



THE CITY OF SAN DIEGO
MEMORANDUM

Date: March 30, 2016

To: Helene Deisher, Development Project Manager II, Development Services
Department

From: Genene Lehotsky, Senior Planner, Transportation & Storm Water Department

Subject: Washington Channel (MMP Map 84) Emergency Channel Maintenance
Substantial Conformance Review Submittal

Reference: Emergency Permit PTS #466789; Job Order # 21003732

This memorandum and attached documents are being submitted as supplements to the Washington emergency channel maintenance project after-the-fact Substantial Conformance Review (SCR) of the City of San Diego (City) Master Storm Water System Maintenance Program (MMP) Program Environmental Impact Report (PTS# 42891/SCH 2004101032) and the associated Amended Site Development Permit 1134892. The maintenance began on January 20, 2016 following notification of the required regulatory agencies. Channel maintenance work was completed on January 30, 2016.

The project involved emergency repair and protection activities at the Washington Channel within the City. This channel (MMP Map 84) was maintained under emergency permit authorization and is also an identified channel under the City MMP. Therefore, mitigation measures and other requirements of the MMP were followed however, certain requirements in the MMP could not be directly adhered to in order to conduct the work as quickly as possible and reduce the existing threat from flooding to adjacent properties.

Assessments by City crews were conducted on November 19 and December 29, 2015. The City's assessments determined that sediment and vegetation had accumulated in various sections within the channel, constricting flows and increasing the risk of flooding. The channel is primarily concrete-lined with a small earthen-bottom section at the west end. The maintenance area extended 2,505 feet, and the bottom width varies between approximately 5 feet in the concrete-lined portion to 60 feet in the earthen portion. The top widths vary between approximately 11 feet in the concrete-lined portion to 70 feet in the earthen portion. The City determined the commercial properties downstream of the channel were under

imminent threat of potential severe damage from storm flows, given the channel's condition. The build-up of sediment and vegetation within the channel before the emergency maintenance combined with the prediction of continued El Niño weather patterns and heavy winter storms, constituted an emergency situation requiring immediate action to prevent further flood damage to surrounding areas. Due to the emergency nature of the project, individual technical studies could not be conducted for the project including an Individual Maintenance Plan (IMP), Individual Hydrologic and Hydraulic Assessment (IHHA), Individual Water Quality Assessment (IWQA), Individual Historic Assessment (IHA), or Individual Noise Assessment (INA); however, a site-specific analysis for each is given below.

INDIVIDUAL MAINTENANCE PLAN

Due to the emergency nature of the maintenance activities an IMP could not be prepared prior to maintenance. The following is a description of the maintenance that was performed along with associated Best Management Practices (BMPs). The project was designed by City crews and the project biologist to conform with the MMP, while allowing the work to be conducted in an expeditious manner to address the immediate emergency.

Emergency maintenance of the channel included the removal of all existing sediment and vegetation along the entire length of the channel (MMP Map 84; Figure 3). The maintenance area is a combination of a trapezoidal concrete-lined channel and an earthen natural flood channel. The emergency maintenance began just east of the 1792 W. Washington St. parking lot, extended east along W. Washington Street., and included the mechanized removal of all existing sediment and vegetation within the channel.

All work was limited to sediment and vegetation within the earthen and concrete-lined channel. Vegetation and land cover impacts comprised approximately 0.33 acres of developed concrete lined channel, 0.03 acres of disturbed wetland (palm-dominated; concrete lined), 0.02 acres of disturbed freshwater marsh (concrete-lined), and 0.25 acres of disturbed wetland (Arundo-dominated).

A Skid Steer/Bobcat, Loader, and dump trucks were the primary tools used to remove material from the channel. The Skid Steer/Bobcat entered the channel from the staging areas shown on MMP Map 84 and pushed vegetation and sediment to the Loader that was staged at the access ramp near 1770 W. Washington Street. The Loader scooped material from the channel and loaded it into dump trucks. The debris was taken directly to the Miramar Landfill for disposal. All work was monitored by a qualified biologist. An archaeologist and Native American monitor were also present during maintenance activities when needed.

Adjacent access/staging areas were located in existing developed areas. Adequate BMPs were placed in those areas to prevent sedimentation and erosion from occurring (see pollution prevention measures listed below).

Work was conducted during dry periods; however, there were trace amounts of standing water in the channel. A pump system was used to bypass this water around the work area and downstream. Additionally, crews set up small sandbag berms to prevent any incidental upstream flows from entering the earthen section of the work area. All work was monitored by a qualified biologist and all equipment and materials were removed following completion of work.

