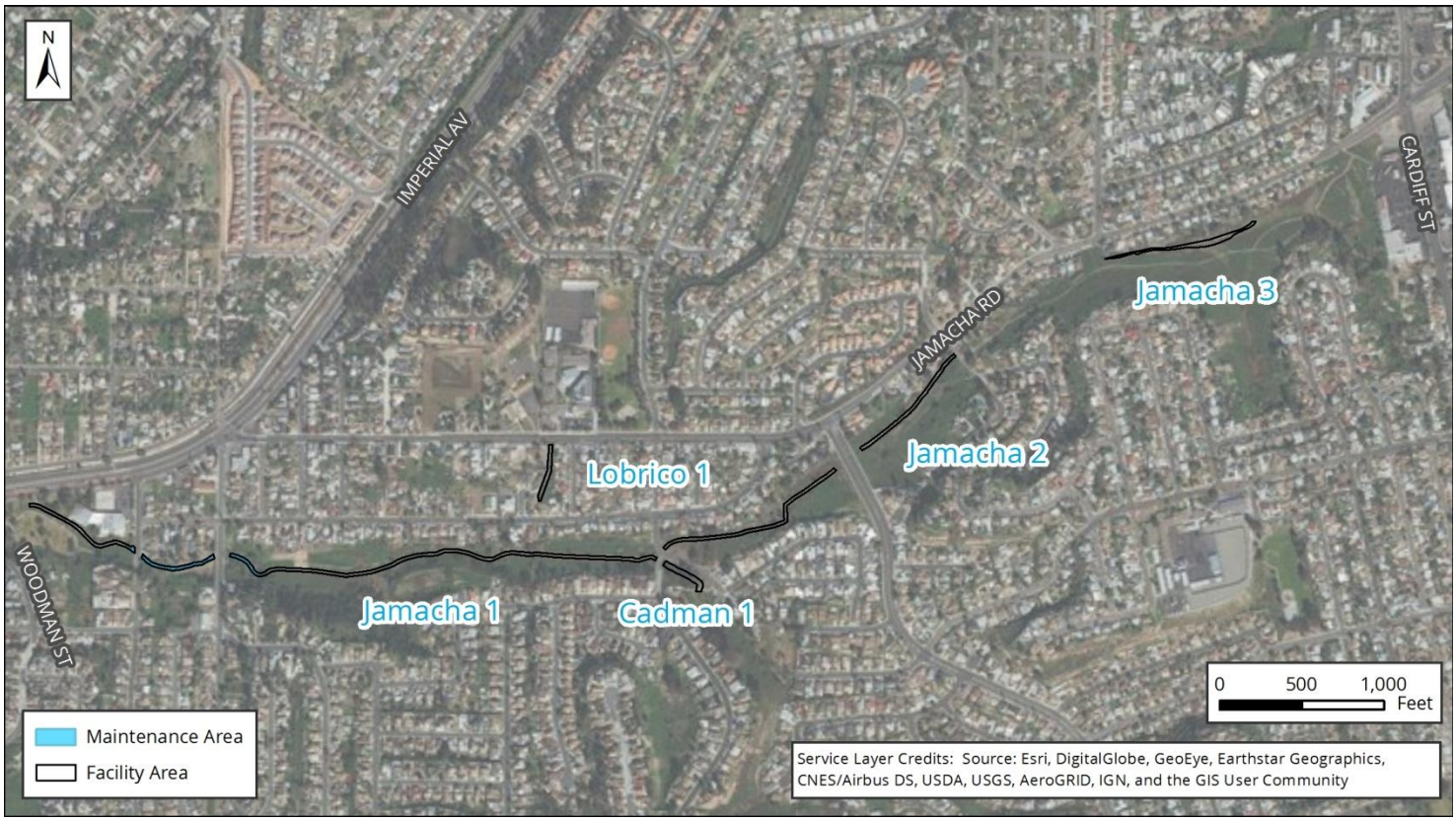


Figure 1: Vicinity Map of South Chollas Creek Encanto Branch - Jamacha Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

South Chollas Creek Encanto Branch - Jamacha	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Jamacha Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch, upstream of South Chollas Creek Encanto Branch (Imperial Segment 2)
Tributaries (listed from downstream to upstream)	South Chollas Creek Encanto Branch
Facility Length	Approximately 5,386 feet
Top-of-Bank Width	Approximately 18–95 feet
Bottom Facility Width	Approximately 6–21 feet
Facility Depth	Approximately 1–8 feet
Adjacent Land Use	Commercial, Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2016, upstream of 10-foot-wide by 5-foot-high RCB culvert beneath 69th Street facing west

Figure 2: Vicinity Map of Jamacha Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – December 2013: No maintenance conducted December 2014: Invasive vegetation removal conducted 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00944-RAG
401	RGP 63 Verification No. R9-2016-0016
1602	LSA Emergency Notification submitted 01/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.10 acre); an additional 0.02 acre for DW needed for City mitigation

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The amount of vegetation was observed to vary from light to dense and sediment deposition near the culverts was estimated to be 1 to 2 feet					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	612	779	913	1,102	1,241	1,386
Hydraulic Capacity of Facility						
Current Capacity	244 cfs					
Proposed MWMP Maintained Capacity	440 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 1441 to Station 1457, Station 1523 to Station 1996, and Station 2110 to Station 2324. Remove accumulated sediment and debris in culverts from Station 1457 to Station 1523 and Station 1996 to Station 2110.					
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed freshwater marsh • Disturbed wetland • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Non-native grassland • Ornamental plantings • Riparian forest (coast live oak)
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility, but raptors or other migratory species may use the riparian forest (coast live oak), eucalyptus woodland, and coastal sage scrub habitat adjacent to the channel. Coastal sage scrub habitat is isolated and unlikely to support coastal California gnatcatcher.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Identified as potential compensatory mitigation area. A compensatory mitigation plan has not yet been prepared.

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Noise (NOI)**
Hydrology (HYD)	MM-NOI-1
EP-HYD-1	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	South Chollas Creek Encanto Branch - Jamacha
Segment Name	Jamacha 1
Facility No.	5-05-603
Facility Location	From downstream outlet of culvert beneath Meadow Brook Drive to inlet of culvert beneath Imperial Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom of segment from Station 1441 to Station 1457, Station 1523 to Station 1996, and Station 2110 to Station 2324. Remove accumulated sediment and debris in culverts from Station 1457 to Station 1523 and Station 1996 to Station 2110.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Yes (multiple options); see Appendix A-4
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 5,386 feet Top width: 18–95 feet Bottom width: 6–21 feet Depth: 1–8 feet
Authorized Facility Maintenance Area	Length: Channel: 703 feet; Culvert: 180 feet Width: 10–25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, sweeper
Schedule	Up to approximately 60 working days
Maintenance Crew	Approximately 8–16 people
Routine Maintenance Procedures	1. Gradall/excavator and loader work within access/loading area 2. Gradall/excavator and loader scoop material from channel and load dump truck 3. If necessary, bulldozer/track-steer enters channel at access/loading area and pushes material to Gradall/excavator 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Yes; see Appendix A-4 Location: Station to be determined
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Bridge/Culvert
Station
Facility Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. In-stream post-maintenance erosion control measures may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: South Chollas Creek Encanto Branch - Jamacha
Segment Name: Jamacha 1
Facility No: 5-05-603
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Paleta Creek - Cottonwood Facility Group

Segment Names (Facility numbers):

Cottonwood 1 (5-06-005)

Cottonwood 2 (5-06-008)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.31
Drainage Name (Number)	Paleta Creek (06)
Facility Group Name	Paleta Creek - Cottonwood
Segment Name (Facility Number)	Cottonwood 1 (5-06-005) Cottonwood 2 (5-06-008)
Substrate	Cottonwood 1 / Concrete Cottonwood 2 / Concrete
Location	Bound by Highland Avenue to the east, by I-5 to the west, by Cottonwood Street and Nordica Avenue to the north, and by Marine View Avenue and Division Street to the south
MMP Map No(s).	120, 121
Facility Inspection No.	120, 121
Other Former Names	Cottonwood Channel

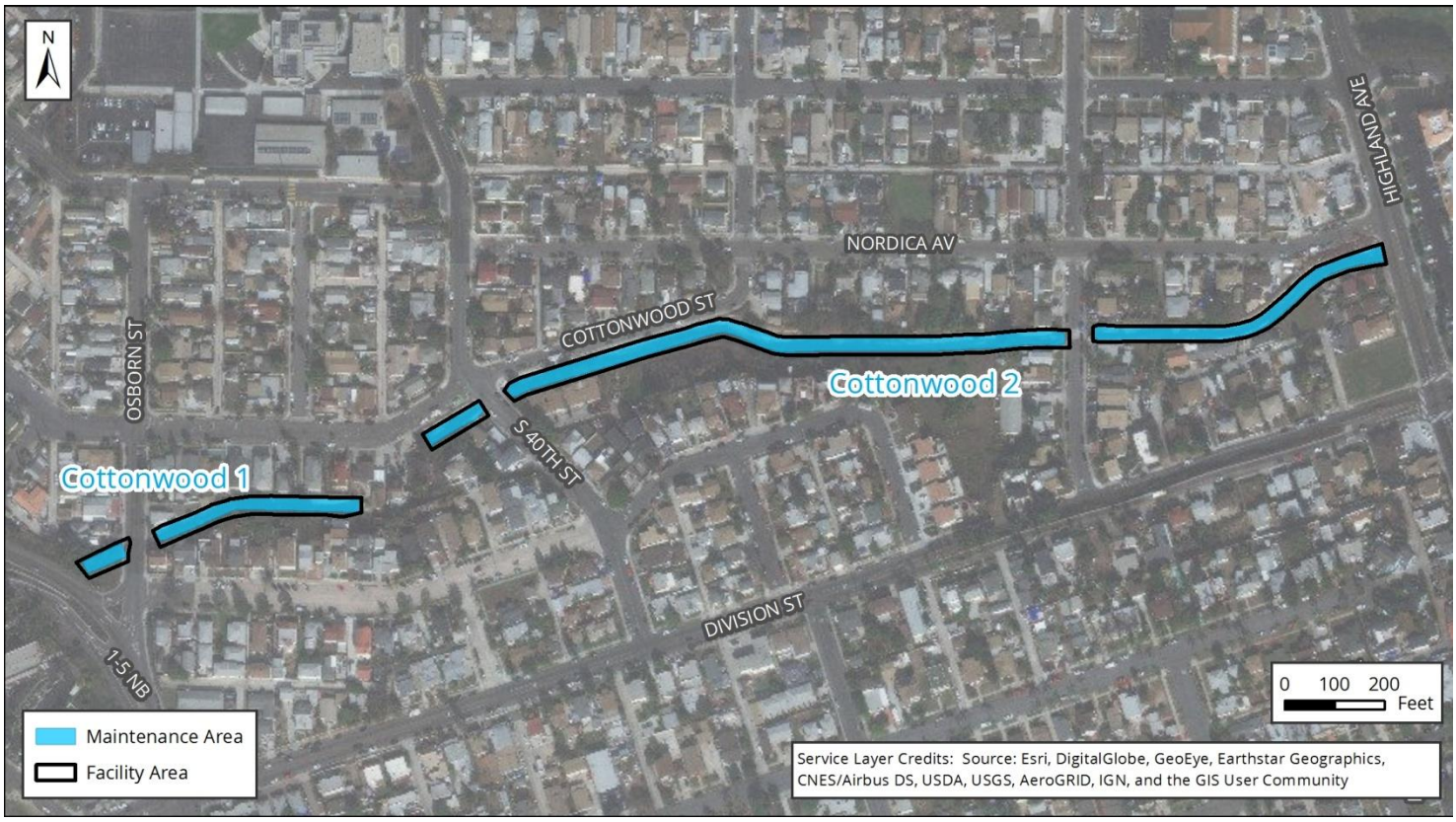

Figure 1: Vicinity Map of Paleta Creek - Cottonwood Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.31	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Paleta Creek - Cottonwood	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Lead

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

Cottonwood Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Paleta Creek, upstream of the San Diego Bay
Tributaries (listed from downstream to upstream)	Paleta Creek
Facility Length	Approximately 572 feet
Top-of-Bank Width	Approximately 28.5 feet
Bottom Facility Width	Approximately 12 feet
Facility Depth	Approximately 5.5 feet
Adjacent Land Use	Single-Family Residential, Multi-Family Residential, Commercial, Transportation, Open Space, Vacant
As-Built Drawing Number	3019-D, 3021-D
Coastal Zone	No

Figure 1: May 2015, looking downstream at concrete channel

Figure 2: Vicinity Map of Cottonwood Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00900-WSZ
401	RGP 63 Verification No. R9-2015-0203:820160:lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.12 acre); an additional 0.12 acre for FWM needed for City mitigation

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In May 2015, the amount of vegetation was observed to range from moderate to dense in the bottom of the channel and many trees. The sediment deposition was estimated to be 0.2 feet.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,116	1,422	1,664	2,001	2,254	2,507

Hydraulic Capacity of Facility

Current Capacity	630 cfs
Proposed MWMP Maintained Capacity	678 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 1006 to Station 1091, and Station 1163 to Station 1578. Remove accumulated sediment and debris in culverts at Station 1006 and from Station 1091 to Station 1163.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1964 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-BIO-5	MM-HR-1
EP-BIO-6	MM-HR-2
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-1	MM-NOI-1
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Paleta Creek - Cottonwood
Segment Name	Cottonwood 1
Facility No.	5-06-005
Facility Location	From 300 feet southwest of the intersection of Cottonwood Street and S 40th Street to inlet of culvert beneath Osborn Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 1006 to Station 1091, and Station 1163 to Station 1578. Remove accumulated sediment and debris in culverts at Station 1006 and from Station 1091 to Station 1163.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 3019-D, 3021-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 572 feet Top width: 28.5 feet Bottom width: 12 feet Depth: 5.5 feet
Authorized Facility Maintenance Area	Length: Channel: 500 feet; Culvert: 72 feet Width: 28.5 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 6–8 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Paleta Creek - Cottonwood
Segment Name: Cottonwood 1
Facility No: 5-06-005
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Cottonwood Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Paleta Creek, immediately upstream of Paleta Creek (Cottonwood Segment 1)
Tributaries (listed from downstream to upstream)	Paleta Creek
Facility Length	Approximately 2,204 feet
Top-of-Bank Width	Approximately 28.5 feet
Bottom Facility Width	Approximately 12 feet
Facility Depth	Approximately 5.5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	3019-D, 3021-D
Coastal Zone	No

Figure 1: May 2015, looking upstream from double 9-foot-wide by 5-foot-tall RCB culvert at 40th Street

Figure 2: Vicinity Map of Cottonwood Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00900-WSZ
401	RGP 63 Verification No. R9-2015-0203:820160:lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.12 acre); an additional 0.06 acre for DSWS needed for City mitigation

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In May 2015, the vegetation was observed to range from moderate to dense vegetation in the bottom of the channel and many trees. The sediment deposition was estimated to be 0.2 feet.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,104	1,406	1,646	1,979	2,229	2,479

Hydraulic Capacity of Facility

Current Capacity	519 cfs
Proposed MWMP Maintained Capacity	522 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 1765 to Station 1892, Station 1951 to Station 3095, and Station 3152 to Station 3782. Remove accumulated sediment and debris in culverts from Station 1578 to Station 1765, Station 1892 to Station 1951, and Station 3095 to Station 3152.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1969 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-BIO-6	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Paleta Creek - Cottonwood
Segment Name	Cottonwood 2
Facility No.	5-06-008
Facility Location	From a outlet of culvert underneath Highland Avenue from the east and south of Nordica Avenue to inlet of culverts beneath residences south of intersection of Cottonwood Street and S 40th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 1765 to Station 1892, Station 1951 to Station 3095, and Station 3152 to Station 3782. Remove accumulated sediment and debris in culverts from Station 1578 to Station 1765, Station 1892 to Station 1951, and Station 3095 to Station 3152.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 3019-D, 3021-D

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 2,204 feet Top width: 28.5 feet Bottom width: 12 feet Depth: 5.5 feet
Authorized Facility Maintenance Area	Length: Channel: 1,899 feet; Culvert: 303 feet Width: 28.5 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 6–8 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material form channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Culvert
Station
Facility Area

Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Paleta Creek - Cottonwood
Segment Name: Cottonwood 2
Facility No: 5-06-008
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Paleta Creek - Solola Facility Group

Segment Names (Facility numbers):

- Solola 1 (5-06-020)
- Solola 2 (5-06-023)
- Cervantes 1 (5-06-025) (See Appendix A-5)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.31
Drainage Name (Number)	Paleta Creek (06)
Facility Group Name	Paleta Creek - Solola
Segment Name (Facility Number)	Solola 1 (5-06-020) Solola 2 (5-06-023) Cervantes 1 (5-06-025) (See Appendix A-5)
Substrate	Solola 1 / Concrete Solola 2 / Concrete Cervantes 1 / Earthen
Location	About 300 feet southwest of intersection of South Radio Drive and Cervantes Avenue, and east of 47th Street
MMP Map No(s).	116, 117, 118, 119
Facility Inspection No.	116, 117, 118, 119
Other Former Names	None

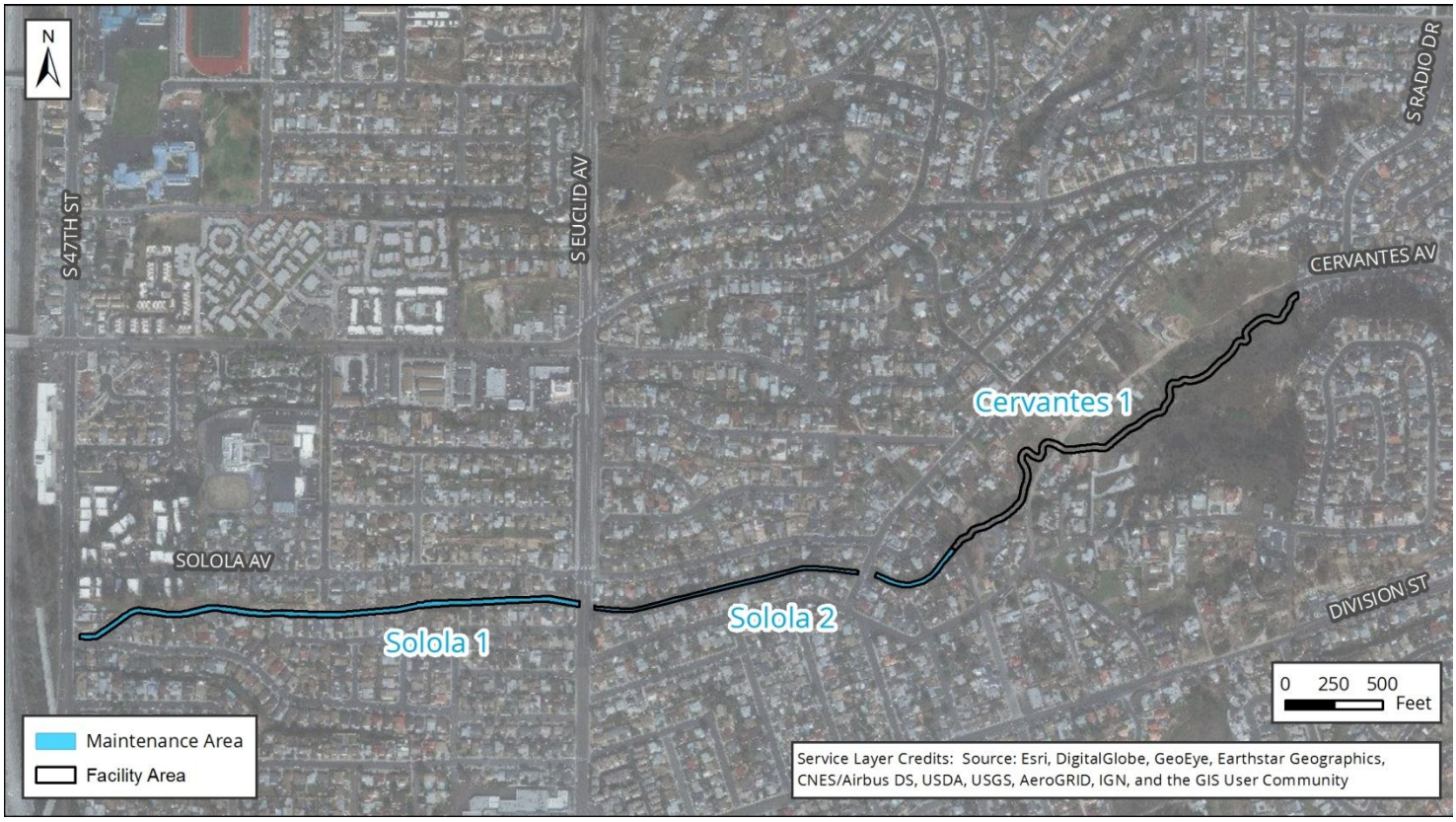


Figure 1: Vicinity Map of Paleta Creek - Solola Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.31	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Paleta Creek - Solola	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Lead

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

Solola Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of Paleta Creek, upstream of Paleta Creek (Cottonwood Segment 2)
Tributaries (listed from downstream to upstream)	Paleta Creek
Facility Length	Approximately 2,625 feet
Top-of-Bank Width	Approximately 28 feet
Bottom Facility Width	Approximately 10–19 feet
Facility Depth	Approximately 5–6 feet
Adjacent Land Use	Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	15422-D & 12964-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at accumulated sediment and debris in concrete channel

Figure 2: Vicinity Map of Solola Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted, except minor concrete repair
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The segment was observed to range from a mostly clean channel to moderate vegetation with sediment and debris deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	43	100	160	250	390	470
Hydraulic Capacity of Facility						
Current Capacity	470 cfs					
Proposed MWMP Maintained Capacity	470 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation between Station 39 and Station 2664					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-6
EP-BIO-6	**Noise (NOI)**
Health and Safety/Hazards (HAZ)	MM-NOI-1
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Paleta Creek - Solola
Segment Name	Solola 1
Facility No.	5-06-020
Facility Location	From outlet of culvert at Euclid Avenue to inlet of culvert at 47th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation between Station 39 and Station 2664
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	Yes; see Appendix A-4
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 15422-D & 12964-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 2,625 feet Top width: 28 feet Bottom width: 10–19 feet Depth: 5–6 feet
Authorized Facility Maintenance Area	Length: Channel: 2,625 feet Width: 28 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Paleta Creek - Solola
Segment Name: Solola 1
Facility No: 5-06-020
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Solola Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Paleta Creek, immediately upstream of Paleta Creek (Solola Segment 1)
Tributaries (listed from downstream to upstream)	Paleta Creek
Facility Length	Approximately 2,027 feet
Top-of-Bank Width	Approximately 9–30 feet
Bottom Facility Width	Approximately 4–17.5 feet
Facility Depth	Approximately 4–12 feet
Adjacent Land Use	Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	9228-L & 9227-L
Coastal Zone	No

Figure 1: April 2017, looking downstream at second drop structure and sediment accumulated at bottom of structure

Figure 2: Vicinity Map of Solola Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted, except minor concrete repair
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The segment was observed to range from a mostly clean channel to moderate vegetation with sediment and debris deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	43	100	160	250	390	470
Hydraulic Capacity of Facility						
Current Capacity	325 cfs					
Proposed MWMP Maintained Capacity	325 cfs					
Maintenance Recommendation	Remove the accumulated sediment, debris, and vegetation from Station 2734 to Station 4122, and Station 4172 to Station 4691. Remove the accumulated sediment and debris in culverts from Station 2664 to Station 2734, and Station 4122 to Station 4172.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Natural flood channel • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; Pre-1974 concrete channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-6
EP-BIO-6	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Solid Waste (SW)	**Noise (NOI)**
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Paleta Creek - Solola
Segment Name	Solola 2
Facility No.	5-06-023
Facility Location	From downstream end of Cervantes 1 segment to inlet of culvert that crosses under Euclid Avenue
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove the accumulated sediment, debris, and vegetation from Station 2734 to Station 4122, and Station 4172 to Station 4691. Remove the accumulated sediment and debris in culverts from Station 2664 to Station 2734, and Station 4122 to Station 4172.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	Yes; see Appendix A-4
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 9228-L & 9227-L
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 2,027 feet Top width: 9–30 feet Bottom width: 4–17.5 feet Depth: 4–12 feet
Authorized Facility Maintenance Area	Length: Channel: 1,907 feet; Culvert: 120 feet Width: 9–30 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Paleta Creek - Solola
Segment Name: Solola 2
Facility No: 5-06-023
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Sweetwater River - Parkside Facility Group

Segment Name (Facility number):

Parkside 1 (5-11-003)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Sweetwater (5)
Hydrologic Subarea	909.12
Drainage Name (Number)	Sweetwater River Unnamed Tributary (11)
Facility Group Name	Sweetwater River - Parkside
Segment Name (Facility Number)	Parkside 1 (5-11-003)
Substrate	Parkside 1 / Concrete
Location	About 300 feet west of the eastern intersection of Garber Avenue and Parkside Avenue, southeast of the intersection of Rhoades Road and Parkside Avenue
MMP Map No(s).	122
Facility Inspection No.	122
Other Former Names	Parkside Channel

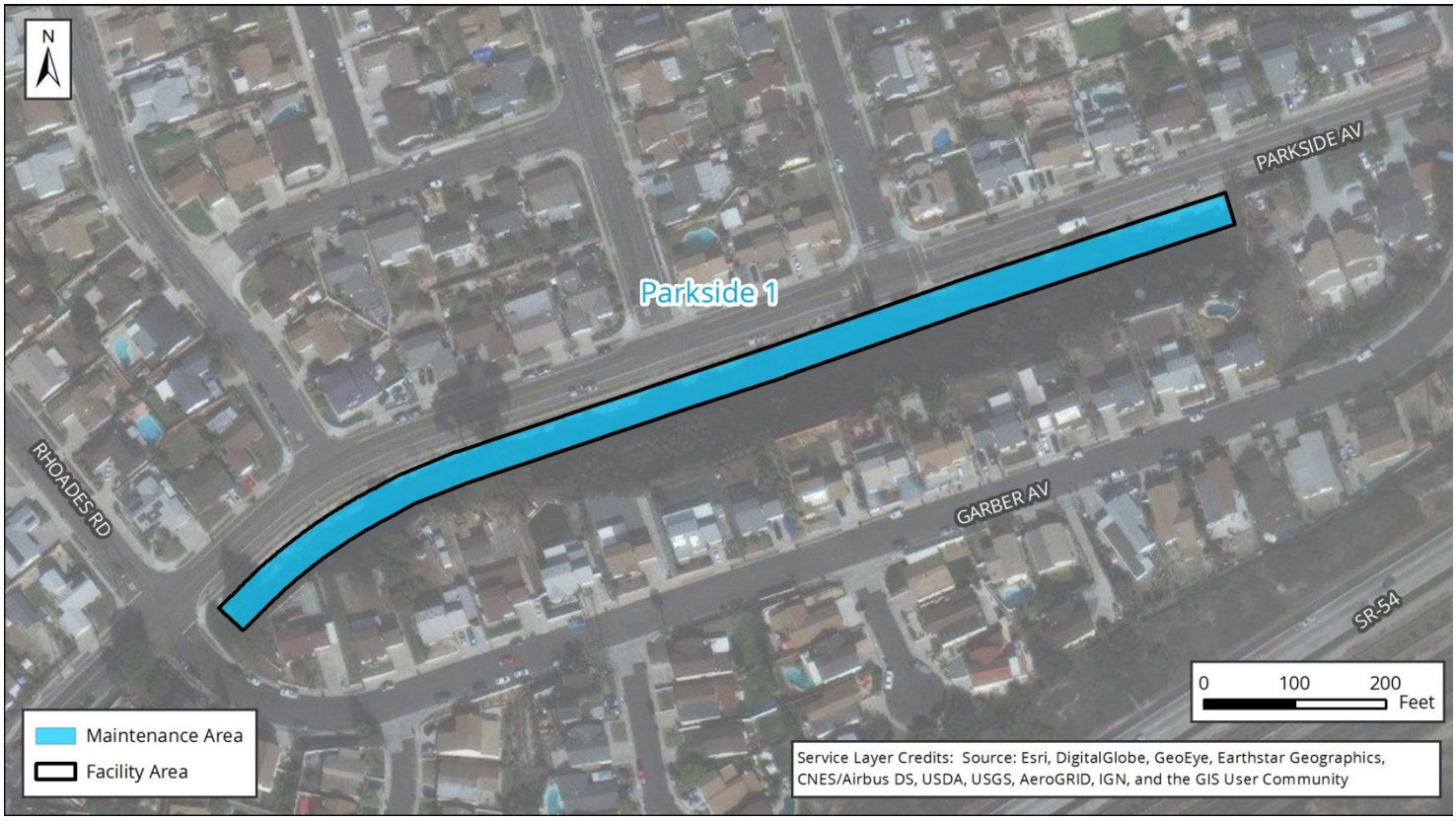


Figure 1: Vicinity Map of Sweetwater River - Parkside Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 909.12	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Sweetwater River - Parkside	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Sweetwater River (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphorus, Selenium, Total Dissolved Solids, Toxicity

Parkside Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Middle reach of Sweetwater River unnamed tributary
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,197 feet
Top-of-Bank Width	Approximately 25–35 feet
Bottom Facility Width	Approximately 10–17 feet
Facility Depth	Approximately 5–7 feet
Adjacent Land Use	Single-Family Residential, Transportation, Open Space
As-Built Drawing Number	7498-D
Coastal Zone	No

Figure 1: May 2015, representative of channel (with moderate vegetation), looking upstream

Figure 2: Vicinity Map of Parkside Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00909-RAG
401	RGP 63 Verification No. R9-2015-0208:820215:lhonma
1602	LSA Emergency Notification submitted 01/2016
Mitigation for Previous Impacts	RWQCB Conceptual Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.20 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In May 2015, the amount of vegetation observed was dense with many large trees and sediment deposition was estimated to be 0.2 feet deep					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	709	886	1,034	1,241	1,477	1,536
Hydraulic Capacity of Facility						
Current Capacity	735 cfs					
Proposed MWMP Maintained Capacity	735 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and overgrown vegetation from Station 298 to Station 1495					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	**Noise (NOI)**
EP-BIO-5	MM-NOI-1
EP-BIO-6	
Health and Safety/Hazards (HAZ)	
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Sweetwater River - Parkside
Segment Name	Parkside 1
Facility No.	5-11-003
Facility Location	From 300 feet west of Garber Avenue to inlet of culvert beneath Rhoades Road
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and overgrown vegetation from Station 298 to Station 1495
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 7498-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 1,197 feet Top width: 25–35 feet Bottom width: 10–17 feet Depth: 5–7 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 1,197 feet Width: 25–35 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 6–8 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Nestor Creek - Nestor Facility Group

Segment Names (Facility numbers):

- Cedar 1 (5-22-008)
- Cedar 2 (5-22-010)
- Dahlia 1 (5-22-013)
- Cerissa 1 (5-22-016)
- Grove 1 (5-22-023)
- 30th St 1 (5-22-028)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Otay (5)
Hydrologic Subarea	910.20
Drainage Name (Number)	Nestor Creek (22)
Facility Group Name	Nestor Creek - Nestor
Segment Name (Facility Number)	Cedar 1 (5-22-008) Cedar 2 (5-22-010) Dahlia 1 (5-22-013) Cerissa 1 (5-22-016) Grove 1 (5-22-023) 30th St 1 (5-22-028)
Substrate	Cedar 1 / Earthen Cedar 2 / Concrete Dahlia 1 / Concrete Cerissa 1 / Earthen Grove 1 / Earthen and concrete 30th St 1 / Earthen and concrete
Location	About 400 feet north of Palm Avenue and 1,300 feet north of Iris Avenue, crossing Interstate 5 (I-5)
MMP Map No(s).	131, 132, 133, 134
Facility Inspection No.	132, 133, 134, 300x
Other Former Names	Nestor

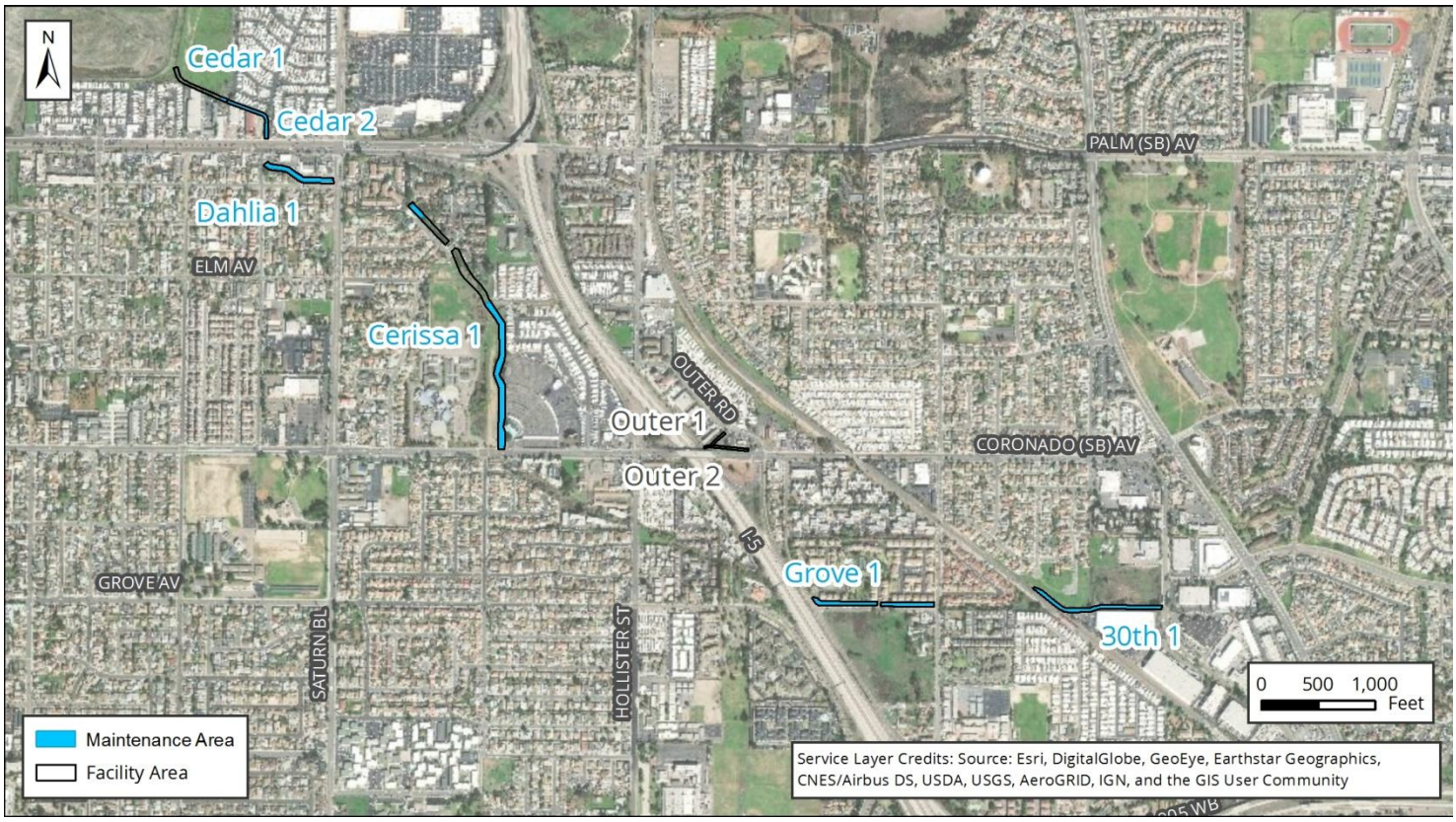


Figure 1: Vicinity Map of Nestor Creek - Nestor Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 910.20	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Nestor Creek - Nestor	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Otay River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) list

Cedar Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and riprap banks
Location Within Watershed	Lower reach of Nestor Creek, upstream of the San Diego Bay
Tributaries (listed from downstream to upstream)	Nestor Creek, Nestor Creek Unnamed Tributary
Facility Length	Approximately 427 feet
Top-of-Bank Width	Approximately 28–32 feet
Bottom Facility Width	Approximately 10–16.5 feet
Facility Depth	Approximately 4–7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	CST-APP

Figure 1: November 2016, looking downstream from the upstream end of the segment

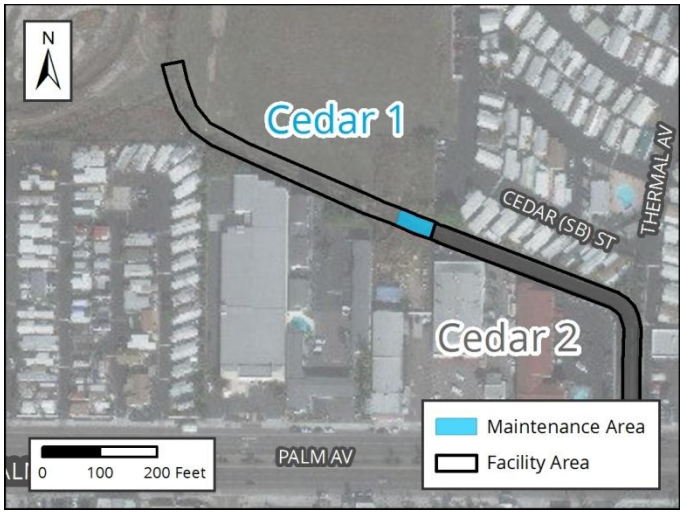


Figure 2: Vicinity Map of Cedar Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	CDP No. 2161345 (City issued)
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00011-MBT
401	RGP 63 Verification No. R9-2016-0044;821320;lhonma
1602	LSA Emergency Notification submitted 02/2016; CDFW SAA No. 1600-2018-0189-R5 (expires 01/15/2023)
Mitigation for Previous Impacts	TBD

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In November 2016, the amount of vegetation was observed to from light to dense and sediment deposition was noted					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	300	360	440	640	840	1,093
Hydraulic Capacity of Facility						
Current Capacity	160 cfs					
Proposed MWMP Maintained Capacity	360 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 790 to Station 855. Assessment continues on the remainder of Cedar 1 (Station 428 to Station 790) to determine if future maintenance will benefit the associated areas.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Freshwater marsh • Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	There are limited biological resources suitable for sensitive species use within the facility. However, due to the adjacency to coastal and marsh habitat, there is potential for sensitive species, such as Ridgway's rail, to occur within and downstream of the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundaries are located approximately 370 feet west of the channel location.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; Pre-1953 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-5
EP-BIO-5	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-BIO-6	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
EP-HAZ-3	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

