Municipal Waterways Maintenance Plan Annual Report
Fiscal Year 2021

THINK BLUE®
City of San Diego
Stormwater Department

October 2021

City of San Diego Stormwater Department

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San Diego, CA 92105

Executive Summary

The City of San Diego's (City) Stormwater Department (SWD) protects and enhances San Diego's vibrant communities through exceptional public service and infrastructure that reflects the importance of clean water and flood-safe communities, as well as stormwater as a valuable resource which supports public health, the economy, the environment, and water supply. SWD works to provide clean waterways and flood-safe communities across San Diego by maintaining stormwater facilities in accordance with the City Charter and Council Policy.

Stormwater facilities are typically located within environmentally sensitive areas that are also habitat for sensitive wildlife and plants, and are highly regulated by local, state and federal agencies. With stakeholder and regulatory agency input, SWD developed the Municipal Waterways Maintenance Plan (MWMP) which balances the City's need to provide flood control, be responsive and transparent, and minimize and mitigate any adverse environmental effects (City of San Diego, 2020a). The MWWP covers project-specific and program-level activities that authorizes maintenance and repair across all stormwater assets and was adopted by City Council in March 2020.

The SWD completes an annual report to document stormwater facility maintenance activities and associated mitigation pursuant to Section 4.1 of the MWMP, Environmental Impact Report (EIR) Section 4.4.1.5, and requirements of several regulatory permits. Prior to adoption of the MWMP, the City implemented a similar program and annual report under the prior Master Stormwater System Maintenance Program (MMP). The last annual report under the MMP was completed in August 2019 and covered FY 2019. No routine or emergency maintenance was conducted in FY 2020. This annual report covers the first year of the MWMP implementation, July 1, 2020 – June 30, 2021 (FY 2021)[1]. More detail on the background of the program is provided in Section 1.

During FY 2021, SWD performed the following maintenance projects and this work is described in more detail in Section 2:

- Mission Bay Drive Emergency Channel Maintenance Project
- Chateau Channel Segment 1 Emergency Maintenance Project
- Mission Gorge Channel Segments 3 & 4 Routine Maintenance Project
- Washington Channel Segments 1 & 2 Routine Maintenance Project
- Angell Avenue Emergency Pipe Repair Project

SWD maintained compliance with all regulatory permits and agreements during the maintenance activities for all facilities. During FY 2021, SWD also completed numerous minor maintenance activities.

[1] This report includes some work that occurred in FY 2022 to complete a project that was started in FY 2021.

By definition, these activities do not result in significant environmental impacts and do not require compensatory mitigation and are therefore not included in this annual report.

Compensatory mitigation for impacts to wetland resources is required by the MWMP as well as several local, state, and federal regulations. Section 3 provides detail on wetlands mitigation provided for multiple projects including projects implemented in FY 2021. Permitting is also underway for mitigation related to wetland resources from emergency maintenance activities that occurred in past years and for future maintenance projects. A significant amount of progress was made on the following compensatory wetlands mitigation projects in FY2021:

- Stadium (San Diego River) Wetlands Mitigation (credits allocated; site is operated by The City of San Diego Public Utilities Department)
- El Cuervo del Sur Phase I (continued initial 5-year maintenance and monitoring)
- Los Peñasquitos Primary Enhancement (completed 5-year maintenance and monitoring)
- El Cuervo del Sur Phase II (mitigation approved for additional facilities, permit approvals in process)
- Los Peñasquitos Secondary Enhancement (mitigation approved for additional facilities, permit approvals in process)
- Hollister Quarry (mitigation approved for additional facilities, permit approvals in process)
- Otay Reed (permit approvals in process)
- Smythe-Bandola (permit approvals in process)
- 2015/16 Emergency Mitigation Plan (In-construction)
- Sefton Field (permit approvals in process)
- Montongo (permit approvals in process)
- Rancho Jamul Phase IIB (mitigation bank in review)

Section 4 provides details on maintenance anticipated to occur in FY 2022 (July 1, 2021- June 30, 2022). Planning for these projects was initiated in FY 2021 and will continue into FY 2022. Below is a list of facilities that are planned for routine maintenance:

- Alvarado-1
- Flintkote-1
- Mission Bay High School-1 and Pacific Beach-Olney-1
- National-1 and National-2
- Roselle-1 and Roselle-2
- Tripp-1

Due to aging infrastructure and ever-changing environmental conditions, emergency maintenance needs are identified periodically. The SWD seeks to proactively maintain infrastructure; however, unforeseen conditions periodically arise which may be required in FY 2022 or beyond.

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1.0 Introduction

1.1 Background

Under City of San Diego (City) Charter Section 26.1 and Council Policy 800-04 (City of San Diego, 2012), the City is responsible for maintaining adequate drainage facilities to remove stormwater runoff in an efficient, economic, and environmentally and aesthetically acceptable manner for the protection of property and life. The City is responsible for the maintenance of public drainage facilities that are designed and constructed to City standards and located within a public street or drainage easement dedicated to the City. The Stormwater Department (SWD) rises to meet this challenge with a vision of providing clean waterways and flood-safe communities across San Diego.

The SWD operates and maintains drainage channels, ditches, and basins that convey stormwater and urban runoff (i.e. from irrigated landscaped areas, driveways, and streets) to downstream receiving waters for the purpose of reducing flood risk and for the effective management of water resources in the City. Other facilities that comprise the City's stormwater system includes 1,148 miles of storm drain pipe, 11 miles of levees, 15 pump stations, and 46,033 structures.

Maintenance of channels primarily involves the removal of vegetation and/or sediment to maximize stormwater conveyance capacity of the City's Municipal Separate Storm Sewer System (MS4). Additionally, maintenance activities can also include repair of damaged infrastructure and removal of invasive plant species and debris. The long-term performance of the entire system is dependent upon ongoing and proper maintenance of channel sections essential for flood control.

Historically, maintenance of stormwater conveyance system facilities occurred on an as-needed basis as a part of normal City operations without public review or regulatory permits. In 2013, the City adopted the Master Stormwater System Maintenance Program (MMP) to govern channel operation and maintenance activities based on a certified final recirculated Program Environmental Impact Report (PEIR). A lawsuit was filed regarding the MMP (*San Diegans for Open Government et al. v. City of San Diego*, San Diego Superior Court Case No. 37-2011-00101571), and the City entered into a settlement agreement in 2013 that required, among other things, that the Program EIR be considered null and void as of September 2018 (*SDOG v. City of San Diego* 2013).

The Municipal Waterways Maintenance Plan (MWMP) has replaced the MMP and was developed through a collaborative and iterative process involving City staff and multiple stakeholders, including nonprofit organizations, community groups, resource agencies, and the public at large.

The following are the primary objectives of the MWMP:

1. Public safety and flood risk reduction

- Protect life and property adjacent to, downstream, and upstream of affected channels from flooding and environmental degradation.

2. Responsiveness to reduce flood risk
    - Provide for timely and consistent routine operations and maintenance in the affected channels and associated stormwater conveyance infrastructure.
3. Avoid, minimize, and/or mitigate potential effects to environmental resources
    - Avoid, minimize, and/or mitigate significant adverse environmental effects resulting from routine maintenance of stormwater facilities.
    - Incorporate and adapt to water quality management strategies intended to protect water quality and address flooding impacts.
4. Proactive and timely approval process
    - Provide project-level analysis upfront to expedite subsequent authorizations for routine and preventive maintenance activities within stormwater facilities.
    - Identify a review-and-approval process to include additional stormwater facilities and maintenance activities that follow the protocols and requirements of the MWMP.
    - Reduce the need to conduct emergency maintenance during significant storm events by implementing preventive maintenance activities.

The objectives of the MWMP outline the responsibility of the SWD to be responsive to newly identified flood risks while obtaining streamlined approvals for routine, preventive maintenance that reduces flood risks. To accomplish this, the MWMP identifies the following:

1. A range of plan-wide activities that may occur throughout the stormwater system where flood risks may arise and that would be conducted in accordance with a regulatory framework identified under the MWMP and associated permits.
2. A list of Facility Maintenance Plan (FMPs) that provide specific details and requirements for a majority of facilities that are likely to require routine maintenance and repair.

Together, these two components provide operational flexibility while also providing specific, detailed analysis for a majority of anticipated maintenance and repair activities to streamline the review and approval process. Once the objectives and intent of the MWMP were established, the SWD conducted technical analyses during the development of the MWMP's Environmental Impact Report (EIR) to determine the scope, scale, and potential environmental impacts at each facility prioritized for maintenance to confirm the need for maintenance activities and to support applications for environmental permits from six regulatory agencies. The EIR includes analyses conducted at the project level (facilities where an FMP was developed) and the program level to provide CEQA coverage for a majority of the SWD's maintenance responsibilities. The final MWMP includes a framework for conducting both routine and emergency maintenance within 53 channel/ditch facility

groups and 6 basin facility groups that were analyzed at the project level in the EIR, in addition to activities analyzed at the program level including construction of compensatory mitigation sites, minor maintenance projects, and maintenance of other structures such as outlets/inlets and pipes within the City's stormwater system. The MWMP Programmatic EIR (Project No. 616992; SCH No. 2017071022) was certified by the San Diego City Council in June 2020 (City of San Diego, 2020b).