HYDROLOGIC AND HYDRAULIC ASSESSMENT

Quantitative hydrologic or hydraulic studies (e.g., modeling) could not be completed for this channel due to the emergency nature of the work and the length of time needed to prepare a hydrologic and hydraulic assessment. Instead, investigations conducted by City staff on November 19 and December 29, 2015, determined that accumulation of sediment and vegetation in the channel was causing an imminent threat of severe flood damage to commercial and residential properties located downstream. This information, in lieu of an IHHA, was presented to the U.S. Army Corps of Engineers (ACOE) and Regional Water Quality Control Board (RWQCB) to supplement the application for use of Regional General Permit (RGP) 63 to conduct emergency channel maintenance to remove the immediate threat to property. The ACOE, with RWQCB concurrence, granted authorization under RGP 63.

The Washington Channel (MMP Map 84; Figure 3) is primarily concrete-lined (2,335 linear feet), with a small earthen-bottom section (170 linear feet) at the downstream end. The bottom width of the channel varies between approximately 5 feet in the concrete-lined portion, and up to 60 feet in the earthen portion. The channel top widths vary between approximately 11 feet in the concrete-lined portion to 70 feet in the earthen-bottom section.

The City's assessment determined that loosely-anchored sediment and vegetation (palms, *Arundo*, etc.) had accumulated in several different sections along the length of the concrete-lined portion of the channel, and were constricting flows. There were a large number of palms weakly-secured to the channel bottom that were at risk of becoming uprooted by heavy rains and resulting flows. With the prediction of El Niño, the City determined that the Washington Channel (MMP Map 84) posed a high flood risk due to the heavy build-up of sediment and vegetation. City staff estimated that the build-up of sediment and vegetation, including a large stand of *Arundo* at the western (downstream) end of the channel and a build-up of approximately 2 feet of sediment against the trash fence/desilting basin, had reduced channel flow capacity to approximately 50%. This reduced flow capacity combined with the potential for vegetation to break loose and clog the downstream trash fence/desilting basin and receiving pipe during heavy rains, was considered an imminent threat to downstream properties. Removing only portions of the vegetation and sediment in the concrete-lined section of the channel would break up the overall vegetative structure in the channel and encourage sloughing, thereby posing a high risk of the vegetation being carried downstream by high flows and causing blockages.

City engineers estimated that before maintenance, the channel capacity was approximately equivalent to the 2-year event. The as-built channel conveyance capacity after maintenance is the 100-year storm event. Therefore, it was determined that removal of all existing vegetation and sediment in the channel was required to restore the minimum channel capacity necessary to protect the adjacent commercial and residential properties from the threat of severe damage from flooding.

WATER QUALITY ASSESSMENT

Due to the emergency nature of the maintenance activities, a comprehensive water quality assessment could not be conducted prior to work. The MMP provides a quantitative framework for assessing maintenance-related water quality impacts by evaluating the potential pollutant removal capacity of a channel (in the pre-maintenance condition) with the potential benefits or impacts resulting from channel maintenance (i.e., removal of sediment and vegetation). This quantitative framework however was subject to legal challenge, and while it provides information regarding water quality impacts/benefits of maintenance, it can no longer be utilized as the basis to evaluate maintenance impacts. Since a full pre-maintenance water quality assessment could not be performed, and since the prior quantitative MMP framework can no longer be relied upon, a qualitative assessment of potential water quality impacts resulting from emergency maintenance activities in the Washington Channel is presented here based on an evaluation of pre- and post-maintenance vegetation surveys, and BMPs implemented during maintenance.

The Washington Channel is tributary to San Diego Bay and is part of the Pueblo Watershed within the San Diego Bay Watershed Management Area. 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 (Settlement Agreement), which requires the City to implement one of four water quality improvement options for each channel maintained. Water quality mitigation for emergency maintenance-related impacts may be achieved through a combination of mitigation for wetland impacts and implementation of watershed-based water quality improvement strategies identified in the Settlement Agreement.

Evaluation of the existing wetlands and water quality functions they provide (prior to emergency maintenance) in the maintenance area was made on November 19, 2015 by Dudek biologist Scott Gressard. There were 0.03 acres of disturbed wetland (palm-dominated; concrete-lined), 0.02 acres of disturbed freshwater marsh (concrete-lined), and 0.25 acres of disturbed wetland (*Arundo*-dominated; earthen bottom) impacted as part of emergency maintenance activities.