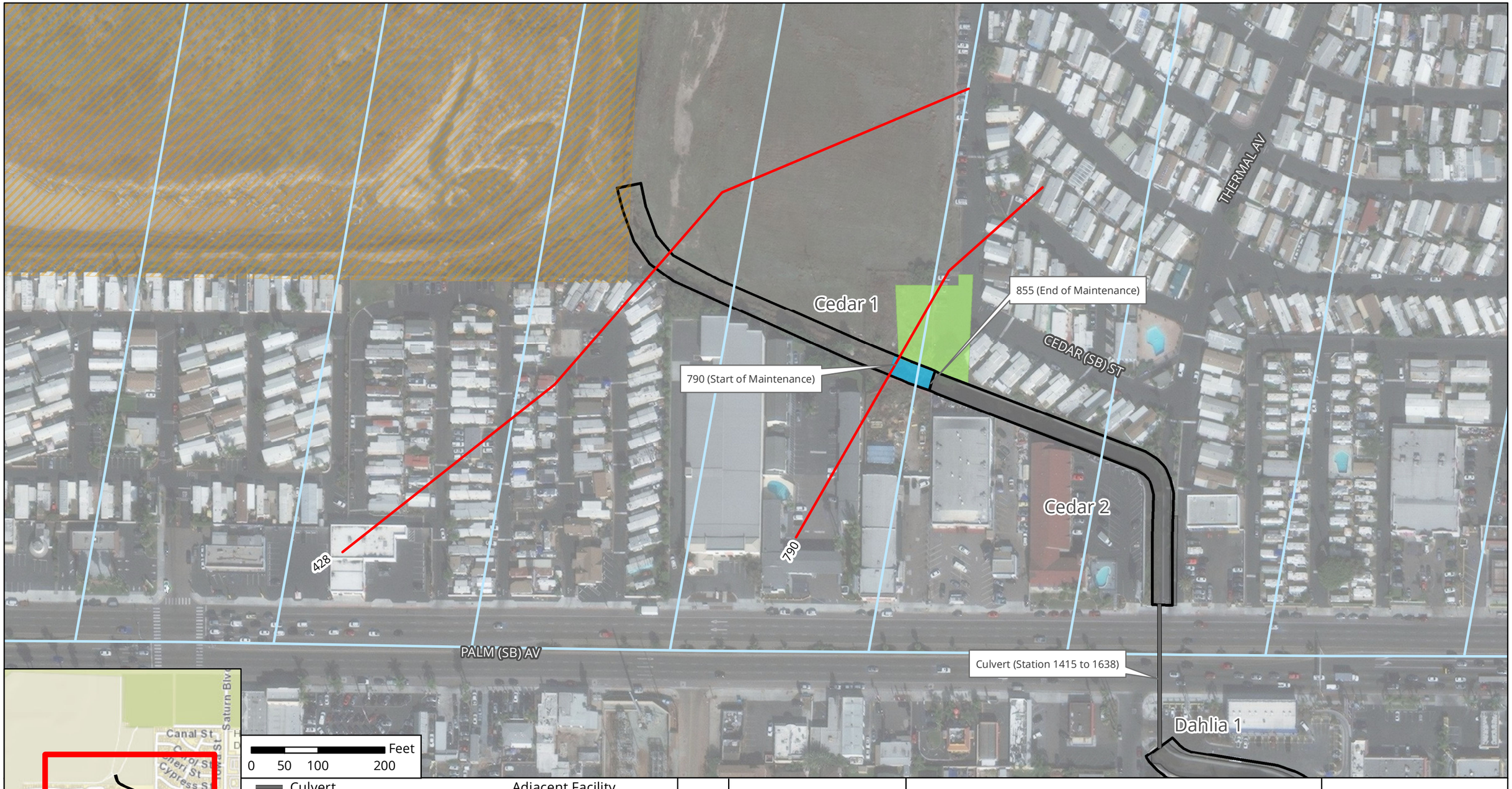
Facility Group	Nestor Creek - Nestor
Segment Name	Cedar 1
Facility No.	5-22-008
Facility Location	From downstream end of Cedar 2 segment to 600 feet northwest of the intersection of Palm Avenue and Thermal Avenue
Coastal Zone	CST-APP
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 790 to Station 855. Assessment continues on the remainder of Cedar 1 (Station 428 to Station 790) to determine if future maintenance will benefit the associated areas.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and riprap banks
Facility Dimensions (Approximate)	Length: 427 feet Top width: 28–32 feet Bottom width: 10–16.5 feet Depth: 4–7 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 65 feet Width: 28–32 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to loader and Gradall/excavator at access/loading area 3. Loader and Gradall/excavator scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: Cedar 1
Facility No: 5-22-008
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Cedar Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Nestor Creek, immediately upstream of Nestor Creek (Cedar Segment 1)
Tributaries (listed from downstream to upstream)	Nestor Creek, Nestor Creek Unnamed Tributary
Facility Length	Approximately 560 feet
Top-of-Bank Width	Approximately 28 feet
Bottom Facility Width	Approximately 16.5–28 feet
Facility Depth	Approximately 8–9 feet
Adjacent Land Use	Commercial, Open Space, Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	22431-D
Coastal Zone	CST-APP

Figure 1: November 2016, looking upstream at the Palm Avenue triple RCB culvert

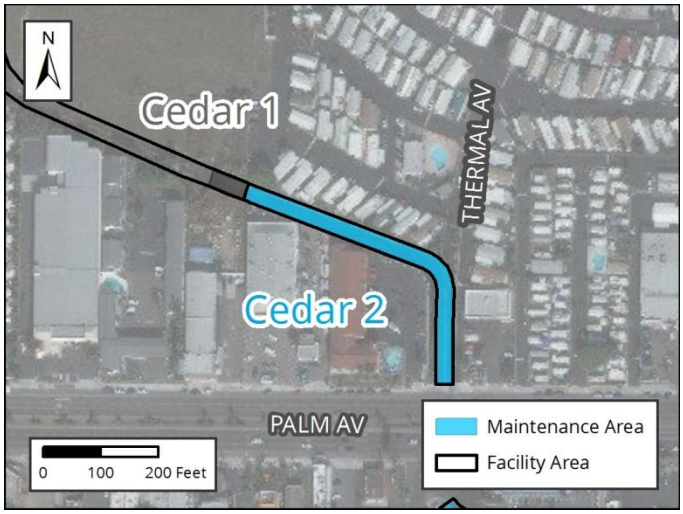

Figure 2: Vicinity Map of Cedar Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2010: Unknown 2010: Emergency maintenance activities January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	CDP No. 2161345 (City issued)
SDP	SDP No. 2034245 (2017 Addendum)
404	NWP 43
401	RWQCB 401 Cert No. 10C-059 (one-time maintenance authorization)
1602	CDFW SAA No. 1600-2010-0195-R5 (expires 09/30/2015)
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In November 2016, the vegetation was observed to vary from light to moderate with approximately 0.5 foot of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	300	360	440	640	840	1,093
Hydraulic Capacity of Facility						
Current Capacity	980 cfs					
Proposed MWMP Maintained Capacity	1,093 cfs					
Maintenance Recommendation	Remove accumulated sediment and vegetation from channel bottom from Station 855 to Station 1415					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Natural flood channel • Ornamental plantings
Habitat and Wildlife	There are no biological resources suitable for sensitive species use within the facility. However, due to the adjacency to coastal and marsh habitat, there is potential for sensitive species, such as Ridgway's rail, to occur within and downstream of the channel.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundaries are located approximately 500 feet west of the channel location.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-5
EP-BIO-5	**Noise (NOI)**
EP-BIO-6	MM-NOI-1
Health and Safety/Hazards (HAZ)	
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Nestor Creek - Nestor
Segment Name	Cedar 2
Facility No.	5-22-010
Facility Location	From outlet of culvert beneath Palm Avenue to upstream end of Cedar 1 segment
Coastal Zone	CST-APP
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and vegetation from channel bottom from Station 855 to Station 1415
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 22431-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 560 feet Top width: 28 feet Bottom width: 16.5–28 feet Depth: 8–9 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 560 feet Width: 28 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and/or loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer/loader push material to loader and Gradall/excavator at access/loading area 3. Loader and Gradall/excavator scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: Cedar 2
Facility No: 5-22-010
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Dahlia Segment 1 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Lower reach of Nestor Creek, immediately upstream of Nestor Creek (Cedar Segment 2)
Tributaries (listed from downstream to upstream)	Nestor Creek, Nestor Creek Unnamed Tributary
Facility Length	Approximately 845 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 30 feet
Facility Depth	Approximately 7–9 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	21584-D
Coastal Zone	No

Figure 1: April 2015, looking upstream

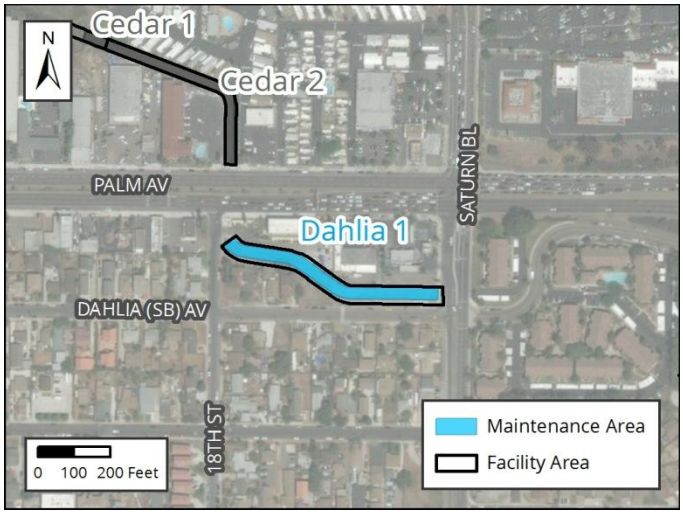


Figure 2: Vicinity Map of Dahlia Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In April 2015, the vegetation was observed to vary from light to moderate with some sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	243	300	365	520	690	864
Hydraulic Capacity of Facility						
Current Capacity	864 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet northwest of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	**Noise (NOI)**
EP-BIO-5	MM-NOI-1
EP-BIO-6	
Health and Safety/Hazards (HAZ)	
EP-HAZ-3	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

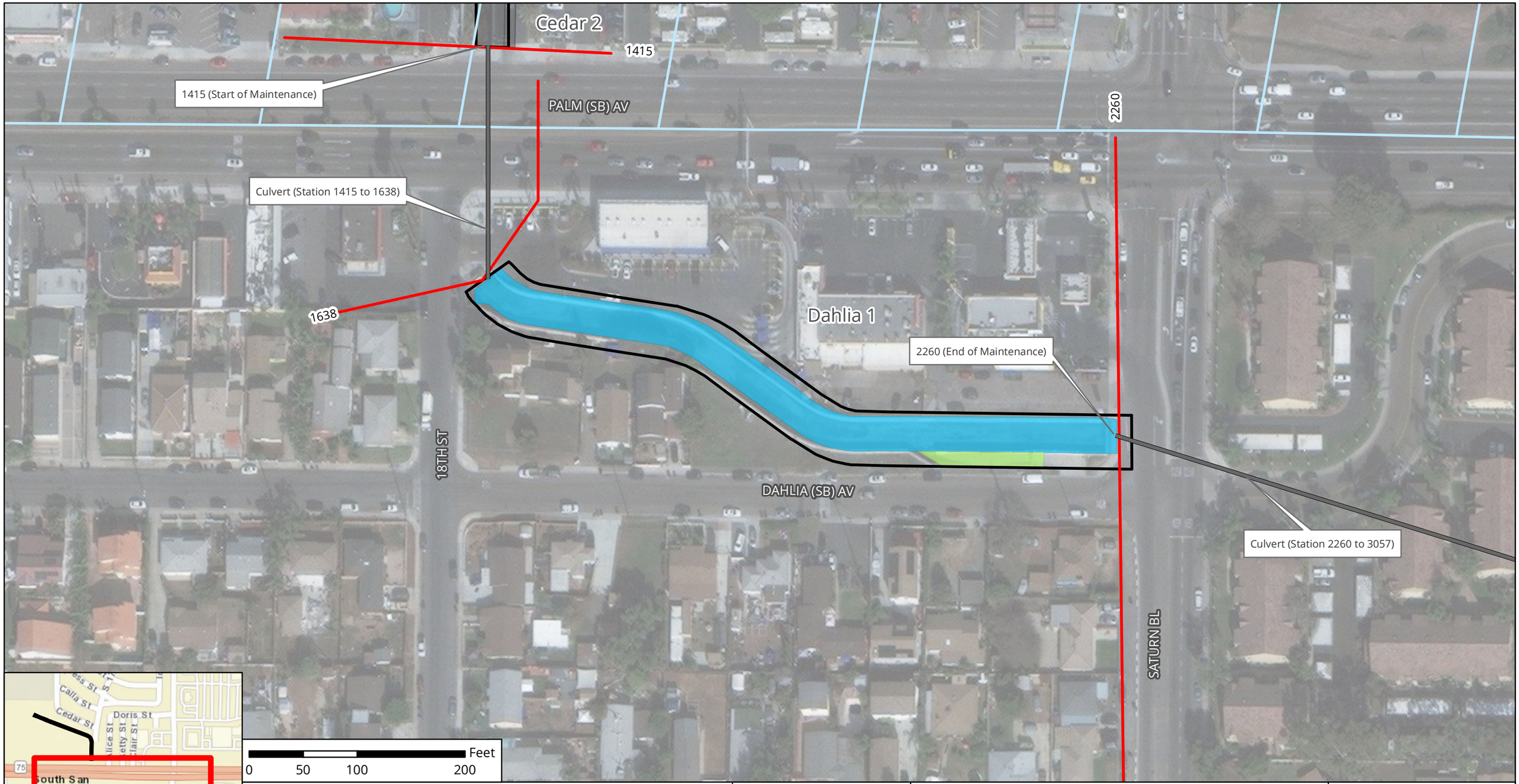
Facility Group	Nestor Creek - Nestor
Segment Name	Dahlia 1
Facility No.	5-22-013
Facility Location	From outlet of culvert west of Saturn Boulevard to inlet of culvert southeast of the intersection of Palm Avenue and 18th Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 21584-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 845 feet Top width: 30 feet Bottom width: 30 feet Depth: 7–9 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 622 feet; Culvert: 223 feet Width: 30 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 7–14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer/loader enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer/loader scoops material from channel and loads dump truck at access/loading area 3. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert
Station
Facility Area
Coastal Zone
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: Dahlia 1
Facility No: 5-22-013
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Cerissa Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of Nestor Creek, immediately upstream of Nestor Creek (Dahlia Segment 1)
Tributaries (listed from downstream to upstream)	Nestor Creek, Nestor Creek Unnamed Tributary
Facility Length	Approximately 3,253 feet
Top-of-Bank Width	Approximately 65–85 feet
Bottom Facility Width	Approximately 35–60 feet
Facility Depth	Approximately 6–7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Other Residential, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	21570-D & 17561-D
Coastal Zone	No

Figure 1: April 2015, looking upstream at the downstream end of the segment

Figure 2: Vicinity Map of Cerissa Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In April 2015, the vegetation was observed to be light to dense and there was evidence of sediment deposition

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	215	260	330	470	640	796

Hydraulic Capacity of Facility

Current Capacity	340 cfs
Proposed MWMP Maintained Capacity	420 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 3057 to Station 3197 and Station 4167 to Station 5494. Remove accumulated sediment and debris from the culvert at Station 2260 to Station 3057. The remainder of Cerissa 1 is recommended to be maintained by the private property owners to remove accumulated sediment, debris, and overgrown vegetation.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland • Disturbed wetland (Arundo-dominated) • Ornamental plantings • Riparian forest (southern willow forest)
Habitat and Wildlife	The habitat contained within the facility provides potential nesting and/or foraging for migratory bird or raptor species, as well as for other sensitive bird species such as least Bell's vireo and southern willow flycatcher. However, the channel is relatively isolated from other riparian habitat, reducing the potential for sensitive species to occur.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-5
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	MM-BIO-7
Solid Waste (SW)	**Noise (NOI)**
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

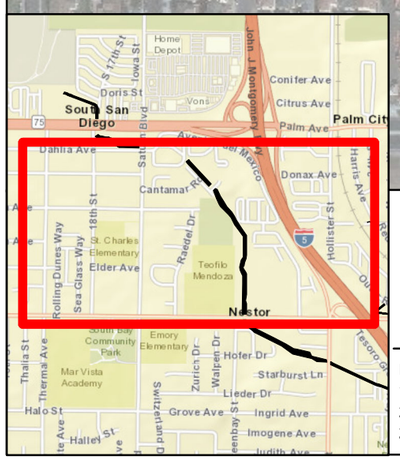
Facility Group	Nestor Creek - Nestor
Segment Name	Cerissa 1
Facility No.	5-22-016
Facility Location	From outlet of culvert beneath Coronado Avenue to inlet of culvert beneath Saturn Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of portions of the earthen channel that are City responsibility per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 3057 to Station 3197 and Station 4167 to Station 5494. Remove accumulated sediment and debris from the culvert at Station 2260 to Station 3057. The remainder of Cerissa 1 is recommended to be maintained by the private property owners to remove accumulated sediment, debris, and overgrown vegetation.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Temporary stockpiling Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 21570-D & 17561-D
Substrate Detail	Earthen bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 3,253 feet Top width: 65–85 feet Bottom width: 35–60 feet Depth: 6–7 feet
Authorized Facility Maintenance Area	Length: Channel: 1,467 feet; Culvert: 797 feet Width: 45–69 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Northwest section: Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump South section: Bulldozer/track-steer, Gradall/excavator, long reach excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 28–35 working days
Maintenance Crew	Approximately 10–20 people
Routine Maintenance Procedures	Northwest Section: 1. Bulldozer/track-steer enters channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and stockpiles material on-site 4. Loader manages stockpile. Loader will scoop material into dump truck 5. Dump truck hauls material to legal disposal site South Section: 1. Gradall/excavator and long-reach excavator at access/loading area scoop material from channel and load dump truck 2. Bulldozer/track-steer may be used in channel to push material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and stockpiles material on-site 4. Loader manages stockpile. Loader will scoop material into dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	No

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Culvert
Station
Facility Area

Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: Cerissa 1
Facility No: 5-22-016
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Grove Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail	Earthen bottom and concrete banks
Location Within Watershed	Upper reach of Nestor Creek, upstream of Nestor Creek (Cerissa Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,454 feet
Top-of-Bank Width	Approximately 29–34 feet
Bottom Facility Width	Approximately 29–34 feet
Facility Depth	Approximately 3–4 feet
Adjacent Land Use	Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	14319-D
Coastal Zone	No

Figure 1: May 2015, looking upstream at the downstream portion of the segment

Figure 2: Vicinity Map of Grove Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In May 2015, the vegetation was observed to be moderate with little evidence of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	20	88	180	270	365	456
Hydraulic Capacity of Facility						
Current Capacity	456 cfs					
Proposed MWMP Maintained Capacity	456 cfs					
Maintenance Recommendation	Remove accumulated vegetation from channel bottom from Station 8660 to Station 9228, and Station 9261 to Station 9732. Remove accumulated sediment, debris, and vegetation from the culverts from Station 9228 to Station 9261, and Station 9732 to Station 9802.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Ornamental plantings • Riparian forest (southern willow forest; concrete-lined)
Habitat and Wildlife	The habitat contained within this facility provides potential nesting and/or foraging for migratory birds and raptor species, as well as for other sensitive bird species such as least Bell's vireo and southern willow flycatcher. Although suitable habitat is present, the channel extents are limited and it is also isolated from other riparian corridors.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1971 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

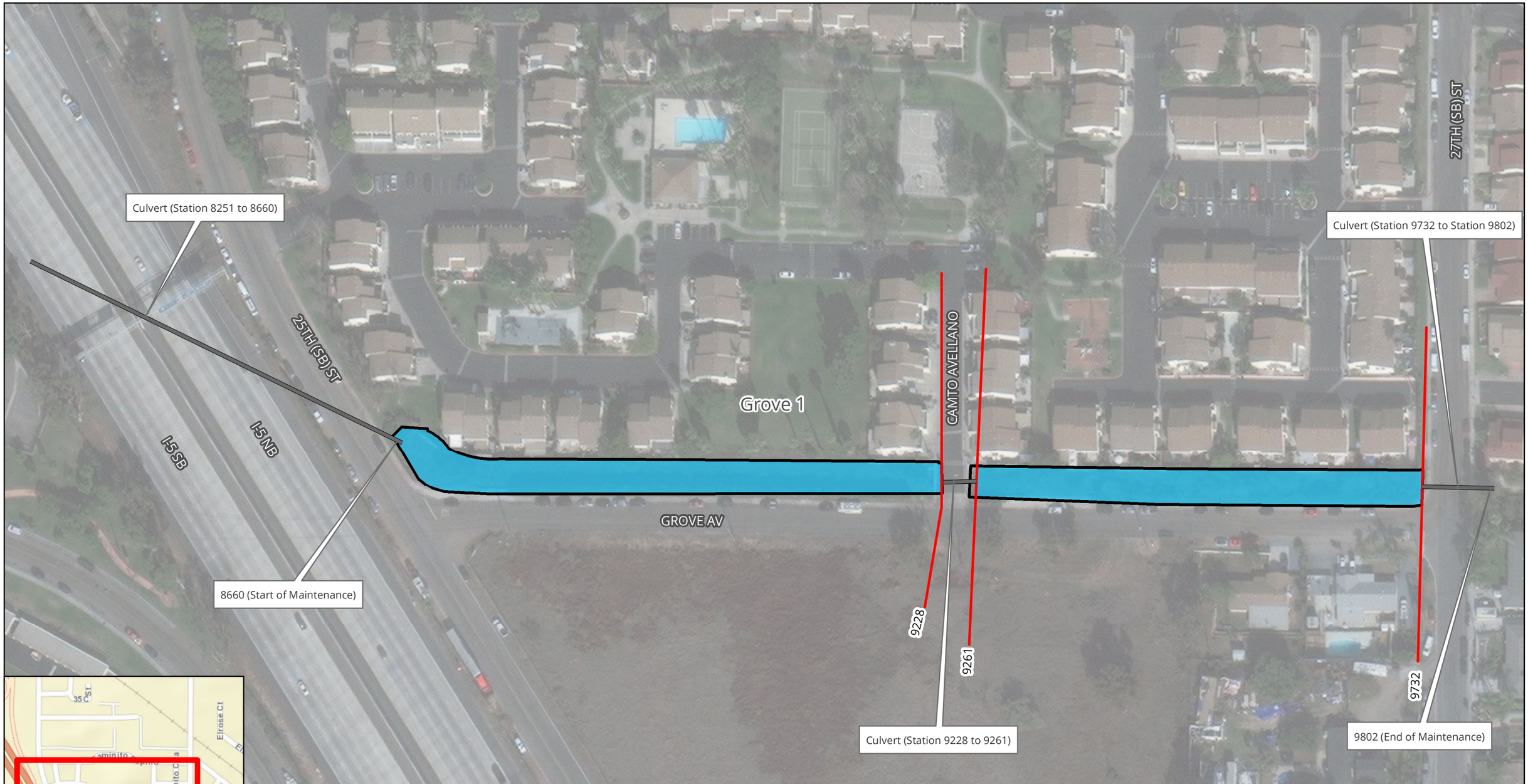
Facility Group	Nestor Creek - Nestor
Segment Name	Grove 1
Facility No.	5-22-023
Facility Location	From outlet of culvert beneath 27th Street to inlet of culvert beneath Interstate 5 (I-5)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of portions of the earthen channel that are City responsibility per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated vegetation from channel bottom from Station 8660 to Station 9228, and Station 9261 to Station 9732. Remove accumulated sediment, debris, and vegetation from the culverts from Station 9228 to Station 9261, and Station 9732 to Station 9802.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 14319-D
Substrate Detail	Earthen bottom and concrete banks

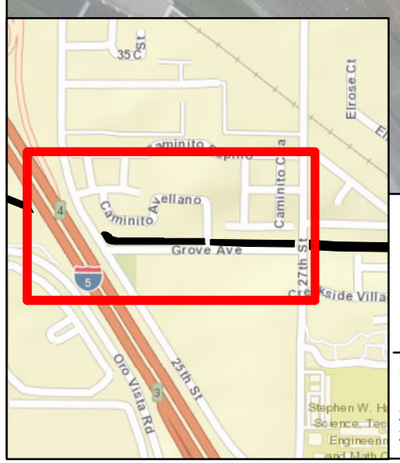
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,454 feet Top width: 29–34 feet Bottom width: 29–34 feet Depth: 3–4 feet
Authorized Facility Maintenance Area	Length: Channel: 1,039 feet; Culvert: 103 feet Width: 29–34 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer and/or loader enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer and/or loader push material to loader or Gradall/excavator at access/loading area 3. Gradall/excavator and loader scoop material from channel and load dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None





Culvert

Station

Facility Area

Maintenance Area

N

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Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: Grove 1
Facility No: 5-22-023
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

30th St Segment 1 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 10653-10833: Earthen bottom and banks Stations 10833- 11801: Concrete bottom and banks
Location Within Watershed	Upper reach of Nestor Creek, upstream of Nestor Creek (Grove segment 2)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,183 feet
Top-of-Bank Width	Approximately 18–32 feet
Bottom Facility Width	Approximately 5–10 feet
Facility Depth	Approximately 3–10 feet
Adjacent Land Use	Industrial, Open Space, Other Residential, Single-Family Residential, Transportation
As-Built Drawing Number	23199-D & 22424-D
Coastal Zone	No

Figure 1: May 2015, looking upstream from a location downstream of the 42-inch-diameter RCP culvert

Figure 2: Vicinity Map of 30th St Segment 1

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	In May 2015, dense vegetation and sediment deposition was observed throughout the segment length					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	20	88	180	270	365	456
Hydraulic Capacity of Facility						
Current Capacity	140 cfs					
Proposed MWMP Maintained Capacity	165 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from segment channel from Station 10653 to Station 11830. Remove accumulated sediment, debris, and vegetation from culverts from under gabion dam and at Station 10680 and at Station 11830. Perform bank repair on the north concrete bank near Station 11547.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings • Riparian forest (southern willow forest; concrete-lined)
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the channel extents and area of vegetation present are limited such that it is unlikely for wildlife to use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Geologic Resources (GEO)	**Noise (NOI)**
EP-GEO-1	MM-NOI-1
Health and Safety/Hazards (HAZ)	
EP-HAZ-3	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Nestor Creek - Nestor
Segment Name	30th St 1
Facility No.	5-22-028
Facility Location	From west of 30th street to inlet of culvert beneath the San Diego and Imperial Valley Railroad crossing
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment, debris, and vegetation from segment channel from Station 10653 to Station 11830. Remove accumulated sediment, debris, and vegetation from culverts from under gabion dam and at Station 10680 and at Station 11830. Perform bank repair on the north concrete bank near Station 11547.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	Yes (multiple options); see Appendix A-4
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	Yes; see Appendix A-4
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 23199-D & 22424-D
Substrate Detail[3]	Stations 10653-10833: Earthen bottom and banks Stations 10833- 11801: Concrete bottom and banks

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,183 feet Top width: 18–32 feet Bottom width: 5–10 feet Depth: 3–10 feet
Authorized Facility Maintenance Area	Length: Channel: 1,183 feet; Culvert: 18 feet (under gabion dam) Width: 11–32 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 12–18 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator and loader at access/loading area 3. Gradall/excavator and loader scoop material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Concrete and riprap used to repair scour behind concrete wall previously

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: 30th St 1
Facility No: 5-22-028
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Nestor Creek - Outer Facility Group

Segment Names (Facility numbers):

Outer 1 (5-22-110)

Outer 2 (5-22-112)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Otay (5)
Hydrologic Subarea	910.20
Drainage Name (Number)	Nestor Creek Unnamed Tributary (22)
Facility Group Name	Nestor Creek - Outer
Segment Name (Facility Number)	Outer 1 (5-22-110) Outer 2 (5-22-112)
Substrate	Outer 1 / Earthen Outer 2 / Concrete
Location	Bordered by Outer Road to the east and northeast, by Coronado Avenue to the south, and by Interstate 5 (I-5) to the west
MMP Map No(s).	N/A
Facility Inspection No.	321
Other Former Names	None

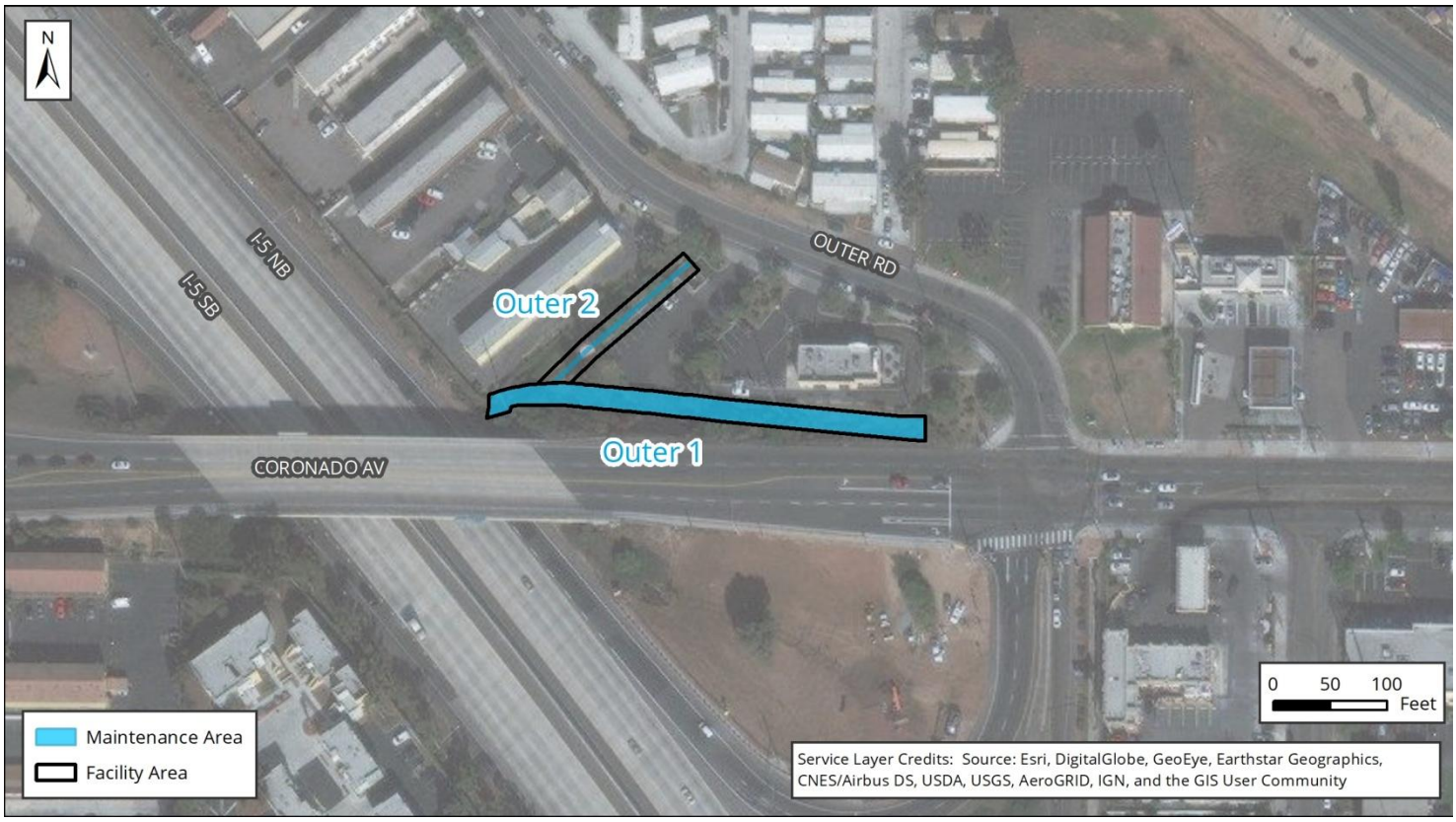


Figure 1: Vicinity Map of Nestor Creek - Outer Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 910.20	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Nestor Creek - Outer	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Otay River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) list

Outer Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Nestor Creek unnamed tributary
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 385 feet
Top-of-Bank Width	Approximately 20–50 feet
Bottom Facility Width	Approximately 4–14 feet
Facility Depth	Approximately 3–4 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at vegetation downstream of Outer 1 and Outer 2 junction

Figure 2: Vicinity Map of Outer Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation observed ranged from medium to dense and there was little evidence of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	106	135	158	190	212	236
Hydraulic Capacity of Facility						
Current Capacity	53 cfs					
Proposed MWMP Maintained Capacity	80 cfs					
Maintenance Recommendation	Trim vegetation from Station 228 to Station 613					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	**Noise (NOI)**
EP-BIO-6	MM-NOI-1
Health and Safety/Hazards (HAZ)	
EP-HAZ-3	
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

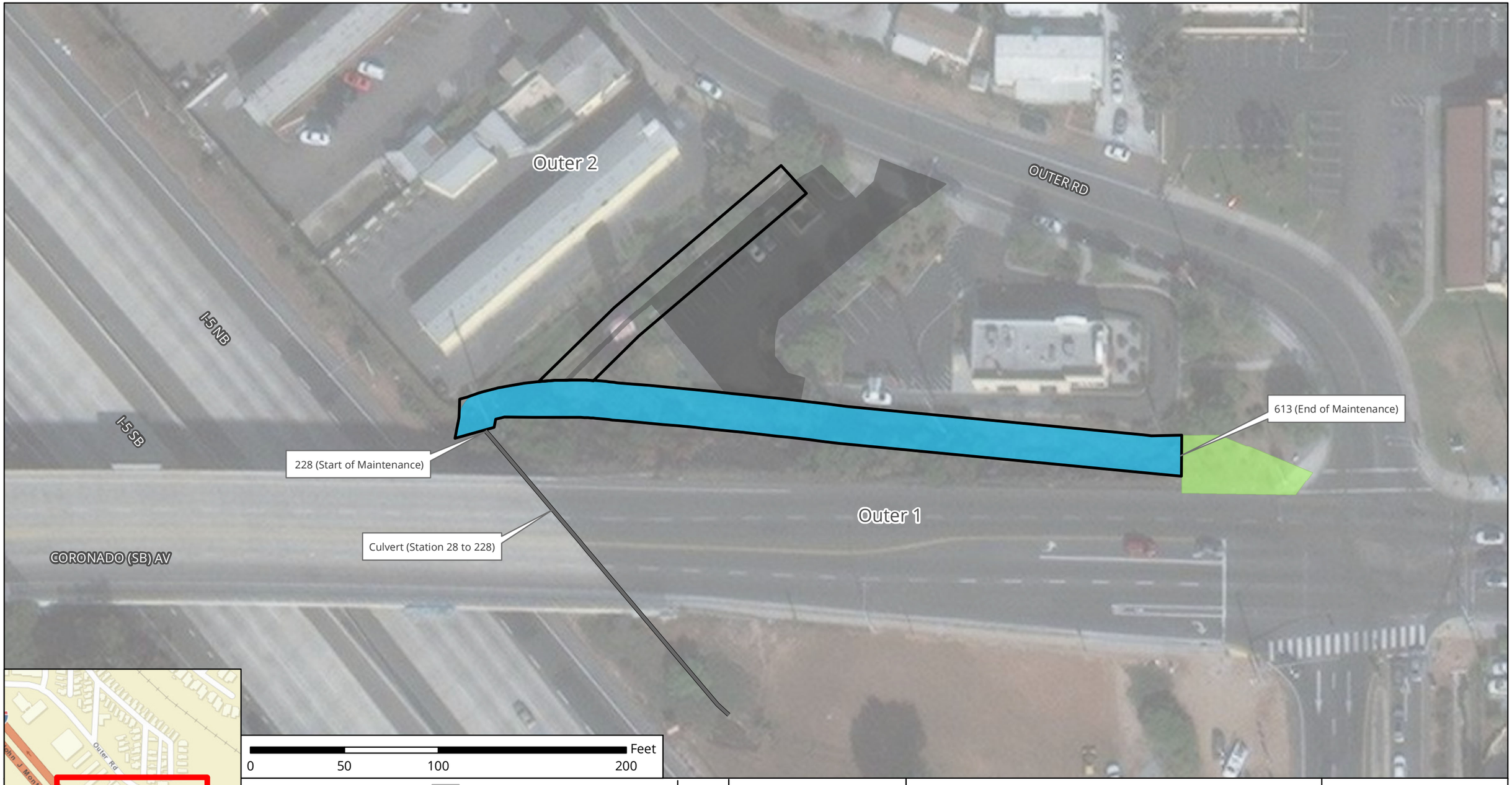
Facility Group	Nestor Creek - Outer
Segment Name	Outer 1
Facility No.	5-22-110
Facility Location	From the west of Outer Road to inlet of culvert that is 200 feet long and discharges into the California Department of Transportation's Interstate 5 (I-5) northbound on-ramp
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Trim vegetation from Station 228 to Station 613
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 385 feet Top width: 20–50 feet Bottom width: 4–14 feet Depth: 3–4 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 385 feet Width: 20–25 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Fuel-powered hand tools used to trim vegetation 2. Bobcat/skid-steer and/or Gradall/excavator enter or are lowered into channel at access/loading areas 3. Gradall/excavator stationed within access/loading area scoops material and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor stationed at upstream end of access/loading area used to power wash culverts in accordance with Flow Management section (below) and Water Pollution Control Plan
Traffic Control	Yes; coordinate with private property owner and the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



0 50 100 200 Feet

Culvert
Facility Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Nestor Creek - Outer
Segment Name: Outer 1
Facility No: 5-22-110
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Outer Segment 2 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Nestor Creek unnamed tributary
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 176 feet
Top-of-Bank Width	Approximately 2 feet
Bottom Facility Width	Approximately 1 feet
Facility Depth	Approximately 2 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at sediment, debris and overhanging vegetation upstream of Outer 1 and Outer 2 junction

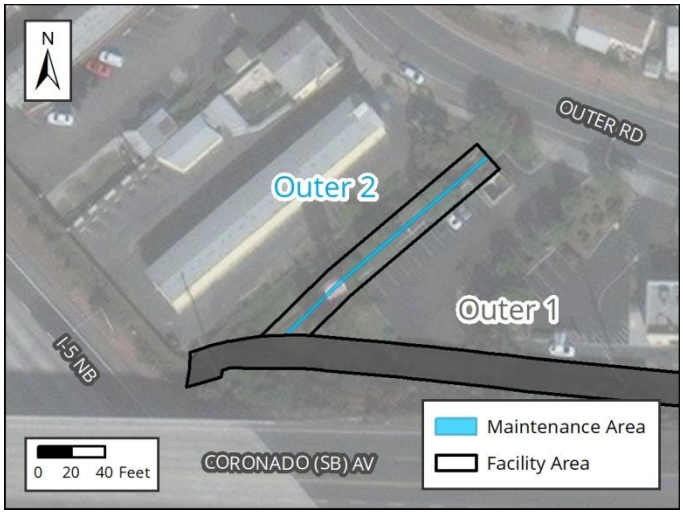


Figure 2: Vicinity Map of Outer Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	Approximately 2 inches of accumulated sediment, debris was observed in the segment including vegetation hanging down into ditch					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	5	6	7	9	10	11
Hydraulic Capacity of Facility						
Current Capacity	4.7 cfs					
Proposed MWMP Maintained Capacity	5 cfs					
Maintenance Recommendation	Remove accumulated sediment and debris and removal of overhanging vegetation from bottom and sides of concrete ditch from Station 0 to Station 176					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1969–1974 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-BIO-5	MM-HR-1
EP-BIO-6	MM-HR-2
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