In accordance with the MWMP's goals and objectives, the SWD prioritizes maintenance of these facilities based on hydrology, potential risk of flooding, and public input. This results in an annual prioritization list that is published on the SWD website and submitted to regulatory agencies shortly after the start of the new fiscal year that details the MWMP facilities that are targeted for maintenance that fiscal year. Finally, the SWD implements the planned maintenance activities, ensures permit conditions and mitigation measures were met for each project, and reports annually on the maintenance activities and associated compensatory mitigation implemented/obtained each fiscal year. The MWMP and associated EIR have no expiration date.

The remainder of this report discusses the activities implemented by the SWD over the past fiscal year to meet the goals of the MWMP. Section 1.3 details the requirements of this report.

1.2 Regulatory Approvals

Many of the maintenance activities identified in the MWMP require approvals under various regulations; including but not limited to the Clean Water Act (CWA), Endangered Species Act (ESA), California Coastal Act, California Fish and Game Code, California Porter-Cologne Act, California Environmental Quality Act (CEQA), and the San Diego Municipal Code. Additionally, as part of the environmental permitting process, the City works with the public, various stakeholders, non-governmental organizations, and environmental groups in an effort to avoid, minimize, and/or mitigate impacts.

The following is a brief status of each of the regulatory permits associated with the MWMP:

Local

- The MWMP EIR (Project No. 616992; SCH No. 2017071022) and associated Mitigation, Monitoring, and Reporting Program were certified and adopted by the San Diego City Council on June 9, 2020

- A Master Site Development Permit (SDP; No. 2392210) was approved by the San Diego City Council on June 23, 2020 and does not have an expiration date.

State

- A Master 401 Water Quality Certification (No. R9-2021-0115) was issued by the California Regional Water Quality Control Board (RWQCB) San Diego Region on May 13, 2021 and is valid until May 13, 2026 (or when the Section 404 permit expires, if sooner).

- A Master Streambed Alteration Agreement (SAA; No.1600-2019-0226-R5) was issued by the California Department of Fish and Wildlife (CDFW) on May 10, 2021 and is valid until April 30, 2031.

- A Coastal Development Permit (CDP; No. 6-20-0356) was approved by the California Coastal Commission (CCC) on May 12, 2021 and is valid until May 12, 2026.

Federal

- A Regional General Permit (RGP 102; No. SPL-2018-00652) was issued by the U.S. Army Corps of Engineers (USACE) on June 24, 2021 and is valid until June 17, 2026.

Each of these permits requires notification and/or verification prior to implementation of maintenance at each facility or annually. In the case of the federal Regional General Permit, additional consultation with the U.S. Fish and Wildlife Service (USFWS) is expected to be required for maintenance of facilities that have potential to support federally-listed endangered species. The City is working with USACE and USFWS to develop a streamlined programmatic consultation.

This annual report will be distributed to the resource agencies in conformance with annual reporting conditions in each of the permits listed above. In addition to the report content requirements listed in the MWMP and in Section 1.1 of this document, the following are additional items that are included in this report to address requirements from resource agency permits.

1.3 Annual Report Requirements

To meet conditions of the authorizations listed below, this report includes:

MWMP Section 4.4 and EIR: **(Project No. 616992; SCH No. 2017071022)**

- Tabular summary of the acreages of sensitive vegetation impacted at each facility that was maintained and mitigation provided (Table 1 in Section 2);
- Updated master stormwater facility list to reflect the facilities for which impacts have been mitigated and no additional mitigation will be required (Appendix B);

- Summary of the status of mitigation that has been carried out during the current and previous years to mitigate for impacts to upland and wetland vegetation and sensitive species (Table 7 in Section 3);
- Scaled map of each affected stormwater facility (Appendix A)
- Digital date-stamped photographs of each area that was maintained in the reporting year (Appendix C);

As stated in the MWMP (Section 4.4) this annual report does not include minor maintenance activities that do not have any impacts that require biological compensatory mitigation.

401 Certification (No. R9-2021-0115)

- Start and end dates of project activities for each facility and type and area of impact (see Table 1 in Section 2)
- Description of any incident(s) of noncompliance or delays (see Section 2)
- Photographs prior to and after construction (Appendix C)
- Master list of facilities including status and maintenance history (Appendix B)
- Status and progress of mitigation for each facility (Table 7 in Section 3)

404 Regional General Permit (RGP 102; No. SPL-2018-00652)

- Start and end dates of project activities for each facility (see Table 1 in Section 2)
- Permanent and temporary impact acreage (see Table 1 in Section 2)
- List of projects inspected for compliance (see Section 2)
- Photo documentation (Appendix C)
- Master table of facilities that includes status and history of maintenance (Appendix B)

1602 Agreement (SAA; No.1600-2019-0226-R5)

- Master table of all facilities included in the MWMP including facility status and history of maintenance (see Appendix B)
- Photo documentation (Appendix C)

Coastal Development Permit (No. 6-20-0356)

- No additional specific requirements

2.0 Planned and Emergency Maintenance Activities

Under the MWMP, the SWD identifies and prioritizes channel maintenance work for the coming year that considers, as a primary objective, the ability of each facility to meet SWD's flood risk management objectives. A list of priority channels is prepared that also considers environmental resources and mitigation opportunities, relevant water quality regulations and pollutant priorities in each watershed, public input, and budget constraints. Once the priority list has been determined, SWD prepares detailed Maintenance Plans and evaluates those plans to determine conformance with the MWMP EIR and regulatory permits through a process developed for the MWMP called Substantial Conformance Review (SCR).

The process of Maintenance Plan preparation and SCR analysis was initiated or completed for all of the projects listed in Table 1 and Section 4 (i.e., projected FY 2022 facilities). Summary maintenance information including vegetation impacts and mitigation for facilities maintained during the FY 2021 season are presented in Table 1 – MWMP Facilities Maintenance and Associated Mitigation Fiscal Year 2021. Figure 1 in Appendix A depicts an overview of the location of these facilities and Figure 2 shows associated mitigation sites. Additional details regarding channels that were maintained during FY 2021 are provided in subsequent subsections below.

A Master Stormwater Facility and Mitigation List reflecting facilities that have been maintained and impacts mitigated under the MWMP for which no additional mitigation is required is included in Appendix B.

During FY 2021, SWD also completed numerous minor maintenance activities. By definition, these activities do not result in significant environmental impacts and do not require compensatory mitigation and are not required to be included in this annual report.

None of the facilities maintained in FY 2021 were required to be inspected by the USACE or any other regulatory agency for compliance. Each project was monitored by qualified staff and all activities were compliant with all environmental permits; no remedial actions were required.

Table 1. MWMP Facilities Maintenance and Associated Mitigation for Fiscal Year 2021

Facility Number	Facility Segment Name	Authorizations	Maintenance Start and End Date	Jurisdiction[1]	Impact (acres)[2]	Mitigation[3]
3-00-120	Mission Bay Drive-1	City – MWMP SDP 2392210 CCC – CDP 6-20-0433 USACE – NWP 3 (SPL-2020-002580DSG) RWQCB – 401 (R9-2020-0230) CDFW – 1602 (Emergency Notification)	1/27/21 to 3/5/21	USACE/RWQCB/CDFW/ CCC/City	0.60	El Cuervo del Sur Phase II (0.44-acre wetlands creation) and Los Peñasquitos Canyon Preserve Phase II Enhancement Project (0.92-acre wetlands enhancement)
				CDFW/CCC/City	0.03	
				Total Jurisdictional Impacts	**0.63**	
3-04-055	Chateau-1	City – MWMP SDP 2392210 USACE – No Permit Required (33 CFR 324.4[2]) RWQCB – No Permit Required CDFW – 1602 (Emergency Notification)	1/27/21 to 1/28/21	CDFW/City	1.27	N/A
				USACE/RWQCB	N/A	
				Total Jurisdictional Impacts	**1.27**	
4-07-009 and 4-07-011	Mission Gorge-3 & Mission Gorge-4	City – MWMP SDP 2392210 USACE – NWP 3 (SPLSPL-2020-00645) RWQCB – 401 (R9-2021-0115) CDFW – SAA (1600-2019-0226-R5)	6/4/21 to 8/9/21	USACE/RWQCB/CDFW/ City	1.09[4]	Stadium Mitigation Site (0.30-acre wetlands restoration/ rehabilitation) and (0.60-acre wetland enhancement)
				CDFW/City	0.29	
				Total Jurisdictional Impacts	**1.38**	
5-02-151 and 5-02-153	Washington-1 & Washington-2	City – MWMP SDP 2392210 USACE – NWP 3 (SPL-2020-0064500645) RWQCB – 401 (R9-2021-0115) CDFW – SAA (1600-2019-0226-R5)	6/1/21 to 6/28/21	USACE/RWQCB/CDFW/ City	0.51	Required based on 2015/16 emergency. Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance (0.02-acre rehabilitation and 0.02-acre enhancement), Stadium Wetland Mitigation Site (0.01-acre enhancement)

[1] All impacts to USACE jurisdictional resources were temporary.
[2] Detailed breakdowns of project impacts to specific vegetation communities is included in the individual project subsections below.
[3] Additional information regarding the status of mitigation for these projects is provided in Table 7 and Section 3.
[4] Actual impact acreage was less than authorized due to a reduction in the work area.

				Total Jurisdictional Impacts	**0.78**	
N/A	Angell Avenue Emergency Pipe Repair[5]	City- Emergency SDP No. 2485978 CDFW- 1602 (Emergency Notification) RWQCB- N/A USACE- N/A	11/3/2020 to 12/11/2020	City/CDFW	0.0025	None required
				Total Jurisdictional Impacts	**0.0025**	

[5] Programmatic project under the MWMP.