The capacity of the Washington Channel to uptake pollutants in the pre-maintenance condition is unknown. Generally, earthen- and concrete-lined facilities may be expected to have some potential pollutant removal capability due to the presence of vegetation and some natural substrate. The potential of disturbed wetland (palm-dominated and *Arundo*-dominated) vegetation, which comprises the majority of vegetation found in the channel, to uptake pollutants is expected to be limited as compared to that of freshwater marsh or other wetlands vegetation. The capacity of the plant and sediment community to adsorb and retain pollutants is also a function of retention time. Pollutant uptake occurs when flows and

velocities are low enough to allow for sufficient retention time. As velocities increase during storm events, retention times decrease and the capacity of the system to adsorb and retain pollutants may be significantly reduced. Washington Channel is subject to ephemeral flows during storm events which generally have relatively low retention times. Vegetation can also act as a pollutant source when plants die off or are dislodged during high flow conditions and transported downstream along with the retained pollutants.

The MMP's Programmatic Environmental Impact Report (PEIR) identifies wetland mitigation implementation that is designed to offset not only biological impacts but also potential water quality and other impacts associated with wetland habitat values, functions and services. Mitigation for wetland impacts will be implemented in the form of wetland creation/establishment and wetland enhancement within the same watershed as the impacts but, in some cases, offsite. The mitigation ratios applied to the MMP include accounting for habitat, water quality, and other impacts. In general, these processes work to improve water quality by cycling of nutrients; removal of elements or compounds; retention of particulates; export of organic carbon; and/or maintenance of plant and animal communities (USACOE South Pacific Division, Standard Operations Procedure for Determination of Mitigation Ratios, 2012). The City is required by the RWQCB to perform at least 0.04 acre of compensatory mitigation for permanent impacts which resulted in a loss of functions in the ratio amount of 2:1 (area mitigated: area impacted) in wetland enhancement for the removal of 0.02 acres of disturbed freshwater marsh (concrete-lined). For emergency maintenance conducted in the Washington Channel, and consistent with the MMP's PEIR, it is expected that mitigation for wetland impacts would result in water quality benefits and therefore offset water quality impacts.

In addition to the specific construction-related BMPs discussed in the maintenance description section, the following BMPs were implemented during and following work in order to minimize impacts to water quality to the maximum extent practicable; there were no discharges or releases of sediment in the channel due to emergency maintenance activities.

1. Appropriate materials were kept on site to contain potential spills. No spills occurred.
2. Fueling, vehicle maintenance, storage, etc. were located outside of waters of the state and did not result in any discharges.
3. No spills occurred and therefore no notification to the RWQCB was required.
4. All construction materials and debris were removed following completion of the emergency action. The City performed street sweeping in the area after emergency maintenance work was complete.
5. The placement of a temporary dam caused no siltation within or downstream of the channel. Normal flows were restored to the stream upon completion of work.
6. All necessary BMPs to control erosion and runoff from staging and access areas (e.g., fiber rolls) were employed. No temporary impacts occurred and therefore no restoration is required.

7. No revegetation was required. Maintenance was conducted within concrete channels and an earthen basin. The basin supported invasive species, which were cut to grade (providing soil stabilization) and will continue (for a minimum of 2 years and/or maximum of 5 years as a mitigation plan) to be re-treated to control re-sprouts.

Additional water quality mitigation will be achieved through implementation of one of the four options under the Settlement Agreement in the Watershed Management Area, for each channel maintained. The options include: 1) landscape retrofits to reduce runoff in residential areas, 2) additional/modified street sweeping, 3) implementation of LID features and 4) increased frequency of catch basin inspection and cleaning. Several of these options are based on the linear feet of vegetation removed as part of the project (not including areas of invasive species, such as *Arundo*-dominated areas); the project removed approximately 119 linear feet of vegetation (not including invasive species areas).

For each 100 linear feet of vegetation removed, the City may implement landscape retrofits at one residential property within the WMA, such as rainwater harvesting, replacement of grass turf, and irrigation equipment upgrades.

For every 400 linear feet of vegetation removed, the modified street sweeping option targets additional pollutant load removal through vacuum-assisted sweeping of medians and increased sweeping frequency. Under this option, sweeping within the drainage area where maintenance was performed would be increased to quarterly on commercial routes and median sweeping would target areas not regularly swept for one calendar year after maintenance.

For every 200 linear feet of vegetation removed, 100 square feet of LID features such as vegetated swales, biofiltration systems, permeable pavement, or restored wetlands may be constructed and maintained.