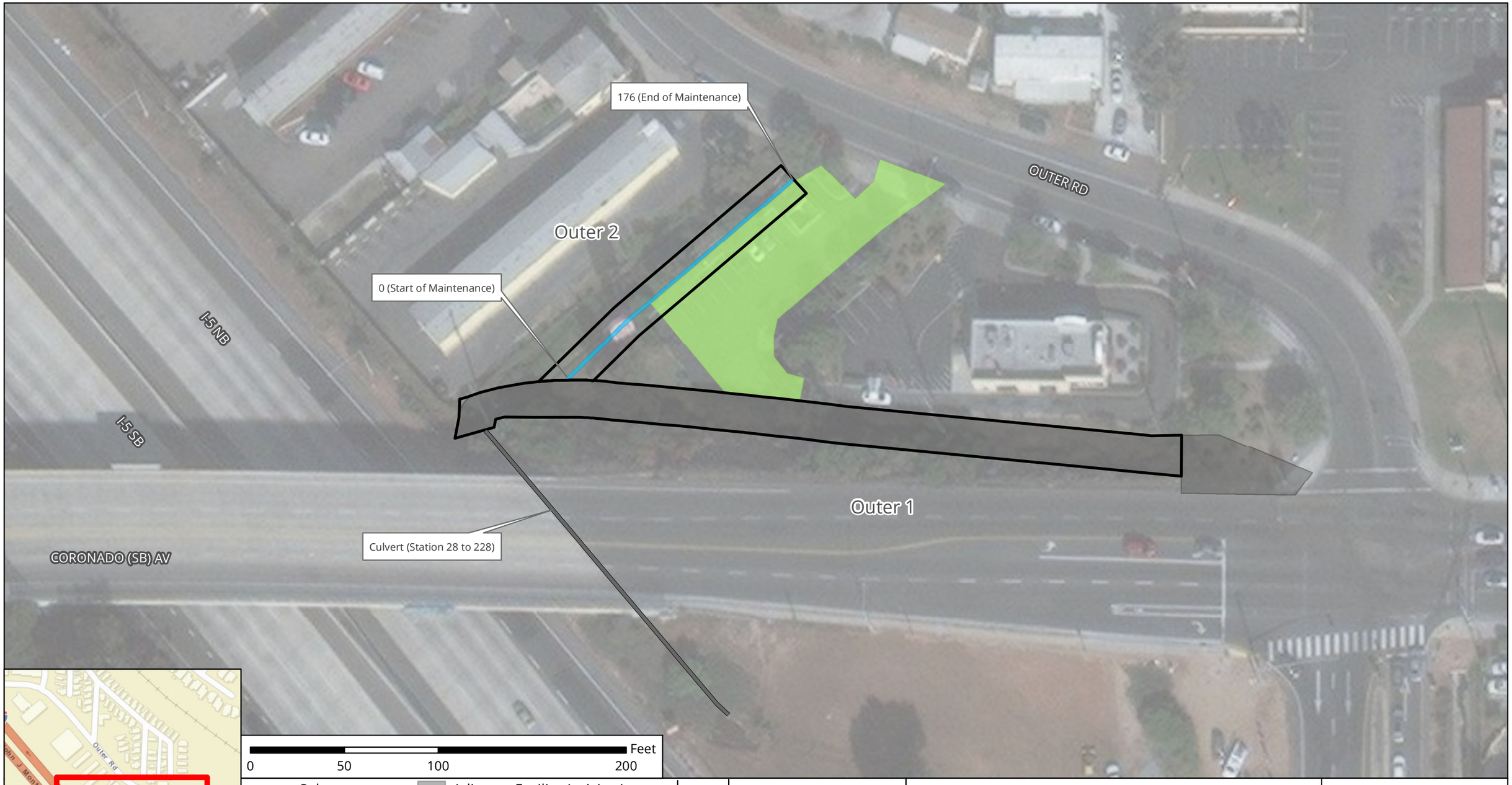
Facility Group	Nestor Creek - Outer
Segment Name	Outer 2
Facility No.	5-22-112
Facility Location	From a drop inlet on Outer Road to the downstream end of Outer 2 segment
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per estimated original design dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and debris and removal of overhanging vegetation from bottom and sides of concrete ditch from Station 0 to Station 176
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	None
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 176 feet Top width: 2 feet Bottom width: 1 feet Depth: 2 feet

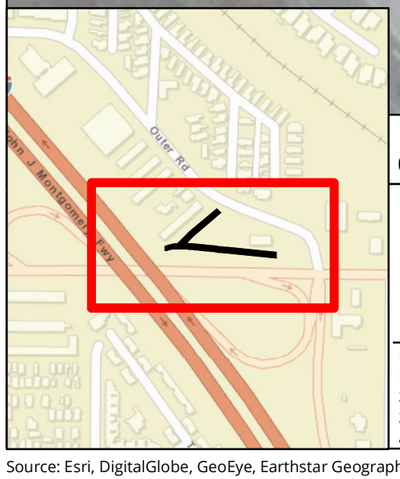
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Ditch: 176 feet Width: 2 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator stationed within access/loading area in parking lot scoops material from ditch and loads dump truck 2. Crew may also remove material by hand or by vactor 3. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None





0 50 100 200 Feet

Culvert
Facility Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Nestor Creek - Nestor
Segment Name: Outer 2
Facility No: 5-22-112
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Tijuana River - Pilot & Smuggler's Facility Group

Segment Names (Facility numbers):

Pilot Channel 1 (6-01-020)

Smuggler's Gulch 1 (6-01-100)

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Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.11
Drainage Name (Number)	Tijuana River (01)
Facility Group Name	Tijuana River - Pilot & Smuggler's
Segment Name (Facility Number)	Pilot Channel 1 (6-01-020) Smuggler's Gulch 1 (6-01-100)
Substrate	Pilot Channel 1 / Earthen Smuggler's Gulch 1 / Earthen
Location	About 100 feet east to 5,300 feet west of Hollister Street
MMP Map No(s).	138a, 138b, 138c, 138, 139
Facility Inspection No.	138a, 138b, 138c, 138, 139
Other Former Names	None

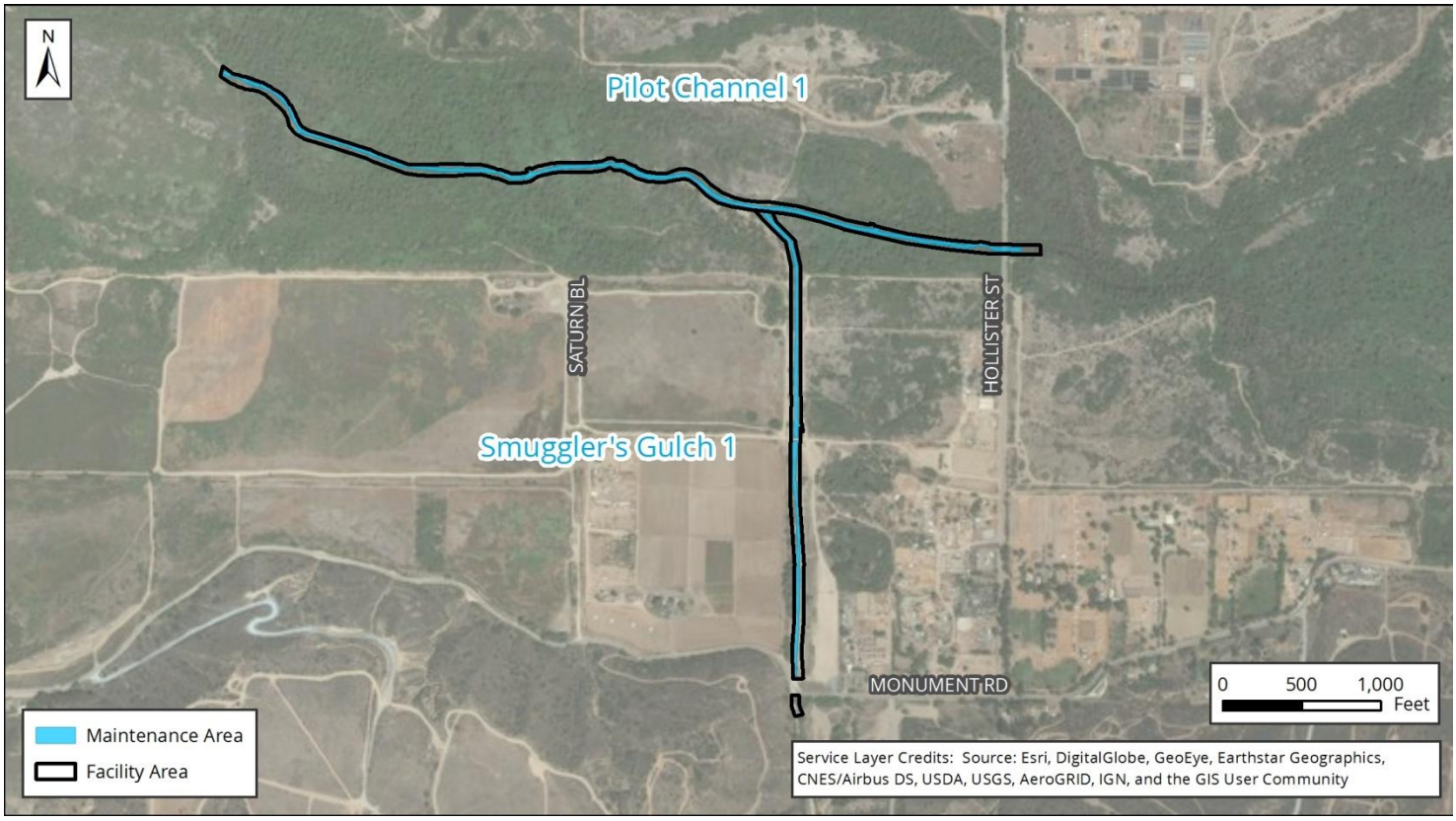


Figure 1: Vicinity Map of Tijuana River - Pilot & Smuggler's Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Tijuana River Watershed Management Area; Hydrologic Subarea 911.11	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Tijuana River - Pilot & Smuggler's	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

Tijuana River Estuary (First downstream water body)	
Beneficial Uses	• Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Eutrophic, Indicator Bacteria, Lead, Low Dissolved Oxygen, Nickel, Pesticides, Thallium, Trash, Turbidity

Pilot Channel Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of the Tijuana River, upstream of the Tijuana River Estuary
Tributaries (listed from downstream to upstream)	Tijuana River Unnamed Tributary
Facility Length	Approximately 5,550 feet
Top-of-Bank Width	Approximately 23 feet
Bottom Facility Width	Approximately 15 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	DEF-CER

Figure 1: September 2012, looking south at the confluence point with the Smuggler's Gulch tributary

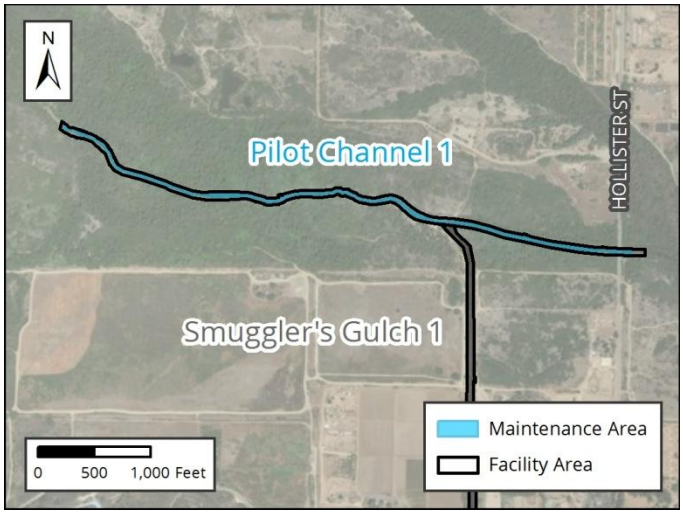


Figure 2: Vicinity Map of Pilot Channel Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	1993: Emergency Pilot Channel construction 2004 & 2009: Emergency excavation of sediment and vegetation September 2012 – March 2019: Routine maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	2012 Master CDP No. A-6-NOC11-086-A1 (expires November 2019)
SDP	SDP No. 2034245 (2017 Addendum)
404	IP USACE File #SPL-2009-00719-RRS (expires October 2027)
401	RWQCB 401 Cert No. R9-2016-0028 (expires October 2027)
1602	CDFW SAA No. 1600-2011-0271-R5 (expires November 2021)
Mitigation for Previous Impacts	Tijuana River Emergency Channel Maintenance Wetland Mitigation Project (11.02 acres) Tijuana Wetlands Enhancement Project (8.62 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to range from light to dense and sediment deposition was estimated to be 3 to 4.5 feet. Ponded water was present. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	705	3,248	7,612	15,819	37,163	66,894

Hydraulic Capacity of Facility

Current Capacity	10 cfs
Proposed MWMP Maintained Capacity	200 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 93 to Station 14956
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Natural flood channel • Ornamental plantings • Riparian forest (southern willow forest) • Riparian scrub (mulefat scrub)
Habitat and Wildlife	The vegetation contained within and adjacent to the facility provides potential nesting and/or foraging habitat for raptors, migratory bird species, and sensitive bird species (e.g., least Bell's vireo, southern willow flycatcher, and Ridgeway's Rail)
MHPA	The channel is located entirely within the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Yes, maintenance area is the in-channel component of Tijuana Wetlands Enhancement Mitigation Project

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	P-37-025924; Hollister Street Bridge
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-1	MM-HR-1
EP-HAZ-3	MM-HR-2
Land Use (LU)	**Noise (NOI)**
EP-LU-1	MM-NOI-1
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

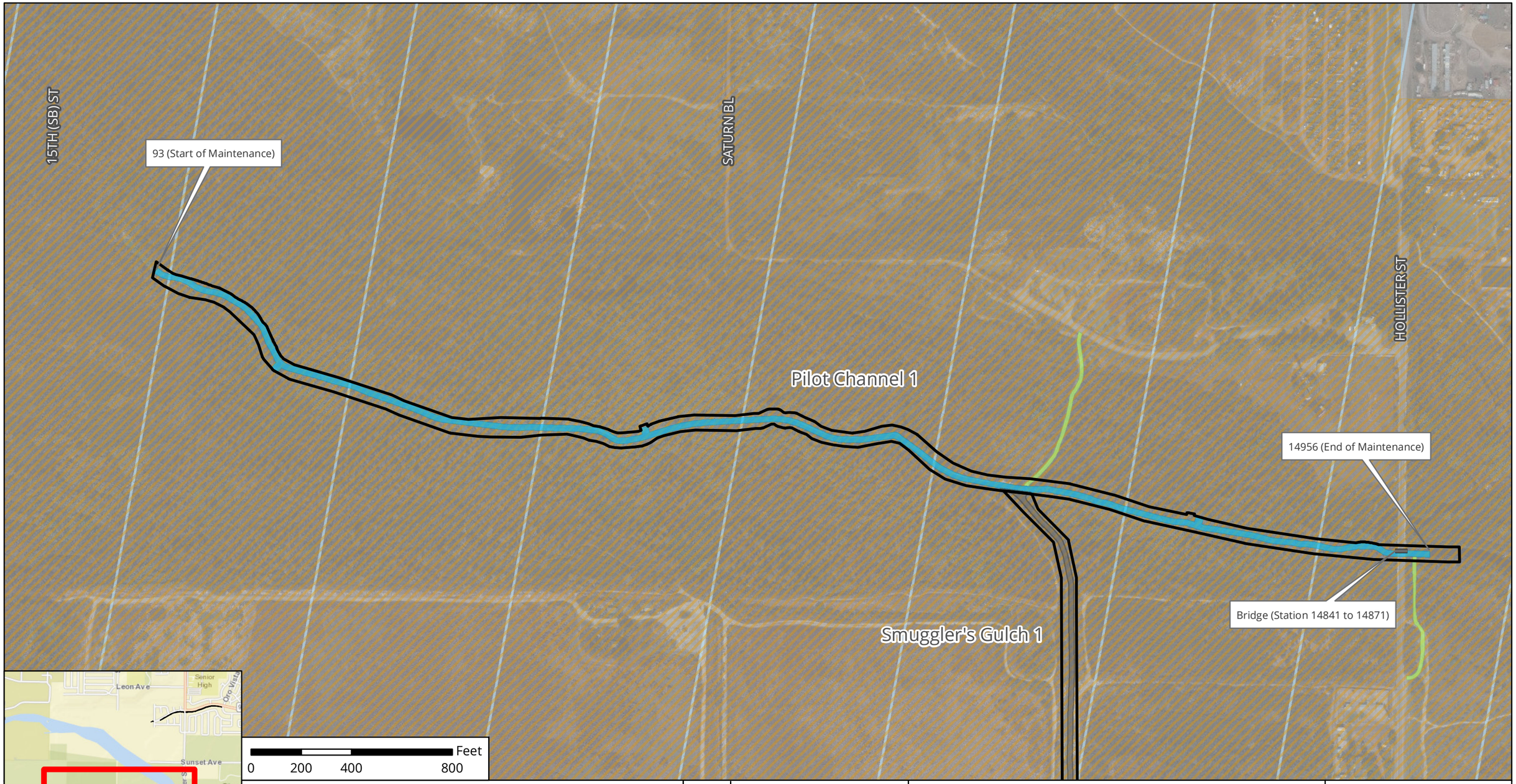
Facility Group	Tijuana River - Pilot & Smuggler's
Segment Name	Pilot Channel 1
Facility No.	6-01-020
Facility Location	From 100 feet east of Hollister Street to 5,300 feet west of Hollister Street
Coastal Zone	DEF-CER
MWMP Proposed Maintenance	Maintenance of earthen channel per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 93 to Station 14956
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 5,550 feet Top width: 23 feet Bottom width: 15 feet Depth: 5 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 5,550 feet Width: 23 Three turnarounds 20'x30' each feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, critically silenced pump, Ditch Witch/trencher, rock truck, water truck, fuel truck, vactor, material screen/aggregate separator, fuel-powered hand tools, chipper, sweeper
Schedule	Up to approximately 60–90 working days, plus 30–45 days if pre-maintenance pumping required, plus 90 days for stockpile management
Maintenance Crew	Approximately 15 people
Routine Maintenance Procedures	West of Hollister Bridge: (Use Smuggler's Gulch Methodology). East of Hollister Bridge: 1. Equipment uses access road east of Hollister Street/south of Hollister Bridge 2. Long-reach excavator at access/loading area scoops material from channel and loads dump truck. 3. Dump truck hauls material to stockpiling area 4. At stockpiling areas, bulldozer/track-steer manages stockpiles, backhoe sorts material (waste, tires, vegetation, trash), loader places material in dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation

Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Conduct daily surveys for light-footed Ridgway's rail 3. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Complete comprehensive trip log manifest if transporting 9 or more waste tires

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Tijuana River - Pilot & Smuggler's
Segment Name: Pilot 1
Facility No: 6-01-020
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Smuggler's Gulch Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Smuggler's Gulch, immediately upstream of the Tijuana River
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 4,028 feet
Top-of-Bank Width	Approximately 48–54 feet
Bottom Facility Width	Approximately 17–20 feet
Facility Depth	Approximately 15 feet
Adjacent Land Use	Agriculture, Open Space, Transportation
As-Built Drawing Number	None
Coastal Zone	CST-APP, DEF-CER

Figure 1: September 2012, looking south (upstream) from atop the Disney Crossing. Vegetation is very thick on the side slopes, while the streambed is mainly unvegetated.

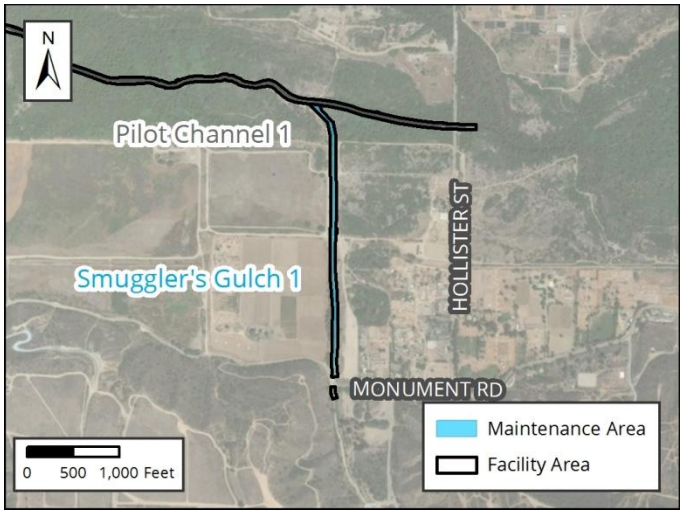


Figure 2: Vicinity Map of Smuggler's Gulch Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	1993: Emergency Pilot Channel construction 2004 & 2009: Emergency excavation of sediment and vegetation September 2012 – March 2019: Routine maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	2012 Master CDP No. A-6-NOC11-086-A1 (expires November 2019)
SDP	SDP No. 2034245 (2017 Addendum)
404	IP USACE File #SPL-2009-00719-RRS (expires October 2027)
401	RWQCB 401 Cert No. R9-2016-0028 (expires October 2027)
1602	CDFW SAA No. 1600-2011-0271-R5 (expires November 2021)
Mitigation for Previous Impacts	Tijuana Wetlands Enhancement Project (8.62 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to be dense and sediment deposition was estimated to be 2 feet. A large amount of trash and debris was noted as well. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	653	1,479	1,668	2,520	3,081	3,626

Hydraulic Capacity of Facility

Current Capacity	653 cfs
Proposed MWMP Maintained Capacity	900 cfs
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 1000 to Station 2530 and Station 2550 to Station 4046. Remove accumulated sediment and debris from culverts Station 2530 to Station 2550. Repair/replace concrete grout near the outlet of the 52-inch CMP culvert at Station 4046.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Natural flood channel • Riparian scrub
Adjacent Vegetation	• Agricultural land • Coastal sage scrub • Developed land • Disturbed land • Disturbed riparian scrub • Eucalyptus woodland • Natural flood channel • Ornamental plantings • Riparian forest (southern willow forest) • Riparian scrub (mulefat scrub)
Habitat and Wildlife	The vegetation contained within and adjacent to the facility provides potential nesting and/or foraging habitat for raptors, migratory bird species, and sensitive bird species (e.g., least Bell's vireo, southern willow flycatcher, coastal California gnatcatcher, and Ridgeway's rail)
MHPA	The channel is located entirely within the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Yes, maintenance area is the in-channel component of Tijuana Wetlands Enhancement Mitigation Project

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-002611; P-37-010669; P-37-013486; P-37-013527
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric lithic scatter; Prehistoric habitation site; Prehistoric shell and lithic scatter; Prehistoric shell and lithic scatter

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	MM-BIO-7
EP-HAZ-3	**Noise (NOI)**
Land Use (LU)	MM-NOI-1
EP-LU-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

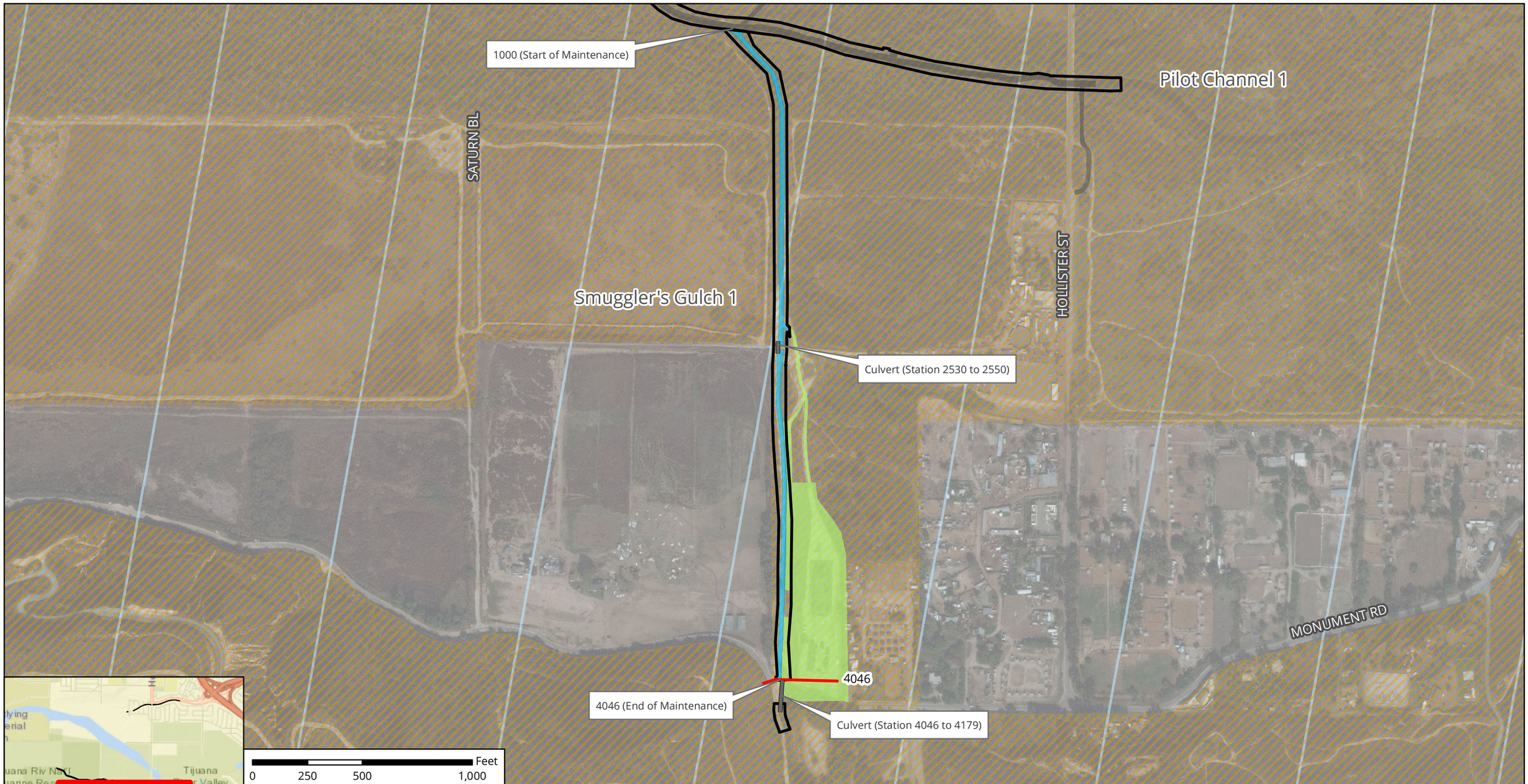
Facility Group	Tijuana River - Pilot & Smuggler's
Segment Name	Smuggler's Gulch 1
Facility No.	6-01-100
Facility Location	From 2,500 feet north of the international border to Tijuana River Pilot - Pilot 1 segment
Coastal Zone	CST-APP, DEF-CER
MWMP Proposed Maintenance	Maintenance of earthen channel and concrete culverts per estimated original design dimensions, previous maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from channel bottom from Station 1000 to Station 2530 and Station 2550 to Station 4046. Remove accumulated sediment and debris from culverts Station 2530 to Station 2550. Repair/replace concrete grout near the outlet of the 52-inch CMP culvert at Station 4046.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Temporary stockpiling Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	None

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 4,028 feet Top width: 48–54 feet Bottom width: 17–20 feet Depth: 15 feet
Authorized Facility Maintenance Area	Length: Channel: 3,026 feet; Culvert: 20 feet Width: 20 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, critically silenced pump, Ditch Witch/trencher, rock truck, water truck, fuel truck, vactor, material screen/aggregate separator, fuel-powered hand tools, sweeper
Schedule	Up to approximately 60–90 working days, plus 30–45 days if pre-maintenance pumping required, plus 90 days for stockpile management
Maintenance Crew	Approximately 15 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, Gradall/excavator, bulldozer/track-steer, and rock truck enter or are lowered into channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area or in the channel 3. Bobcat/skid-steer enters culverts under Disney Bridge and pushes material to Gradall/excavator 4. Gradall/excavator scoops material from channel and loads rock truck 5. Rock truck hauls material to stockpiling area 6. At stockpiling areas: bulldozer/track-steer manages stockpiles, backhoe sorts material (waste tires, vegetation, trash), loader places material in dump truck 7. Dump truck hauls material to appropriate disposal facility 8. Vactor stationed on Monument Road flushes and vacuums material from culverts beneath road and hauls to appropriate disposal facility
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation

Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Conduct daily surveys for light-footed Ridgway's rail 3. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Complete comprehensive trip log manifest if transporting 9 or more waste tires

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Tijuana River - Pilot & Smuggler's
Segment Name: Smuggler's Gulch 1
Facility No: 6-01-100
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

DAIRY MART RD

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CLEARWATER WY

W TIA JUANA ST

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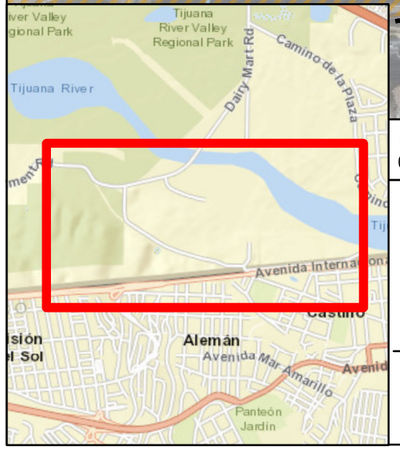
CAM DE LA PLAZA



0 250 500 1,000 Feet

- International Border
- Coastal Zone
- Multi-Habitat Planning Area
- Access/Loading/Staging/Stockpiling Area

N

The City of SAN DIEGO

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

November 2019

Map B: General Site Plan
Facility Group Name: Tijuana River - Pilot & Smuggler's
Segment Name: Smuggler's Gulch 1
Facility No: 6-01-100
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Facility Maintenance Plan

Tijuana River - Tocayo Facility Group

Segment Names (Facility numbers):

- Tocayo 1 (6-02-115) (See Appendix A-5)
- Tocayo 2 (6-02-118)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.11
Drainage Name (Number)	Tijuana River Unnamed Tributary (02)
Facility Group Name	Tijuana River - Tocayo
Segment Name (Facility Number)	Tocayo 1 (6-02-115) (See Appendix A-5) Tocayo 2 (6-02-118)
Substrate	Tocayo 1 / Earthen Tocayo 2 / Concrete
Location	About 1,300 feet east of Saturn Boulevard, and southwest of the intersection of Oro Vista Road and Tocayo Avenue
MMP Map No(s).	136, 137
Facility Inspection No.	136, 137
Other Former Names	Tocayo Channel

Figure 1: Vicinity Map of Tijuana River - Tocayo Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Tijuana River Watershed Management Area; Hydrologic Subarea 911.11	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Tijuana River - Tocayo	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Tijuana River (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

Tocayo Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, immediately upstream of Tijuana River unnamed tributary (Tocayo Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 2,855 feet
Top-of-Bank Width	Approximately 20–38 feet
Bottom Facility Width	Approximately 6–20 feet
Facility Depth	Approximately 6–7 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Other Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	17042-D & 20960-D
Coastal Zone	N-APP-2

Figure 1: April 2017, looking upstream at vegetation

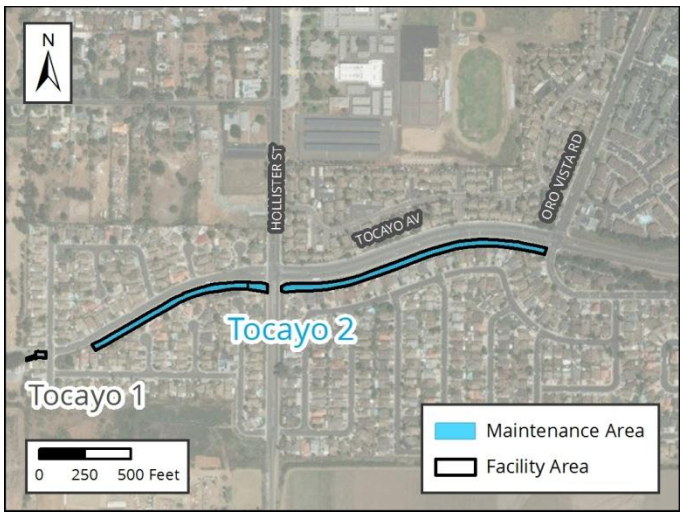


Figure 2: Vicinity Map of Tocayo Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted January 2015 and May 2017: Minor maintenance conducted April 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	None
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to vary from fairly clean concrete to patches of low grasses and a small stand of trees located near the Hollister Street bridge					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	684	875	1,023	1,227	1,375	1,523
Hydraulic Capacity of Facility						
Current Capacity	180 cfs					
Proposed MWMP Maintained Capacity	220 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from Station 1702 to Station 2725 and Station 2804 to Station 4279. Remove accumulated sediment and debris in culverts from Station 1424 to Station 1702 and Station 2725 to Station 2804. A maintenance area from Station 1414 to Station 1424 has been identified for maintenance of the culvert at Station 1424.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the ornamental vegetation present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tijuana River - Tocayo
Segment Name	Tocayo 2
Facility No.	6-02-118
Facility Location	From west of Oro Vista Road to upstream end of Tocayo 1 segment
Coastal Zone	N-APP-2
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from Station 1702 to Station 2725 and Station 2804 to Station 4279. Remove accumulated sediment and debris in culverts from Station 1424 to Station 1702 and Station 2725 to Station 2804. A maintenance area from Station 1414 to Station 1424 has been identified for maintenance of the culvert at Station 1424.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 17042-D & 20960-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 2,855 feet Top width: 20–38 feet Bottom width: 6–20 feet Depth: 6–7 feet
Authorized Facility Maintenance Area	Length: Channel: 2,498 feet; Culvert: 367 feet Width: 20–38 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal dispose site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

The City of SAN DIEGO

Map A: General Site Plan
Facility Group Name: Tijuana River - Tocayo
Segment Name: Tocayo 2
Facility No: 6-02-118
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

November 2019

DMAX DUDEK Geosyntec consultants

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Tijuana River - Smythe Facility Group

Segment Names (Facility numbers):

- Via Encantadoras 1 (6-03-135)
- Via Encantadoras 2 (6-03-138)
- Via Encantadoras 3 (6-03-143)
- Smythe 1 (6-03-147)
- Via de la Bandola 1 (6-03-150)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.11
Drainage Name (Number)	Tijuana River Unnamed Tributary (03)
Facility Group Name	Tijuana River - Smythe
Segment Name (Facility Number)	Via Encantadoras 1 (6-03-135) Via Encantadoras 2 (6-03-138) Via Encantadoras 3 (6-03-143 Smythe 1 (6-03-147) Via de la Bandola 1 (6-03-150)
Substrate	Via Encantadoras 1 / Earthen Via Encantadoras 2 / Concrete Via Encantadoras 3 / Earthen and concrete Smythe 1 / Earthen Via de la Bandola 1 / Concrete
Location	About 150 feet south of State Route 905, 650 feet east of Dairy Mart Road, and 100 feet northeast of Interstate 5 (I-5)
MMP Map No(s).	129, 130, 130a
Facility Inspection No.	129, 130, 130a
Other Former Names	Smythe Channel

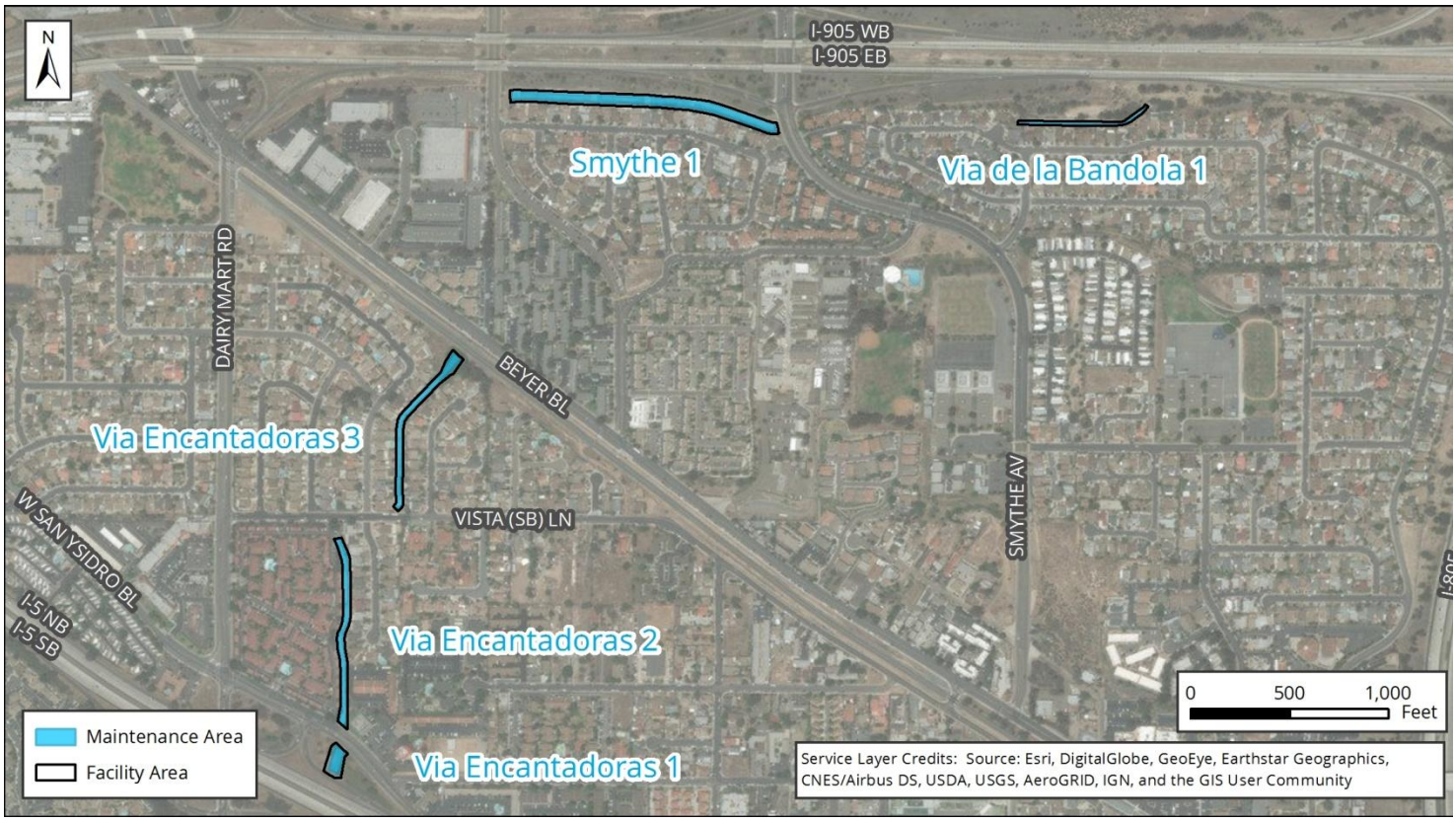


Figure 1: Vicinity Map of Tijuana River - Smythe Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Tijuana River Watershed Management Area; Hydrologic Subarea 911.11	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Tijuana River - Smythe	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Tijuana River (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