2.1 Mission Bay Drive Emergency Channel Maintenance Project

This project included the emergency removal of trash, debris, vegetation, and accumulated sediment from the earthen-bottom Mission Bay Drive Channel to provide public safety and protection of property from an imminent flood risk. The channel is located along Mission Bay Drive adjacent to the Mission Bay Golf Course, south of Grand Avenue in the Mission Bay Park Community Planning Area (Appendix A). Emergency work occurred along the entire length of the channel (1,085 feet). The facility is located in the Coastal Overlay Zone (COZ) but is not located within the City's Multi-Habitat Planning Area (MHPA). The Project began on January 27, 2021 and was completed on March 5, 2021.

On January 27, 2021 at approximately 9:30pm SWD identified emergency conditions at the Mission Bay Drive Channel that posed a threat to surrounding life and property, particularly upstream off Figueroa Boulevard. Emergency conditions were identified due to the volume of stormwater flows expected to be carried through the earthen-bottom channel during the upcoming forecasted storm event and the presence of sediment, vegetation, and debris constricting the flood capacity in the channel. Routine maintenance had previously been authorized at the site through Nationwide Permit 3 (SPL-2020-00258-DSG) and 401 Water Quality Certification (R9-2020-0230), However, emergency conditions were identified before routine maintenance could begin (permits from other agencies were pending) and work proceeded as an emergency action.

Emergency maintenance work resulted in jurisdictional impacts totaling 0.63 acres (approx. 1,080 linear feet). Impacts also occurred to urban/developed land and ornamental plantings from access and staging activities. A detailed breakdown of project impacts to individual vegetation communities is included in Table 2 below. A total of 927 cubic yard of sediment and 420 cubic yards of vegetation was removed from the channel during maintenance activities.

One sensitive plant species, Torrey pine (*Pinus torreyana ssp. Torreyana)*, was observed in the project study area, however this species was not within the area impacted by emergency maintenance activities, therefore, there were no impacts to the species. No sensitive wildlife species, such as active nesting birds, were observed or impacted during the emergency maintenance activities.

Photographs showing conditions of the channel before and after maintenance in FY 2021 are included in Appendix C. The project was monitored by qualified staff and all activities were compliant with all environmental permits; no remedial actions were required.

Table 2: Mission Bay Drive Channel Emergency Maintenance Impacts

MWMP Mapping Vegetation Community (Holland/ Oberbauer Code)[1]	Jurisdiction or SDBG Tier	Maintenance Impacts (acres)
Disturbed freshwater marsh(52400)	USACE/RWQCB/CDFW/CCC/City	0.24
Disturbed wetland (Arundo-dominated) (65100)	USACE/RWQCB/CDFW/CCC/City	0.07
	CDFW/CCC/City	0.03
Disturbed wetland (palm-dominated)	USACE/RWQCB/CDFW/CCC/City	0.05
Natural flood channel (64200)	USACE/RWQCB/CDFW/CCC/City	0.20
Ornamental Plantings (11000)	USACE/RWQCB/CDFW/CCC/City	0.04
Ornamental Plantings (11000)	Tier IV	0.34
	Total	**0.97**

2.2 Chateau Channel Segment 1 Emergency Maintenance

The Chateau Channel Segment 1 Emergency Maintenance Project objective was to reduce an immediate threat of flooding to surrounding life and property from projected heavy rain forecasts by restoring flood conveyance capacity through the removal of accumulated sediment, vegetation, and debris. The work executed was the minimum necessary to alleviate the emergency conditions in the channel. Work on the channel began on January 27, 2021 and concluded on January 28, 2021.

Project impacts were limited to developed-concrete lined channel only (1.27 acres, 2,420 linear feet). Minor incidental vegetation stands were present throughout the channel, but not in sufficient quantities to be considered a vegetation community. Approximately 25 tons of material was removed from the channel during this project. A detailed breakdown of project impacts to specific vegetation communities is included in Table 3 below

The Chateau (segment 1) channel extends approximately 5,270 feet and is located south of Chateau Drive between Chamber Drive and Diane Avenue in the Clairemont Community Planning Area (Appendix A). This emergency work was limited to the downstream (western) half of the channel, between Verely Court and Diane Avenue, with access obtained from a location near the intersection of Chateau Drive and Boxwood Drive. The facility is not located in the COZ and is not located within the City's MHPA.

[1] Vegetation community and land cover mapping follows the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as modified by the County of San Diego and noted in Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008).

Photographs showing conditions of the channel before and after maintenance in FY 2021 are included in Appendix C. The project was monitored by qualified staff and all activities were compliant with all environmental permits; no remedial actions were required.

Table 3: Chateau Channel Segment 1 Emergency Maintenance Impacts

MWMP Mapping Vegetation Community (Holland/ Oberbauer Code)	Jurisdiction or SDBG Tier	Maintenance Impacts (acres)
Developed concrete- lined channel (65100)	CDFW/City	1.27
	USACE/RWQCB	N/A[1]
	Total	**1.27**

2.3 Mission Gorge Channel Segments 3 & 4 Routine Maintenance

Maintenance at the Mission Gorge Channel Segments 3 & 4 was conducted from June 4, 2021 to August 9, 2021 to restore the original design capacity of the channel through excavation, vegetation, and sediment removal to provide public safety and flood protection to adjacent properties. The project also included post-maintenance erosion control measure (coir mat) and concrete repairs. Routine maintenance at these sites is required to ensure the system functions as designed and reduces flood risk while ensuring the long-term reliability of the City's stormwater infrastructure. The facility is a segment of Alvarado Creek between San Diego State University and Adobe Falls in the Grantville community. It is a concrete-lined trapezoidal channel with a small earthen section within Mission Gorge 3 that conveys runoff into a double-box culvert at the downstream end of the facility. The channel is crossed by several roadways.

The Mission Gorge Segments are located along the north side of Interstate 8 from the intersection of Mission Gorge Place and Alvarado Canyon Road and extending east past Zephyr Lane. The Mission Gorge 3 maintenance area extended east from approximately Mission Gorge Place to the Caltrans right-of-way at the intersection of Waring Road and Interstate 8. The Mission Gorge 4 maintenance area extended east from the Caltrans right-of-way past Zephyr Lane. The project is within the Navajo Community Planning Area (Appendix A). These facilities are located adjacent to the MHPA boundary but not within the COZ.

Maintenance of the Mission Gorge 3 segment was completed on June 28, 2021 and removed 340 tons of material in addition to installing a coir mat for erosion control within the channel. Routine maintenance at the Mission Gorge 4 section continued into FY 2022 in order to complete additional repairs to the concrete bank which were identified after the start of maintenance. All project activities were completed on August 9,

[1] USACE and RWQCB did not require permits for the emergency work at the Chateau Drive Channel.

2021. A detailed breakdown of project impacts to individual vegetation communities is included in Table 4 below

Photographs showing conditions of the channel before and during maintenance in FY 2021 are included in Appendix C. The project was monitored by qualified staff and all activities in FY 2021 were compliant with all environmental permits; no remedial actions were required

Table 4: Mission Gorge Channel Segments 3 & 4 Routine Maintenance Impacts

MWMP Mapping Vegetation Community (Holland/ Oberbauer Code)	Jurisdiction or SDBG Tier	Maintenance Impacts (acres)[1]
Riparian Forest (disturbed southern willow forest; concrete-lined) (64200)	USACE/RWQCB/CDFW/City	0.21
Developed concrete- lined channel (65100)	USACE/RWQCB/CDFW/City	0.88
	CDFW/City	0.29
Total		**1.38**

2.4 Washington Channel Segments 1 & 2 Routine Maintenance

Maintenance of the Washington Channel Segments 1 & 2 was conducted from June 1, 2021 through June 28, 2021 to provide flood protection to surrounding properties. Maintenance restores the as-built flood conveyance capacity of the channel to ensure the long-term reliability of the City's stormwater infrastructure. The facility consists of a long concrete lined ditch (Washington 2) adjacent to Washington Street which conveys surface runoff towards a wider earthen channel section (Washington 1) before entering a culvert protected by a debris fence. The culvert extends downstream from the project towards San Diego Bay. The project involved maintenance of both the concrete and earthen channels to remove accumulated sediment, vegetation, and debris. Approximately 491 tons of material was removed from the channel. The Washington 1 maintenance area includes post-maintenance erosion control measures (coir mat).

The project site is located about 650 feet south of Washington Place and 400 feet northeast of San Diego Avenue in the Mission Hills neighborhood. The Washington 1 maintenance area extends northeast from approximately 1790 Washington Street parallel to the roadway. The Washington 2 maintenance area extends northeast parallel to the roadway from the top of the Washington 1 maintenance area. The project is within the Navajo Community Planning Area (Appendix A). These facilities are not located within or adjacent to the MHPA boundary or within the COZ.

[1] Impact acreage was less than authorized due to a reduction in the work area.

Photographs showing conditions of the channel before and after maintenance in FY 2021 are included in Appendix C. A detailed breakdown of project impacts to specific vegetation communities is included in Table 5 below. The project was monitored by qualified staff and all activities were compliant with all environmental permits; no remedial actions were required.