Under the fourth option, the City would increase the frequency of catch basin inspection and cleaning, if necessary, of every catch basin within 100 feet of the maintained segment every 3 months for a year after maintenance is performed.

Implementation of the specific water quality improvement strategy selected from the Settlement Agreement options will be finalized to satisfy the terms of the legal agreement and potentially improve water quality conditions entering the maintained channel area.

HISTORICAL ASSESSMENT

A records search was conducted at the South Coastal Information Center for Washington Channel (Map 84) and a 1/2-mile radius around the channel. The records search identified 144 studies which have been performed within 1/2 mile of the channel, at least 8 of which addressed the channel directly, including at least two reports (discussed below) which were studies of portions of the channel itself. The SCIC records search also indicated that thirty-four (34) cultural resources have been identified within 1/2 mile of the channel. One of the sites consists of a prehistoric lithic scatter, two are historic trash deposits, and the remaining 33 resources consist of historic buildings or historic features associated with urban development, such as historic sidewalk stamps. Records search results are included separately as Appendix A.

In 2003 Edaw, Inc. performed a cultural resources monitoring program for the Sewer Group Job 672, which covered a major portion of the current project APE which included a records search, and construction monitoring. Neither the records search nor monitoring program encountered previous or new cultural resources within the project APE (Wahoff and York 2003).

In 2008, Affinis conducted an archaeological resources analysis for the Master Stormwater System Maintenance Program, for the City of San Diego and determined that the Cultural sensitivity of the Washington Channel segment of the study had low potential to encounter cultural resources (Robbins-Wade 2008).

Washington Channel Map 84 is primarily concrete-lined with a small earthen-bottom section at the west end. The channel segments which are concrete lined have no potential for intact archaeological deposits, as all sediments within them have been deposited as a result of erosion. No monitoring was performed for work which occurred in these portions of the channel. Sediments in the earthen portion of the channel are also a result of erosion, and therefore also do not contain intact archaeological deposits. However, channel maintenance could intentionally or unintentionally impact portions of the earthen channel below these deposited sediments that contain intact archaeological deposits. Therefore, archaeological and Native American monitoring in the earthen portion of the channel was performed. No ground disturbing activities occurred outside the channel, and no ground disturbing activities broke through the concrete lined ditch.

Archaeological and Native American monitors were present for ground disturbing activities for five days between January 20 and January 30, 2016. Dudek archaeological monitors for the project included Patrick Hadel and Erica Arrowsmith. Native American monitors with Red Tail Monitoring and Research, Inc. were Justin Linton and Rachel Smith. No cultural resources and no human remains were identified. No impacts to cultural resources occurred. All maintenance activities were limited to fill sediments deposited during previous rainstorms – no intact native sediments were impacted.

Cultural References

Robbins-Wade, Mary

2008 *Archaeological Resources Analysis for the Master Stormwater System Maintenance Program, San Diego, California. Project NO. 42891. Report on File at the South Coastal Information Center.*

Wayhoff, Tanya, and Andrew York

2003 *Cultural Resources Monitoring For Sewer Group Job 672, San Diego, California. Report on file at the South Coastal Information Center.*

NOISE ASSESSMENT

Consistent with the requirements of the MMP PEIR, because work was conducted after January 15th, a raptor nesting survey was conducted on the first monitoring day after the start of the breeding season, January 20, 2016. No nests were found within 500 feet of the maintenance area nor were any encountered during the maintenance period. The PEIR

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identifies sensitive avian species as the only sensitive noise receptors for channel maintenance activities. Since the survey for nesting raptors was negative and work was conducted outside of the breeding season of all other sensitive avian species, a technical study for noise impacts from maintenance was not conducted for the Washington Channel (MMP Map 84).

If you have any questions or concerns regarding the emergency channel maintenance activities or associated documentation, please call me at (619) 527-7507.

Sincerely,



Genene Lehotsky, Senior Planner, Transportation & Storm Water Department

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Attachments:

- A – General Application Form (Form DS-3032) & Supplemental Discretionary Project Application (Form DS-3035)
- B – Public Notice Figure & Parcel List
- C – Storm Water Applicability Checklist (Form DS-560)
- D – Substantial Conformance Review Checklist
- E – Individual Biological Assessment (Dudek, March 11, 2016)
- F – Cultural Appendix A (Confidential)
- G – Regulatory Permits

cc: Gene Matter, Assistant Deputy Director, Transportation & Storm Water Department
Christine Rothman, Development Project Manager III, Transportation & Storm Water Department
Vipul Joshi, Principal – Dudek
Scott Gressard, Environmental Analyst/Biologist – Dudek