Via Encantadoras Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River
Tributaries (listed from downstream to upstream)	Tijuana River Unnamed Tributary
Facility Length	Approximately 248 feet
Top-of-Bank Width	Approximately 70 feet
Bottom Facility Width	Approximately 48 feet
Facility Depth	Approximately 4–5 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Open Space, Transportation
As-Built Drawing Number	19218-D, 11-086034, 16916-D, & 14427-D
Coastal Zone	No

Figure 1: April 2015, looking downstream at entrance to quadruple 12-foot-wide by 4-foot-high RCB culvert beneath Interstate 5

Figure 2: Vicinity Map of Via Encantadoras Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to be dense with no evidence of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	657	854	1,051	1,116	1,182	1,314
Hydraulic Capacity of Facility						
Current Capacity	1,182 cfs					
Proposed MWMP Maintained Capacity	1,314 cfs					
Maintenance Recommendation	Trim the vegetation from channel bottom from Station 310 to Station 430. Remove sediment and debris in culvert from Station 430 to Station 558.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed riparian forest (southern willow forest) • Freshwater marsh
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo) at the upstream end, the channel extents and area of vegetation present are limited such that it is unlikely for riparian species to use the channel for nesting or foraging. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 320 feet south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-6
EP-HAZ-3	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tijuana River - Smythe
Segment Name	Via Encantadoras 1
Facility No.	6-03-135
Facility Location	From outlet of culvert beneath West San Ysidro Boulevard to inlet of RCB culvert beneath Interstate 5 (I-5)
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Trim the vegetation from channel bottom from Station 310 to Station 430. Remove sediment and debris in culvert from Station 430 to Station 558.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 19218-D, 11-086034, 16916-D, & 14427-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 248 feet Top width: 70 feet Bottom width: 48 feet Depth: 4–5 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 120 feet; Culvert: 128 feet Width: 52 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters or is lowered into channel at access/loading area with Gradall/excavator assistance 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with City of San Diego and Caltrans
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Tijuana River - Smythe
Segment Name: Via Encantadoras 1
Facility No: 6-03-135
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Via Encantadoras Segment 2 Detail

Facility Type	Concrete channel
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River unnamed tributary (Via Encantadoras Segment 1)
Tributaries (listed from downstream to upstream)	Tijuana River Unnamed Tributary
Facility Length	Approximately 955 feet
Top-of-Bank Width	Approximately 16–50 feet
Bottom Facility Width	Approximately 10–50 feet
Facility Depth	Approximately 5–10 feet
Adjacent Land Use	Commercial, Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	19218-D, 11-086034, 16916-D, & 14427-D
Coastal Zone	No

Figure 1: April 2015, looking downstream at entrance to quadruple 12-foot-wide by 4-foot-high RCB culvert beneath West San Ysidro Boulevard

Figure 2: Vicinity Map of Via Encantadoras Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: Nov-Dec 2014 Emergency Maintenance
Past Regulatory Approvals	
CEQA	MMP PEIR No. 42891; Emergency Exemption NOE No. 400792
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum); SDP Emergency Authorization No. 400792
404	Exempt Activity
401	None
1602	Op Law
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In April 2015, the channel was observed to be relatively clean with very little evidence of vegetation or sediment deposition

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	657	854	1,051	1,116	1,182	1,314

Hydraulic Capacity of Facility

Current Capacity	1,182 cfs
Proposed MWMP Maintained Capacity	1,314 cfs
Maintenance Recommendation	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change. Due to recommended maintenance downstream within Via Encantadoras 1, the conveyance capacity in Via Encantadoras 2 improves.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Disturbed riparian forest (southern willow forest) • Eucalyptus woodland • Freshwater marsh • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo) at the upstream end, the channel extents and area of vegetation present are limited such that it is unlikely for wildlife to use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 580 feet south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tijuana River - Smythe
Segment Name	Via Encantadoras 2
Facility No.	6-03-138
Facility Location	From outlet of culvert that crosses beneath Vista Lane to inlet of culvert beneath West San Ysidro Boulevard
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	No maintenance currently proposed; however vegetation, sediment and debris removal, or concrete repair/replacement activities should be performed if the conditions change. Due to recommended maintenance downstream within Via Encantadoras 1, the conveyance capacity in Via Encantadoras 2 improves.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete channel
Existing Plans and/or As-Builts?	Yes; 19218-D, 11-086034, 16916-D, & 14427-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 955 feet Top width: 16–50 feet Bottom width: 10–50 feet Depth: 5–10 feet
Authorized Facility Maintenance Area	Length: Channel: 955 feet Width: 16–50 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and loader enter or are lowered into channel at access/loading area 2. Bobcat/skid-steer pushes material to loader 3. Loader scoops material from channel and loads dump truck at access/loading area 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Tijuana River - Smythe
Segment Name: Via Encantadoras 2
Facility No: 6-03-138
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Via Encantadoras Segment 3 Detail

Facility Type	Earthen and concrete channel
Substrate Detail[1]	Stations 1876-2612: Concrete bottom and banks Stations 2612-2762: Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River unnamed tributary (Via Encantadoras Segment 2)
Tributaries (listed from downstream to upstream)	Tijuana River Unnamed Tributary
Facility Length	Approximately 886 feet
Top-of-Bank Width	Approximately 30–100 feet
Bottom Facility Width	Approximately 8–55 feet
Facility Depth	Approximately 5–15 feet
Adjacent Land Use	Multi-Family Residential, Single-Family Residential, Transportation
As-Built Drawing Number	19218-D, 11-086034, 16916-D, & 14427-D
Coastal Zone	No

Figure 1: April 2015, entrance to double-barrel 72-inch-diameter RCP culvert under Vista Lane

Figure 2: Vicinity Map of Via Encantadoras Segment 3

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: Nov-Dec 2014 Emergency Maintenance
Past Regulatory Approvals	
CEQA	MMP PEIR No. 42891; Emergency Exemption NOE No. 400792
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum); SDP Emergency Authorization No. 400792
404	Exempt Activity
401	None
1602	Op Law
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[2]

Current Conditions Affecting Facility Capacity	In April 2015, the channel was observed to be relatively clean with patches of vegetation, sediment, and debris					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	610	793	976	1,037	1,098	1,220
Hydraulic Capacity of Facility						
Current Capacity	610 cfs					
Proposed MWMP Maintained Capacity	610 cfs					
Maintenance Recommendation	Remove accumulated sediment and vegetation from bottom and sides of segment from Station 1876 to Station 2762					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Riparian forest (southern willow forest; concrete-lined)
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo) at the upstream end, the channel extents and area of vegetation present are limited such that it is unlikely for wildlife to use the channel for nesting or foraging. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Solid Waste (SW)	**Noise (NOI)**
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

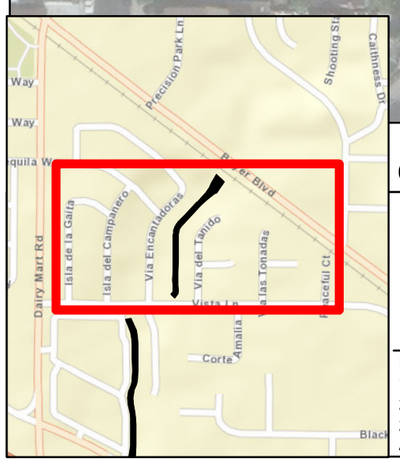
Facility Group	Tijuana River - Smythe
Segment Name	Via Encantadoras 3
Facility No.	6-03-143
Facility Location	From outlet of culvert that crosses beneath the San Diego Metropolitan Transit Development Board railroad tracks south of Beyer Boulevard to inlet of culvert beneath Vista Lane
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined channel per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[3]	Remove accumulated sediment and vegetation from bottom and sides of segment from Station 1876 to Station 2762
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen and concrete channel
Existing Plans and/or As-Builts?	Yes; 19218-D, 11-086034, 16916-D, & 14427-D
Substrate Detail[3]	Stations 1876-2612: Concrete bottom and banks Stations 2612-2762: Earthen bottom and banks

[3] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 886 feet Top width: 30–100 feet Bottom width: 8–55 feet Depth: 5–15 feet
Authorized Facility Maintenance Area	Length: Channel: 886 feet Width: 30–100 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, bulldozer/track-steer, loader, and dump truck enter or are lowered into channel at access/loading area from Vista Lane 2. Bobcat/skid-steer or bulldozer/track-steer pushes material to loader 3. Loader scoops material from channel and loads dump truck at access/loading area 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[4]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

[4] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Culvert

Facility Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2.Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Tijuana River - Smythe
Segment Name: Via Encantadoras 3
Facility No: 6-03-143
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Smythe Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River unnamed tributary (Via Encantadoras Segment 3)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,355 feet
Top-of-Bank Width	Approximately 47–60 feet
Bottom Facility Width	Approximately 20–30 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Industrial, Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	19218-D, 11-086034, 16916-D, & 14427-D
Coastal Zone	No

Figure 1: April 2015, looking upstream at channel

Figure 2: Vicinity Map of Smythe Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00942-RAG
401	RGP 63 Verification No. R9-2016-0014;820683;lhonma
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	Smythe Channel and Via de la Bandola Permittee Responsible Mitigation Project (3.11 acres)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to vary from light to dense with evidence of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	550	715	880	935	990	1,100
Hydraulic Capacity of Facility						
Current Capacity	<550 cfs					
Proposed MWMP Maintained Capacity	935 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from bottom and sides of segment from Station 4122 to Station 5477					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel • Riparian scrub (southern willow scrub)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	The facility contains suitable habitat for sensitive bird species, such as least Bell's vireo. Although this habitat is present, the channel is relatively isolated from other riparian areas, resulting in a low potential for sensitive species to occur.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-031491
Resource Identified Adjacent to APE	None
Resource Type	Historic path of Otay Mesa Road

Historical Resources	
Resource Identified in APE	P-37-031491; Historic path of Otay Mesa Road
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-4
EP-BIO-5	MM-BIO-5
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	DELETE
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tijuana River - Smythe
Segment Name	Smythe 1
Facility No.	6-03-147
Facility Location	From outlet of a culvert after it crosses beneath Smythe Avenue to 200 feet northeast of the intersection of Del Sur Boulevard and Shooting Star Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from bottom and sides of segment from Station 4122 to Station 5477
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	Yes; see Appendix A-4
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 19218-D, 11-086034, 16916-D, & 14427-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 1,355 feet Top width: 47–60 feet Bottom width: 20–30 feet Depth: 7 feet

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 1,355 feet Width: 60 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, sweeper
Schedule	Up to approximately 21 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bulldozer/track-steer and/or Gradall/excavator enters channel at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from channel and loads dump truck 5. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. In-stream post-maintenance erosion control measures may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Tijuana River - Smythe
Segment Name: Smythe 1
Facility No: 6-03-147
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Via de la Bandola Segment 1 Detail

Facility Type	Concrete ditch
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River unnamed tributary (Via Encantadoras Segment 3)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,986 feet
Top-of-Bank Width	Approximately 24–36 feet
Bottom Facility Width	Approximately 6 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Single-Family Residential, Transportation
As-Built Drawing Number	17307-D & 14427-D
Coastal Zone	No

Figure 1: December 2014, looking upstream at dense vegetation, and sediment and debris within ditch

Figure 2: Vicinity Map of Via de la Bandola Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2015-00850-RAG
401	RGP 63 Verification No. R9-2015-0187
1602	LSA Emergency Notification submitted 02/2016
Mitigation for Previous Impacts	Smythe Channel and Via de la Bandola Permittee Responsible Mitigation Project (0.67 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	In December 2014, the amount of vegetation was observed to be dense with many large trees. Sediment deposition was estimated to be 2 feet. Current condition: relatively clean, leaf debris.

Hydrologic Peak Flows

Storm Event	2-year	5-year	10-year	25-year	50-year	100-year
Q (cubic feet per second [cfs])	550	715	880	935	990	1,100

Hydraulic Capacity of Facility

Current Capacity	295 cfs
Proposed MWMP Maintained Capacity	295 cfs
Maintenance Recommendation	Remove accumulated sediment and vegetation from bottom and sides of concrete ditch from Station 1418 to Station 2134. Remove accumulated sediment and debris in the culvert from Station 148 to Station 1418.
In-Stream Post-Maintenance Erosion Control Recommendation	None

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-2
EP-BIO-4	MM-BIO-3
EP-BIO-5	MM-BIO-4
EP-BIO-6	MM-BIO-6
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Tijuana River - Smythe
Segment Name	Via de la Bandola 1
Facility No.	6-03-150
Facility Location	From 150 feet south of State Route 905 to 150 feet north of the intersection of Via de la Bandola and Via de La Melodia
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete-lined ditch per as-built dimensions, previous emergency maintenance approvals, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment and vegetation from bottom and sides of concrete ditch from Station 1418 to Station 2134. Remove accumulated sediment and debris in the culvert from Station 148 to Station 1418.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the ditch Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete ditch
Existing Plans and/or As-Builts?	Yes; 17307-D & 14427-D
Substrate Detail	Concrete bottom and banks

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Facility Dimensions (Approximate)	Length: 1,986 feet Top width: 24–36 feet Bottom width: 6 feet Depth: 6 feet
Authorized Facility Maintenance Area	Length: Ditch: 716 feet; Culvert: 1,270 feet Width: 24–36 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer enters or is lowered into ditch at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from ditch and loads dump truck 4. Dump truck hauls material to legal disposal site 5. Vactor used to power wash ditch in accordance with Flow Management section, below, and Water Pollution Control Plan
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	80-inch pipe at upstream end of segment

Culvert
Station
Facility Area
Adjacent Facility Activity Area
Access/Loading/Staging /Stockpiling Area
Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.
4. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Tijuana River - Smythe
Segment Name: Via de la Bandola 1
Facility No: 6-03-150
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX
DUDEK
Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Tijuana River - La Media Facility Group

Segment Name (Facility number):

La Media 1 (6-06-011)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.12
Drainage Name (Number)	Tijuana River Unnamed Tributary (06)
Facility Group Name	Tijuana River - La Media
Segment Name (Facility Number)	La Media 1 (6-06-011)
Substrate	La Media 1 / Earthen
Location	About 270 feet north of the intersection of La Media Road and Airway Road
MMP Map No(s).	124
Facility Inspection No.	124
Other Former Names	Airway and La Media, Airway

Figure 1: Vicinity Map of Tijuana River - La Media Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Tijuana River Watershed Management Area; Hydrologic Subarea 911.12	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Tijuana River - La Media	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Tijuana River (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

La Media Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, immediately upstream of Tijuana River unnamed tributary as it flows to Mexico
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 273 feet
Top-of-Bank Width	Approximately 8–26 feet
Bottom Facility Width	Approximately 2–22 feet
Facility Depth	Approximately 2.5 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	23787-D & 28063-D
Coastal Zone	No

Figure 1: April 2017, looking upstream at conservation area from Airway Road

Figure 2: Vicinity Map of La Media Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to be dense and the sediment deposition was estimated to be 1.5 feet					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	1,351	1,952	2,252	2,702	3,153	3,453
Hydraulic Capacity of Facility						
Current Capacity	19 cfs					
Proposed MWMP Maintained Capacity	19 cfs					
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from north side of culvert at Airway Road and extending 4.5 feet upstream. Remove accumulated sediment and debris in culvert from Station 4030 to Station 4080.					
In-Stream Post-Maintenance Erosion Control Recommendation	None					

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Freshwater marsh
Adjacent Vegetation	• Developed land • Disturbed freshwater marsh • Disturbed land • Freshwater marsh • Ornamental plantings • Riparian forest (southern willow forest) • Riparian scrub (southern willow scrub)
Habitat and Wildlife	There is limited suitable habitat for sensitive species use within the facility itself, but suitable riparian habitat for least Bell's vireo is present adjacent to the channel
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 5 feet west of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-007208
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric lithic scatter

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Air Quality (AQ)**
EP-BIO-1	MM-AQ-1
EP-BIO-2	**Biological Resources (BIO)**
EP-BIO-3a, 3b, 3c	MM-BIO-1a
EP-BIO-4	MM-BIO-2
EP-BIO-5	MM-BIO-3
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Land Use (LU)	MM-BIO-7
EP-LU-1	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

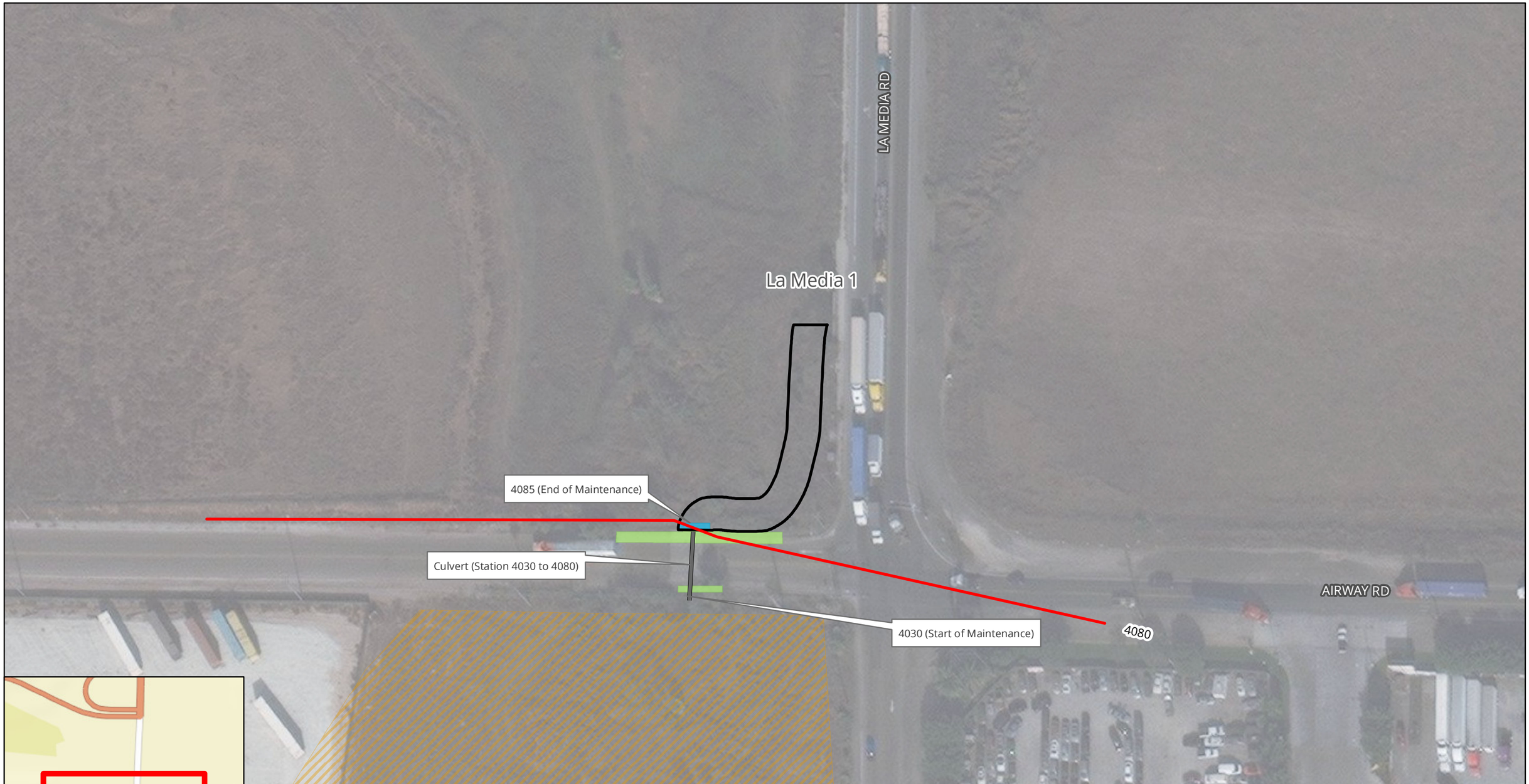
Facility Group	Tijuana River - La Media
Segment Name	La Media 1
Facility No.	6-06-011
Facility Location	From 270 feet northwest of the intersection of La Media Road and Airway Road to a privately maintained ditch
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel transition to Airway Road inlet per Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Recommendation[2]	Remove accumulated sediment, debris, and vegetation from north side of culvert at Airway Road and extending 4.5 feet upstream. Remove accumulated sediment and debris in culvert from Station 4030 to Station 4080.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the channel Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen channel
Existing Plans and/or As-Builts?	Yes; 23787-D & 28063-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 273 feet Top width: 8–26 feet Bottom width: 2–22 feet Depth: 2.5 feet

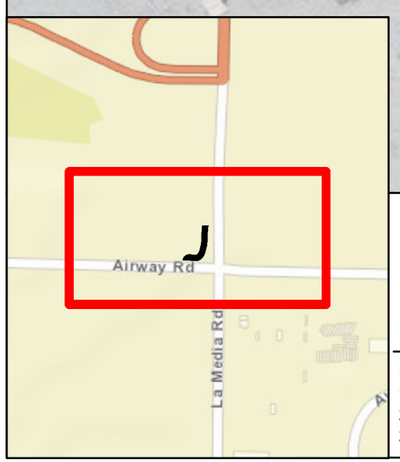
[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Authorized Facility Maintenance Area	Length: Channel: 4.5 feet; Culvert: 50 feet Width: 26 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Gradall/excavator, backhoe, dump truck, trash pump, vactor, sweeper
Schedule	Up to approximately 7 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Gradall/excavator and backhoe stationed above channel at access/loading area 2. Gradall/excavator and backhoe scoop material in front of culvert/pipes and load dump truck 3. Dump truck hauls material to legal disposal site 4. Vactor used to flush culverts in accordance with Flow Management section and Water Pollution Control Plan
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	None
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None





- Culvert
- Station
- Facility Area
- Multi-Habitat Planning Area
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

N

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Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

November 2019

Map A: General Site Plan
Facility Group Name: Tijuana River - La Media
Segment Name: La Media 1
Facility No: 6-06-011
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

APPENDIX A-2

Basin FMPs

Facility Maintenance Plan

Green Valley Creek - Paseo del Verano Facility Group

Segment Name (Facility number):

Paseo del Verano 1 (1-04-200)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Dieguito River
Watershed (Number)	San Dieguito River (1)
Hydrologic Subarea	905.22
Drainage Name (Number)	Green Valley Creek (04)
Facility Group Name	Green Valley Creek - Paseo del Verano
Segment Name (Facility Number)	Paseo del Verano 1 (1-04-200)
Substrate	Paseo del Verano 1 / Concrete
Location	About 400 feet northeast of the intersection of Paseo del Verano and Caminito Balata
MMP Map No(s).	169
Facility Inspection No.	169
Other Former Names	None

Figure 1: Vicinity Map of Green Valley Creek - Paseo del Verano Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Dieguito River Watershed Management Area; Hydrologic Subarea 905.22	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Green Valley Creek - Paseo del Verano	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Green Valley Creek (First downstream water body)	
Beneficial Uses	• Municipal and Domestic Supply (MUN) • Agricultural Supply (AGR) • Industrial Service Supply (IND) • Industrial Process Supply (PROC) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Chloride, Manganese, Pentachlorophenol (PCP), Pesticides, Sulfates, Total Nitrogen as N

Paseo del Verano Segment 1 Detail

Facility Type	Concrete desilting basin
Substrate Detail	Concrete bottom, and earthen and concrete banks
Location Within Watershed	Upper reach of Green Valley Creek (unnamed tributary), immediately upstream of Green Valley Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 203 feet
Top-of-Bank Width	Approximately 92 feet
Bottom Facility Width	Approximately 75 feet
Facility Depth	Approximately 11 feet
Adjacent Land Use	Agriculture, Open Space, Parks, Single-Family Residential, Transportation
As-Built Drawing Number	17603-8-D
Coastal Zone	No

Figure 1: July 2017, riprap structure at outlet structure

Figure 2: Vicinity Map of Paseo del Verano Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Dense vegetation including tree growth was observed. Approximately 2 feet of sediment deposition was estimated on the upstream side of the rock gabion.
Maintenance Recommendation	Remove accumulated sediment, debris and vegetation from basin bottom to restore the as-built condition. Trim vegetation on side slopes of the basin. Repair gabion rock-filled barrier walls to as-built condition.
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Eucalyptus woodland • Ornamental plantings • Riparian forest (southern willow forest)
Adjacent Vegetation	• Agricultural land • Developed land • Eucalyptus woodland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	MM-BIO-3
EP-HAZ-3	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

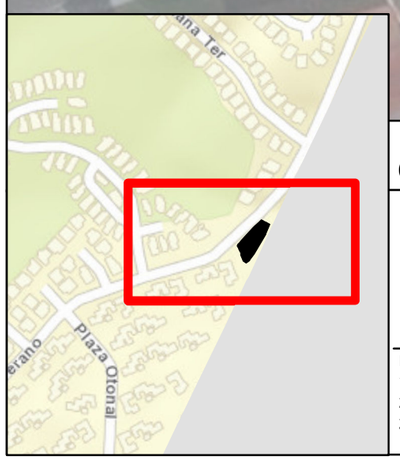
This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Green Valley Creek - Paseo del Verano
Segment Name	Paseo del Verano 1
Facility No.	1-04-200
Facility Location	400 feet northeast of the intersection of Paseo del Verano and Caminito Balata to an outfall structure on east side of Paseo del Verano
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of desilting basin, per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Maintenance Recommendation	Remove accumulated sediment, debris and vegetation from basin bottom to restore the as-built condition. Trim vegetation on side slopes of the basin. Repair gabion rock-filled barrier walls to as-built condition.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the basin Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	Yes; see Appendix A-4
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete desilting basin
Existing Plans and/or As-Builts?	Yes; 17603-8-D
Substrate Detail	Concrete bottom, and earthen and concrete banks
Facility Dimensions (Approximate)	Length: 203 feet Top width: 92 feet Bottom width: 75 feet Depth: 11 feet
Authorized Facility Maintenance Area	Area: Basin: 0.29 acres

Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30 working days
Maintenance Crew	Approximately 8–16 people
Routine Maintenance Procedures	1. Bobcat/skid-steer, Gradall/excavator, and/or loader enter or are lowered into basin at access/loading area 2. Bobcat/skid-steer pushes material to loader 3. Fuel-powered hand tools used to trim vegetation on side slopes 4. Loader scoops material from basin and loads dump truck at access/loading area 5. Dump truck hauls material to legal disposal site
Traffic Control	Yes; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



0 50 100 200 Feet

Facility Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Green Valley Creek - Paseo del Verano
Segment Name: Paseo del Verano 1
Facility No: 1-04-200
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Los Peñasquitos Canyon Creek - 5-805 Basin Facility Group

Segment Name (Facility number):

5-805 Fwys 1 (2-01-900)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Los Peñasquitos
Watershed (Number)	Los Peñasquitos (2)
Hydrologic Subarea	906.10
Drainage Name (Number)	Los Peñasquitos Canyon Creek (01)
Facility Group Name	Los Peñasquitos Canyon Creek - 5-805 Basin
Segment Name (Facility Number)	5-805 Fwys 1 (2-01-900)
Substrate	5-805 Fwys 1 / Earthen
Location	About 1,200 feet north of Sorrento Valley Boulevard and east of Vista Sorrento Parkway
MMP Map No(s).	N/A
Facility Inspection No.	N/A
Other Former Names	None

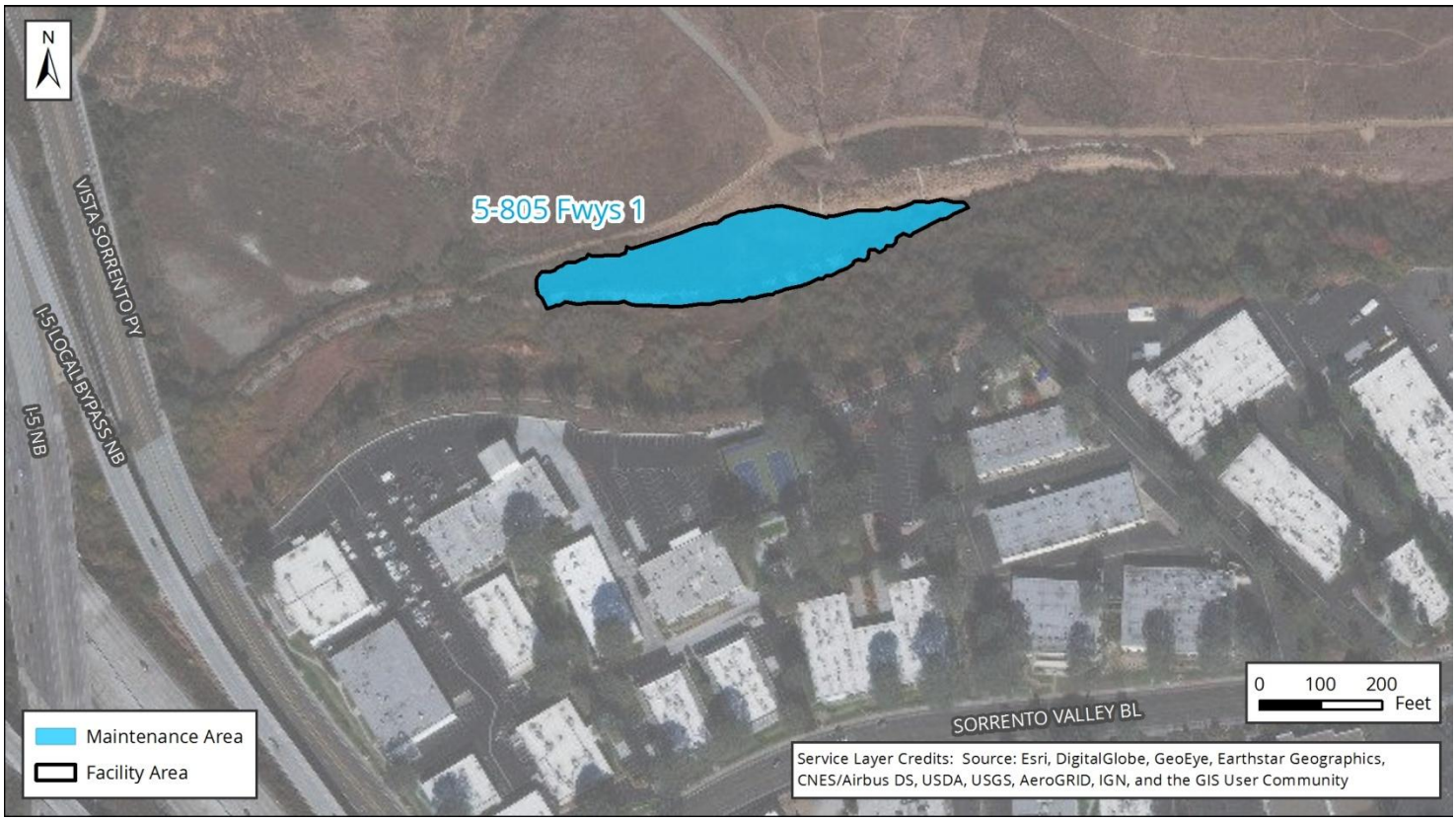


Figure 1: Vicinity Map of Los Peñasquitos Canyon Creek - 5-805 Basin Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

Los Peñasquitos Canyon Creek - 5-805 Basin	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Benthic Community Effects, Indicator Bacteria, Nitrogen, Pesticides, Phosphate, Total Dissolved Solids, Toxicity

Los Peñasquitos Lagoon (First downstream water body)	
Beneficial Uses	• Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Sedimentation/Siltation, Toxicity

5-805 Fwys Segment 1 Detail

Facility Type	Earthen desilting basin
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Los Peñasquitos Canyon Creek, upstream of the Los Peñasquitos Lagoon
Tributaries (listed from downstream to upstream)	Soledad Canyon Creek, Soledad Canyon Creek Unnamed Tributary, Los Peñasquitos Canyon Creek Unnamed Tributary, Carroll Canyon Creek
Facility Length	Approximately 744 feet
Top-of-Bank Width	Approximately 64–124 feet
Bottom Facility Width	Approximately 40–100 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Industrial, Multi-Family Residential, Office, Open Space, Parks, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	33927-D
Coastal Zone	DEF-CER

Figure 1: May 2018, looking west into the desilting basin with Penasquitos Creek visible on the outside of the rip rap berm

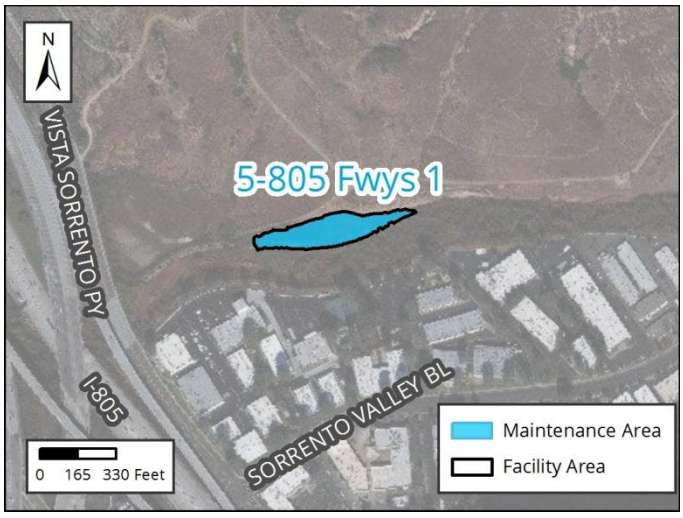


Figure 2: Vicinity Map of 5-805 Fwys Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	2008: Basin constructed January 2009 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	MND No. 47248 February 2006
CDP	CDP No 291354
SDP	SDP No. 151258
404	NWP 7/43 USACE File #SPL-2006-01537-LAM (expired May 2010)
401	RWQCB 401 Cert No. 04C-126 (no expiration)
1602	CDFW SAA No. #1600-2004-0521-R5 (expired March 2012)
Mitigation for Previous Impacts	None; no mitigation required in approvals for construction and routine maintenance of basin

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Moderate vegetation was observed throughout the basin with a minor amount of sediment deposition
Maintenance Recommendation	Remove vegetation from basin inlet and side weir, and restore to the as-built condition. Remove any accumulated sediment and debris from basin.
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Coastal salt marsh • Disturbed land • Riparian scrub (mulefat scrub) • Tamarisk thickets
Adjacent Vegetation	• Coastal sage scrub • Coastal salt marsh • Riparian forest (southern willow forest) • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland • Natural flood channel • Ornamental plantings • Riparian scrub (mulefat scrub) • Urban / Developed
Habitat and Wildlife	There is suitable nesting habitat for sensitive wildlife within and adjacent to the site. Coastal California gnatcatcher has potential to nest in coastal sage scrub habitat north of the basin that is within the MHPA and least Bell's vireo and southwestern willow flycatcher could occur within the riparian scrub (mulefat scrub) and riparian forest (southern willow forest) both within and directly adjacent to the site. Ridgway's rail could also occur within the coastal salt marsh habitat both within and directly adjacent to the basin. In addition, raptors could utilize the tall eucalyptus woodland and ornamental vegetation south of the basin for nesting.
MHPA	A small section of the basin is intersected by the Multi Habitat Planning Area (MHPA) boundary on the south side.
Mitigation Within Facility	None. The basin is an artificially constructed wetland.