Table 5: Washington Channel Segments 1 & 2 Routine Maintenance Impacts

MWMP Mapping Vegetation Community (Holland/ Oberbauer Code)	Jurisdiction or SDBG Tier	Maintenance Impacts (acres)
Developed concrete-lined channel (64200)	USACE/RWQCB/CDFW/City	0.35
	CDFW/City	0.22
Disturbed wetland (Arundo- dominated)	USACE/RWQCB/CDFW/City	0.16
	CDFW/City	0.05
Ornamental Plantings (11000)	Tier IV	0.06
Disturbed land (11300)	Tier IV	0.10
Urban/developed (12000)	Tier IV	0.21
	Total	**1.15**

2.5 Angell Avenue Emergency Pipe Repair

The Angell Avenue Emergency Pipe Repair project was initiated on November 3, 2020 and was completed on December 11, 2020. The emergency project was identified after a sinkhole formed on an undeveloped hillside below the failure point of an existing corrugated metal pipe. The sinkhole came within one foot of an adjacent San Diego Gas & Electric (SDG&E) electrical transmission pole causing concern that the sinkhole may compromise the pole's foundation. The City and SDG&E determined that immediate action to repair the failed pipe was needed to protect SDG&E infrastructure and surrounding resources.

The project consisted of the replacement of an approximately 70 foot section of failed pipe with an 18-inch high-density polyethylene (HDPE) pipe approximately 5 feet underground and an additional 30 feet of HDPE which was installed above ground within the City's 10-foot easement. The project also included the installation of a Type-A cleanout, replacement of existing rip rap and concrete sill wall, and post maintenance erosion controls consisting of a silt fence installed at the end of the HDPE pipe, revegetation of the impact area, and installation of jute mesh to prevent erosion on the slope. Approximately 0.0002 acres of temporary impacts and 0.0023 acres of permanent impacts occurred to southern coast live oak riparian forest (CDFW and City jurisdiction only) as a result of project activities. All other impacts were to non-sensitive vegetation communities. The project did not impact USACE or RWQCB jurisdictional resources.

The project site is located on an undeveloped slope below 2501 Angell Avenue in Rose Canyon Open Space Park, approximately 0.25 miles east of Interstate 5 (Appendix A). The project is located within the City's MHPA but not within the COZ.

As impacts to sensitive vegetation communities were limited to 0.0025 acres, well below the City's 0.01-acre impact threshold of significance requiring mitigation, no mitigation is required. Photographs showing site conditions before and after emergency maintenance was completed are included in Appendix C. A detailed breakdown of project impacts to specific vegetation communities is included in Table 6 below. The project was monitored by qualified staff and all activities were compliant with all environmental permits; no remedial actions were required.

This project was implemented as a programmatic project under the MWMP EIR.

Table 6: Angell Avenue Emergency Pipe Repair Impacts

MWMP Mapping Vegetation Community (Holland/ Oberbauer Code)	Jurisdiction or SDBG Tier	Maintenance Impacts (acres)
Riparian Forest (Southern Coast Live Oak Riparian Forest)	CDFW/City	0.0025
Disturbed Land	Tier IV	0.0228
	Total	**0.0253**

3.0 Mitigation Projects

In accordance with applicable local, state, and federal regulations, one-time mitigation is required for significant biological impacts resulting from implementation of the MWMP. Table 7 lists the current status of mitigation sites that are associated with MWMP facilities in addition to other mitigation sites that are supporting past and future MWMP projects. The majority of these mitigation sites were developed and approved prior to completion of the MWMP. Figure 2 of Appendix A provides the geographic locations of these mitigation sites.

Section 3.1 – 3.3 provide additional detail regarding the mitigation sites related to FY 2021 and potential FY 2022 (Table 9) MWMP facilities.

In addition to the mitigation sites that are already assigned to MWMP facilities, SWD is actively developing additional mitigation sites, including some that have been identified as Capital Improvement Program (CIP) projects and are therefore being developed by the Engineering & Capital Projects Department. These future potential mitigation sites may serve as permittee-responsible mitigation for specific prioritized MWMP facilities or advanced-permittee responsible mitigation with credit acreage that may be assigned to MWMP facilities as they are prioritized.

The following provides additional details regarding mitigation projects that are tied to channels reported in Section 2 or where the project status has changed in FY 2021.

Table 7 Mitigation Sites Associated with MWMP Facilities- FY 2021 Status

Mitigation Site	Reviewing Agencies[1]	Status	MWMP Facilities Mitigated/Allocated	MWMP Watershed/Watershed Management Area	Mitigation on Site[2]
FY 2021 and Potential FY 2022 MWMP Maintenance Related Mitigation Sites (See Sections 3.1 – 3.3)					
El Cuervo	City/CCC/USACE/RWQCB/CDFW	Completed	Roselle-1	Los Peñasquitos/ Peñasquitos	PRM
El Cuervo del Sur Phase I	City/CCC/USACE/RWQCB/CDFW	5-year Maintenance & Monitoring	Roselle-1, Roselle-2, Flintkote-1, MBHS-1, PB-Olney-1, Tripp-1, Industrial-1 & 2	Los Peñasquitos / Peñasquitos	PRM
El Cuervo del Sur Phase II	City/CCC[3]/USACE/RWQCB/CDFW	Permitting & Planning	Mission Bay Drive-1, Dunhill, Industrial	Los Peñasquitos / Peñasquitos	APRM
Los Peñasquitos Canyon Primary Enhancement Phase I	City/CCC/USACE/RWQCB/CDFW	Completed	Roselle-1, Roselle-2, Flintkote-1, MBHS-1, PB-Olney-1, Tripp-1, Industrial 1 & 2	Los Peñasquitos / Peñasquitos	APRM
Los Peñasquitos Canyon Secondary Enhancement Phase II	City/CCC/USACE/RWQCB/CDFW	Permitting & Planning	Mission Bay Drive-1, Dunhill, Industrial	Los Peñasquitos / Peñasquitos	APRM
Stadium (San Diego River) Wetlands Mitigation	City/USACE/ RWQCB/CDFW	Completed	Mission Gorge-3, Mission Gorge-4, Alvarado-1	San Diego River/San Diego River	APRM
2015/16 Emergency Mitigation Plan	City/RWQCB	In-Construction	Washington-1, Washington-2	Pueblo and Sweetwater/ San Diego Bay	PRM
Other MWMP Mitigation Sites (See Section 3.4)					
Sefton Field	City/USACE/ RWQCB/CDFW	Planning	Friars & Colusa	San Diego River/San Diego River	APRM
Montongo	City/USACE/ RWQCB/CDFW	Planning	TBD	Los Peñasquitos / Peñasquitos	APRM
Rancho Jamul Phase IIB	City/USACE/ RWQCB/CDFW	Permitting & Planning	TBD	Otay (+Service Areas)/ San Diego Bay	Mitigation Bank

[1] City= City of San Diego; CCC = California Coastal Commission; USACE = US Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife

[2] PRM= = Permittee Responsible Mitigation; APRM = Advanced Permittee Responsible Mitigation; Mitigation Bank = Agency Approved Mitigation Bank

[3] Agency names in BLUE TEXT indicate that MWMP permits were utilized for most recent maintenance approval. All other approvals pre-date the MWMP

Hollister Quarry	City/CCC/USACE/RWQCB/CDFW	Permitting & Planning	Cedar-1, Cedar-2, Valeta-1, Tocayo-1	Otay/San Diego Bay	APRM
Otay Reed	City/USACE/ RWQCB/CDFW	Permitting & Planning	Auburn-1	Otay/San Diego Bay	APRM
Smythe-Bandola Mitigation Site	City/USACE/ RWQCB	Permitting & Planning	Via Bandola-1, Smythe	Tijuana River/Tijuana River	PRM
Tijuana River Valley Channel Maintenance Wetlands Mitigation Project	City/CCC/USACE/RWQCB/CDFW	Completed	Pilot-1, Smugglers Gulch-1	Tijuana River/Tijuana River	PRM
Tijuana River Valley Emergency Channel Maintenance Mitigation	City/USACE/RWQCB/CDFW	Completed	Pilot-1, Smugglers Gulch-1	Tijuana River/Tijuana River	PRM

3.1 Completed (Signed-Off) Mitigation sites

3.1.1 El Cuervo Wetland Mitigation

The El Cuervo Wetland Mitigation Project (El Cuervo) was implemented in 2001 to compensate for jurisdictional impacts associated with the initial and future channel maintenance within the Sorrento Creek earthen maintenance area. The El Cuervo site is located within the Los Peñasquitos Canyon Preserve, approximately 1 mile east of the Interstate 5/805 split and north of Sorrento Valley Boulevard. The site is located near the confluence of Lopez Creek and Los Peñasquitos Creek, just east of the historic El Cuervo Adobe. The mitigation consisted of creation and enhancement of 12.06 acres of riparian habitat. Of this, 9.8 acres was specifically for the Sorrento Creek Maintenance Project implemented in 1997 as noted in the *El Cuervo Wetland Area Final Conceptual Wetland Mitigation and Monitoring Plan Los Peñasquitos Canyon Preserve* (Dudek, March 2000). Installation of the El Cuervo Wetland Mitigation Project was completed on October 4, 2001, at which time the five-year long-term maintenance and monitoring period was initiated. By the end of the fifth year, in October 2006, the project had met its final performance standards, and was subsequently signed-off by permitting regulatory agencies.

3.1.2 Los Peñasquitos Canyon Primary Enhancement (Phase 1)

The Los Peñasquitos Canyon Preserve Wetland Enhancement Project was designed to provide wetland enhancement mitigation for maintenance impacts to channels in the Los Peñasquitos Hydrologic Unit. The site is located within the upper reach of Lopez Canyon Creek to the east of Interstate 805. The mitigation work consisted of removing 8.5 acres of non-native species found within and adjacent to jurisdictional waters in Lopez Canyon, as well as supporting the well-being of native species of plants and animals in order to provide 6.64 acres of mitigation credit for channel maintenance impacts, as described in the *Final Los Peñasquitos Wetland Enhancement Plan* (URS Corporation, February, 2014a).

The Year 5 performance standards were achieved as of August 2020 and documented in the *Final and Year 5 Annual Compensatory Mitigation Monitoring Report for Los Peñasquitos Canyon Preserve Wetland Enhancement Project* (RECON, August 2020) which was submitted to the reviewing agencies listed in Table 7. This site has since been signed-off by the permitting agencies and will remain in long-term maintenance and monitoring. Los Peñasquitos Canyon Preserve Wetland Enhancement Project has an excess of 0.66 advanced permittee responsible wetland enhancement credits approved by the regulatory agencies to utilize for other projects.

The project provides wetlands enhancement mitigation for the following channel maintenance locations:

- Roselle-1
- Roselle-2
- Flintkote-1

- MBHS-1
- PB-Olney-1
- Tripp-1
- Industrial-1
- Industrial-2

3.1.3 Stadium (San Diego River) Wetlands Mitigation

The Public Utilities Department's Stadium (San Diego River) Mitigation site is located within the floodplain of the San Diego River between I-15 and I-805. The Project was implemented by the City's Public Utilities Department (PUD) to generate compensatory mitigation credit by providing rehabilitation and enhancement of approximately 57 acres within the San Diego River, San Diego, California. Installation of the project ended on October 20, 2017, and the plant establishment period (PEP) was considered complete on February 23, 2018, thereby initiating the 5-year maintenance and monitoring period. The credit availability is dependent on milestones. The first credit release occurred upon project approval, the second credit release occurred upon completion of invasive species removal and 120-day PEP, and the third credit release was approved following attainment of Year One performance standards. In order to substantiate the fourth credit release, the PUD submitted the Year Three Report to the Regulatory Agencies that provided an analysis of performance standards achieved by the Project to date relative to the projection in the Mitigation Plan. The SWD has reserved approximately 13 acres of mitigation credits at this site through multiple purchases of credit. Over 11 acres of credits have been used for the following channel maintenance projects:

- Murphy Canyon Channel Maintenance
- Alvarado Creek Channel Maintenance
- San Carlos Creek Emergency Maintenance
- Reservoir Drive Emergency Maintenance
- Auburn Creek Channel Maintenance
- South Chollas Creek Maintenance
- Montezuma Channel Maintenance
- 2015-2016 El Nino Season Emergency Projects (partially satisfied mitigation obligations):
  - Chollas Creek Emergency Maintenance
  - Chollas Creek Emergency Maintenance
  - Cottonwood Creek Emergency Maintenance
  - Jamacha Channel Emergency Maintenance
  - Washington Channel Emergency Maintenance
- Mission Gorge 3 & 4 Channel Maintenance

3.2 In-Construction/5-year Maintenance & Monitoring Period

3.2.1 El Cuervo del Sur Wetlands Mitigation (Phase 1)

This wetland creation project is designed to establish 2.30 acres of wetlands on a currently non-wetland area within the Los Peñasquitos Canyon Preserve as described in the *Final El Cuervo del Sur Conceptual Wetland Habitat Mitigation and Monitoring Plan* (URS Corporation, February 2014b). The site has been designed in two phases. Phase I has been implemented and is in its fourth year of monitoring and maintenance. As further described in Section 3.3, Phase II and its associated Habitat Maintenance and Monitoring Plan (HMMP) is currently being planned and permitted.

This mitigation project is adjacent to previous City mitigation projects (El Cuervo, El Cuervo Norte) along Los Peñasquitos Creek in the Los Peñasquitos Canyon Preserve. The project involved installation of temporary irrigation, the creation of a wetland area within the floodplain through grading, excavation, and planting with a mix of herbaceous wetland (1.0 acre), riparian scrub (0.94 acre) and riparian transitional species (0.36 acre). Quarterly monitoring and maintenance visits were completed for Year-3 (December 28, 2019 – December 27, 2020) and the site's progress in meeting its success criteria, current site condition photographs, and monitoring data was reported in the *El Cuervo del Sur Phase 1 Wetlands Creation Site Monitoring Year 3 Annual Compensatory Mitigation Monitoring Report* (ESA, March 2021) which was submitted to the reviewing agencies indicated in Table 7 above. As of June 30, 2021, the site is in its first quarter of Year-4 monitoring. The City anticipates the site will continue to meet its success criteria and receive final sign off at the conclusion of the five-year maintenance and monitoring period in 2022.

The project provides wetlands creation mitigation for the following channel maintenance locations:

- Roselle-1
- Roselle-2
- Flintkote-1
- MBHS-1
- PB-Olney-1
- Tripp-1
- Industrial-1
- Industrial-2

3.2.2 Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance

This mitigation plan was developed primarily to address mitigation required by the RWQCB and City for multiple emergency maintenance projects in FY 2016. The mitigation is expected to serve as one-time mitigation for future routine maintenance under the MWMP at these facilities. The *Wetland Mitigation Plan for 2015/16 Emergency Channel Maintenance* (Dudek, May 2019) includes re-establishment, rehabilitation, and

enhancement activities and consists of four (4) separate mitigation areas: Chollas Creek, South Chollas Creek, Washington, and Paradise Canyon. Enhancement (invasive plant removal and treatment) was initiated at Washington and a portion of the South Chollas Creek site in FY 2021. Work is expected to continue in FY 2022 and annual monitoring reports will be prepared and submitted to the RWQCB in accordance with the final Wetland Mitigation Plan.

The project provides wetlands mitigation for the following channel maintenance locations:

- Washington-2
- National-1
- National-2
- Rolando-2
- Home-1
- Jamacha-1
- Cottonwood-1
- Cottonwood-2
- Parkside-1

3.3 Permitting & Planning Mitigation Sites

3.3.1 El Cuervo del Sur Phase II Mitigation Site

The El Cuervo del Sur Phase II Mitigation Site (El Cuervo Phase II) is located within the Los Peñasquitos Canyon Preserve. El Cuervo Phase II is intended to establish 1.65 acres of wetland habitat (creation/establishment) within the COZ and the City's MHPA. The 1.65 acres of wetland creation/establishment will be jurisdictional per the City, USACE, RWQCB, CDFW, and CCC. The 1.65 acres is intended to fulfill the City's compensatory wetland creation requirement for the Mission Bay Drive Channel Maintenance Project, Dunhill Channel Project, and the Industrial Channel Project. The remaining acres of mitigation credit will be used for future stormwater channel maintenance projects in conformance with the MWMP.

El Cuervo Phase II is currently in the permitting and planning phase. The CCC approved a CDP in January 2020; issuance of the CDP is pending. USACE has provided a No Permit Required Letter and an Approved Jurisdictional Determination confirming the project area is non-jurisdictional, and the RWQCB did not require a permit for the project. The City is reviewing the project through the SCR process to verify the project is in conformance with the MWMP. In 2022, SWD will pursue a Grading Permit with the City and begin the construction contracting process.

3.3.2 Los Peñasquitos Canyon Preserve Phase II Enhancement Project

The Los Peñasquitos Canyon Phase II Wetlands Enhancement Project (Los Pen Phase II) is located within the Los Peñasquitos Canyon Preserve within the Lopez Canyon. The project intends to fulfill 0.24 acre of the City's compensatory wetland enhancement requirement for the Mission Bay Drive Channel Maintenance project. The remaining acres of mitigation credit will be used for future stormwater channel maintenance projects in conformance with the MWMP. The Los Pen Phase II project involves removing and controlling a variety of non-native invasive species dispersed throughout a 29.26-acre project area. Of the total project area, 8.78 acres of enhancement credit will be provided for the City, 5.73 of wetland enhancement credits has been approved by USACE, and 2.44 acres of enhancement credit has been approved by the CCC.

Los Pen Phase II is currently in the permitting and planning phase. The CCC approved a Coastal Development Permit (CDP) in January 2020; issuance of the CDP is pending. The USACE has provided a No Permit Required Letter and an Approved Jurisdictional Determination, and the RWQCB did not require a permit for the project. The City is reviewing the project through the SCR process to determine conformance with the MWMP. SWD will solicit bids for a construction contract upon receiving the final permits for the project. The project is anticipated to be implemented from Winter 2021 to Spring 2022.

3.4 Other Mitigation Sites

During this annual reporting period, the City also pursued and worked on several other mitigation sites with significant status updates. The majority of these wetland sites will be Advanced Permittee Responsible Mitigation (APRM) sites whose mitigation will be allocated to past (e.g., Emergency) and future maintenance and repair activities associated with the MWMP. Table 8 below provides a summary of these sites and the progress that has been achieved in FY 2021.

Additional mitigation opportunities and sites have been identified as Capital Improvement Program (CIP) projects and are therefore being developed by the Engineering & Capital Projects Department. This includes the Jamacha Canyon Stream Rehabilitation and Chollas Creek Restoration. These future potential mitigation sites may serve as permittee-responsible mitigation for specific prioritized MWMP facilities or advanced-permittee responsible mitigation with credit acreage that may be assigned to MWMP facilities as they are prioritized.