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-031095
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric hearths

Historical Resources	
Resource Identified in APE	Basin; 1960; c. 1963–1974 earthen basin
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	MM-BIO-3
Health and Safety/Hazards (HAZ)	MM-BIO-4
EP-HAZ-3	MM-BIO-5
Land Use (LU)	MM-BIO-6
EP-LU-1	MM-BIO-7
Paleontological Resources (PAL)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-PAL-1	MM-CR-1
Solid Waste (SW)	MM-CR-2
EP-SW-2	MM-CR-3
EP-SW-3	MM-CR-4
EP-SW-4	MM-HR-1
EP-SW-5	MM-HR-2
EP-SW-6	**Noise (NOI)**
EP-SW-7	MM-NOI-1
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

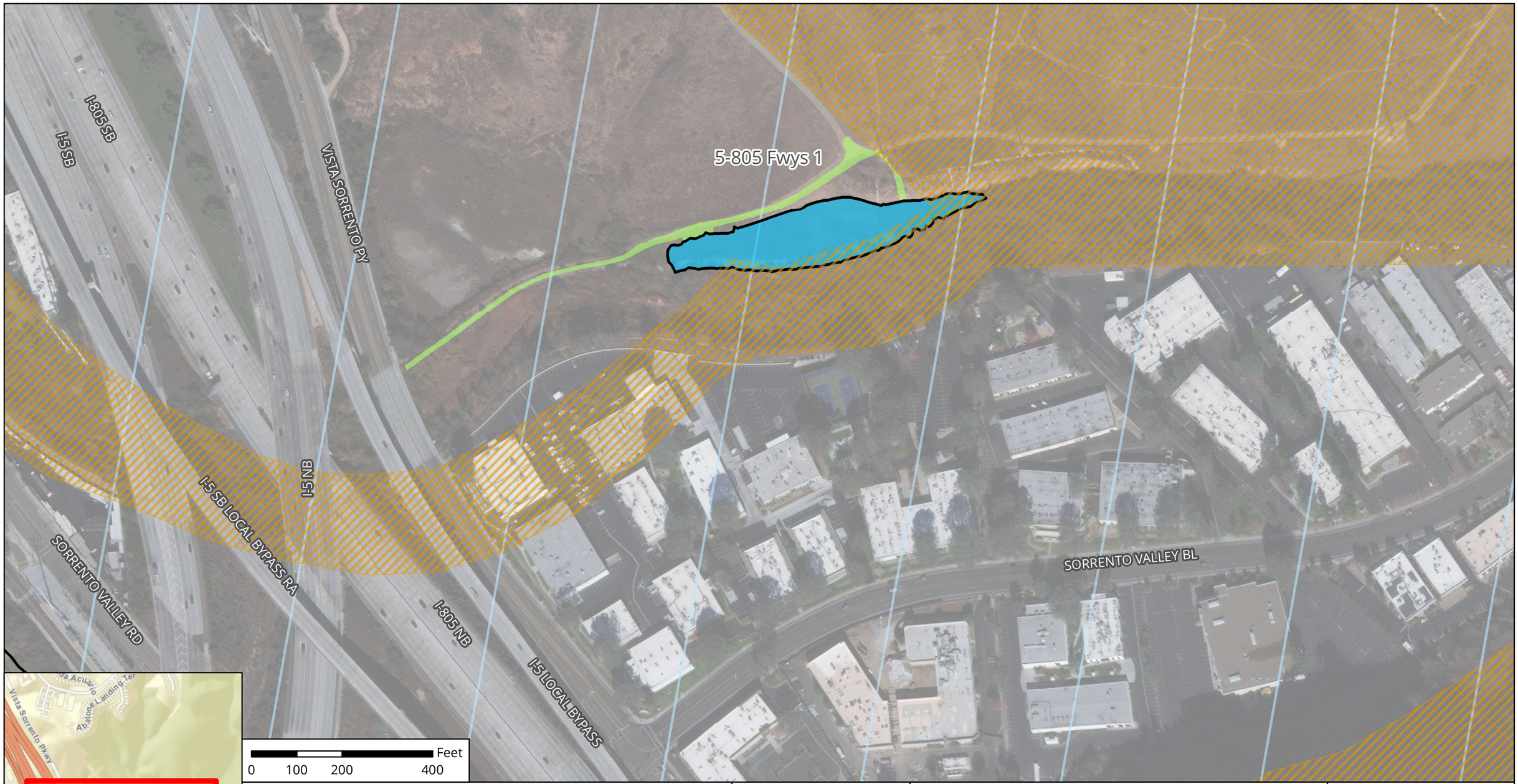
This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Los Peñasquitos Canyon Creek - 5-805 Basin
Segment Name	5-805 Fwys 1
Facility No.	2-01-900
Facility Location	1,200 feet northeast from the intersection of Sorrento Valley Boulevard and Vista Sorrento Parkway
Coastal Zone	DEF-CER
MWMP Proposed Maintenance	Maintenance of desilting basin per as-built dimensions, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Maintenance Recommendation	Remove vegetation from basin inlet and side weir, and restore to the as-built condition. Remove any accumulated sediment and debris from basin.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the basin Temporary access/loading Temporary staging Temporary diversions using excavated material Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen desilting basin
Existing Plans and/or As-Builts?	Yes; 33927-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 744 feet Top width: 64–124 feet Bottom width: 40–100 feet Depth: 6 feet
Authorized Facility Maintenance Area	Area: Basin: 1.44 acres
Maintenance Quantities	To be determined at time of maintenance

Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 30–40 working days
Maintenance Crew	Approximately 12–15 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters basin at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator and/or loader scoops material from basin and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	Yes, on Vista Sorrento Parkway; coordinate with the City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Equipment will need to be staged overnight on job site. Coordinate with Parks and Recreation, and SDGE.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Alta La Jolla - Vickie Facility Group

Segment Name (Facility number):

Vickie 1 (3-00-150)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Mission Bay
Watershed (Number)	Mission Bay (3)
Hydrologic Subarea	906.30
Drainage Name (Number)	Alta La Jolla (00)
Facility Group Name	Alta La Jolla - Vickie
Segment Name (Facility Number)	Vickie 1 (3-00-150)
Substrate	Vickie 1 / Earthen
Location	Bordered by Vickie Drive to the south, Westknoll Drive to the west and Soledad Road to the east
MMP Map No(s).	N/A
Facility Inspection No.	N/A
Other Former Names	None

Figure 1: Vicinity Map of Alta La Jolla - Vickie Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Mission Bay Watershed Management Area; Hydrologic Subarea 906.30	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

Alta La Jolla - Vickie	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Mission Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	No additional downstream waterbodies

Vickie Segment 1 Detail

Facility Type	Earthen detention basin
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Unnamed tributary to Mission Bay, upstream of Mission Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 234 feet
Top-of-Bank Width	Approximately 104–124 feet
Bottom Facility Width	Approximately 60–80 feet
Facility Depth	Approximately 11 feet
Adjacent Land Use	Industrial, Multi-Family Residential, Other Residential, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	35418-D
Coastal Zone	No

Figure 1: May 2018, looking north east into the detention basin from the south western end with the grated concrete culvert partially visible in the foreground

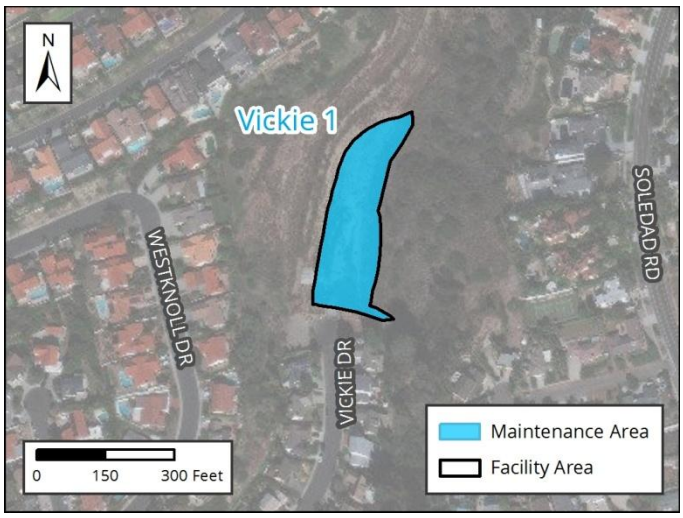


Figure 2: Vicinity Map of Vickie Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	2016: Basin constructed and mitigation installed adjacent to basin January 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	MND No. 128971 January 2011
CDP	N/A
SDP	SDP No. 443956
404	IP USACE File #SPL-2010-00157-RRS (expired June 2018)
401	RWQCB 401 Cert No. 10C-033 (expired November 2018)
1602	CDFW SAA No. 1600-2010-0053-R5 (expires March 2019)
Mitigation for Previous Impacts	None; no mitigation required in approvals for construction and routine maintenance of basin

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Dense vegetation including trees and accumulated sediment/debris were observed in the detention basin. The sediment depth was estimated to be approximately 1 foot deep across the basin and inlets and outlets were observed to be partially surrounded by vegetation.
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from basin bottom, from around inlet structure at the far north end of the basin, and from outflow structure at the south end of the basin to restore the as-built condition. Remove accumulated debris from storm drain outlet structures upstream of the basin.
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Coastal sage scrub • Disturbed coastal sage scrub • Disturbed land • Riparian Scrub (mulefat scrub)
Adjacent Vegetation	• Coastal sage scrub • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland • Natural flood channel • Ornamental plantings • Riparian scrub (mulefat scrub) • Urban / Developed
Habitat and Wildlife	There is suitable nesting habitat for sensitive wildlife within and adjacent to the site. Coastal California gnatcatcher has potential to nest in coastal sage scrub habitat surrounding the basin that is within the MHPA. Least Bell's vireo could also occur within the riparian scrub (mulefat scrub) both within and adjacent to the site. Additionally, raptors could utilize the tall ornamental vegetation adjacent to the basin for nesting.
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 100 feet to the west of the basin.
Mitigation Within Facility	None. Basin was constructed as part of adjacent channel restoration. Adjacent channel areas are part of the Alta La Jolla wetlands mitigation site. The basin is not part of the mitigation site and was anticipated to be routinely maintained.

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 5354 Vickie Rd.; c. 1964–1966 earthen channel; building more than 45 years old (not previously evaluated)
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	MM-BIO-3
Health and Safety/Hazards (HAZ)	MM-BIO-4
EP-HAZ-3	MM-BIO-5
Land Use (LU)	MM-BIO-6
EP-LU-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Paleontological Resources (PAL)	MM-HR-1
EP-PAL-1	MM-HR-2
Solid Waste (SW)	**Noise (NOI)**
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

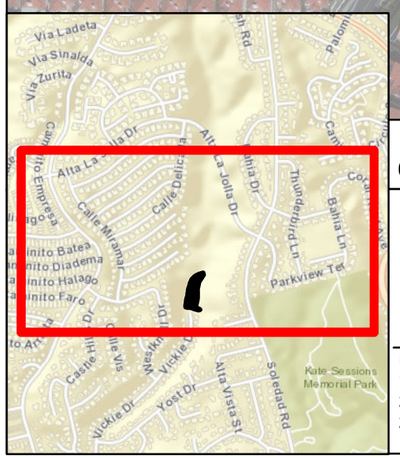
This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Alta La Jolla - Vickie
Segment Name	Vickie 1
Facility No.	3-00-150
Facility Location	North of Vickie Drive
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of detention basin per as-built dimensions, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from basin bottom, from around inlet structure at the far north end of the basin, and from outflow structure at the south end of the basin to restore the as-built condition. Remove accumulated debris from storm drain outlet structures upstream of the basin.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair for as-needed repair to inlet and outlet structures
Maintenance Method	Excavation; mechanized equipment inside and outside the basin Temporary access/loading Temporary staging Temporary stockpiling Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen detention basin
Existing Plans and/or As-Builts?	Yes; 35418-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 234 feet Top width: 104–124 feet Bottom width: 60–80 feet Depth: 11 feet

Authorized Facility Maintenance Area	Area: Basin: 1.13 acres
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 30–45 days
Maintenance Crew	Approximately 8–16 people
Routine Maintenance Procedures	1. Bulldozer/track-steer, Gradall/excavator, and/or loader enter basin at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area. 3. Gradall/excavator scoops material and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Downstream Sensitive Waters	No
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	Regular watering to minimize the spread of dust offsite is recommended



Facility Area

Multi-Habitat Planning Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

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Notes:
1. Concrete repair may occur wtihin this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

November 2019

Map A: General Site Plan
Facility Group Name: Alta La Jolla - Vickie
Segment Name: Vickie 1
Facility No: 3-00-150
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Maple Canyon Creek - Maple Facility Group

Segment Name (Facility number):

Maple 1 (5-02-140)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	San Diego Bay
Watershed (Number)	Pueblo San Diego (5)
Hydrologic Subarea	908.21
Drainage Name (Number)	Maple Canyon Creek (02)
Facility Group Name	Maple Canyon Creek - Maple
Segment Name (Facility Number)	Maple 1 (5-02-140)
Substrate	Maple 1 / Earthen
Location	Bordered by West Laurel Street to the south, State Street to the west, and 1st Avenue to the east
MMP Map No(s).	N/A
Facility Inspection No.	N/A
Other Former Names	None

Figure 1: Vicinity Map of Maple Canyon Creek - Maple Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.21	
Adopted TMDLs	None
Highest Priority Water Quality Condition	No Highest Priority has been identified for this part of the Watershed Management Area

Maple Canyon Creek - Maple	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego Bay (First downstream water body)	
Beneficial Uses	• Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE) • Spawning, Reproduction, and/or Early Development (SPWN) • Navigation (NAV) • Commercial and Sport Fishing (COMM) • Estaurine (EST) • Marine (MAR) • Migration of Aquatic Organisms (MIGR) • Shellfish Harvesting (SHELL)
303(d) listed Impairments	Mercury, PAHs (Polycyclic Aromatic Hydrocarbons), PCBs (Polychlorinated biphenyls)

Maple Segment 1 Detail

Facility Type	Earthen desilting basin
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Maple Canyon Creek, upstream of San Diego Bay
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 90 feet
Top-of-Bank Width	Approximately 55 feet
Bottom Facility Width	Approximately 35 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Office, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: May 2018, looking east from the detention basin at the incised natural flood channel upstream

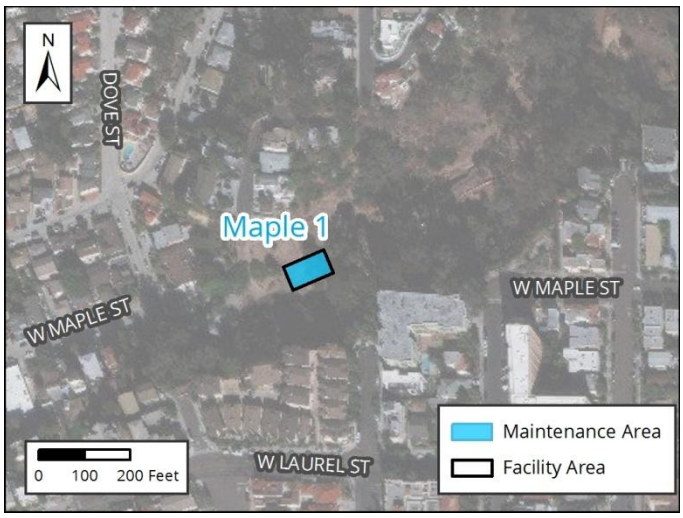


Figure 2: Vicinity Map of Maple Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	No Permit Required Letter USACE File #SPL-2016-00393
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Light vegetation was observed and sediment accumulation, including sand, silt, and small cobble varied from 0.5 to 5 feet deep
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the desilting basin
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed land • Natural flood channel
Adjacent Vegetation	• Disturbed coastal sage scrub • Disturbed land • Disturbed wetland (palm-dominated) • Eucalyptus woodland • Natural flood channel • Ornamental plantings
Habitat and Wildlife	There is limited suitable nesting habitat onsite for wildlife. However, raptors could utilize the tall ornamental vegetation adjacent to the basin for nesting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet from the basin.
Mitigation Within Facility	None. Upstream channel areas have been identified as a potential restoration site. A compensatory mitigation plan has not yet been prepared.

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1966–1974 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	MM-BIO-3
EP-HAZ-3	MM-BIO-4
Paleontological Resources (PAL)	MM-BIO-6
EP-PAL-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	**Noise (NOI)**
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

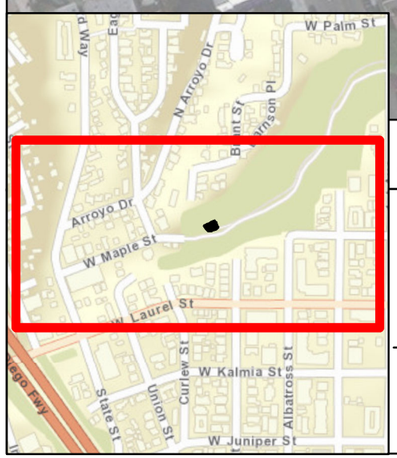
This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Maple Canyon Creek - Maple
Segment Name	Maple 1
Facility No.	5-02-140
Facility Location	300 feet west of the intersection of West Maple Street and Dove Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of desilting basin per estimated original design dimensions, and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from the desilting basin
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the basin Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	No
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen desilting basin
Existing Plans and/or As-Builts?	None
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 90 feet Top width: 55 feet Bottom width: 35 feet Depth: 5 feet
Authorized Facility Maintenance Area	Area: Basin: 0.12 acres
Maintenance Quantities	To be determined at time of maintenance

Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Gradall/excavator, loader, dump truck, trash pump, sweeper
Schedule	Up to approximately 5 days
Maintenance Crew	Approximately 8–10 people
Routine Maintenance Procedures	1. Gradall/excavator and/or loader enter basin at access/loading area 2. Gradall/excavator and/or loader scoops material from basin and loads dump truck at access/loading area 3. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



0 50 100 200 Feet

Facility Area

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

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Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.

November 2019

Map A: General Site Plan
Facility Group Name: Maple Canyon Creek - Maple
Segment Name: Maple 1
Facility No: 5-02-140
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Spring Canyon Creek - Cactus Facility Group

Segment Names (Facility numbers):

Cactus 1 (6-04-251)

Cactus 2 (6-04-253)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.12
Drainage Name (Number)	Spring Canyon Creek (04)
Facility Group Name	Spring Canyon Creek - Cactus
Segment Name (Facility Number)	Cactus 1 (6-04-251) Cactus 2 (6-04-253)
Substrate	Cactus 1 / Concrete Cactus 2 / Concrete
Location	Bordered to the east by Cactus Road and to the west by a business and industrial area
MMP Map No(s).	125
Facility Inspection No.	125
Other Former Names	None

Figure 1: Vicinity Map of Spring Canyon Creek - Cactus Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Tijuana River Watershed Management Area; Hydrologic Subarea 911.12	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Spring Canyon Creek - Cactus	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Tijuana River (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

Cactus Segment 1 Detail

Facility Type	Concrete detention basin
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Spring Canyon Creek, immediately upstream of Spring Canyon Creek (Cactus Segment 2)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 229 feet
Top-of-Bank Width	Approximately 23 feet
Bottom Facility Width	Approximately 2 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Industrial, Transportation
As-Built Drawing Number	23327-10-D & 23327-12-D
Coastal Zone	No

Figure 1: July 2017, standing water and vegetation growth in the basin

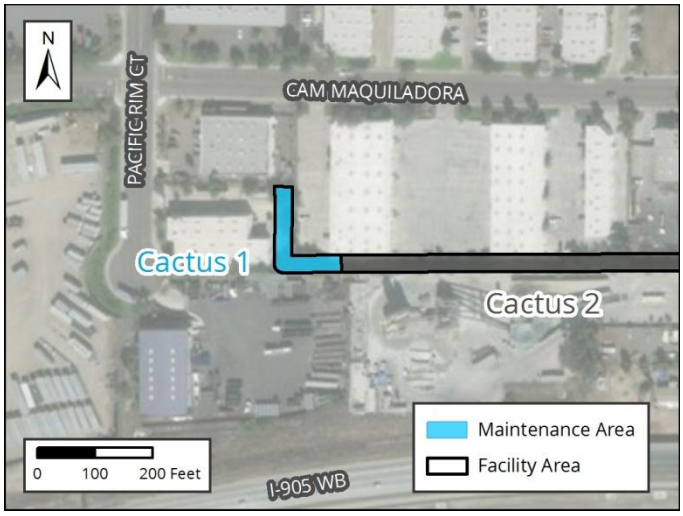


Figure 2: Vicinity Map of Cactus Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None; no mitigation required in approvals for construction and routine maintenance of basin

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Dense vegetation, tree growth, and accumulated sediment and debris were observed in the basin. Sediment depth was estimated to be approximately 2 feet deep across the basin. All inlets and outlets were fully covered by vegetation.
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation throughout the basin to restore the as-built condition
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	Although this basin does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the basin extents and area of vegetation present are limited and isolated from other native habitat such that it is unlikely for wildlife to use the basin for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 790 feet to the south of the basin.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	MM-BIO-3
EP-HAZ-3	MM-BIO-4
Solid Waste (SW)	MM-BIO-5
EP-SW-2	MM-BIO-6
EP-SW-3	**Noise (NOI)**
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

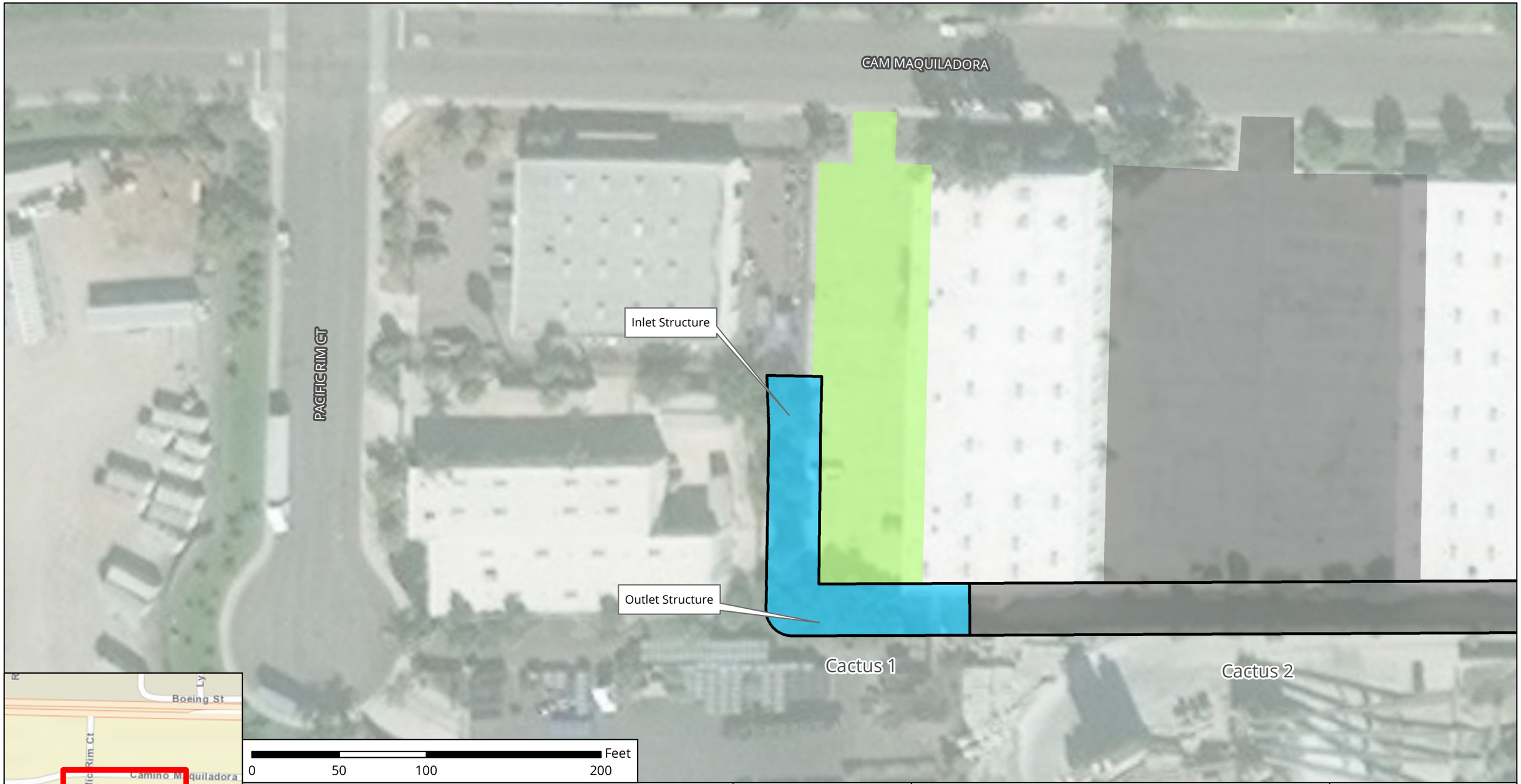
This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Spring Canyon Creek - Cactus
Segment Name	Cactus 1
Facility No.	6-04-251
Facility Location	From Cactus Road to the east to Cactus 2 segment to the west
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete detention basin per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation throughout the basin to restore the as-built condition
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the basin Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete detention basin
Existing Plans and/or As-Builts?	Yes; 23327-10-D & 23327-12-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 229 feet Top width: 23 feet Bottom width: 2 feet Depth: 7 feet
Authorized Facility Maintenance Area	Length: Basin: 229 feet Width: 23 feet
Maintenance Quantities	To be determined at time of maintenance

Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and loader enter or are lowered into basin at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer and loader pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from basin and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Facility Group Name: Spring Canyon Creek - Cactus
Segment Name: Cactus 1
Facility No: 6-04-251
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Cactus Segment 2 Detail

Facility Type	Concrete detention basin
Substrate Detail	Concrete bottom and banks
Location Within Watershed	Upper reach of Spring Canyon Creek
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 923 feet
Top-of-Bank Width	Approximately 25 feet
Bottom Facility Width	Approximately 7–10 feet
Facility Depth	Approximately 5 feet
Adjacent Land Use	Industrial, Transportation
As-Built Drawing Number	23327-8-D & 23327-12-D
Coastal Zone	No

Figure 1: July 2017, sediment, debris deposition and vegetation growth in basin

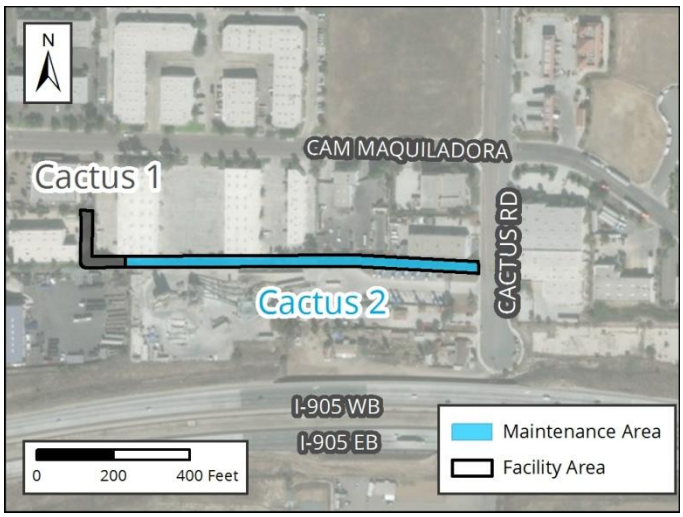


Figure 2: Vicinity Map of Cactus Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None; no mitigation required in approvals for construction and routine maintenance of basin

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Heavy vegetation and accumulated sediment and debris was observed in the basin. Sediment depth was estimated to be approximately 6 inches deep across the bottom of the basin. Inlets and outlets were fully covered by vegetation. Approximately 6 inches of standing water was observed west of outflow structure.
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation throughout the basin to restore the as-built condition
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (concrete-lined) • Ornamental plantings (concrete-lined) • Riparian forest (southern willow forest; concrete-lined) • Riparian scrub (southern willow scrub; concrete-lined)
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	Although this basin does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the basin extents and area of vegetation present are limited and isolated from other native habitat such that it is unlikely for wildlife to utilize the basin for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 870 feet to the south of the basin.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	MM-BIO-3
EP-HAZ-1	MM-BIO-4
EP-HAZ-3	MM-BIO-5
Solid Waste (SW)	MM-BIO-6
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

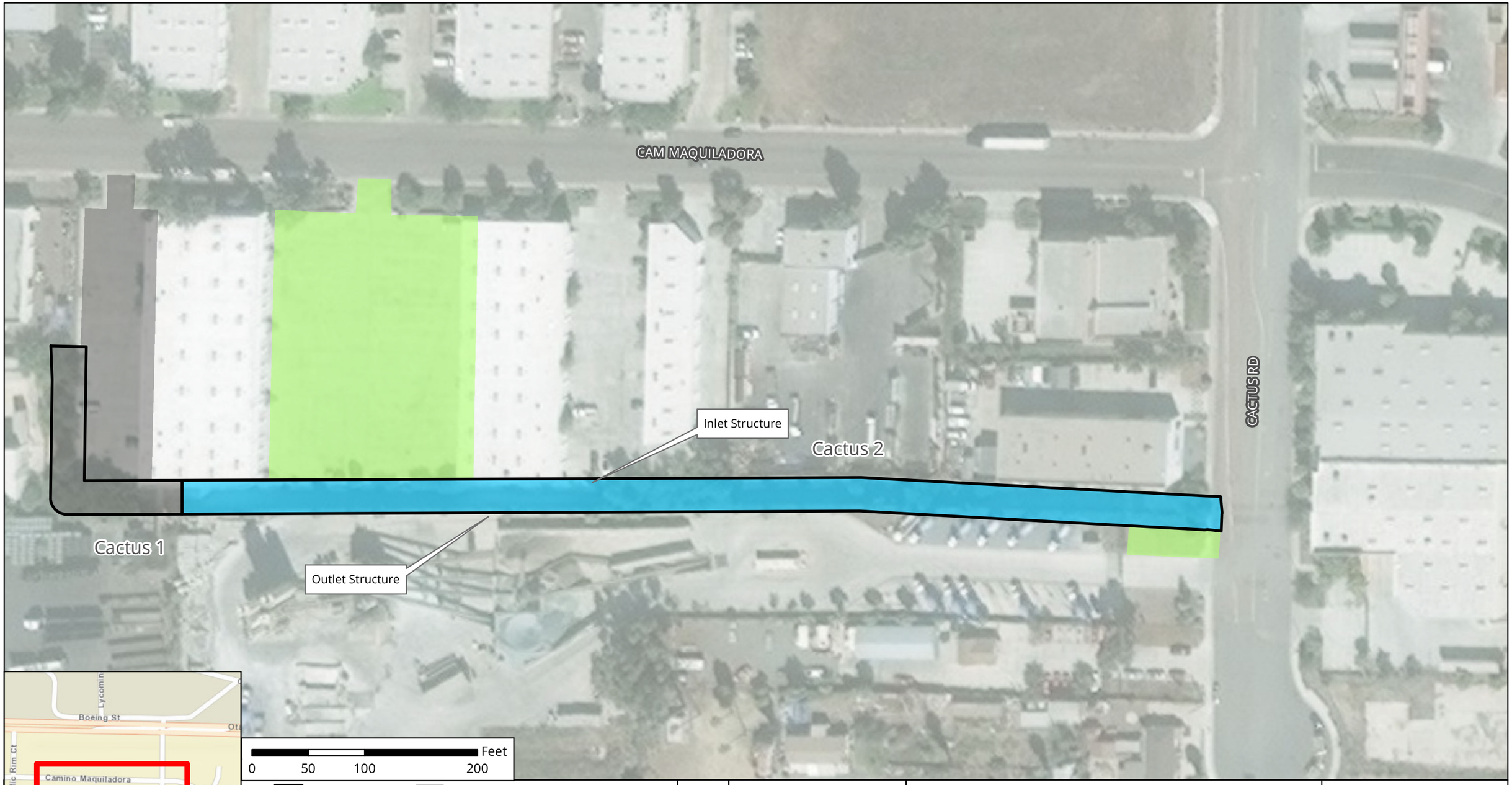
This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Facility Group	Spring Canyon Creek - Cactus
Segment Name	Cactus 2
Facility No.	6-04-253
Facility Location	From outlet of storm drain pipe that drains Pacific Rim Court that enters the north end of the basin from the northwest to an outflow structure located at the southwest corner of the basin
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of concrete detention basin per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation throughout the basin to restore the as-built condition
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside the basin Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Concrete detention basin
Existing Plans and/or As-Builts?	Yes; 23327-8-D & 23327-12-D
Substrate Detail	Concrete bottom and banks
Facility Dimensions (Approximate)	Length: 923 feet Top width: 25 feet Bottom width: 7–10 feet Depth: 5 feet
Authorized Facility Maintenance Area	Length: Basin: 923 feet Width: 25 feet
Maintenance Quantities	To be determined at time of maintenance

Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, dump truck, trash pump, fuel-powered hand tools, sweeper
Schedule	Up to approximately 14 working days
Maintenance Crew	Approximately 8–12 people
Routine Maintenance Procedures	1. Bobcat/skid-steer and loader enter or are lowered into basin at access/loading area with Gradall/excavator assistance 2. Bobcat/skid-steer and loader pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from basin and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

The City of SAN DIEGO

August 2019

Map A: General Site Plan
Facility Group Name: Spring Canyon Creek - Cactus
Segment Name: Cactus 2
Facility No: 6-04-253
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Tijuana River - Siempre Viva Facility Group

Segment Name (Facility number):

Siempre Viva 1 (6-05-110)

The City of SAN DIEGO

Overview

Watershed Management Area (WMA)	Tijuana River
Watershed (Number)	Tijuana River (6)
Hydrologic Subarea	911.12
Drainage Name (Number)	Tijuana River Unnamed Tributary (05)
Facility Group Name	Tijuana River - Siempre Viva
Segment Name (Facility Number)	Siempre Viva 1 (6-05-110)
Substrate	Siempre Viva 1 / Earthen
Location	Bordered by the International Border to the south, Siempre Viva Road to the north, and Britannia Boulevard to the west
MMP Map No(s).	126, 127
Facility Inspection No.	126, 127
Other Former Names	Bristow Channel, Wruck Canyon

Figure 1: Vicinity Map of Tijuana River - Siempre Viva Facility Group

Water Quality Resource Summary

This section describes water quality conditions within the facility and watershed.

Tijuana River Watershed Management Area; Hydrologic Subarea 911.12	
Adopted TMDLs	None
Highest Priority Water Quality Condition	Sediment

Tijuana River - Siempre Viva	
Beneficial Uses	• Agricultural Supply (AGR) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Tijuana River (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Significance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Rare, Threatened, or Endangered Species (RARE)
303(d) listed Impairments	Ammonia as Nitrogen, Benthic Community Effects, Cadmium, Eutrophic, Indicator Bacteria, Low Dissolved Oxygen, Pesticides, Phosphorus, Sedimentation/Siltation, Selenium, Solids, Surfactants (MBAS), Synthetic Organics, Total Nitrogen as N, Toxicity, Trace Elements, Trash

Siempre Viva Segment 1 Detail

Facility Type	Earthen detention basin
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, upstream of Tijuana River
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 2,896 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 4–8 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Commercial, Industrial, Mexico (out of jurisdiction), Open Space, Transportation, Vacant
As-Built Drawing Number	22611-D
Coastal Zone	No

Figure 1: December 2016, downstream portion looking south towards the shared detention facility

Figure 2: Vicinity Map of Siempre Viva Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2017: No maintenance conducted 2018 – 2019: Routine maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	N/A; No Permit Required
401	N/A; No Permit Required
1602	N/A; No Permit Required
Mitigation for Previous Impacts	None; no mitigation required in approvals for construction and routine maintenance of basin

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.[1]

Current Conditions Affecting Facility Capacity	The vegetation was observed to range from light to dense with evidence of approximately 1.5 feet of sediment deposition
Maintenance Recommendation	Remove accumulated sediment, debris, and vegetation from ditch bottom and banks from Station 175 to Station 736 in Reach 1, from Station 736 to Station 1460 in Reach 2, and from Station 771 to Station 1311 in Reach 3. Remove accumulated sediment/debris and vegetation from detention basin in Reach 3 (Siempre Viva Channel Detention Basin) from Station 0 to Station 771. Remove accumulated sediment/debris and vegetation from detention basin in Reach 1 (Bristow Channel Detention Basin) from Station 0 to Station 175. The existing wet well (Station 0 to Station 45) is recommended to be maintained by private property owners.
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)

[1] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland • Ornamental plantings • Riparian forest (southern willow forest) • Riparian scrub
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	This basin contains suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo). However, the basin extents are limited and it is isolated from other native areas such that the potential for sensitive species to use the basin for nesting or foraging is low.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet west of the basin.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-007208
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric lithic scatter

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	MM-BIO-3
Health and Safety/Hazards (HAZ)	MM-BIO-4
EP-HAZ-3	MM-BIO-5
Paleontological Resources (PAL)	MM-BIO-6
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

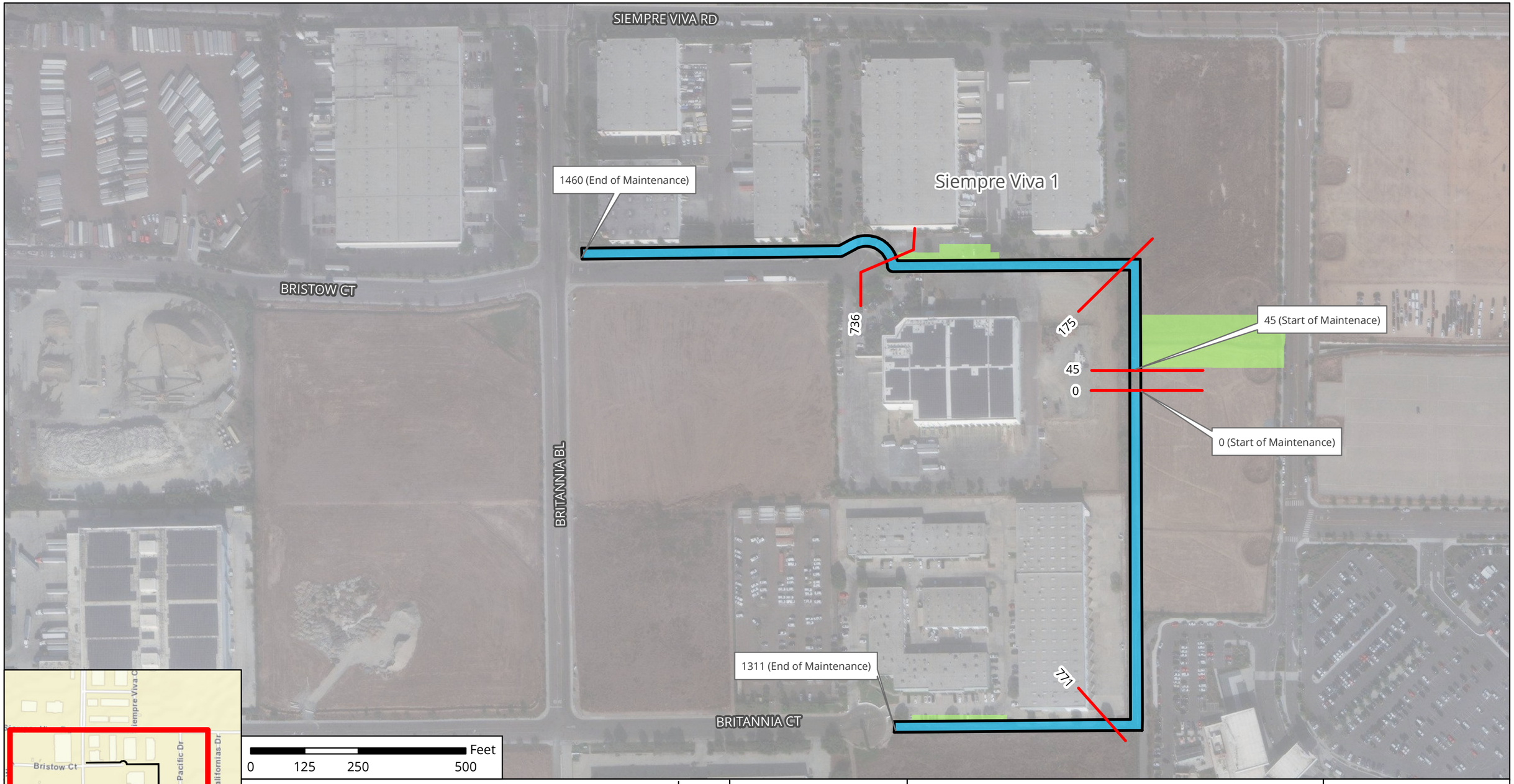
Facility Group	Tijuana River - Siempre Viva
Segment Name	Siempre Viva 1
Facility No.	6-05-110
Facility Location	From outlet of culvert underneath Britannia Boulevard to the end of the cul-de-sac at Britannia Court
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of earthen channel/detention basin per as-built dimensions and Hydrology and Hydraulics recommendations
Hydrology and Hydraulics Maintenance Recommendation[2]	Remove accumulated sediment, debris, and vegetation from ditch bottom and banks from Station 175 to Station 736 in Reach 1, from Station 736 to Station 1460 in Reach 2, and from Station 771 to Station 1311 in Reach 3. Remove accumulated sediment/debris and vegetation from detention basin in Reach 3 (Siempre Viva Channel Detention Basin) from Station 0 to Station 771. Remove accumulated sediment/debris and vegetation from detention basin in Reach 1 (Bristow Channel Detention Basin) from Station 0 to Station 175. The existing wet well (Station 0 to Station 45) is recommended to be maintained by private property owners.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal
Maintenance Method	Excavation; mechanized equipment inside and outside the basin Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Facility Type	Earthen detention basin

[2] Stations are approximate and may not directly correspond with facility and/or maintenance lengths

Existing Plans and/or As-Builts?	Yes; 22611-D
Substrate Detail	Earthen bottom and banks
Facility Dimensions (Approximate)	Length: 2,896 feet Top width: 30 feet Bottom width: 4–8 feet Depth: 6 feet
Authorized Facility Maintenance Area	Length: Basin: 2,711 feet; Culvert: 185 feet Width: 28 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A and Smuggler's Gulch Map B or within City ROW may be used for access, loading staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, sweeper
Schedule	Up to approximately 20–30 working days
Maintenance Crew	Approximately 8–16 people
Routine Maintenance Procedures	1. Bulldozer/track-steer enters basin at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from basin and loads dump truck 4. Dump truck hauls material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[3]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes, limited suitable habitat present Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15 2. Ensure adequate implementation of Shot Hole Borer beetle procedures in accordance with current guidelines, if necessary

[3] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors

Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (basin)
Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



Notes:
1. Access/Loading/Staging/Stockpiling may also occur within City ROW.
2. Access/Loading/Staging/Stockpiling may be modified during implementation.
3. Stations are approximate and may not directly correspond with facility and/or maintenance lengths.