Table 8 Other MWMP Mitigation Sites' FY 2021 Progress

Mitigation Site	Status	Summary
Sefton Field	Planning	Draft HMMP is being prepared. Anticipating to submit for pre-application meeting fall/winter 2021.
Montongo	Planning	Draft HMMP is being prepared.
Rancho Jamul Phase IIB	Mitigation Bank	City purchased 3.1 credits at the Rancho Jamul Phase IIB Mitigation in 2015 located in the Otay River watershed/San Diego Bay WMA. The bank is currently in review with the Inter-Agency Review Team (IRT) to prepare the Banking Enabling Instrument. In FY 2021, the City continued to work with the property owner/manager and received monthly updates and anticipated credit release schedule to assign to MWMP facilities within identified Service Areas.
Hollister Quarry	Permitting & Planning	Prepared and submitted Final HMMP to agencies in February 2021 and the City is currently preparing an Addendum in response to agency comments. This APRM will provide approximately 2.36-acres of wetland establishment, rehabilitation, and enhancement mitigation within the Otay River Valley Regional Park. This site is partially within the COZ and will provide coastal mitigation. It is anticipated that this site will mitigate for the past 2016 emergency at Nestor Creek (Cedar-1, Cedar-2), Tocayo-1, Valeta-1, as well as future maintenance and repair impacts that may occur in the Otay watershed/San Diego Bay Watershed Management Area and identified Service Areas.
Otay Reed	Permitting & Planning	Revising Draft HMMP based on comments received by USACE, City, and RWQCB. Includes approval of MHPA Boundary Line Adjustment to add 1.55-acres into the City MHPA. This APRM will provide approximately 5.03-acres of wetland establishment, rehabilitation, and enhancement mitigation in Otay River Valley Regional Park. It is anticipated that this site will mitigate for the past 2016 emergency at Auburn Creek (Auburn-1) as well as future maintenance and repair impacts that may occur in the Otay watershed/San Diego Bay Watershed Management Area and identified Service Areas.
Smythe-Bandola Mitigation Site	Permitting & Planning	The HMMP underwent revision in 2021 to respond to agency comments and was approved by USACE and RWQCB in FY 2021. The City identified a Coastal Development Permit (CDP) is required prior to construction and is currently processing an application for a City-issued CDP, which would then allow SWD to bid the project and retain a contractor to initiate construction.
Tijuana River Valley Channel Maintenance	Completed	Site completed (signed-off) by the agencies in 2010. Maintenance and Monitoring visits were conducted using existing park trails and access. Currently working with County of San Diego

Wetlands Mitigation Project		to renew Right-of-Entry Permit (which expired in November 2020) to conduct on-going maintenance, if needed.
Tijuana River Valley Emergency Channel Maintenance Mitigation	Completed	Site completed (signed-off) by the agencies in 2010. Long-term monitoring visits were conducted using existing park trails and access. Currently working with County of San Diego to renew Right-of-Entry Permit (which expired in November 2020) to conduct long-term maintenance, if needed.

4.0 Conclusions and Future Projects

Over the FY 2021 maintenance period, routine or emergency maintenance was completed at four channel facilities. These projects allowed for removal of accumulated trash, sediment, and debris which restored conveyance capacity and reduced flood risk while also maintaining the long-term reliability of the City's stormwater infrastructure. Additionally, the SWD completed one emergency pipe repair project and many minor maintenance projects that did not require mitigation and were therefore not required to be included in this report. Wetland mitigation is required and is in various stages of progress to compensate for wetlands impacts associated with the MWMP. All maintenance activities were conducted in compliance with the MWMP and all associated regulatory permits.

Table 9 lists the facilities that are anticipated to require maintenance during FY 2022 (i.e. July 2021 – June 2022).

Table 9 Annual Work Plan (July 2021- June 2022)

MWA/Watershed	Facility Group Name	Facility No.	Segment Name and Number
Los Peñasquitos / Peñasquitos	Los Penasquitos Lagoon – Tripp	2-01-130	Tripp-1
	Soledad Canyon Creek - Sorrento	2-03-000	Roselle-1
		2-03-002	Roselle-2
	Soledad Canyon Creek - Flintkote	2-03-100	Flintkote-1
Mission Bay / Peñasquitos	Mission May - MBHS	3-02-101	PB-Olney-1
		3-02-103	MBHS-1
San Diego River / San Diego River	Alvarado Canyon Creek - Alvarado	4-07-021	Alvarado-1
San Diego Bay / Pueblo San Diego	Chollas Creek – National	5-04-004	National-1
		5-04-006	National-2

5.0 References

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URS. 2014b. Final El Cuervo del Sur Wetland Habitat Mitigation and Monitoring Plan. February 28, 2014, updated February 25, 2015, with assistance from Helix Environmental Planning, Inc.

Appendix A

Municipal Waterways Maintenance Plan Annual Report Figures

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Figure 1. MWMP Maintenance Projects

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Figure 2. Stormwater Department Mitigation Sites

Maintenance Area

Access, Stockpiling, and Staging Area

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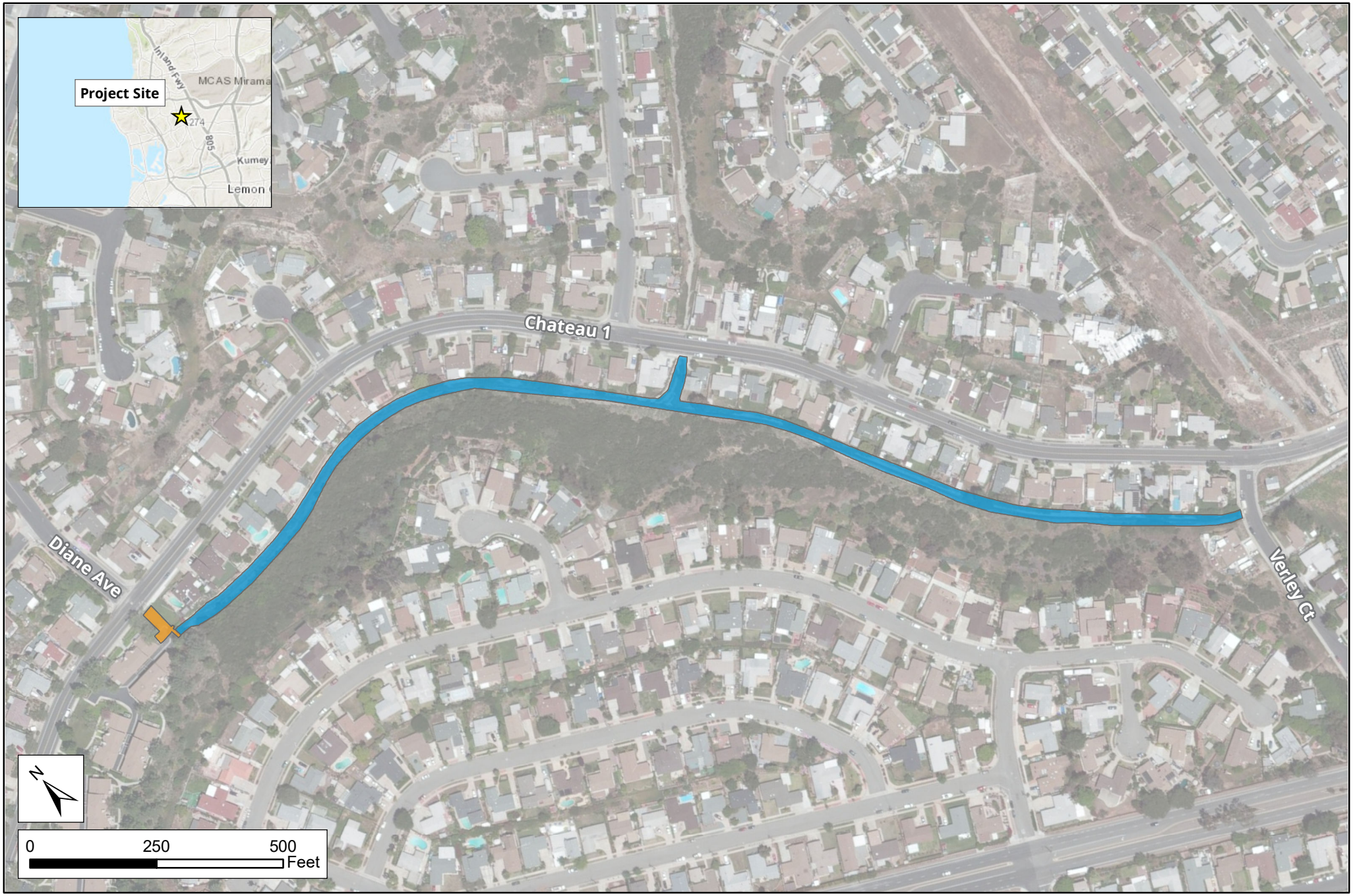
Mission Bay Drive 1

FY 21 Emergency Channel Maintenance

Municipal Waterways Maintenance Plan Annual Report

October 2021



Maintenance Area Access, Stockpiling, and Staging Area

Chateau 1

FY 21 Emergency Channel Maintenance

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Maintenance Area Access, Stockpiling, and Staging Area

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Mission Gorge 3 & Mission Gorge 4

FY 21 Routine Channel Maintenance

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Maintenance Area Access, Stockpiling, and Staging Area

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Washington 1 & Washington 2

FY 21 Routine Channel Maintenance

Municipal Waterways Maintenance Plan Annual Report

October 2021

Stormwater Conveyance Pipe Maintenance Area Access, Stockpiling, and Staging Area