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Map A: General Site Plan
Facility Group Name: Tijuana River - Siempre Viva
Segment Name: Siempre Viva 1
Facility No: 6-05-110
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

APPENDIX A-3

Structure FMPs

Facility Maintenance Plan

Facility Name:

10405 Sorrento Valley Road

IAMFLOC:

#HW04220

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	Los Peñasquitos
Hydrologic Subarea	906.10
Drainage Name	Soledad/Carroll Canyon
Tributaries (listed from downstream to upstream)	No named tributaries
Location Within Watershed	Draining to lower reach of Soledad Canyon Creek, immediately upstream of Soledad Canyon Creek (Roselle Segment 1)
Location	Nearest Intersection: Sorrento Valley Road and Carroll Canyon Road
Adjacent Land Use	Industrial, Office, Open Space, Transportation, Vacant
Coastal Zone	CST-APP, N-APP-1
Structure Type	Inlet
Structure Detail	Culvert entrance
Pipe Diameter and Material	48 inches reinforced concrete pipe
Pipe Length	136 feet
IAMFLOC	#HW04220
SAP ID	SS-025270
Equipment ID	80049573
GIS ID	DS050012
Other Identifiers	None
As-built Drawing Number	22551-4-D

Figure 1: July 2017, photo of 10405 Sorrento Valley Road

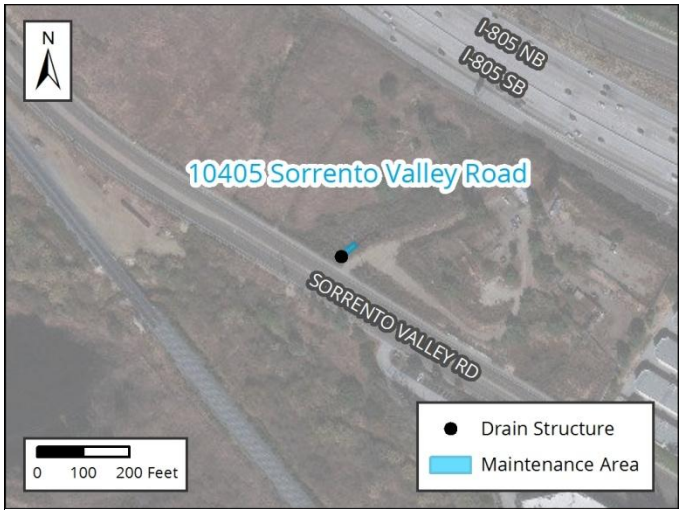

Figure 2: Vicinity Map of 10405 Sorrento Valley Road

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2017: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	None
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	No

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The inlet is a headwall struture with approximately 0.5 feet of sediment and debris depostion. A large piece of construction debris is located near culvert entrance.
Maintenance Recommendation	Recommend removal of construction debris and sediment and rock debris at the culvert entrance
In-Stream Post-Maintenance Erosion Control Recommendation	No

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Coastal sage scrub (Baccharis-dominated)
Adjacent Vegetation	• Coastal sage scrub (Baccharis-dominated) • Developed land • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland • Ornamental vegetation • Riparian forest
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the tall ornamental vegetation or riparian forest present adjacent to the facility across Sorrento Valley Road for nesting/roosting. In addition, other sensitive bird species (e.g., least Bell's vireo) could occur in riparian forest habitat adjacent to the channel across Sorrento Valley Road.
MHPA	The facility is not within or adjacent to the Multi-Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 250 feet west of the structure.
Mitigation Within Facility	None

Water Quality Resource Summary

Los Peñasquitos Watershed Management Area; Hydrologic Subarea 906.10	
Adopted TMDLs	Los Peñasquitos Lagoon sedimentation and siltation, Bacteria Project I
Highest Priority Water Quality Condition	Bacteria, sediment (wet weather), freshwater discharges (dry weather)

N/A	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Soledad Canyon Creek (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Cold Freshwater Habitat (COLD) • Wildlife Habitat (WILD)
303(d) listed Impairments	Sediment Toxicity, Selenium

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-004609
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric village

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constrain Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	MM-BIO-3
Health and Safety/Hazards (HAZ)	MM-BIO-4
EP-HAZ-3	MM-BIO-5
Solid Waste (SW)	MM-BIO-6
EP-SW-2	MM-BIO-7
EP-SW-3	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-SW-4	MM-CR-1
EP-SW-5	MM-CR-2
EP-SW-6	MM-CR-3
EP-SW-7	MM-CR-4
EP-SW-8	**Noise (NOI)**
Water Quality (WQ)	MM-NOI-1
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Structure Name	10405 Sorrento Valley Road
Coastal Zone	CST-APP, N-APP-1
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommend removal of construction debris and sediment and rock debris at the culvert entrance
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment outside of facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	No
Structure Type	Inlet
Existing Plans and/or As-Builts?	Yes; 22551-4-D
Structure Size	48 inches
Structure Detail	Culvert entrance
Maintenance Area Substrate	Earthen and riprap
Authorized Facility Maintenance Area	Length: 38 feet Width: 12 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Gradall/excavator, loader, dump truck, vactor, fuel-powered hand tools
Schedule	Up to approximately 1–3 working days
Maintenance Crew	Approximately 8–10 people people

Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1. Workers enter facility at access/loading area 2. Workers use fuel-powered hand tools to clear vegetation and prepare concrete debris for removal 3. Gradall/excavator and loader at access/loading area remove material from facility and load dump trucks 4. Dump trucks haul material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	No

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Structure Name: 10405 Sorrento Valley Road
IAMFLOC: #HW04220
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Facility Name:

1331 Washington

IAMFLOC:

#OT03537

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	San Diego River
Hydrologic Subarea	907.11
Drainage Name	Mission Valley South
Tributaries (listed from downstream to upstream)	No named tributaries
Location Within Watershed	Draining to San Diego River
Location	Nearest Intersection: Washington Street andPascoe Street
Adjacent Land Use	Commercial, Multi-Family Residential, Single Family Residential, Transportation, Vacant
Coastal Zone	No
Structure Type	Outlet
Structure Detail	None
Pipe Diameter and Material	24 inches reinforced concrete pipe
Pipe Length	188 feet
IAMFLOC	#OT03537
SAP ID	SS-028300
Equipment ID	80027216
GIS ID	DS026277
Other Identifiers	None
As-built Drawing Number	6201-12-R

Figure 1: July 2017, photo of 1331 Washington

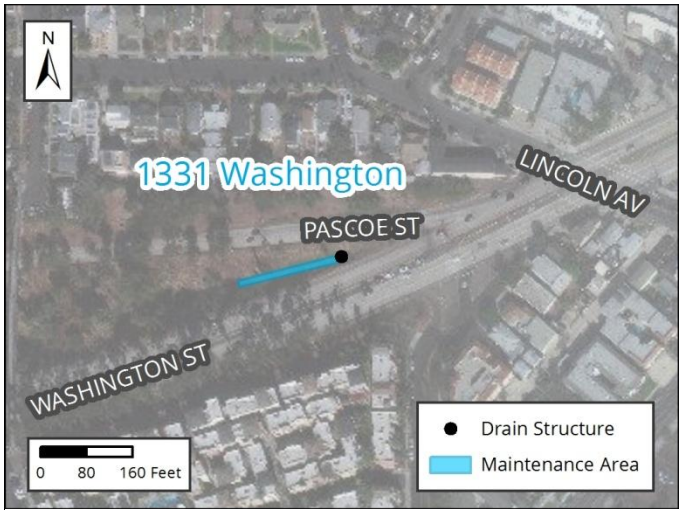

Figure 2: Vicinity Map of 1331 Washington

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	No

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Vegetation (ice plant and a palm tree) is growing in the ditch and near the outlet. Large debris (fallen palm trees) partially blocking the ditch.
Maintenance Recommendation	Recommend trimming the vegetation out of the concrete ditch, removing palm trees from within the ditch, and removing the fallen trees. Backfill voids under concrete structure to ensure structural integrity or stability.
In-Stream Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Developed land • Disturbed wetland (palm-dominated) • Eucalyptus woodland • Natural flood channel • Ornamental vegetation
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi-Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 700 feet north of the structure.
Mitigation Within Facility	None

Water Quality Resource Summary

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

N/A	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Signficance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Preservation of Rare and Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved, Phosphorus, Total Dissolved Solids, Toxicity

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Facility; 1947 structural facility
Potential Historical Resources Constrain Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Health and Safety/Hazards (HAZ)	MM-HR-1
EP-HAZ-3	MM-HR-2
Hydrology (HYD)	**Noise (NOI)**
EP-HYD-1	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Structure Name	1331 Washington
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommend trimming the vegetation out of the concrete ditch, removing palm trees from within the ditch, and removing the fallen trees. Backfill voids under concrete structure to ensure structural integrity or stability.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment outside of facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type
Trash/Debris Fence Repair and Maintenance	No
Structure Type	Outlet
Existing Plans and/or As-Builts?	Yes; 6201-12-R
Structure Size	24 inches
Structure Detail	None
Maintenance Area Substrate	Concrete
Authorized Facility Maintenance Area	Length: 186 feet Width: 12 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, backhoe, dump truck, vactor, fuel-powered hand tools

Schedule	Up to approximately 5 working days
Maintenance Crew	Approximately 8–10 people
Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1. Gradall/excavator at access/loading area scoops material and removes palms from facility and loads dump trucks 2. Dump trucks haul material to legal disposal site
Traffic Control	Yes; coordinate with Caltrans and City of San Diego
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Structure Name: 1331 Washington
IAMFLOC: #OT03537
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Facility Name:

1277 Camino del Rio South

IAMFLOC:

#IN10399

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	San Diego River
Hydrologic Subarea	907.11
Drainage Name	Mission Valley South
Tributaries (listed from downstream to upstream)	San Diego River Unnamed Tributary
Location Within Watershed	Draining to lower reach of San Diego River unnamed tributary, upstream of San Diego River unnamed tributary (Camino del Rio)
Location	Nearest Intersection: Camino del Rio S and Mission Center Road; access behind Chuze Fitness
Adjacent Land Use	Commercial, Office, Open Space, Single Family Residential, Transportation, Vacant
Coastal Zone	No
Structure Type	Inlet
Structure Detail	Culvert entrance
Pipe Diameter and Material	30 inches reinforced concrete pipe
Pipe Length	212 feet
IAMFLOC	#IN10399
SAP ID	SS-005783
Equipment ID	80038052
GIS ID	DS023923
Other Identifiers	Corner of 1277 Camino del Rio S (Chuze Fitness – Hotel Circle South)
As-built Drawing Number	12290-2-D

Figure 1: July 2017, photo of 1277 Camino del Rio South

Figure 2: Vicinity Map of 1277 Camino del Rio South

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2016: Unknown April 2016: Vegetation trimming conducted April 2017: Minor maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	No

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The engineered concrete inlet is a concrete-drop-type structure with some sediment, vegetation, and debris accumulation. There is evidence of erosion on either side of the drop structure, with a major cavitation on the left side. It appears some of the runoff goes into the parking lot and not the drop structure.
Maintenance Recommendation	Recommend to remove sediment debris, and vegetation from drop structure. Further studies are recommended to investigate the cause of the erosion near the structure.
In-Stream Post-Maintenance Erosion Control Recommendation	No

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Chaparral • Coastal sage scrub • Developed land • Ornamental vegetation
Habitat and Wildlife	The structure area itself does not contain suitable vegetation for sensitive wildlife, however suitable habitat is present in the areas surrounding the facility for sensitive bird species, such as coastal California gnatcatcher
MHPA	The facility is adjacent to the Multi-Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 20 feet south of the structure.
Mitigation Within Facility	None

Water Quality Resource Summary

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

N/A	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Signficance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Preservation of Rare and Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved, Phosphorus, Total Dissolved Solids, Toxicity

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-011055
Resource Type	Prehistoric hearth and artifact scatter

Historical Resources	
Resource Identified in APE	Facility; c. 1966–1974 structural facility
Potential Historical Resources Constrain Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	MM-BIO-3
Health and Safety/Hazards (HAZ)	MM-BIO-4
EP-HAZ-3	MM-BIO-6
Land Use (LU)	MM-BIO-7
EP-LU-1	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
Solid Waste (SW)	MM-HR-1
EP-SW-2	MM-HR-2
EP-SW-3	**Noise (NOI)**
EP-SW-4	MM-NOI-1
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Structure Name	1277 Camino del Rio South
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommend to remove sediment debris, and vegetation from drop structure. Further studies are recommended to investigate the cause of the erosion near the structure.
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment outside of facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Structure Type	Inlet
Existing Plans and/or As-Builts?	Yes; 12290-2-D
Structure Size	30 inches
Structure Detail	Culvert entrance
Maintenance Area Substrate	Concrete
Authorized Facility Maintenance Area	Length: 11 feet Width: 13–22 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bobcat/skid-steer, Gradall/excavator, loader, backhoe, dump truck, vactor, fuel-powered hand tools

Schedule	Up to approximately 2–3 working days
Maintenance Crew	Approximately 8–10 people
Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1. Gradall/excavator or backhoe will be stationed above structure in access/loading area 2. Gradall/excavator or backhoe will scoop material from structure and load into dump trucks 3. Vactor stationed above structure in access/loading area assists removing material 4. Workers enter facility at access/loading area 5. Workers assist removing material using hand tools 6. Dump trucks and vactor haul material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: No 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	No

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

- Drain Structure
- Multi-Habitat Planning Area
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

N

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Structure Name: 1277 Camino Del Rio South
IAMFLOC: #IN10399
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Facility Name:

5505 Friars Road

IAMFLOC:

#OT05573

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	San Diego River
Hydrologic Subarea	907.11
Drainage Name	Mission Valley North
Tributaries (listed from downstream to upstream)	No named tributaries
Location Within Watershed	Draining to San Diego River
Location	Nearest Intersection: Friars Road and Colusa Street
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Office, Open Space, Parks, Public Facilities and Utilities, Transportation
Coastal Zone	No
Structure Type	Outlet
Structure Detail	Headwall
Pipe Diameter and Material	36 inches reinforced concrete pipe
Pipe Length	492 feet
IAMFLOC	#OT05573
SAP ID	SS-011513
Equipment ID	80038074
GIS ID	DS024014
Other Identifiers	Friars and Colusa
As-built Drawing Number	17923-7-D

Figure 1: July 2017, photo of 5505 Friars Road

Figure 2: Vicinity Map of 5505 Friars Road

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2015 and 2016: Emergency maintenance conducted
Past Regulatory Approvals	
CEQA	NOE: Emergency Project No. 477023
CDP	N/A
SDP	Emergency Permit No. 1670498
404	RGP 63 (SPL-2016-00039-MG)
401	RGP 63 Verification No. R9-2016-0024:820968
1602	LSA Emergency Notification
Mitigation for Previous Impacts	Sefton Field/Pueblo Lot 1102 (0.11 acre)

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The outlet is a headwall structure with 1 to 2 feet of sediment and debris deposition at the headwall. Previously placed riprap was not visible due to the sediment and debris depostion. It appears that the sediment deposition is also creating a plug downstream of the outlet. Large vegetation regrowth is occuring with in the previously maintained portion of the outlet.
Maintenance Recommendation	Recommend to remove sediment for an approximately 50 foot length to restore previous maintenance area and allow the outlet to drain
In-Stream Post-Maintenance Erosion Control Recommendation	As-built includes a riprap energy dissipator at the outlet. Additional analysis is needed to determine if the as-built condition reduces velocities below permissible levels.

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (Arundo-dominated)
Adjacent Vegetation	• Coastal sage scrub (Baccharis-dominated) • Developed land • Disturbed land • Disturbed wetland • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Ornamental vegetation • Riparian forest (southern riparian forest) • Riparian forest (southern willow forest)
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland or riparian forest present adjacent to the facility for nesting/roosting. In addition, other sensitive bird species (e.g., least Bell's vireo) could occur in riparian forest (southern willow forest) habitat adjacent to the channel.
MHPA	The facility is adjacent to the Multi-Habitat Planning Area (MHPA) which is located directly west and south of the structure.
Mitigation Within Facility	Downstream areas include past and potential future compensatory mitigation areas

Water Quality Resource Summary

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

N/A	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Signficance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Preservation of Rare and Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved, Phosphorus, Total Dissolved Solids, Toxicity

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Facility; c. 1966–1972 structural facility
Potential Historical Resources Constrain Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	MM-BIO-5
EP-HAZ-3	MM-BIO-6
Hydrology (HYD)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HYD-1	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Structure Name	5505 Friars Road
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommend to remove sediment for an approximately 50 foot length to restore previous maintenance area and allow the outlet to drain
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment in facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type
Trash/Debris Fence Repair and Maintenance	No
Structure Type	Outlet
Existing Plans and/or As-Builts?	Yes; 17923-7-D
Structure Size	36 inches
Structure Detail	Headwall
Maintenance Area Substrate	Earthen
Authorized Facility Maintenance Area	Length: 50 feet Width: 17 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, dump truck, trash pump, vactor
Schedule	Up to approximately 5 working days
Maintenance Crew	Approximately 10–15 people

Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1. Bulldozer/track-steer enters facility at access/loading area 2. Bulldozer/track-steer pushes material to Gradall/excavator at access/loading area 3. Gradall/excavator scoops material from facility and loads dump trucks 4. Dump trucks haul material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	As-built includes a riprap energy dissipator at the outlet. Additional analysis is needed to determine if the as-built condition reduces velocities below permissible levels.

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur witihin this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Structure Name: 5505 Friars Road
IAMFLOC: #OT05573
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Facility Name:

1660 Hotel Circle North

IAMFLOC:

#OT03321

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	San Diego River
Hydrologic Subarea	907.11
Drainage Name	Mission Valley South
Tributaries (listed from downstream to upstream)	No named tributaries
Location Within Watershed	Draining to San Diego River
Location	Nearest Intersection: Hotel Circle North and Fashion Valley Road
Adjacent Land Use	Commercial, Multi-Family Residential, Office, Parks, Transportation, Vacant
Coastal Zone	No
Structure Type	Outlet
Structure Detail	Headwall
Pipe Diameter and Material	54 inches reinforced concrete arch culvert
Pipe Length	152 feet
IAMFLOC	#OT03321
SAP ID	SS-013792 (2)
Equipment ID	80027000
GIS ID	DS024580
Other Identifiers	None
As-built Drawing Number	12997-1-D

Figure 1: July 2017, photo of 1660 Hotel Circle North

Figure 2: Vicinity Map of 1660 Hotel Circle North

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2015: Unknown November 2016 and November 2017: Minor emergency maintenance conducted
Past Regulatory Approvals	
CEQA	NOE: Emergency Project No. 475704
CDP	N/A
SDP	None
404	File No. SPL-2016-00121-MG (No Permit Required)
401	Concurrence in 2/2016 that no permit required; no file #
1602	Courtesy notification submitted 03/2016
Mitigation for Previous Impacts	No

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Maintenance recently performed at this location, so outlet area was clear. Previously the area had 5 to 10 feet of sediment deposition and vegetation growth.
Maintenance Recommendation	Recommend to keep the outlet clear as sediment and vegetation build up
In-Stream Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed wetland • Eucalyptus woodland • Ornamental vegetation • Riparian forest (southern willow forest)
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the tall ornamental vegetation or riparian forest present adjacent to the facility for nesting/roosting. In addition, other sensitive bird species (e.g., least Bell's vireo) could occur in riparian forest (southern willow forest) habitat adjacent to the channel.
MHPA	The facility is not within or adjacent to the Multi-Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 365 feet north of the structure.
Mitigation Within Facility	None

Water Quality Resource Summary

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

N/A	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Signficance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Preservation of Rare and Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved, Phosphorus, Total Dissolved Solids, Toxicity

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Facility; 1969 structural facility
Potential Historical Resources Constrain Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	MM-BIO-3
EP-HAZ-3	MM-BIO-4
Hydrology (HYD)	MM-BIO-5
EP-HYD-1	MM-BIO-6
Solid Waste (SW)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-SW-2	MM-HR-1
EP-SW-3	MM-HR-2
EP-SW-4	**Noise (NOI)**
EP-SW-5	MM-NOI-1
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Structure Name	1660 Hotel Circle North
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommend to keep the outlet clear as sediment and vegetation build up
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment inside and outside of facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type
Trash/Debris Fence Repair and Maintenance	No
Structure Type	Outlet
Existing Plans and/or As-Builts?	Yes; 12997-1-D
Structure Size	54 inches & Arch Culvert
Structure Detail	Headwall
Maintenance Area Substrate	Earthen
Authorized Facility Maintenance Area	Length: 46 feet Width: 16–23 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Baker tank, Gradall/excavator, dump truck, vactor
Schedule	Up to approximately 15–20 working days
Maintenance Crew	Approximately 8–10 people

Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1. Bulldozer/track-steer enters or is lowered into facility at access/loading area 2. Bulldozer/track-steer push material to access/loading area 3. Gradall/excavator at access/loading area scoops material from facility and loads dump trucks 4. Dump trucks haul material to legal disposal site 5. Use Baker tank, as needed, for dewatering
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

- Drain Structure
- Access/Loading/Staging /Stockpiling Area
- Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

November 2019

Map A: General Site Plan
Structure Name: 1660 Hotel Circle North
IAMFLOC: #OT03321
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Facility Name:

901 Hotel Circle South

IAMFLOC:

#HW02440

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	San Diego River
Hydrologic Subarea	907.11
Drainage Name	Mission Valley South
Tributaries (listed from downstream to upstream)	San Diego River Unnamed Tributary
Location Within Watershed	Draining to San Diego River
Location	Nearest Intersection: Hotel Circle S and Bachman Place
Adjacent Land Use	Commercial, Open Space, Single Family Residential, Transportation, Vacant
Coastal Zone	No
Structure Type	Inlet
Structure Detail	Culvert entrance, headwall, and debris fences
Pipe Diameter and Material	42 inches reinforced concrete pipe
Pipe Length	128 feet
IAMFLOC	#HW02440
SAP ID	SS-008101
Equipment ID	80032163
GIS ID	DS025050
Other Identifiers	98S 756 E. Court Way and Hawk Street (Frogs – Hotel Circle South)
As-built Drawing Number	16423-1-D

Figure 1: July 2017, photo of 901 Hotel Circle South

Figure 2: Vicinity Map of 901 Hotel Circle South

Figure 3: July 2017. Photo of 901 Hotel Circle South debris fence

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2015: Unknown 2016: Emergency maintenance June and November 2017: Minor maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	No

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The inlet is a headwall structure with sediment and debris deposition near the headwall and behind the debris fences. The concrete channel behind the debris fence is missing large section of concrete/gunite from the channel bottom. The downstream debris fence has a gap at the bottom and looks to be in need of repairs.
Maintenance Recommendation	Recommended to remove sediment and debris from the structure as well as repair the missing concrete/gunite and the debris fence
In-Stream Post-Maintenance Erosion Control Recommendation	No

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel
Adjacent Vegetation	• Chaparral • Coastal sage scrub • Developed land • Disturbed land • Eucalyptus woodland • Natural flood channel • Ornamental vegetation
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting. In addition, other sensitive bird species (e.g., coastal California gnatcatcher) could occur in coastal sage scrub habitat adjacent to the structure.
MHPA	The facility is partially within the Multi-Habitat Planning Area (MHPA) which extends south of the structure.
Mitigation Within Facility	None

Water Quality Resource Summary

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

San Diego River Unnamed Tributary	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Preservation of Rare and Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Signficance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Preservation of Rare and Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved, Phosphorus, Total Dissolved Solids, Toxicity

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-011055
Resource Type	Prehistoric hearth and artifact scatter

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constrain Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	MM-BIO-3
EP-HAZ-3	MM-BIO-4
Land Use (LU)	MM-BIO-6
EP-LU-1	MM-BIO-7
Solid Waste (SW)	**Noise (NOI)**
EP-SW-2	MM-NOI-1
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Structure Name	901 Hotel Circle South
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommended to remove sediment and debris from the structure as well as repair the missing concrete/gunite and the debris fence
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair Structure/Trash fence repair
Maintenance Method	Excavation; mechanized equipment in and outside of facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	No
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Structure Type	Inlet
Existing Plans and/or As-Builts?	Yes; 16423-1-D
Structure Size	42 inches
Structure Detail	Culvert entrance, headwall, and debris fences
Maintenance Area Substrate	Concrete
Authorized Facility Maintenance Area	Length: 149 feet Width: 16–36 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Gradall/excavator, dump truck, vactor
Schedule	Up to approximately 1 working day

Maintenance Crew	Approximately 6–10 people
Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1. Gradall/excavator is stationed above the channel bank in access/loading area 2. Gradall/excavator scoops material from facility and loads dump trucks 3. Dump trucks haul material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	No

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Facility Name:

2087 Hotel Circle South

IAMFLOC:

#HW02437

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	San Diego River
Hydrologic Subarea	907.11
Drainage Name	Mission Valley South
Tributaries (listed from downstream to upstream)	San Diego River unnamed tributary
Location Within Watershed	Draining to upper reach of San Diego River unnamed tributary
Location	Nearest Intersection: Hotel Circle South and I-8 on ramp
Adjacent Land Use	Commercial, Open Space, Single Family Residential, Transportation, Vacant
Coastal Zone	No
Structure Type	Inlet
Structure Detail	Culvert entrance
Pipe Diameter and Material	30 inches reinforced concrete pipe
Pipe Length	162 feet
IAMFLOC	#HW02437
SAP ID	SS-013389
Equipment ID	80032160
GIS ID	DS024954
Other Identifiers	1,690 feet from Fort Stockton on Allen Road (Extended Stay – 2087 Hotel Circle South)
As-built Drawing Number	20299-2-D

Figure 1: July 2017, photo of 2087 Hotel Circle South

Figure 2: Vicinity Map of 2087 Hotel Circle South

Figure 3: July 2017. Photo of 2087 Hotel Circle South debris fence

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown March 2016: Emergency maintenance conducted January 2017: Minor maintenance conducted
Past Regulatory Approvals	
CEQA	NOE: Emergency Project No. 481884
CDP	N/A
SDP	Emergency Project No. 1688294
404	RGP 63 USACE File #SPL-2016-00212-WSZ
401	Emergency notification 03/2016 (no file number assigned)
1602	Emergency notification 03/2016 (no file number assigned)
Mitigation for Previous Impacts	No

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The inlet is a headwall structure with the upstream conveyance broken into three sections by debris fences. The section immediately upstream of the inlet is clean with very little debris. The second section has about 2 feet of sediment and debris built up behind the debris fence. The third section has approximately 1 foot of sediment and debris built up behind the debris fence.
Maintenance Recommendation	Recommend to remove sediment and debris built up upstream of the debris fences
In-Stream Post-Maintenance Erosion Control Recommendation	No

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Natural flood channel
Adjacent Vegetation	• Chaparral • Coastal sage scrub • Developed concrete-lined channel • Developed land • Disturbed land • Eucalyptus woodland • Natural flood channel • Ornamental vegetation • Riparian forest (coast live oak) • Riparian forest (southern riparian forest)
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting. In addition, other sensitive bird species (e.g., coastal California gnatcatcher) could occur in coastal sage scrub habitat adjacent to the structure.
MHPA	The structure is located entirely within the Multi-Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Water Quality Resource Summary

San Diego River Watershed Management Area; Hydrologic Subarea 907.11	
Adopted TMDLs	Bacteria Project I
Highest Priority Water Quality Condition	Bacteria

San Diego River Unnamed Tributary	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Preservation of Rare and Endangered Species (RARE)
303(d) listed Impairments	No impairments recorded on the 303(d) List

San Diego River (First downstream water body)	
Beneficial Uses	• Agricultural Supply (AGR) • Industrial Service Supply (IND) • Contact Water Recreation (REC-1) • Non-contact Water Recreation (REC-2) • Preservation of Biological Habitats of Special Signficance (BIOL) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD) • Preservation of Rare and Endangered Species (RARE)
303(d) listed Impairments	Benthic Community Effects, Cadmium, Indicator Bacteria, Nitrogen, Oxygen, Dissolved, Phosphorus, Total Dissolved Solids, Toxicity

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constrain Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	MM-BIO-3
Health and Safety/Hazards (HAZ)	MM-BIO-4
EP-HAZ-3	MM-BIO-6
Land Use (LU)	MM-BIO-7
EP-LU-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Structure Name	2087 Hotel Circle South
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommend to remove sediment and debris built up upstream of the debris fences
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment in facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	No
Trash/Debris Fence Repair and Maintenance	Yes; see Appendix A-4
Structure Type	Inlet
Existing Plans and/or As-Builts?	Yes; 20299-2-D
Structure Size	30 inches
Structure Detail	Culvert entrance
Maintenance Area Substrate	Earthen and concrete
Authorized Facility Maintenance Area	Length: 120 feet Width: 9–13 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, loader, mini-excavator, dump truck, vactor
Schedule	Up to approximately 20 working days
Maintenance Crew	Approximately 10–15 people

Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1. Bullozer/track-steer and mini-excavator enter facility at access/loading area 2. Bulldozer/track-steer, and mini-excavator push/transport material to to access/loading area 3. Loader at access/loading area scoops material and loads dump trucks 4. Dump trucks haul material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes, limited suitable habitat present 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	No

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

The City of SAN DIEGO

November 2019

Map A: General Site Plan
Structure Name: 2087 Hotel Circle South
IAMFLOC: #HW02437
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Facility Name:

3644 Roselawn

IAMFLOC:

#OT03694

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	San Diego Bay
Hydrologic Subarea	908.22
Drainage Name	Chollas
Tributaries (listed from downstream to upstream)	Auburn Creek
Location Within Watershed	Draining to Auburn Creek
Location	Nearest Intersection: Roselawn Avenue and Euclid Avenue; access through 3634 Roselawn Avenue
Adjacent Land Use	Commercial, Industrial, Single Family Residential, Transportation, Vacant
Coastal Zone	No
Structure Type	Outlet
Structure Detail	Pipe and headwall
Pipe Diameter and Material	18 inches reinforced concrete pipe
Pipe Length	80 feet
IAMFLOC	#OT03694
SAP ID	SS-023610
Equipment ID	80027375
GIS ID	DS027991
Other Identifiers	None
As-built Drawing Number	17423-D

Figure 1: July 2017, photo of 3644 Roselawn

Figure 2: Vicinity Map of 3644 Roselawn

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown September 2016: Minor maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	No

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Maintenance recently performed at this location so outfall area was clear. Minor sediment build up was noted near the outlet.
Maintenance Recommendation	Recommend vegetation trimming and sediment removal to continue to allow outlet to drain
In-Stream Post-Maintenance Erosion Control Recommendation	As-built includes a riprap energy dissipator at the outlet. Additional analysis is needed to determine if the as-built condition reduces velocities below permissible levels.

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Ornamental vegetation
Adjacent Vegetation	• Developed land • Ornamental vegetation
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi-Habitat Planning Area (MHPA). The structure is surrounded by residential development.
Mitigation Within Facility	None

Water Quality Resource Summary

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

N/A	
Beneficial Uses	
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Facility; 1951 structural facility
Potential Historical Resources Constrain Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	MM-BIO-4
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Hydrology (HYD)	MM-HR-2
EP-HYD-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Structure Name	3644 Roselawn
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommend vegetation trimming and sediment removal to continue to allow outlet to drain
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment in facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type
Trash/Debris Fence Repair and Maintenance	No
Structure Type	Outlet
Existing Plans and/or As-Builts?	Yes; 17423-D
Structure Size	18 inches
Structure Detail	Pipe and headwall
Maintenance Area Substrate	Earthen
Authorized Facility Maintenance Area	Length: 52 feet Width: 6–8 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, mini-excavator, dump truck, vactor, fuel-powered hand tools
Schedule	Up to approximately 3–5 working days

Maintenance Crew	Approximately 9–12 people
Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1.Bulldozer/track-steer and mini-excavator enter facility at access/loading area 2. Mini-excavator scoops material and loads bulldozer/track-steer 3. Bulldozer/track-steer transports material and loads dump truck at access/loading area 4. Dump trucks haul material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	As-built includes a riprap energy dissipator at the outlet. Additional analysis is needed to determine if the as-built condition reduces velocities below permissible levels.

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Drain Structure

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

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Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

November 2019

Map A: General Site Plan
Structure Name: 3644 Roselawn
IAMFLOC: #OT03694
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Facility Name:

4202 J Street

IAMFLOC:

#HW04013

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	San Diego Bay
Hydrologic Subarea	908.22
Drainage Name	Chollas
Tributaries (listed from downstream to upstream)	Chollas Creek unnamed tributary
Location Within Watershed	Draining to upper reach of Chollas Creek unnamed tributary, upstream of Chollas Creek (Ocean View)
Location	Nearest Intersection: J Street and 42nd Street; guardrail on corner is removed for equipment access
Adjacent Land Use	Parks, Single Family Residential, Transportation, Vacant
Coastal Zone	No
Structure Type	Outlet
Structure Detail	Pipe and headwall
Pipe Diameter and Material	30 inches reinforced concrete pipe
Pipe Length	37 feet
IAMFLOC	#HW04013
SAP ID	Sx-014413
Equipment ID	80046823
GIS ID	DS047703
Other Identifiers	None
As-built Drawing Number	28415-9-D

Figure 1: July 2017, photo of 4202 J Street

Figure 2: Vicinity Map of 4202 J Street

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2017: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	No

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The outlet is a headwall with approximately 0.5 feet of sediment and debris deposition. Additional sediment depostion (approximately 1–2 feet) and vegetation growth immediately downstream of the outlet creates a blockage for lower flows.
Maintenance Recommendation	Recommend removal of sediment and vegetation at the outlet headwall to allow outlet to drain
In-Stream Post-Maintenance Erosion Control Recommendation	As-built includes a riprap energy dissipator at the outlet. Additional analysis is needed to determine if the as-built condition reduces velocities below permissible levels.

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (Arundo dominated) • Riparian scrub (southern willow scrub)
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Ornamental vegetation • Riparian scrub (southern willow scrub)
Habitat and Wildlife	There is suitable habitat contained within and adjacent to the facility for sensitive species (e.g., least Bell's vireo). Raptors could also use the eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi-Habitat Planning Area (MHPA). The structure is surrounded by residential development.
Mitigation Within Facility	None

Water Quality Resource Summary

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek Unnamed Tributary	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	P-37-035162
Resource Type	Memorial park

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constrain Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	MM-BIO-3
EP-HAZ-3	MM-BIO-4
Hydrology (HYD)	MM-BIO-6
EP-HYD-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

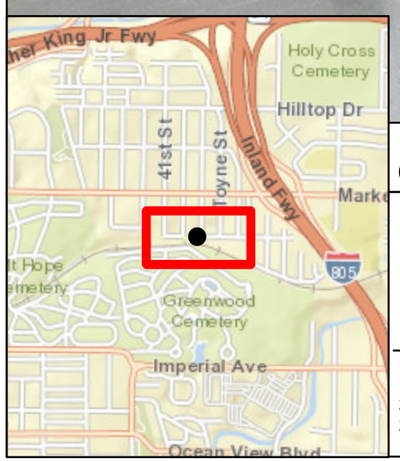
Structure Name	4202 J Street
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommend removal of sediment and vegetation at the outlet headwall to allow outlet to drain
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment outside of facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type
Trash/Debris Fence Repair and Maintenance	No
Structure Type	Outlet
Existing Plans and/or As-Builts?	Yes; 28415-9-D
Structure Size	30 inches
Structure Detail	Pipe and headwall
Maintenance Area Substrate	Earthen
Authorized Facility Maintenance Area	Length: 96 feet Width: 11 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Bulldozer/track-steer, Gradall/excavator, backhoe, dump truck, vactor, fuel-powered hand tools
Schedule	Up to approximately 14 working days

4202 J Street (Drain ID: #HW04013)
Facility Maintenance Plan

Maintenance Crew	Approximately 10–14 people
Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1. Gradall/excavator at access/loading area scoops material from facility and loads dump trucks 2. Bulldozer/track-steer will be used in facility to push material 3. Dump trucks haul material to legal disposal site
Traffic Control	Yes; coordinate with MTS as needed
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: Yes 2. Adjacent to maintenance area: Yes Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	As-built includes a riprap energy dissipator at the outlet. Additional analysis is needed to determine if the as-built condition reduces velocities below permissible levels.

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None



0 60 120 240 Feet

● Drain Structure

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

The City of SAN DIEGO

Notes:
1. **Concrete repair may occur within this facility area.**
2. **Access/Loading/Staging/Stockpiling may also occur within City ROW.**
3. **Access/Loading/Staging/Stockpiling may be modified during implementation.**

November 2019

Map A: General Site Plan
Structure Name: 4202 J Street
IAMFLOC: #HW04013
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

Facility Maintenance Plan

Facility Name:

1206 Goodyear

IAMFLOC:

#OT04671

The City of SAN DIEGO

Detail

Watershed Management Area (WMA)	San Diego Bay
Hydrologic Subarea	908.22
Drainage Name	South Chollas
Tributaries (listed from downstream to upstream)	South Chollas Creek, South Chollas Creek Encanto Branch
Location Within Watershed	Draining to lower reach of South Chollas Creek, upstream of South Chollas Creek (Alpha)
Location	Nearest Intersection: Boston Avenue and Goodyear Street; access through paved driveway at 3650 Boston Avenue
Adjacent Land Use	Multi-Family Residential, Public Facilities and Utilities, Single Family Residential, Transportation, Vacant
Coastal Zone	No
Structure Type	Outlet
Structure Detail	Outfall headwall
Pipe Diameter and Material	33 inches reinforced concrete pipe
Pipe Length	130 feet
IAMFLOC	#OT04671
SAP ID	SS-004621
Equipment ID	80028356
GIS ID	DS035962
Other Identifiers	None
As-built Drawing Number	20676-D

Figure 1: July 2017, photo of 1206 Goodyear

Figure 2: Vicinity Map of 1206 Goodyear

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2015: Unknown October 2015 and August 2016: Minor maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	No

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility, recommended maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The outlet is a headwall structure with sediment and debris deposition and vegetation growth at the headwall
Maintenance Recommendation	Recommend removal of sediment and vegetation at the culvert headwall to allow outlet to drain Repair rip rap energy dissipator at outlet per as-built (DWG 20676-D)
In-Stream Post-Maintenance Erosion Control Recommendation	As-built includes a riprap energy dissipator at the outlet. Additional analysis is needed to determine if the as-built condition reduces velocities below permissible levels.

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed land • Ornamental vegetation
Adjacent Vegetation	• Developed land • Disturbed land • Natural flood channel • Ornamental vegetation
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi-Habitat Planning Area (MHPA). The structure is surrounded by residential development.
Mitigation Within Facility	None

Water Quality Resource Summary

San Diego Bay Watershed Management Area; Hydrologic Subarea 908.22	
Adopted TMDLs	Bacteria Project I; Chollas Creek dissolved copper, lead, and zinc; Chollas Creek diazinon
Highest Priority Water Quality Condition	Bacteria; dissolved copper, lead, and zinc

Chollas Creek Unnamed Tributary	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	No impairments recorded on the 303(d) List

Chollas Creek (First downstream water body)	
Beneficial Uses	• Non-contact Water Recreation (REC-2) • Warm Freshwater Habitat (WARM) • Wildlife Habitat (WILD)
303(d) listed Impairments	Copper, Indicator Bacteria, Lead, Nitrogen, Pesticides, Phosphorus, Trash, Zinc

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constrain Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-2
EP-BIO-6	MM-BIO-3
Health and Safety/Hazards (HAZ)	MM-BIO-4
EP-HAZ-3	MM-BIO-6
Hydrology (HYD)	**Noise (NOI)**
EP-HYD-1	MM-NOI-1
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Maintenance Methods

This section describes the specific activities, equipment, and methodology for maintenance of this facility including a general site plan (Map A). It is intended to be used as a guide for the maintenance crew.

Structure Name	1206 Goodyear
Coastal Zone	No
MWMP Proposed Maintenance	Maintenance of structure per as-built dimensions and Hydrology and Hydraulics Recommendation
Hydrology and Hydraulics Recommendation	Recommend removal of sediment and vegetation at the culvert headwall to allow outlet to drain Repair rip rap energy dissipator at outlet per as-built (DWG 20676-D)
Maintenance Activities	Vegetation grubbing, trimming, and removal Invasive plant species treatment and removal Sediment removal Concrete repair
Maintenance Method	Excavation; mechanized equipment outside of facility Temporary access/loading Temporary staging Temporary diversions Hand removal of vegetation Hand removal of sediment
Bank Repair	No
Concrete Repair	Yes; see Appendix A-4
Concrete/Gabion Structure Repair and Maintenance	No
Culvert Maintenance	Yes; see Appendix A-4
Post-Maintenance Erosion Control Recommendation	Subject to further analysis to determine need and type
Trash/Debris Fence Repair and Maintenance	No
Structure Type	Outlet
Existing Plans and/or As-Builts?	Yes; 20676-D
Structure Size	33 inches
Structure Detail	Outfall headwall
Maintenance Area Substrate	Earthen
Authorized Facility Maintenance Area	Length: 35 feet Width: 5 feet
Maintenance Quantities	To be determined at time of maintenance
Access/Loading/Staging/Stockpiling Area(s)	Designated areas on Map A or within City ROW may be used for access, loading, staging, and/or stockpiling. The boundaries of these areas may also be modified as long as changes do not result in new significant environmental impacts.
Equipment	Gradall/excavator, dump truck, vactor, fuel-powered hand tools

1206 Goodyear (Drain ID: #OT04671)
Facility Maintenance Plan

Schedule	Up to approximately 2 working days
Maintenance Crew	Approximately 3–6 people
Routine Maintenance Procedures	Conduct maintenance procedures as follows: 1. Gradall/excavator is stationed above structure in access/loading area 2. Gradall/excavator scoops material in front of structure 3. Gradall/excavator dumps material into dump truck 4. Vactor stationed at access/loading assists in removal of material 5. Workers may assist removing material using hand tools 6. Dump truck and vactor haul material to legal disposal site
Traffic Control	No
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist shall conduct the following on site: 1. Review sensitive biological/historical/water quality resources; if present flag/delineate 2. Conduct appropriate training 3. Review BMP installation 4. If needed, review pre- and during-maintenance pumping procedures 5. Conduct pre-maintenance site photo documentation
Biology	Suitable habitat for sensitive species[1]: 1. Within maintenance area: No 2. Adjacent to maintenance area: No Activities to be conducted under authority of a qualified biologist: 1. Nesting bird surveys required within 72 hours of the start of vegetation clearing from February 1 through September 15
Flow Management	As needed: 1. Vactor or pump standing water from facility 2. Install temporary dry-weather flow-diversion berm(s) across facility (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Yes; implement BMPs per Water Pollution Control Plan
BMP Installation	See Water Pollution Control Plan
In-Stream Post-Maintenance Erosion Control Recommendation	As-built includes a riprap energy dissipator at the outlet. Additional analysis is needed to determine if the as-built condition reduces velocities below permissible levels.

[1] Species covered under the Multiple Species Conservation Program, other special-status species, including raptors.

Post-Maintenance Procedures	Conduct post-maintenance procedures as follows: 1. Demobilize equipment 2. Restore temporary access/loading areas to pre-maintenance condition or as required by the WPCP for final stabilization 3. Street Sweeper will sweep/clean debris from street/right-of-way/project area(s), as needed 4. Remove temporary BMPs 5. Update maintenance record 6. Conduct post-maintenance site photo documentation
Other Notes	None

Drain Structure

Access/Loading/Staging /Stockpiling Area

Maintenance Area

N

The City of SAN DIEGO

Notes:
1. Concrete repair may occur within this facility area.
2. Access/Loading/Staging/Stockpiling may also occur within City ROW.
3. Access/Loading/Staging/Stockpiling may be modified during implementation.

November 2019

Map A: General Site Plan
Structure Name: 1206 Goodyear
IAMFLOC: #OT04671
Facility Maintenance Plan
Municipal Waterways Maintenance Plan

DMAX DUDEK Geosyntec consultants

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AeroGRID, IGN, the GIS User Community, SanGIS, and the City of San Diego.

APPENDIX A-4

Additional Maintenance Methods (Concrete Repair and Post-Maintenance Erosion Control)

Concrete Repair
Maintenance Methods

Facility Group/Segment[1]	As-needed for all MWMP Facilities with existing concrete lining
Description & Purpose	Concrete repair/replacement to restore facilities to existing constructed or original as-built conditions
Maintenance Sites	Within concrete lined and/or concrete banked facilities
Materials	Cement, sand, aggregate, rebar, wire mesh
Expected Lifespan	N/A
Equipment[2]	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, wheelbarrow, sweeper, cement truck, tow-behind mixer, concrete truck (with hoses/pumps), concrete saw, impulse/jack-hammer (attachments)
Maintenance Procedures	**Minor repair/replacement by hand:** 1. With hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) limited to work area 2. Prepare surface (work area) to be repaired/replaced by removing cracked, damaged or deteriorated concrete and cleaning surface. Work area should be clean, dry, rough, and dust-free. 3. Imported material may be pumped, wheel-barrowed or transported by truck/loader, etc. to work area. On-site materials may also be used for aggregate or backfill to grade, if appropriate. 4. Regrade work area using rake or similar hand tool to recontour any underlying surficial soil before bonding agent/concrete is applied, if needed 5. Concrete Installation: a. Install a wire-mesh lining or rebar to tie into existing concrete per as-built or specifications, if needed b. Pour/pump concrete repair mix to fill/seal cracks or to be formed to replace missing or deteriorated concrete per manufacturer's instructions. Material, such as conventional cement materials with an aggregate component, may be wheel-barrowed to work area and poured; or pumped/sprayed from concrete truck via hoses/pumps. c. Apply bonding agent to cracks or deteriorated concrete per manufacturer's instructions, if needed d. Use hand tools to smooth concrete to grade 6. Place/transport material in a portable trash bin, wheel-barrow, or

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various concrete repair jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

	by equipment to loading/access area, as needed 7. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site **Minor or Major repair/replacement using equipment** 1. With equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator) and/or hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) within work area. Equipment/crew may work within channel or from an access area outside the channel, depending on facility characteristics. Reference facility-specific FMP for access areas. 2. Prepare surface (work area) to be repaired/replaced. Equipment with corresponding impulse/jack-hammer attachments may be used to break up damaged concrete. 3. Remove cracked, damaged or deteriorated concrete and clean surface. Work area should be clean, dry, rough, and dust-free. 4. Excavate (e.g., with equipment or hand shoveled) work area and backfill with suitable soil or material per City engineering standards, if needed 5. Imported material may be pumped, wheel-barrowed or transported by truck/loader, etc. to work area. On-site materials may also be used for aggregate or backfill to grade, if appropriate. 6. For minor repair/replacement, regrade surficial soil using hand tools (e.g., rake) to recontour any underlying surficial soil before bonding agent/concrete is applied, if needed. For major repair/replacement, use mechanized equipment to regrade and excavate 1-2 feet below surficial soil. 7. Concrete Installation: a. Install wire-mesh lining or rebar to tie into existing concrete per as-built or specifications, if needed b. Pour/pump concrete repair mix to fill/seal cracks or to be formed to replace missing or deteriorated concrete per manufacturer's instructions. Material, such as conventional cement materials with an aggregate component, may be wheel-barrowed to work area and poured; or pumped/sprayed from concrete truck via hoses/pumps. c. Apply bonding agent to cracks or deteriorated concrete per manufacturer's instructions, if needed d. Use hand tools to smooth concrete to grade 8. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 9. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site

Concrete Repair
Maintenance Methods

Maintenance Frequency	As-needed
Schedule	Approximately 7–21 working days
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP
Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Reference facility-specific FMP
BMP Installation	See Water Pollution Control Plan (WPCP)
Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

Concrete/Gabion Structure
Repair and Maintenance Methods

Facility Group/Segment[1]	As-needed for all MWMP Facilities with existing concrete or gabion structure(s)
Description & Purpose	Concrete/gabion structure repair/replacement to restore facilities to existing constructed or original as-built conditions
Maintenance Sites	Generally located at existing concrete/gabion structures
Materials	Concrete, imported rock, metal wire mesh gabion, rebar, wire mesh
Expected Lifespan	N/A
Equipment[2]	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, wheelbarrow, sweeper, cement truck, tow-behind mixer, concrete truck (with hoses/pumps), concrete saw, impulse/jack-hammer (attachments)
Maintenance Procedures	**Minor repair/replacement by hand:** 1. With hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) limited to work area 2. Prepare surface (work area) to be repaired/replaced by removing cracked, damaged or deteriorated concrete and cleaning surface. Work area should be clean, dry, rough, and dust-free. 3. Imported material may be pumped, wheel-barrowed or transported by truck/loader, etc. to work area. On-site materials may also be used for aggregate or backfill to grade, if appropriate. 4. Regrade work area using rake or similar hand tool to recontour any underlying surficial soil before bonding agent/concrete is applied or gabion is replaced, if needed 5. Concrete Installation: a. Install a wire-mesh lining or rebar to tie into existing concrete per as-built or specifications, if needed b. Pour/pump concrete repair mix to fill/seal cracks or to be formed to replace missing or deteriorated concrete per manufacturer's instructions. Material, such as conventional cement materials with an aggregate component, may be wheel-barrowed to work area and poured; or pumped/sprayed from concrete truck via hoses/pumps. c. Apply bonding agent to cracks or pour/pump concrete repair mix to fill/seal cracks or deteriorated concrete per manufacturer's instructions, if needed

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various concrete/gabion repair jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

	d. Use hand tools to smooth concrete to grade 6. Gabion Installation: a. Assemble gabion wire mesh boxes and place into facility, connecting adjacent units to form a continuous structure, as needed b. Manually fill gabion baskets with rocks to minimize voids and damage to the wire mesh. Fill in stages to avoid local deformation c. Level off rock fill 20–30 millimeters above the top of the mesh then folder over lid and lace along all edges to allow for settlement 7. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 8. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site **Minor or Major repair/replacement using equipment:** 1. With equipment (e.g., bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator) and/or hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) within work area. Equipment/crew may work within channel or from an access/loading area outside the channel, depending on facility characteristics. Reference facility-specific FMP for access areas. 2. Prepare surface (work area) to be repaired/replaced. Equipment with corresponding impulse/jack-hammer attachments may be used to break up damaged concrete. 3. Remove cracked, damaged or deteriorated concrete and clean surface. Work area should be clean, dry, rough, and dust-free. 4. Excavate (e.g., with equipment or hand shoveled) work area and backfill with suitable soil or material per City engineering standards, if needed 5. Imported material may be pumped, wheel-barrowed or transported by truck/loader, etc. to work area. On-site materials may also be used for aggregate or backfill to grade, if appropriate. 6. For minor repair/replacement, regrade surficial soil using hand tools (e.g., rake) before bonding agent/concrete is applied or gabion is replaced, if needed. For major repair/replacement, use mechanized equipment to regrade and excavate 1-2 feet below surficial soil. 7. Concrete installation: a. Install a wire-mesh lining or rebar to tie into existing concrete per as-built or specifications, if needed b. Pour/pump concrete repair mix to fill/seal cracks or to be formed to replace missing or deteriorated concrete per

	manufacturer's instructions. Material, such as conventional cement materials with an aggregate component, may be wheel-barrowed to work area and poured; or pumped/sprayed from concrete truck via hoses/pumps. c. Apply bonding agent to cracks or deteriorated concrete per manufacturer's instructions, if needed d. Use hand tools to smooth concrete to grade 8. Gabion installation: a. Assemble gabion wire mesh boxes and place into facility, connecting adjacent units to form a continuous structure, as needed b. Manually fill gabion baskets with rocks to minimize voids and damage to the wire mesh. Fill in stages to avoid local deformation c. Level off rock fill 20–30 millimeters above the top of the mesh then folder over lid and lace along all edges to allow for settlement 9. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 10. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site
Maintenance Frequency	As-needed
Schedule	Approximately 7–21 working days
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP
Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

Downstream Sensitive Waters	Reference facility-specific FMP
BMP Installation	See Water Pollution Control Plan (WPCP)
Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

Culvert Maintenance
Maintenance Methods

Facility Group/Segment[1]	As-needed for all MWMP Facilities with existing culverts
Description & Purpose	Maintenance of culverts per as-built/estimated original design dimensions, and Hydrology and Hydraulics recommendation
Maintenance Sites	Generally located at the inlet, outlet, and within the culvert as-needed and when accessible
Materials	None
Expected Lifespan	N/A
Equipment[2]	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, fuel-powered hand tools, wheelbarrow, sweeper
Maintenance Procedures	**Mechanized Equipment:** 1. Equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, tractor, Gradall/excavator, loader) enters/is lowered into facility; or stationed outside/above facility in access/loading area or within public right-of-way. 2. Equipment scoops material from culvert and pushes material (e.g., vegetation, debris, soil/sediment) to access/loading area 3. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site **Vactor:** 1. Vactor is stationed outside/above facility in access/loading area or within public right-of-way, depending on facility characteristics. Reference facility-specific FMP for access areas. 2. Crew uses water from vactor/water truck/hydrant to flush material from culvert 3. Equipment (e.g., Gradall/excavator/backhoe) stationed outside/above facility within access/loading area may assist in scooping/pushing material (e.g., vegetation, debris, soil/sediment) from culvert to vactor or into a dump truck 4. Vactor vacuums material from culvert (for small quantities) 5. Material may need to be temporarily stockpiled and dewatered 6. Vactor/dump truck disposes/decants material into approved disposal site
Maintenance Frequency	As-needed
Schedule	Approximately 5–30 working days

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various culvert maintenance jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

Culvert Maintenance
Maintenance Methods

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP
Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Reference facility-specific FMP
BMP Installation	See Water Pollution Control Plan (WPCP)
Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

Debris/Trash Fence
Repair and Maintenance Methods

Facility Group/Segment[1]	As-needed for all MWMP Facilities with existing debris/trash fence(s)
Description & Purpose	Repair and/or maintenance of existing facility debris/trash fences to original as-built or standard drawing
Maintenance Sites	Generally located upstream of bridge or culvert openings
Materials	Minimum 3" steel post, 5/8 inch steel tension cable, 9 gage galvanized steel wire fence, concrete
Expected Lifespan	N/A
Equipment[2]	Kubota or similar tractor, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, mini-excavator, loader, backhoe, cement truck, concrete pump, tow-behind mixer, vactor, fuel-powered hand tools (weed whipper), wheelbarrow/buckets, hand tools (shovels, post-hole digger)
Maintenance Procedures	**Maintenance: Mechanized Equipment outside facility:** 1. Equipment (e.g., Gradall/excavator, backhoe) is stationed outside/above facility in access/loading area or within public right-of-way 2. Equipment excavates work area directly in front of (downstream) and/or behind (upstream) debris/trash fence 3. Equipment loads material (e.g., vegetation, debris, soil/sediment) from access/loading area into dump truck to be transported to approved disposal site **Maintenance: Mechanized Equipment and/or crews using hand tools inside facility:** 1. Crew with hand tools (shovels or fuel-powered hand tools) and/or equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, loader, tractor) enters/is lowered into facility at access/loading area 2. Crew/equipment excavates area directly in front of (downstream) and/or behind (upstream) debris/trash fence 3. Crew/equipment pushes/transports material (e.g., vegetation, debris, soil/sediment) to access/loading area 4. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site **Repair using hand tools and/or equipment:** 1. Crew/equipment (e.g., Bobcat/skid-steer, shovel) enters/is lowered into facility; or stationed outside/above facility in access/loading area or within public right-of-way

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various debris/trash fence repair jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

	2. Crew/equipment prepares/excavates area where debris/trash fence is to be repaired 3. Crew repairs/re-installs debris/trash fence with same or similar material 4. Equipment loads material (e.g., vegetation, debris, soil/sediment) from access/loading area into dump truck to be transported to approved disposal site **Repair of concrete footing for debris/trash fence:** 1. Crew/equipment (e.g., Bobcat/skid-steer with auger attachment, mini excavator, post-hole digger) prepares/excavates area where debris trash fence is to be repaired/re-installed 2. Crew forms area for concrete footing and (if needed) place/tie reinforcement rebar. 3. Crew pours concrete, places poles/supports, and finishes concrete 4. Crew strings/attaches debris/trash fencing with same or similar material 5. Equipment loads material (e.g., vegetation, debris, soil/sediment) from access/loading area into dump truck to be transported to approved disposal site
Maintenance Frequency	As-needed
Schedule	Approximately 1–20 working days
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP
Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Reference facility-specific FMP

Debris/Trash Fence
Repair and Maintenance Methods

BMP Installation	See Water Pollution Control Plan (WPCP)
Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

Anchored Chain-link/wire Fence
Installation and Maintenance Methods

Facility Group/Segment[1]	As-needed for MWMP Facilities that require post-maintenance erosion control
Description & Purpose	Installation of anchored chain-link/wire fence to dissipate incoming flows and reduce velocities to pre-maintenance levels. Methods are intended to be temporary (chain-link/wire fence would be removed following vegetation establishment)/semi-permanent (anchors for chain link/wire would be permanent). Anchored chain-link/wire reference: Public Works Standard Drawings – debris fence (City of San Diego Public Works 2016); FAO 1986.
Installation Sites	Generally located immediately upstream of stream segments where erosive velocities (above pre-maintenance conditions) are expected
General Design Guidelines	• Anchored chain-link/wire fences are made of posts that are anchored into the ground and wire or chain-link fencing that is placed across the ditch as a temporary structure • The fence is constructed either straight across the channel or in a crescent shape with its open end upstream • Concrete footings may be permanent and re-used, as necessary, to re-install the fence • The fences/check dams should be no taller than 3 feet
Materials	Stainless steel posts, chain-link/wire fencing, and/or concrete footings
Expected Lifespan	Approximately 2–6 years for semi-permanent applications
Equipment[2]	Cement truck and pumps, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, wheelbarrow, sweeper, fuel-powered hand tools

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various dissipator installation jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

Anchored Chain-link/wire Fence
Installation and Maintenance Methods

Installation Procedures	**<u>Anchored Chain-link/wire Fence Installation (follow manufacturer's specification for installation and City engineering standards):</u>** 1. With equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator) and/or hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) within work area. Equipment/crew may work within channel or from an access area outside the channel, depending on facility characteristics. Reference facility-specific FMP for access areas. 2. Prepare work area for installation 3. Excavate area and backfill with suitable soil or concrete at the post location(s) per City engineering standards, if needed. Imported material may be pumped, wheel-barrowed or transported by truck/loader, etc. to work area. Onsite materials may also be used for aggregate or backfill to grade, if appropriate. 4. Regrade work area using rake or similar hand tool to recontour any underlying surficial soil before fence is installed 5. Install fence posts (and concrete footings when applicable) 1' to a maximum of 4' apart based on fence type 6. Connect chain-link or wires to the fence posts 7. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 8. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP
Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration

Downstream Sensitive Waters	Reference facility-specific FMP
BMP Installation	See Water Pollution Control Plan (WPCP)
Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

Anchored Wooden/Brushwood Fence
Installation and Maintenance Methods

Facility Group/Segment[1]	As-needed for MWMP Facilities that require post-maintenance erosion control
Description & Purpose	Installation of anchored brushwood fence to dissipate incoming flows and reduce velocities to pre-maintenance levels. Methods are intended to be temporary/semi-permanent (anchored wooden/brushwood would degrade/integrate with stream bed/vegetation). Anchored wooden/brushwood fence references: FAO 1986.
Installation Sites	Generally located immediately upstream of stream segments where erosive velocities (above pre-maintenance conditions) are expected
General Design Guidelines	• Anchored wooden check dams or brushwood fences are made of posts that are anchored into the ground and brush/wood that spans the ditch as a temporary structure • The fence is constructed either straight across the channel or in a crescent shape with its open end upstream • Concrete footings may be permanent and re-used, as necessary, to re-install the fence • The fences/check dams should be no taller than 3 fet
Materials	Wooden or stainless steel posts, salvaged/imported trees and brush, planks/heavy boards, and/or concrete footings
Expected Lifespan	Approximately less than 2 years for temporary applications to up to 6 years for semi-permanent applications
Equipment[2]	Cement truck and pumps, Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, wheelbarrow, sweeper, fuel-powered hand tools

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various dissipator installation jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

Anchored Wooden/Brushwood Fence
Installation and Maintenance Methods

Installation Procedures	**<u>Anchored Wooden/Brushwood Fence Installation (follow manufacturer's specification for installation and City engineering standards):</u>** 1. With equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator) and/or hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) within work area. Equipment/crew may work within channel or from an access area outside the channel, depending on facility characteristics. Reference facility-specific FMP for access areas. 2. Prepare work area for installation 3. Excavate area and backfill with suitable soil or concrete at the post location(s) per City engineering standards, if needed. Imported material may be pumped, wheel-barrowed or transported by truck/loader, etc. to work area. Onsite materials may also be used for aggregate or backfill to grade, if appropriate. 4. Regrade work area using rake or similar hand tool to recontour any underlying surficial soil before fence is installed 5. Install fence posts (and concrete footings when applicable) 1' to a maximum of 4' apart based on fence type 6. Use flexible branches to weave between the posts or set wooden planks between two rows of posts. Use wire to hold the top of the wooden check dam in place. Onsite materials may be salvaged for brushwood fence materials. 7. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 8. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP

Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Reference facility-specific FMP
BMP Installation	See Water Pollution Control Plan (WPCP)
Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

Coir Mat
Installation and Maintenance Methods

Facility Group/Segment[1]	As-needed for MWMP Facilities that require post-maintenance erosion control
Description & Purpose	Installation of Coir Mat to stabilize bed and banks as a result of increased post-maintenance velocities. Coir Mats are open-weaved textiles made of natural fibers that can be used to stabilize disturbed bed and banks and allow vegetation growth.
Installation Sites	Generally located where erosive velocities (above pre-maintenance conditions) are expected
General Design Guidelines	• Coir mat is intended to be temporary to semi-permanent • Will degrade/integrate with stream bed/vegetation • The weight of the mat is determined by the velocity within the channel or ditch • Seeding of the matting is dependent on the type of matting used and at the direction of the landscape architect • Manufacturer's installation instructions and specifications should be followed. The Installation Procedures section below describes the general installation process.
Materials	Coir mat, staples/hooks, or stakes
Expected Lifespan	Approximately less than 2 years for temporary applications to up to 6 years for semi-permanent applications
Equipment[2]	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, wheelbarrow, sweeper, fuel-powered hand tool

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various channel stabilization jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

Coir Mat
Installation and Maintenance Methods

Installation Procedures	**<u>Coir Mat Installation (follow manufacturer's specification for installation and City engineering standards):</u>** 1. With equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator) and/or hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) within work area. Equipment/crew may work within channel or from an access area outside the channel, depending on facility characteristics. Reference facility-specific FMP for access areas. 2. Prepare work area for installation 3. Excavate area and backfill with suitable soil per City engineering standards, if needed. Imported material may be pumped, wheel-barrowed or transported by truck/loader, etc. to work area. Onsite materials may also be used for aggregate or backfill to grade, if appropriate. 4. Regrade work area using rake or similar hand tool to recontour any underlying surficial soil before coir mat is installed 5. If the coir mat is a small opening mesh, the soil should be prepped and seeding should be done prior to installation of the matting 6. Dig a small trench at the top and bottom of the slope or edges of the channel/ditch to secure the matting 7. Install the matting by overlapping the mats a minimum of 6 to 8 inches and secure the mats with staples or stakes 8. Secure both ends of the mat with stakes/staples/hooks and fill in the trenches 9. If applicable, seed the matting 10. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 11. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP

Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Reference facility-specific FMP
BMP Installation	See Water Pollution Control Plan (WPCP)
Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

One Rock Dam
Installation and Maintenance Methods

Facility Group/Segment[1]	As-needed for MWMP Facilities that require post-maintenance erosion control
Description & Purpose	Installation of One Rock Dam to dissipate incoming flows and reduce velocities to pre-maintenance levels. Methods are intended to be permanently integrate with the facility bed and/or banks. One Rock Dam reference: Zeedyk (2006 and 2014).
Installation Sites	Generally located immediately upstream or where erosive velocities (above pre-maintenance conditions) are expected
General Design Guidelines	• Velocity-reducing "dam" that is one-rock tall, several rows long, and extend the full width of the channel bed. The dam should not be taller than one third of the bankfull depth and rocks should be similar sized. In concept, flood flows will pack smaller-sized material in the gaps and gradually strengthen the structure. • Site preparation will include removal of vegetation and approximately 6" of soil within installation area. • Installation consists of placement of rock in tightly packed rows and possible compaction with equipment, if feasible.
Materials	Imported rock, salvaged rock from maintenance area, or soilcrete burlap bags with 10:1 soil:cement mix
Expected Lifespan	Approximately 5–10 years depending on sediment deposition
Equipment[2]	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, wheelbarrow, sweeper, fuel-powered hand tool

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various dissipator installation jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

One Rock Dam
Installation and Maintenance Methods

Installation Procedures	**<u>One Rock Dam Installation (follow City engineering standards):</u>** 1. With equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator) and/or hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) and up to the minimum layer thickness per the specification within work area. Equipment/crew may work within channel or from an access area outside the channel, depending on facility characteristics. Reference facility-specific FMP for access areas. 2. Imported material (e.g., rocks) may be pumped, wheel-barrowed or transported by truck/loader, etc. to work area 3. Use hand tools or equipment to compact/settle rock to stable position 4. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 5. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP
Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Reference facility-specific FMP
BMP Installation	See Water Pollution Control Plan (WPCP)

Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

Riprap
Installation and Maintenance Methods

Facility Group/Segment[1]	As-needed for MWMP Facilities that require post-maintenance erosion control or replacement/repair of riprap
Description & Purpose	Installation and repair of Riprap to dissipate incoming flows and reduce velocities to pre-maintenance levels. Methods are intended to be permanently integrate with the facility bed and/or banks. Riprap reference: City of San Diego Drainage Design Manual.
Installation Sites	Generally located where erosive velocities (above pre-maintenance conditions) are expected
General Design Guidelines	• Velocity-reducing dissipator that consist of a riprap/rock baffle, larger in scale than the one-rock dam and therefore able to withstand higher velocities/sheer stress • Site preparation will include removal of vegetation and approximately 1–8 feet of soil within installation area • Installation consists of placement of bedding and riprap piles and possibly compaction with equipment, if feasible
Materials	Angular rocks with minimum specific gravity of 2.65 is preferred, filter blanket material (granular material or non-woven geotextile filter fabric)
Expected Lifespan	Approximately 50+ years
Equipment[2]	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, wheelbarrow, sweeper, fuel-powered hand tool

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various dissipator installation jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

Riprap
Installation and Maintenance Methods

Installation Procedures	**<u>Riprap Installation and City engineering standards):</u>** 1. Engineering/crew determines if Placement Method A or B (City of San Diego Drainage Design Manual) will be used (based on riprap sizing) and per maintenance plans 2. With equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator) and/or hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) and excavate to the minimum layer thickness per the specification within work area. Equipment/crew may work within channel or from an access area outside the channel, depending on facility characteristics. Reference facility-specific FMP for access areas. 3. Install bedding layer per the specifications including filter fabric 4. Imported material (e.g., riprap, rock) may be pumped, wheel-barrowed or transported by truck/loader, etc. to work area 5. Equipment places riprap per Placement Method A or B 6. Equipment moves rock in the work area to maintain appropriate grade 7. Use hand tools or equipment to compact/settle rock to stable position 8. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 9. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP
Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Reference facility-specific FMP

Riprap
Installation and Maintenance Methods

BMP Installation	See Water Pollution Control Plan (WPCP)
Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

Turf Reinforcement Mat
Maintenance Methods

Facility Group/Segment[1]	As-needed for MWMP Facilities that require post-maintenance erosion control
Description & Purpose	Installation of Turf Reinforcement Mat (TRM) to stabilize bed and banks as a result of increased post-maintenance velocities. TRM are composite mats of non-degradable synthetic material that are incorporated into layered heavy-duty netting to create a flexible three-dimensional structure that provides new vegetation stability in adverse conditions.
Installation Sites	Generally located where erosive velocities (above pre-maintenance conditions) are expected
General Design Guidelines	• TRM is intended to be permanent • TRMs are frequently used to protect bed and banks from erosion while allowing vegetation growth • Seeding is at the direction of the landscape architect • Manufacturer's installation instructions and specifications should be followed. The maintenance procedures section below describes the general installation process.
Materials	TRM, pins/staples, or biodegradable stakes
Expected Lifespan	Less than 50 years
Equipment[2]	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, wheelbarrow, sweeper, fuel-powered hand tools

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various channel stabilization jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

Turf Reinforcement Mat
Maintenance Methods

Installation Procedures	**<u>TRM Installation (follow manufacturer's specification for installation and City engineering standards):</u>** 1. With equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator) and/or hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) and excavate to the minimum layer thickness per the specification within work area. Equipment/crew may work within channel or from an access area outside the channel, depending on facility characteristics. Reference facility-specific FMP for access areas. 2. The soil should be prepped and seeding should be done prior to installation of the matting 3. Dig a small trench at the top of slope and terminal end to secure the matting 4. Install the matting by overlapping the mats a minimum of 4 to 6 inches and secure the mats with staples or stakes 5. Secure both ends of the mat with stakes/staples/hooks and fill in the trenches 6. Seed the matting, if applicable 7. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 8. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site
Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP
Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Reference facility-specific FMP
BMP Installation	See Water Pollution Control Plan (WPCP)

Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

Wooden Check Dam
Installation and Maintenance Methods

Facility Group/Segment[1]	As-needed for MWMP Facilities that require post-maintenance erosion control
Description & Purpose	Installation of wooden check dam to dissipate incoming flows and reduce velocities to pre-maintenance levels. Methods are intended to be temporary/semi-permanent (wooden check dam would degrade/integrate with stream bed/vegetation). Wooden check dam references: FAO 1986.
Installation Sites	Generally located immediately upstream of stream segments where erosive velocities (above pre-maintenance conditions) are expected
General Design Guidelines	• Wooden check dams are made of posts and wood that spans the ditch as a temporary structure • The check dam is constructed straight across the channel • The check dams should be no taller than 2 feet
Materials	Wooden posts, salvaged/imported trees, or planks/heavy boards
Expected Lifespan	Approximately 3 years
Equipment[2]	Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator, loader, backhoe, dump truck, trash pump, vactor, wheelbarrow, sweeper, fuel-powered hand tools
Installation Procedures	**<u>Wooden Check Dam Installation (follow City engineering standards):</u>** 1. With equipment (e.g., Bobcat/skid-steer, bulldozer/track-steer, Gradall/excavator) and/or hand tools (e.g., shovels), remove material (e.g., vegetation, debris, soil/sediment) within work area. Equipment/crew may work within channel or from an access area outside the channel, depending on facility characteristics. Reference facility-specific FMP for access areas. 2. Install posts 1' to a maximum of 4' apart based on maintenance design plans 3. Set wooden planks between two rows of posts. Use wire to hold the top of the wooden check dam in place. 4. Place/transport material in a portable trash bin, wheel-barrow, or by equipment to loading/access area, as needed 5. Equipment loads material from access/loading area into dump truck to be transported to approved disposal site

[1] Facility-specific FMPs provide details on existing plans or as-builts available for a segment or facility group and will show access, loading, staging and/or stockpiling areas.