Angell Avenue

FY 21 Emergency Pipe Repair

Municipal Waterways Maintenance Plan Annual Report

October 2021

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Appendix B

Master Stormwater Facility and Mitigation List

Appendix B: Master Stormwater Facility and Mitigation List

Facility Number	Facility Type	Facility Group Name	Segment Name-Number	Date of Most Recent Maintenance[1]	Mitigation Required (City/ CCC/ USACE/ RWQCB/ CDFW)[2]	Mitigation Site(s)
San Dieguito River Watershed						
1-04-030	Channel/Ditch	Green Valley Creek - Pomerado	Pomerado-1	Pre 2011	None to date	
1-04-033	Channel/Ditch	Green Valley Creek - Pomerado	Pomerado-2	Pre 2011	None to date	
1-04-200	Basin	Green Valley Creek - Paseo del Verano	Paseo del Verano-1	Pre 2011	None to date	
Los Penasquitos Watershed						
2-01-120	Channel/Ditch	Penasquitos Lagoon - Industrial	Industrial-1	2010	CCC	El Cuervo del Sur Phase II
2-01-122	Channel/Ditch	Penasquitos Lagoon - Industrial	Industrial-2	2010	City/CCC	El Cuervo del Sur LPC Primary Enhancement
2-01-130	Channel/Ditch	Penasquitos Lagoon - Tripp	Tripp-1	2010	City/CCC	El Cuervo del Sur LPC Primary Enhancement
2-01-200	Channel/Ditch	Los Penasquitos Canyon Creek - Black Mountain	Black Mountain-1	Pre 2011	None to date	
2-01-210	Channel/Ditch	Los Penasquitos Canyon Creek - Black Mountain	Black Mountain-2	Pre 2011	None to date	
2-01-900	Basin	Los Penasquitos Canyon Creek - 5-805 Basin	5-805 Fwy-1	2008	Self-mitigating	
2-03-000	Channel/Ditch	Soledad Canyon Creek - Sorrento	Roselle-1	2016	City/CCC/USACE/RWQCB/CDFW	El Cuervo
2-03-002	Channel/Ditch	Soledad Canyon Creek - Sorrento	Roselle-2	2017	City/CCC/USACE/RWQCB/CDFW	El Cuervo del Sur LPC Primary Enhancement
2-03-012	Channel/Ditch	Carroll Canyon Creek - Carroll	Carroll Canyon-1	2016	City	El Cuervo del Sur
2-03-100	Channel/Ditch	Soledad Canyon Creek - Flintkote	Flintkote-1	2017	City/CCC/USACE/RWQCB/CDFW	El Cuervo del Sur LPC Primary Enhancement
2-03-150	Channel/Ditch	Soledad Canyon Creek - Dunhill	Dunhill-1	Pre 2011	CCC	El Cuervo del Sur Phase II
2-05-140	Channel/Ditch	Chicarita Creek - Via San Marco	Via San Marco-1	Pre 2011	None to date	
HW04220	Structure	10405 Sorrento Valley Road		Pre 2011	None to date	
Mission Bay Watershed						
3-00-120	Channel/Ditch	Torrey Pines - Torrey	Torrey Pines-1	Pre 2011	None to date	
3-00-150	Basin	Alta La Jolla - Vickie	Vickie-1	2016	Self-mitigating	
3-02-101	Channel/Ditch	Mission Bay - Mission Bay High School	PB-Olney-1	2016	City/CCC/USACE/RWQCB/CDFW	El Cuervo del Sur LPC Primary Enhancement Marron Valley Cornerstone (Upland, City-only)
3-02-103	Channel/Ditch	Mission Bay - Mission Bay High School	MBHS-1	2016	City/CCC/USACE/RWQCB/CDFW	El Cuervo del Sur LPC Primary Enhancement Marron Valley Cornerstone (Upland, City-only)
3-02-130	Channel/Ditch	Mission Bay - Mission Bay Drive	Mission Bay Drive-1	2021	City/CCC	El Cuervo del Sur Phase II LPC Secondary Enhancement
3-03-901	Channel/Ditch	Miramar - Engineer	Engineer-1	2017	None	
3-04-055	Channel/Ditch	Tecolote Creek - Chateau	Chateau-1	2021	None	
3-04-160	Channel/Ditch	Tecolote Creek - Genessee	Genesee-1	Pre 2011	None to date	
3-04-250	Channel/Ditch	Tecolote Creek - Chateau	Chateau-2	2016	None to date	
San Diego River Watershed						
4-01-103	Channel/Ditch	San Diego River - Nimitz	Nimitz-1	Pre 2011	None to date	
4-01-105	Channel/Ditch	San Diego River - Nimitz	Nimitz-2	Pre 2011	None to date	
4-01-107	Channel/Ditch	San Diego River - Nimitz	Nimitz-3	Pre 2011	None to date	
4-01-120	Channel/Ditch	San Diego River - Valeta	Valeta-1	Pre 2011	CCC	Hollister Quarry
4-03-101	Channel/Ditch	San Diego River - Camino del Rio	Camino del Arroyo-1	Pre 2011	None to date	
4-03-103	Channel/Ditch	San Diego River - Camino del Rio	Camino del Rio-1	Pre 2011	None to date	
4-04-006	Channel/Ditch	Murphy Canyon Creek – Murphy Canyon	Murphy Canyon-1	Pre 2011	None to date	
4-07-002	Channel/Ditch	Alvarado Canyon Creek - Mission Gorge	Mission Gorge-1	2017	City/USACE/RWQCB/CDFW	Stadium Mitigation Site
4-07-004	Channel/Ditch	Alvarado Canyon Creek - Mission Gorge	Mission Gorge-2	2017	City/USACE/RWQCB/CDFW	Stadium Mitigation Site
4-07-009	Channel/Ditch	Alvarado Canyon Creek - Mission Gorge	Mission Gorge-3	2021	City/RWQCB	Stadium Mitigation Site
4-07-011	Channel/Ditch	Alvarado Canyon Creek - Mission Gorge	Mission Gorge-4	2021	City/RWQCB	Stadium Mitigation Site
4-07-021	Channel/Ditch	Alvarado Canyon Creek - Alvarado	Alvarado-1	2016	City/USACE/RWQCB/CDFW	Stadium Mitigation Site
4-07-023	Channel/Ditch	Alvarado Canyon Creek - Alvarado	Alvarado-2	Pre 2011	None to date	
4-07-250	Channel/Ditch	Alvarado Canyon Creek - Alvarado	Alvarado-3	Pre 2011	None to date	
4-07-901	Channel/Ditch	Murray Reservoir - Cowles Mountain	Cowles Mountain-1	2018	None to date	
4-07-911	Channel/Ditch	Murray Reservoir - Cowles Mountain	Cowles Mountain-2	2018	City	Stadium Mitigation Site
4-08-008	Channel/Ditch	Norfolk Canyon Creek - Fairmount	Fairmount-1	Pre 2011	None to date	
4-08-011	Channel/Ditch	Norfolk Canyon Creek - Fairmount	Fairmount-2	Pre 2011	None to date	
4-08-014	Channel/Ditch	Norfolk Canyon Creek - Fairmount	Fairmount-3	Pre 2011	None to date	
4-08-017	Channel/Ditch	Norfolk Canyon Creek - Fairmount	Fairmount-4	Pre 2011	None to date	
4-08-105	Channel/Ditch	Norfolk Canyon Creek - Fairmount	Baja-1	2019	City/RWQCB	Stadium Mitigation Site Marron Valley Cornerstone (City only)
HW02437	Structure	2087 Hotel Circle South		2016	None to date	
HW02440	Structure	901 Hotel Circle South		2017	None to date	
IN10399	Structure	1277 Cam. Del Rio South		2017	None to date	
OT03321	Structure	1660 Hotel Circle North		2017	None to date	
OT03537	Structure	1331 Washington		Pre 2011	None to date	
OT05573	Structure	5505 Friars Road		2016	City	Sefton Field
Pueblo San Diego Watershed						
5-02-140	Basin	Maple Canyon Creek - Maple	Maple-1	Pre 2011	None to date	
5-02-151	Channel/Ditch	Washington Canyon Creek - Washington	Washington-1	2021	None	
5-02-153	Channel/Ditch	Washington Canyon Creek - Washington	Washington-2	2021	City/RWQCB	2015/16 Emergency Mitigation Plan
5-02-162	Channel/Ditch	Mission Hill Canyon Creek - Titus	Titus-1	2016	None	
5-03-011	Channel/Ditch	Powerhouse Canyon Creek - Pershing	Pershing-1	Pre 2011	None to date	
5-03-100	Channel/Ditch	Powerhouse Canyon Creek - Pershing	Pershing-2	Pre 2011	None to date	
5-03-901	Channel/Ditch	San Diego Bay Unnamed Tributary - 28th St	28th St-1	Pre 2011	None to date	
5-04-004	Channel/Ditch	Chollas Creek - National	National-1	2016	City/RWQCB	2015/16 Emergency Mitigation Plan Stadium Mitigation Site
5-04-006	Channel/Ditch	Chollas Creek - National	National-2	2016	City/RWQCB	2015/16 Emergency Mitigation Plan Stadium Mitigation Site
5-04-044	Channel/Ditch	Chollas Creek - Rolando	Cartagena-1	Pre 2011	None to date	
5-04-046	Channel/Ditch	Chollas Creek - Rolando	Rolando-1	Pre 2011	None to date	
5-04-048	Channel/Ditch	Chollas Creek - Rolando	Rolando-2	2016	City/RWQCB	2015/16 Emergency Mitigation Plan
5-04-101	Channel/Ditch	Chollas Creek Unnamed Tributary - Martin	Martin-1	Pre 2011	None to date	
5-04-163	Channel/Ditch	Chollas Creek - J St	J St-1	Pre 2011	None to date	
5-04-220	Channel/Ditch	Auburn Creek - Home	Home-1	2016	City/RWQCB	2015/16 Emergency Mitigation Plan
5-04-224	Channel/Ditch	Auburn Creek - Home	Home-2	2019	City/RWQCB	Stadium Mitigation Site Marron Valley Cornerstone (City only)
5-04-227	Channel/Ditch	Auburn Creek - Home	Home-3	Pre 2011	None to date	
5-04-231	Channel/Ditch	Auburn Creek - Home	Home-5	2020	City/RWQCB	Stadium Mitigation Site Otay Reed (City only)
5-04-239	Channel/Ditch	Auburn Creek - Wightman	Wightman-1	2016	None to date	
5-04-241	Channel/Ditch	Auburn Creek - Wightman	Wightman-2	2016	City/RWQCB	Onsite Restoration
5-04-260	Channel/Ditch	Chollas Creek Unnamed Tributary - Megan	Megan-1	Pre 2011	None to date	
5-04-262	Channel/Ditch	Chollas Creek Unnamed Tributary - Megan	Megan-2	Pre 2011	None to date	
5-04-280	Channel/Ditch	Chollas Creek - 54th St	54th St-1	Pre 2011	None to date	
5-05-006	Channel/Ditch	South Chollas Creek - Southcrest	Alpha-1	2021	None to date	