[2] The equipment list is typical of various dissipator installation jobs, but not all equipment listed will be used depending on the type of installation and the facility's characteristics

Wooden Check Dam
Installation and Maintenance Methods

Additional Maintenance Information	
Pre-Maintenance Meeting	Prior to the start of any maintenance activity, a qualified specialist(s) shall conduct the following on site: 1. Review sensitive biological, historical, and water quality resources; if present, flag/delineate 2. Conduct appropriate training 3. Review Best Management Practices (BMP) installation 4. If needed, review pre- and during-maintenance pumping procedure 5. Conduct pre-maintenance site photo documentation
Biology	Reference facility-specific FMP
Flow Management	As needed: 1. Vactor or pump standing water from channel 2. Install temporary dry-weather flow-diversion berm(s) across channel (upstream and downstream of maintenance area) 3. Position vactor/pump to capture any incoming or contained flows 4. If pumping water through temporary hose(s) to location(s) downstream, allow for distributed discharge and infiltration
Downstream Sensitive Waters	Reference facility-specific FMP
BMP Installation	See Water Pollution Control Plan (WPCP)
Post-Maintenance Procedures	Conduct post-maintenance procedures as required by the WPCP including the following: 1. Demobilize equipment 2. Return temporary access/loading area(s) to pre-maintenance or habitat type 3. Remove temporary BMPs 4. Update maintenance record 5. Conduct post-maintenance site photo documentation
Other Notes	None

APPENDIX A-5

Additional Facilities Evaluated (Technical Summaries Only, No FMPs Proposed)

Technical Summary

Los Peñasquitos Canyon Creek - Sorrento Facility Group

Segment Name (Facility number):

Sorrento Valley 1 (2-01-000)

The City of SAN DIEGO

Sorrento Valley Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Los Peñasquitos Canyon Creek, upstream of the Los Peñasquitos Lagoon
Tributaries (listed from downstream to upstream)	Soledad Canyon Creek, Soledad Canyon Creek Unnamed Tributary, Los Peñasquitos Canyon Creek Unnamed Tributary, Carroll Canyon Creek
Facility Length	Approximately 2,347 feet
Top-of-Bank Width	Approximately 23–76 feet
Bottom Facility Width	Approximately 8–26 feet
Facility Depth	Approximately 2–12 feet
Adjacent Land Use	Industrial, Office, Open Space, Transportation
As-Built Drawing Number	None
Coastal Zone	CST-APP, N-APP-1

Figure 1: October 2010, looking upstream at the vegetation along the banks

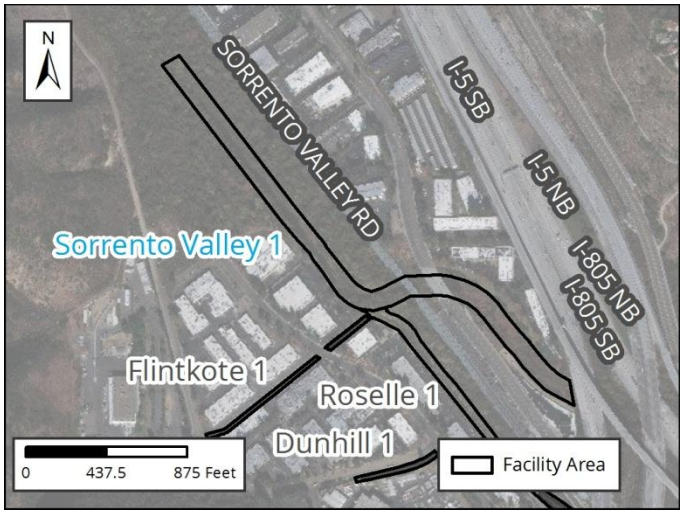


Figure 2: Vicinity Map of Sorrento Valley Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Approximately 1998: Excavation of sediment and vegetation Prior to 2006: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	CDP No. 6-99-101 (expired November 2017)
SDP	SDP No. 2034245 (2017 Addendum)
404	IP USACE File #SPL-2010-00985-MBS (expired December 2015)
401	RWQCB 401 Cert No. R9-06C-062:643875:jebsen (expired December 2015)
1602	CDFW SAA No. 1600-2006-0183-R5 (expires August 2026)
Mitigation for Previous Impacts	El Cuervo Famosa Slough

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	In October 2010, moderate to dense vegetation and sediment vegetation was observed. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	680	2,200	4,200	9,000	13,100	19,000

Hydraulic Capacity of Facility

Current Capacity	2,200 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (Arundo-dominated) • Natural flood channel • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Natural flood channel • Ornamental plantings
Habitat and Wildlife	The channel has a high potential to support sensitive species, such as least Bell's vireo, Ridgeway's rail, and southern willow flycatcher, as well as other migratory birds due to the presence of extensive suitable habitat (e.g. riparian forest [southern willow forest]) both within and adjacent to the facility
MHPA	The channel is located almost entirely within the Multi Habitat Planning Area (MHPA) with direct connectivity to additional MHPA sections upstream and downstream within the Los Penasquitos Creek and Lagoon
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1964 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-CR-1
Land Use (LU)	MM-CR-2
EP-LU-1	MM-CR-3
Solid Waste (SW)	MM-CR-4
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

Soledad Canyon Creek - Sorrento Facility Group

Segment Names (Facility numbers):

- Roselle 1 (2-03-000) (See Appendix A-1)
- Roselle 2 (2-03-002) (See Appendix A-1)
- SorValRd 1 (2-03-004)
- SorValRd 2 (2-03-006)

The City of SAN DIEGO

SorValRd Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Soledad Canyon Creek, immediately upstream of Soledad Canyon Creek (Segment 2)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 5,283 feet
Top-of-Bank Width	Approximately 34–109 feet
Bottom Facility Width	Approximately 10–40 feet
Facility Depth	Approximately 6–15 feet
Adjacent Land Use	Construction, Industrial, Office, Open Space, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	CST-APP, N-APP-1

Figure 1: July 2017, looking downstream at channel bottom near the upstream side of railroad bridge

Figure 2: Vicinity Map of SorValRd Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	None
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The vegetation was observed to from light to moderate with the channel bottom lined with cobble and mostly clear of vegetation					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	480	850	1,300	2,400	3,800	5,600
Hydraulic Capacity of Facility						
Current Capacity	5,600 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance is recommended at this time					
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)					

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (Arundo-dominated) • Natural flood channel • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Non-native grassland • Ornamental plantings • Riparian forest (southern riparian forest)
Habitat and Wildlife	The vegetation contained within the facility provides potential nesting and/or foraging habitat for raptors, migratory bird species, and sensitive bird species (e.g., Least Bell's vireo and southern willow flycatcher)
MHPA	Portions of the channel are located within the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-004609
Resource Identified Adjacent to APE	None
Resource Type	Prehistoric village

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-CR-1
Land Use (LU)	MM-CR-2
EP-LU-1	MM-CR-3
Paleontological Resources (PAL)	MM-CR-4
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

SorValRd Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Soledad Canyon Creek, immediately upstream of Soledad Canyon Creek (SorVal Rd Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,473 feet
Top-of-Bank Width	Approximately 55–300 feet
Bottom Facility Width	Approximately 47–170 feet
Facility Depth	Approximately 6–9 feet
Adjacent Land Use	Commercial, Industrial, Office, Open Space, Public Facilities and Utilities, Transportation, Vacant
As-Built Drawing Number	10255-D
Coastal Zone	No

Figure 1: May 2019, looking downstream at vegetation density

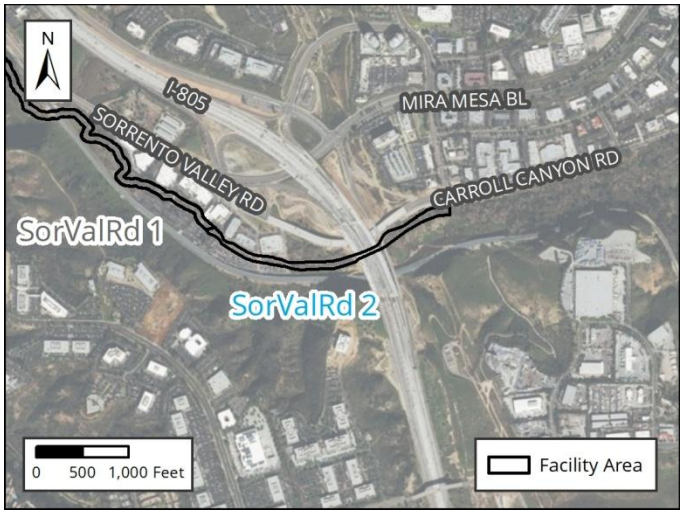


Figure 2: Vicinity Map of SorValRd Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The vegetation was observed to from light to moderate with the channel bottom lined with cobble and mostly clear of vegetation

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	480	850	1,300	2,400	3,800	5,600

Hydraulic Capacity of Facility

Current Capacity	5,600 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Non-native grassland • Ornamental plantings • Riparian forest (southern riparian forest)
Habitat and Wildlife	The vegetation contained within and adjacent the facility provides potential nesting and/or foraging habitat for raptors, migratory bird species, and sensitive bird species (e.g.,. Least Bell's vireo and southern willow flycatcher)
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The MHPA is located 50 feet directly downstream the channel's north western boundary.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-CR-1
Land Use (LU)	MM-CR-2
EP-LU-1	MM-CR-3
Solid Waste (SW)	MM-CR-4
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

Tecolote Creek - Morena Facility Group

Segment Name (Facility number):

Morena 1 (3-04-101)

The City of SAN DIEGO

Morena Segment 1 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Tecolote Creek unnamed tributary, immediately upstream of Tecolote Creek Channel
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 200 feet
Top-of-Bank Width	Approximately 15–25 feet
Bottom Facility Width	Approximately 2–5 feet
Facility Depth	Approximately 4–5 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: May 2017, looking downstream, representative of thick vegetation in the channel

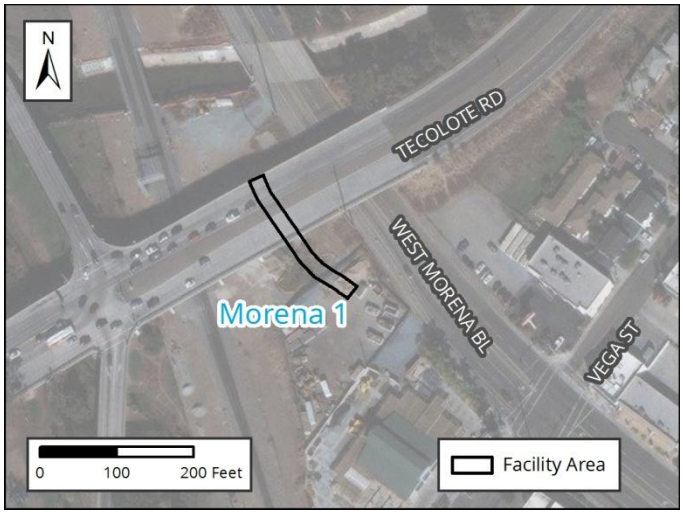


Figure 2: Vicinity Map of Morena Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted Facility modified as part of Mid-Coast Corridor Transit project
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The vegetation was observed to be dense with no evidence of sediment deposition

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	35	44	50	56	66	72

Hydraulic Capacity of Facility

Current Capacity	72 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland • Riparian forest
Adjacent Vegetation	• Disturbed land • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953–1963 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

Murphy Canyon Creek - Stadium Facility Group

Segment Names (Facility numbers):

- Stadium 1 (4-04-000) (See Appendix A-1)
- Stadium 2 (4-04-002) (See Appendix A-1)
- Murphy Canyon 1 (4-04-006) (See Appendix A-1)
- Murphy Canyon 2 (4-04-008)

The City of SAN DIEGO

Murphy Canyon Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of Murphy Canyon Creek, immediately upstream of Murphy Canyon Creek (Murphy Canyon Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,563 feet
Top-of-Bank Width	Approximately 60–125 feet
Bottom Facility Width	Approximately 25–60 feet
Facility Depth	Approximately 8–17 feet
Adjacent Land Use	Commercial, Open Space, Public Facilities and Utilities, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: March 2013, looking upstream

Figure 2: Vicinity Map of Murphy Canyon Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	In March 2013, the vegetation was observed to be dense with little evidence of sediment deposition. Current conditions were reviewed in relation to the hydraulic analysis for this segment in 2018 and documented in the current conditions assessment memorandum in Appendix A of the Hydrology and Hydraulics Technical Report.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	300	680	1,100	1,700	2,400	3,000

Hydraulic Capacity of Facility

Current Capacity	3,000 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Eucalyptus woodland • Riparian scrub (southern willow scrub)
Adjacent Vegetation	• Coastal sage scrub • Developed concrete-lined channel • Disturbed coastal sage scrub • Disturbed land • Eucalyptus woodland
Habitat and Wildlife	The channel has a high potential to support sensitive species (e.g., least Bell's vireo), raptors, and other migratory birds due to the presence of extensive sensitive habitat (e.g., riparian scrub [southern willow scrub]) within and adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 620 feet to the east of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1966–1972 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

Norfolk Canyon Creek - Fairmount Facility Group

Segment Names (Facility numbers):

- Fairmount 1 (4-08-008) (See Appendix A-1)
- Fairmount 2 (4-08-011) (See Appendix A-1)
- Fairmount 3 (4-08-014) (See Appendix A-1)
- Fairmount 4 (4-08-017) (See Appendix A-1)
- Baja 1 (4-08-105) (See Appendix A-1)
- Aldine 1 (4-08-150)

The City *of* SAN DIEGO

Aldine Segment 1 Detail

Facility Type	Earthen ditch
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Norfolk Canyon Creek, immediately upstream of Norfolk Canyon Creek, South (Fairmount Segment 3)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,240 feet
Top-of-Bank Width	Approximately 35 feet
Bottom Facility Width	Approximately 7 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Open Space, Public Facilities and Utilities, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, looking downstream at vegetation, erosion in facility

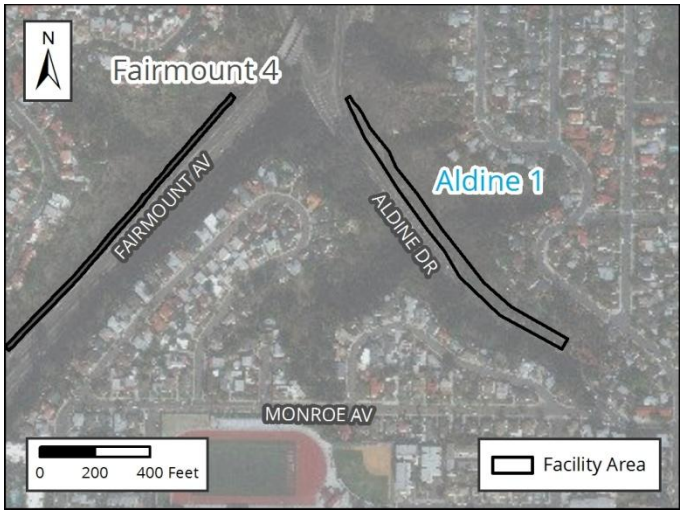


Figure 2: Vicinity Map of Aldine Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Vegetation varied from light to dense along with section of rocky cobble. A few areas of erosion were also observed.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	280	359	419	503	563	624

Hydraulic Capacity of Facility

Current Capacity	105 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (palm-dominated) • Natural flood channel
Adjacent Vegetation	• Chaparral • Coastal sage scrub • Developed land • Disturbed land • Disturbed wetland (palm-dominated) • Eucalyptus woodland
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the eucalyptus woodland present adjacent to the facility for nesting/roosting. Other sensitive bird species (e.g., coastal California gnatcatcher) could occur in sage scrub habitat adjacent to the ditch.
MHPA	The eastern side of the ditch is intersected by the Multi Habitat Planning Area (MHPA) near the center of the facility
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; pre-1953 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Land Use (LU)	MM-HR-2
EP-LU-1	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

Auburn Creek - Home Facility Group

Segment Names (Facility numbers):

- Home 1 (5-04-220) (See Appendix A-1)
- Home 2 (5-04-224) (See Appendix A-1)
- Home 3 (5-04-227) (See Appendix A-1)
- Home 4 (5-04-229)
- Home 5 (5-04-231) (See Appendix A-1)

The City of SAN DIEGO

Home Segment 4 Detail

Facility Type	Earthen and concrete channel
Substrate Detail	Stations 2162-2916: Earthen bottom, earthen left bank, and concrete right bank
Location Within Watershed	Lower reach of Auburn Creek, immediately upstream of Auburn Creek (Home, Segment 3)
Tributaries (listed from downstream to upstream)	Auburn Creek
Facility Length	Approximately 754 feet
Top-of-Bank Width	Approximately 30 feet
Bottom Facility Width	Approximately 12 feet
Facility Depth	Approximately 6 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	12728-2-L
Coastal Zone	No

Figure 1: March 2016, looking upstream at the double 6-foot wide by 6-foot tall RCB culvert. Note the standing water and erosion at culvert outlet.

Figure 2: Vicinity Map of Home Segment 4

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	In February 2017, the vegetation observed in the channel was dense. A few areas of erosion were noted as well.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	120	290	430	630	950	1,200

Hydraulic Capacity of Facility

Current Capacity	1,200 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Adjacent Vegetation	• Coastal sage scrub • Developed concrete-lined channel • Developed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	The channel area itself does not contain suitable vegetation for sensitive wildlife; however, suitable habitat for sensitive bird species, such as coastal California gnatcatcher, is present in the areas surrounding the facility
MHPA	The facility is adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located less than 5 feet directly south of the facility.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1956 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Geologic Resources (GEO)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-GEO-1	MM-HR-1
Health and Safety/Hazards (HAZ)	MM-HR-2
DELETE	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Land Use (LU)	
EP-LU-1	
Paleontological Resources (PAL)	
DELETE	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

Auburn Creek - Oakcrest Facility Group

Segment Name (Facility number):

Oakcrest 1 (5-04-245)

The City of SAN DIEGO

Oakcrest Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Auburn Creek (unnamed tributary), upstream of Auburn Creek (unnamed tributary, Wightman, Segment 2)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 1,121 feet
Top-of-Bank Width	Approximately 24–51 feet
Bottom Facility Width	Approximately 6.5–14 feet
Facility Depth	Approximately 5.6–6.5 feet
Adjacent Land Use	Multi-Family Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: August 2017, looking upstream at RCP storm drain system outlet

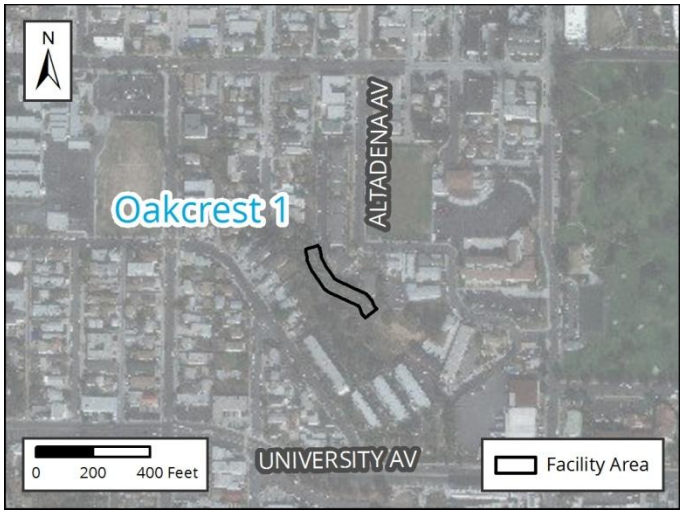


Figure 2: Vicinity Map of Oakcrest Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	Dense vegetation was observed and little evidence of sediment deposition. Standing water was observed at the upstream culvert outlet.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	86	127	160	248	360	450

Hydraulic Capacity of Facility

Current Capacity	450 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Developed concrete-lined channel • Natural flood channel • Ornamental plantings • Riparian forest (southern willow forest)
Adjacent Vegetation	• Developed land • Disturbed land • Eucalyptus woodland • Riparian forest (southern willow forest) • Ornamental plantings
Habitat and Wildlife	Although this channel does contain some suitable vegetation for sensitive wildlife species (e.g., least Bell's vireo), the channel extents and area of vegetation present are limited such that it is unlikely for wildlife to use the channel for nesting or foraging
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Identified as potential compensatory mitigation areas. A compensatory mitigation plan has not yet been prepared.

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; pre-1972 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

South Chollas Creek - Euclid Facility Group

Segment Names (Facility numbers):

Euclid 1 (5-05-019)

Euclid 2 (5-05-021) (See Appendix A-1)

The City of SAN DIEGO

Euclid Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Middle reach of South Chollas Creek, upstream of South Chollas Creek (Ocean View Segment 2)
Tributaries (listed from downstream to upstream)	South Chollas Creek
Facility Length	Approximately 904 feet
Top-of-Bank Width	Approximately 42–93 feet
Bottom Facility Width	Approximately 8–29 feet
Facility Depth	Approximately 7–27 feet
Adjacent Land Use	Commercial, Industrial, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2017, representative of earthen with cobble portion of channel

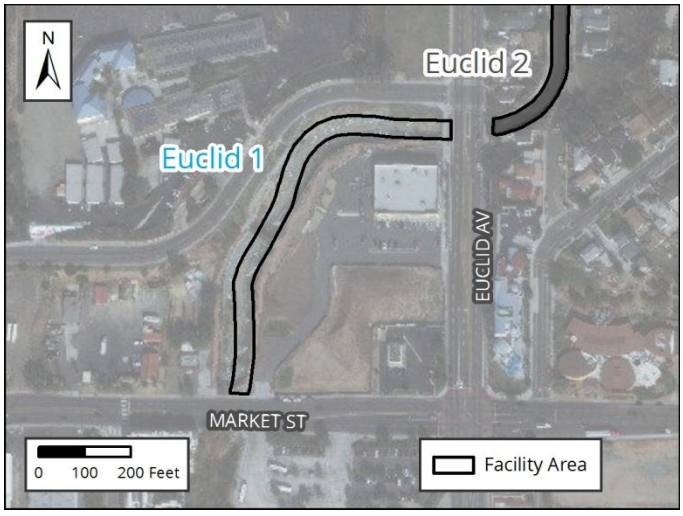


Figure 2: Vicinity Map of Euclid Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The channel was relatively clean with light vegetation and little evidence of sediment deposition in the riprap

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	540	1,250	2,000	3,000	3,900	5,300

Hydraulic Capacity of Facility

Current Capacity	1,250 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed land • Disturbed wetland • Eucalyptus woodland • Ornamental plantings • Riparian forest (coast live oak) • Riparian forest (southern willow forest)
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility; however, sensitive species (e.g., least Bell's vireo) or other migratory species may use the riparian forest (southern willow forest) habitat downstream of the channel
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet east of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1964 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

South Chollas Creek Encanto Branch - Imperial Facility Group

Segment Names (Facility numbers):

Imperial 1 (5-05-304)

Imperial 2 (5-05-306) (See Appendix A-1)

The City of SAN DIEGO

Imperial Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch, upstream of South Chollas Creek
Tributaries (listed from downstream to upstream)	South Chollas Creek Encanto Branch
Facility Length	Approximately 2,638 feet
Top-of-Bank Width	Approximately 95 feet
Bottom Facility Width	Approximately 22 feet
Facility Depth	Approximately 14 feet
Adjacent Land Use	Commercial, Industrial, Multi-Family Residential, Open Space, Other Residential, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	12898-D
Coastal Zone	No

Figure 1: April 2017, looking downstream of Orange Line bridge at vegetation

Figure 2: Vicinity Map of Imperial Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The amount of vegetation was observed to range from medium to dense with no evidence of sediment deposition					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	626	932	1,200	1,873	2,700	3,500
Hydraulic Capacity of Facility						
Current Capacity	1,873 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance is recommended at this time					
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)					

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed riparian forest (southern willow forest) • Disturbed wetland • Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed land • Disturbed wetland (Arundo-dominated) • Ornamental plantings
Habitat and Wildlife	Although not suitable for other sensitive bird species, the habitat contained within the facility may provide opportunities for nesting and/or foraging raptors or other migratory species
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located approximately 350 feet north of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	P-37-016029
Resource Identified Adjacent to APE	None
Resource Type	Lithic artifact scatter

Historical Resources	
Resource Identified in APE	Channel; c. 1966–1972 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Solid Waste (SW)	MM-HR-2
EP-SW-2	**Noise (NOI)**
EP-SW-3	MM-NOI-1
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

South Chollas Creek Encanto Branch - Jamacha Facility Group

Segment Names (Facility numbers):

- Jamacha 1 (5-05-603) (See Appendix A-1)
- Jamacha 2 (5-05-606)
- Jamacha 3 (5-05-610)
- Lobrico 1 (5-05-702)
- Cadman 1 (5-05-802)

The City of SAN DIEGO

Jamacha Segment 2 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch, upstream of South Chollas Creek Encanto Branch (Jamacha Segment 1)
Tributaries (listed from downstream to upstream)	South Chollas Creek Encanto Branch
Facility Length	Approximately 1,030 feet
Top-of-Bank Width	Approximately 20.5–39.5 feet
Bottom Facility Width	Approximately 5.5–17 feet
Facility Depth	Approximately 0.5–6 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	11251-L
Coastal Zone	No

Figure 1: July 2017, downstream of Beacon Drive culvert (3-foot-diameter RCP), looking west. Riprap apron and dense vegetation present.

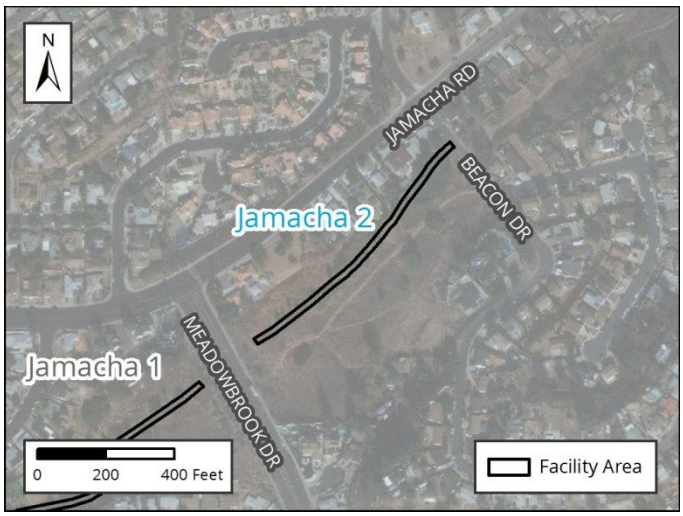


Figure 2: Vicinity Map of Jamacha Segment 2

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The vegetation was observed to vary from light to dense with evidence of sediment deposition near the culverts					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	200	256	300	361	408	455
Hydraulic Capacity of Facility						
Current Capacity	250 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance is recommended at this time					
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)					

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed freshwater marsh • Disturbed wetland • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Disturbed wetland (Arundo-dominated) • Non-native grassland • Ornamental plantings
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the ornamental vegetation present adjacent to the facility for nesting/roosting. Coastal sage scrub habitat is isolated and unlikely to support coastal California gnatcatcher.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Identified as a potential compensatory mitigation area. A compensatory mitigation plan has not yet been prepared.

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	**Noise (NOI)**
Paleontological Resources (PAL)	MM-NOI-1
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Jamacha Segment 3 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch, upstream of South Chollas Creek Encanto Branch (Jamacha Segment 2)
Tributaries (listed from downstream to upstream)	South Chollas Creek Encanto Branch
Facility Length	Approximately 2,149 feet
Top-of-Bank Width	Approximately 9–55 feet
Bottom Facility Width	Approximately 2.5–32 feet
Facility Depth	Approximately .5–3.5 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: July 2017, looking upstream from Beacon Drive culvert (3-foot-diameter RCP)

Figure 2: Vicinity Map of Jamacha Segment 3

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown January 2011 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The amount of vegetation was observed to vary from light to dense with evidence of sediment deposition near the culverts					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	178	227	266	320	362	403
Hydraulic Capacity of Facility						
Current Capacity	40 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance is recommended at this time					
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)					

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland • Natural flood channel
Adjacent Vegetation	• Developed land • Disturbed land • Ornamental plantings
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Identified as a potential compensatory mitigation area. A compensatory mitigation plan has not yet been prepared.

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1953 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Cadman Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch, upstream of South Chollas Creek Encanto Branch (Jamacha Segment 1)
Tributaries (listed from downstream to upstream)	South Chollas Creek Encanto Branch
Facility Length	Approximately 398 feet
Top-of-Bank Width	Approximately 20–42 feet
Bottom Facility Width	Approximately 7–21 feet
Facility Depth	Approximately 2–7 feet
Adjacent Land Use	Commercial, Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	No

Figure 1: April 2016, looking downstream at the dense grass in channel

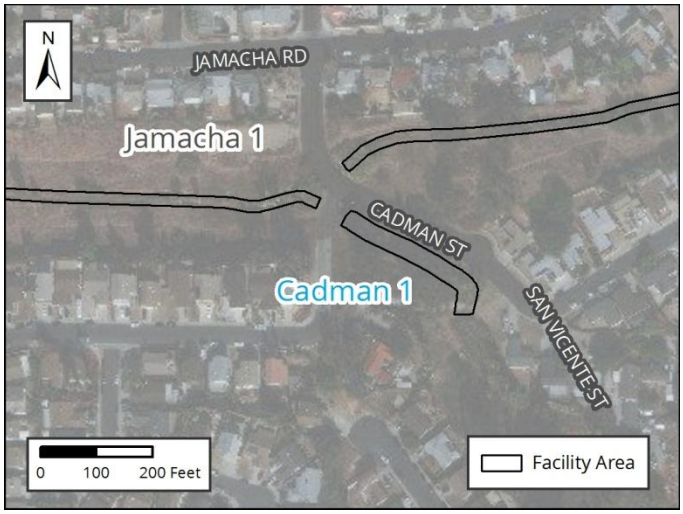


Figure 2: Vicinity Map of Cadman Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	N/A
SDP	SDP No. 2034245 (2017 Addendum)
404	RGP 63 USACE File #SPL-2016-00944-RAG
401	RGP 63 Verification No. R9-2016-0016
1602	LSA Emergency Notification submitted 01/2016
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The amount of vegetation was observed to vary from light to dense

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	275	351	411	495	559	623

Hydraulic Capacity of Facility

Current Capacity	125 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed freshwater marsh • Disturbed wetland • Disturbed wetland (Arundo-dominated) • Freshwater marsh • Natural flood channel
Adjacent Vegetation	• Coastal sage scrub • Developed land • Disturbed coastal sage scrub • Disturbed land • Disturbed wetland (Arundo-dominated) • Eucalyptus woodland • Non-native grassland • Ornamental plantings • Riparian forest (coast live oak)
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within the facility, but raptors or other migratory species may use the riparian forest (coast live oak), eucalyptus woodland, and coastal sage scrub habitat adjacent to the channel. Coastal sage scrub habitat is isolated and unlikely to support coastal California gnatcatcher.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	Identified as potential compensatory mitigation area. A compensatory mitigation plan has not yet been prepared.

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Lobrico Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Lower reach of the South Chollas Creek Encanto Branch, immediately upstream of South Chollas Creek Encanto Branch (Jamacha Segment 1)
Tributaries (listed from downstream to upstream)	No named tributaries
Facility Length	Approximately 344 feet
Top-of-Bank Width	Approximately 4.25–14 feet
Bottom Facility Width	Approximately 2–11 feet
Facility Depth	Approximately .75–1.25 feet
Adjacent Land Use	Commercial, Open Space, Parks, Public Facilities and Utilities, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	0968-D & 27667-D
Coastal Zone	No

Figure 1: July 2017, looking downstream

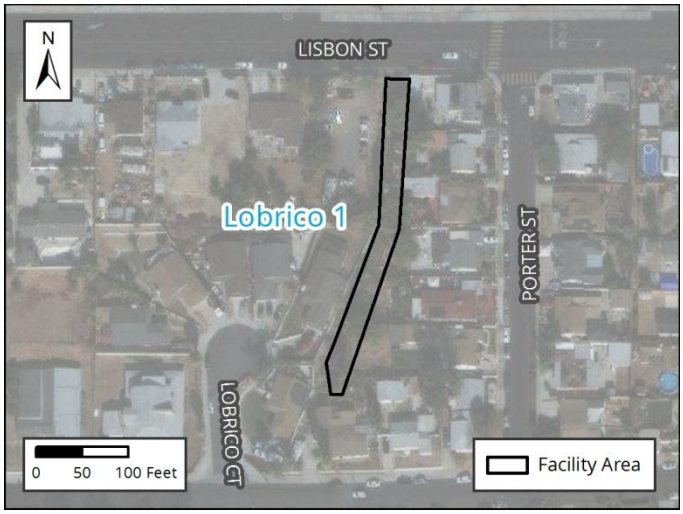


Figure 2: Vicinity Map of Lobrico Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted 2015/2016: Emergency excavation of sediment and vegetation 2017 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	NOE: Emergency Project No. 446595
CDP	N/A
SDP	Emergency Permit No. 1562098
404	RGP 63 USACE File #SPL-2015-00649-RAG
401	RGP 63 Verification No. R9-2015-0149;818163;lhonma
1602	LSA Emergency Notification submitted 10/2015
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The vegetation in the segment varied from light to heavy and up to 1.5 feet of sediment deposition was observed in portions of the segment. Bank erosion was also observed in several locations.

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	244	325	365	426	487	548

Hydraulic Capacity of Facility

Current Capacity	130 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed wetland (Arundo-dominated)
Adjacent Vegetation	• Developed land • Disturbed freshwater marsh • Disturbed land • Disturbed wetland (Arundo-dominated) • Natural flood channel
Habitat and Wildlife	There are no significant biological resources suitable for sensitive species use within or adjacent to the facility
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; c. 1968–1971 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

Paleta Creek - Solola Facility Group

Segment Names (Facility numbers):

- Solola 1 (5-06-020) (See Appendix A-1)
- Solola 2 (5-06-023) (See Appendix A-1)
- Cervantes 1 (5-06-025)

The City of SAN DIEGO

Cervantes Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Paleta Creek, immediately upstream of Paleta Creek (Solola Segment 2)
Tributaries (listed from downstream to upstream)	Paleta Creek
Facility Length	Approximately 2,581 feet
Top-of-Bank Width	Approximately 45 feet
Bottom Facility Width	Approximately 10 feet
Facility Depth	Approximately 7 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	17925-11-D
Coastal Zone	No

Figure 1: April 2017, looking downstream at vegetation

Figure 2: Vicinity Map of Cervantes Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	June 2005: Emergency maintenance conducted March 2006: Minor maintenance conducted December 2007: Emergency maintenance conducted January 2008 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	None
CDP	N/A
SDP	None
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The vegetation was observed to range from light to dense and there was little evidence of sediment deposition

Hydrologic Peak Flows

Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	43	100	160	250	390	470

Hydraulic Capacity of Facility

Current Capacity	470 cfs
Proposed MWMP Maintained Capacity	N/A
Maintenance Recommendation	No maintenance is recommended at this time
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Disturbed coastal sage scrub • Disturbed wetland • Natural flood channel • Riparian scrub (southern willow scrub)
Adjacent Vegetation	• Developed land • Disturbed coastal sage scrub • Disturbed land • Disturbed wetland • Ornamental plantings • Riparian scrub (southern willow scrub)
Habitat and Wildlife	There is limited suitable habitat for sensitive species, such as coastal California gnatcatcher and least Bell's vireo, within and adjacent to the facility. However, due to the disturbed nature of the site, the potential for these species to occur is low.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA)
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	Channel; 1954 earthen channel
Potential Historical Resources Constraint Identified	Yes

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Historic, Archaeological, and Tribal Cultural Resources (HR and CR)**
EP-HAZ-3	MM-HR-1
Paleontological Resources (PAL)	MM-HR-2
EP-PAL-1	**Noise (NOI)**
Solid Waste (SW)	MM-NOI-1
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

Technical Summary

Tijuana River - Tocayo Facility Group

Segment Names (Facility numbers):

- Tocayo 1 (6-02-115)
- Tocayo 2 (6-02-118) (See Appendix A-1)

The City of SAN DIEGO

Tocayo Segment 1 Detail

Facility Type	Earthen channel
Substrate Detail	Earthen bottom and banks
Location Within Watershed	Upper reach of Tijuana River unnamed tributary, immediately upstream of Tijuana River Estuary
Tributaries (listed from downstream to upstream)	Tijuana River Unnamed Tributary
Facility Length	Approximately 96 feet
Top-of-Bank Width	Approximately 30–50 feet
Bottom Facility Width	Approximately 6–20 feet
Facility Depth	Approximately 8 feet
Adjacent Land Use	Open Space, Single-Family Residential, Transportation, Vacant
As-Built Drawing Number	None
Coastal Zone	N-APP-2, DEF-CER

Figure 1: April 2017, looking upstream vegetation and outlet of double 10-foot by 4-foot RCB culvert

Figure 2: Vicinity Map of Tocayo Segment 1

Facility Maintenance History

This section describes previous facility maintenance, regulatory approvals, and mitigation.

History of Maintenance	Prior to 2011: Unknown 2011 – 2014: No maintenance conducted January 2015: Minor maintenance conducted February 2015 – March 2019: No maintenance conducted
Past Regulatory Approvals	
CEQA	2011 MMP PEIR No. 42891
CDP	None
SDP	SDP No. 2034245 (2017 Addendum)
404	None
401	None
1602	None
Mitigation for Previous Impacts	None

Hydrology and Hydraulics Summary

This section describes the current conditions in the facility related to hydrology/hydraulics, as well as analysis of hydraulic capacity before and after proposed maintenance, and the potential for erosion following maintenance.

Current Conditions Affecting Facility Capacity	The vegetation was observed to be medium with the channel bottom mostly clear of obstructions					
Hydrologic Peak Flows						
Storm Event	**2-year**	**5-year**	**10-year**	**25-year**	**50-year**	**100-year**
Q (cubic feet per second [cfs])	684	875	1,023	1,227	1,375	1,523
Hydraulic Capacity of Facility						
Current Capacity	220 cfs					
Proposed MWMP Maintained Capacity	N/A					
Maintenance Recommendation	No maintenance is recommended at this time					
In-Stream Post-Maintenance Erosion Control Recommendation	N/A (no maintenance)					

Biological Resource Summary

This section describes the facility vegetation community, adjacent vegetation and land uses, and notes to illustrate special habitat and wildlife.

Facility Vegetation	• Natural flood channel
Adjacent Vegetation	• Developed concrete-lined channel • Developed land • Eucalyptus woodland • Ornamental plantings • Riparian forest (southern willow forest; concrete-lined)
Habitat and Wildlife	There is limited suitable habitat contained within the facility for wildlife. However, raptors could use the ornamental vegetation and eucalyptus woodland present adjacent to the facility for nesting/roosting.
MHPA	The facility is not within or adjacent to the Multi Habitat Planning Area (MHPA). The nearest MHPA boundary is located more than 1,000 feet south of the channel.
Mitigation Within Facility	None

Historical, Archaeological, and Tribal Cultural Resource Summary

This section describes the historical, archeological, and tribal cultural resources identified in, or adjacent to, the Area of Potential Effect (APE) for this facility.

Archeological and Tribal Resources	
Resource Identified in APE	None
Resource Identified Adjacent to APE	None
Resource Type	N/A

Historical Resources	
Resource Identified in APE	None
Potential Historical Resources Constraint Identified	None

Environmental Protocols and Mitigation Measures

This section lists the Environmental Protocols (EPs) and Mitigation Measures (MMs) and that are applicable to the proposed facility maintenance.

Environmental Protocols (EP)	Mitigation Measures (MM)
Biological Resources (BIO)	**Aesthetics/Visual Effects and Neighborhood Character (AES)**
EP-BIO-1	MM-AES-1
EP-BIO-2	**Air Quality (AQ)**
EP-BIO-3a, 3b, 3c	MM-AQ-1
EP-BIO-4	**Biological Resources (BIO)**
EP-BIO-5	MM-BIO-1a
EP-BIO-6	MM-BIO-2
Health and Safety/Hazards (HAZ)	**Noise (NOI)**
EP-HAZ-3	MM-NOI-1
Paleontological Resources (PAL)	
EP-PAL-1	
Solid Waste (SW)	
EP-SW-2	
EP-SW-3	
EP-SW-4	
EP-SW-5	
EP-SW-6	
EP-SW-7	
EP-SW-8	
Water Quality (WQ)	
EP-WQ-1	

APPENDIX A-6

Additional Facilities Inspected (No Evaluation Completed; No FMPs Proposed)

APPENDIX A-6 ADDITIONAL FACILITIES INSPECTED (PROGRAM-LEVEL FACILITIES)

The following list includes additional facilities that are annually inspected where no routine maintenance or repair is proposed and a Facility Maintenance Plan (FMP) has not been prepared, but limited program-level activities may occur, such as minor maintenance or emergency maintenance. Changed conditions within any of these facilities may trigger the need to complete or update the project-level analyses to prepare an FMP to conduct future routine maintenance. Facilities with technical summaries included in Appendix A-5 where no routine maintenance is proposed (i.e., no FMP) are identified with an asterisk. In Figures 1-1 through 1-14, facilities that are blue and are identified in the legend as "Additional Facilities (Limited Program-Level Activities)" correspond to individual facility numbers from the following list.

San Dieguito River Watershed

- 1-04-250

Los Peñasquitos Watershed

- 2-01-000*
- 2-01-003
- 2-01-230
- 2-02-021
- 2-02-040
- 2-03-004*
- 2-03-006*
- 2-03-008
- 2-03-010
- 2-03-020
- 2-03-180
- 2-03-190
- 2-03-220
- 2-03-250
- 2-03-400
- 2-03-402
- 2-03-420
- 2-03-440
- 2-03-480
- 2-03-484
- 2-03-492
- 2-03-494
- 2-03-510
- 2-04-130
- 2-06-101

Mission Bay Watershed

- 3-00-110
- 3-00-130
- 3-00-135
- 3-00-140
- 3-02-001
- 3-02-003
- 3-02-005
- 3-02-007
- 3-02-009
- 3-02-012
- 3-02-014
- 3-02-016
- 3-02-018
- 3-02-021
- 3-02-140
- 3-02-150
- 3-02-152
- 3-03-110
- 3-03-150
- 3-04-001
- 3-04-003

- 3-04-005
- 3-04-007
- 3-04-101*
- 3-04-150
- 3-04-165
- 3-04-180
- 3-04-200
- 3-04-260

San Diego River Watershed

- 4-00-000
- 4-00-002
- 4-00-004
- 4-00-006
- 4-00-008
- 4-00-010
- 4-00-012
- 4-00-014
- 4-00-016
- 4-00-018
- 4-00-020
- 4-00-022
- 4-00-024
- 4-00-026
- 4-00-028
- 4-00-030
- 4-00-032
- 4-00-034
- 4-00-036
- 4-00-038
- 4-00-040
- 4-00-042
- 4-00-044
- 4-00-046
- 4-00-048
- 4-00-050
- 4-00-052
- 4-00-054
- 4-00-056
- 4-00-058
- 4-00-060
- 4-00-062
- 4-00-064
- 4-02-122
- 4-02-145
- 4-04-008*
- 4-04-030
- 4-04-033
- 4-04-150
- 4-06-105
- 4-06-900
- 4-07-013
- 4-07-015
- 4-07-019
- 4-07-104
- 4-07-155
- 4-07-252
- 4-08-005
- 4-08-102
- 4-08-150*

Pueblo San Diego Watershed

- 5-03-002
- 5-03-104
- 5-04-000
- 5-04-002
- 5-04-008
- 5-04-011
- 5-04-013
- 5-04-015
- 5-04-018
- 5-04-020
- 5-04-022
- 5-04-025
- 5-04-027
- 5-04-029
- 5-04-150
- 5-04-180
- 5-04-229*
- 5-04-235

- 5-04-237
- 5-04-245*
- 5-05-002
- 5-05-004
- 5-05-010
- 5-05-013
- 5-05-016
- 5-05-019*
- 5-05-023
- 5-05-025
- 5-05-027
- 5-05-029
- 5-05-031
- 5-05-033
- 5-05-100
- 5-05-103
- 5-05-302
- 5-05-304*
- 5-05-308
- 5-05-310
- 5-05-312
- 5-05-314
- 5-05-402
- 5-05-502
- 5-05-606*
- 5-05-610*
- 5-05-702*
- 5-05-802*
- 5-06-025*
- 5-07-010
- 5-07-150

Otay Watershed

- 5-22-018
- 5-22-020
- 5-22-032
- 5-22-901

Tijuana River Watershed Management Area

- 6-02-115*
- 6-04-100
- 6-04-255
- 6-06-900

* Facilities where technical analysis was completed as part of the MWMP; included in Appendix A-5.

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