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City of San Diego
Stormwater Department

Municipal Waterways Maintenance Plan Annual Report
October 2021

Facility Number	Facility Type	Facility Group Name	Segment Name-Number	Date of Most Recent Maintenance[1]	Mitigation Required (City/ CCC/ USACE/ RWQCB/ CDFW)[2]	Mitigation Site(s)
5-05-008	Channel/Ditch	South Chollas Creek - Southcrest	Ocean View-1	Pre 2011	None to date	
5-05-021	Channel/Ditch	South Chollas Creek - Euclid	Euclid-2	Pre 2011	None to date	
5-05-035	Channel/Ditch	South Chollas Creek - Federal	Federal-1	2019	City	Stadium Mitigation Site HAF/Cornerstone
5-05-037	Channel/Ditch	South Chollas Creek - Federal	Federal-2	2019	None	
5-05-205	Channel/Ditch	South Chollas Creek Encanto Branch - Castana	Castana-1	Pre 2011	None to date	
5-05-306	Channel/Ditch	South Chollas Creek Encanto Branch - Imperial	Imperial-2	Pre 2011	None to date	
5-05-603	Channel/Ditch	South Chollas Creek Encanto Branch - Jamacha	Jamacha-1	2016	City/RWQCB	2015/16 Emergency Mitigation Plan
5-06-005	Channel/Ditch	Paleta Creek - Cottonwood	Cottonwood-1	2016	City/RWQCB	2015/16 Emergency Mitigation Plan
5-06-008	Channel/Ditch	Paleta Creek - Cottonwood	Cottonwood-2	2016	City/RWQCB	2015/16 Emergency Mitigation Plan
5-06-020	Channel/Ditch	Paleta Creek - Solola	Solola-1	Pre 2011	None to date	
5-06-023	Channel/Ditch	Paleta Creek - Solola	Solola-2	Pre 2011	None to date	
HW04013	Structure	4202 J Street		Pre 2011	None to date	
OT03694	Structure	3644 Roselawn		2016	None to date	
OT054671	Structure	1206 Goodyear		2016	None to date	
Sweetwater Watershed						
5-11-003	Channel/Ditch	Sweetwater River - Parkside	Parkside-1	2016	City/RWQCB	2015/16 Emergency Mitigation Plan
Otay Watershed						
5-22-008	Channel/Ditch	Nestor Creek - Nestor	Cedar-1	2016	City/CCC	Hollister Quarry
5-22-010	Channel/Ditch	Nestor Creek - Nestor	Cedar-2	2010	City/CCC	Hollister Quarry
5-22-013	Channel/Ditch	Nestor Creek - Nestor	Dahlia-1	Pre 2011	None to date	
5-22-016	Channel/Ditch	Nestor Creek - Nestor	Cerissa-1	Pre 2011	None to date	
5-22-023	Channel/Ditch	Nestor Creek - Nestor	Grove-1	Pre 2011	None to date	
5-22-028	Channel/Ditch	Nestor Creek - Nestor	30th St-1	Pre 2011	City/RWQCB/CDFW	Otay Reed
5-22-110	Channel/Ditch	Nestor Creek - Outer	Outer-1	Pre 2011	None to date	
5-22-112	Channel/Ditch	Nestor Creek - Outer	Outer-2	Pre 2011	None to date	
Tijuana River Watershed						
6-01-020	Channel/Ditch	Tijuana River - Pilot and Smugglers	Pilot Channel-1	2019	City/CCC/USACE/RWQCB/CDFW	TJ Emergency Mitigation Site TJ Enhancement Site
6-01-100	Channel/Ditch	Tijuana River - Pilot and Smugglers	Snuggler's Gulch-1	2019	City/CCC/USACE/RWQCB	TJ Enhancement Site
6-02-118	Channel/Ditch	Tijuana River - Tocayo	Tocayo-2	Pre 2011	CCC	Hollister Quarry
~~6-03-135~~	~~Channel/Ditch~~	~~Tijuana River - Smythe~~	~~Via Encantadoras-1~~	~~Pre 2011~~	It was determined that the City of San Diego does not have maintenance responsibility	
6-03-138	Channel/Ditch	Tijuana River - Smythe	Via Encantadoras-2	Pre 2011	None to date	
6-03-143	Channel/Ditch	Tijuana River - Smythe	Via Encantadoras-3	Pre 2011	None to date	
6-03-147	Channel/Ditch	Tijuana River - Smythe	Smythe-1	2016	City/USACE/RWQCB	Smythe-Bandola Mitigation Site
6-03-150	Channel/Ditch	Tijuana River - Smythe	Via de la Bandola-1	2016	City/USACE/RWQCB	Smythe-Bandola Mitigation Site
6-04-251	Basin	Spring Canyo Creek - Cactus	Cactus-1	Pre 2011	None to date	
6-04-253	Basin	Spring Canyo Creek - Cactus	Cactus-2	Pre 2011	None to date	
6-05-110	Basin	Tijuana River - Siempre Viva	Siempre Viva-1	2019	None	
6-06-011	Channel/Ditch	Tijuana River - La Media	La Media-1	Pre 2011	None to date	

NOTES

1 - Pre 2011 indicates that facility was likely maintained prior to 2011 but has not been maintained since that time. Dates in **BLUE TEXT** are construction dates; these facilities have yet to be maintained following construction.

2 - City = City of San Diego; CCC = California Coastal Commission; USACE = US Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; None = routine maintenance was completed without any mitigation requirements; None to date = routine maintenance has not been conducted. Agency names in **BLUE TEXT** indicate that MWMP permits were utilized for most recent maintenance approval. All other approvals pre-date the MWMP.

Appendix C

Pre- and Post- Maintenance Photos

Appendix C: Maintenance Project Photo Logs

Mission Bay Drive Emergency Channel Maintenance Project

Photo 1: Facing upstream of the Mission Bay Drive-1 Channel pre-maintenance. Taken June 4, 2020.

Photo 2: Facing upstream of the Mission Bay Drive-1 Channel following vegetation and sediment removal. Taken February 6, 2021.

Photo 3: Facing downstream of the Mission Bay Drive-1 Channel prior to maintenance. Taken January 27, 2021.

Photo 4: Facing downstream of the Mission Bay Drive-1 Channel following completion of maintenance. Taken February 8, 2021.

Chateau Channel Segment 1 Emergency Maintenance

Photo 5: Chateau 1 Channel facing upstream pre-maintenance. Taken January 28, 2021.

Photo 6: Chateau 1 Channel facing downstream post-maintenance. Taken January 28, 2021.

Photo 7: Facing downstream pre-maintenance. Taken January 28, 2021.

Photo 8: Facing downstream post-maintenance. Taken January 28, 2021.

Mission Gorge Channel Segments 3 & 4 Routine Maintenance

Photo 9: Facing upstream of the Mission Gorge 3 channel segment showing vegetated portion of the earthen section pre-maintenance. Taken June 4, 2021.

Photo 10: Facing upstream of the Mission Gorge 3 channel segment showing earth section of channel with vegetation removed and coir mat installed. Taken June 29, 2021.

Photo 11: Facing downstream of the Mission Gorge 4 channel segment prior to concrete repairs showing the degraded concrete bank. Taken June 8, 2021.

Photo 12: Facing downstream of the Mission Gorge 4 channel segment following completion of maintenance and new concrete panels. Taken September 2, 2021.

Washington Channel Segments 1 & 2 Routine Maintenance

Photo 13: At the downstream section of the Washington 1 segment pre-maintenance with the concrete lined spillway that leads into the downstream culvert in the foreground. Taken June 1, 2021.

Photo 14: At the downstream section of the Washington 1 segment post-maintenance. Taken June 28, 2021.

Photo 15: Facing upstream of the Washington 2 segment pre-maintenance. Taken June 1, 2021.

Photo 16: Facing upstream of the Washington 2 segment post-maintenance. Taken June 28, 2021.

Angell Avenue Emergency Pipe Repair

Photo 17: Facing uphill showing failed pipe and resulting sink hole directly next to the SDG&E transmission pole. Photo taken September 30, 2020.

Photo 18: Facing downhill showing failed pipe section and resulting sink hole. Taken September 30, 2020.

Photo 19: Facing downhill showing above-ground section of new HDPE installed. Taken May 20, 2021.

Photo 20: Facing uphill showing re-established slope grade, new Type-A cleanout, and post-maintenance erosion controls. Taken May 20, 2021.