



THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: March 17, 2016

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

FROM: Christine Rothman, Development Project Manager III, Transportation & Storm Water Department

SUBJECT: Chollas Creek Channel (MMP Maps 91 & 93) Emergency Channel Maintenance Substantial Conformance Review Submittal

REFERENCE: Emergency Permit PTS #461143; Job Order # 21003732

This memorandum is being submitted as a supplement to the 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 project involves emergency repair and protection activities at the Chollas Creek channel within the City. This channel (MMP Maps 91&93; Figures 3a&3b) 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 11, 2015. In the northern section of the channel along South Gregory St. (MMP Map 91; Figure 3a), the City's assessment determined that accumulated sediment and freshwater marsh vegetation had accumulated upstream of the Ocean View Blvd. bridge and was contributing to flood risk and reduced capacity of the channel. The City's assessment in the southern channel section (MMP Map 93; Figure 3b), which is located directly downstream of MMP Map 91; Figure 3a, determined that sediment buildup had narrowed the channel in several locations resulting in reduced flows. Recent communication with residents substantiated that several properties, including 818 S. Gregory Street, had flooded during recent rain events. The City determined the residential properties adjacent to the channel (Attachment B) had been under imminent threat of potential severe damage from storm flows, given the channel's condition. The National Avenue bridge had experienced a 40% reduction in flow capacity from its as-built capacity (IBA; Photo Log). This reduction in capacity under the bridge had caused flows to back-up upstream, further exaggerating the imminent flood risk to adjacent properties and also contributing to the flooding threats discussed in the northern section (MMP Map 91; Figure 3a). The channel conditions before the emergency maintenance combined with the

prediction of an El Niño weather pattern 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

In lieu of an IMP, please find the following 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 to 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 both channel sections (MMP Maps 91 & 93; Figures 3a & 3b), with the exception of 0.11 acres of coastal salt marsh located in the southern section of the proposed maintenance area (MMP Map 93; Figure 3b). The length of the channel is a combination of a trapezoidal concrete-lined channel (MMP Map 91; Figure 3a) and an earthen natural flood channel (MMP Map 93; Figure 3b). Emergency maintenance was conducted from the beginning of sediment build up just north of the 1-15 southbound Ocean View Boulevard exit, south approximately 2,899 feet downstream with an average bottom width of approximately 50 feet.

Land covers and vegetation that were removed include 1.69 acres of developed concrete-lined channel, 0.34 acre of natural flood channel (earthen bottom), 0.23 acre of freshwater marsh (earthen bottom), 0.80 acre of freshwater marsh (concrete-lined), 0.04 acre of open water (earthen bottom), 0.06 acre of open water (concrete-lined), and 0.06 acre of disturbed wetland (Arundo-dominated). Total impacts to jurisdictional areas were 3.22 acres (2,899 linear feet) of wetland and non-wetland waters of the U.S. An additional, 0.04 acre of disturbed land (non-jurisdictional uplands) was graded to re-establish the channel.

A loader, dozer, and excavator were used to remove accumulated sediment and vegetation. The equipment utilized the access/staging areas shown on MMP Maps 91 & 93; Figures 3a&3b. Due to the accumulation of sediment, the smaller tracksteer/bobcat was used to clear material from beneath the National Ave. bridge (MMP Map 93; Figure 3b). The debris was then loaded into dump trucks in the access/staging areas and taken to a temporary stockpiling area, prior to being hauled off for legal disposal.

Temporary construction-related BMPs were implemented to prevent/minimize impacts during performance of emergency maintenance activities such as access/staging, vegetation and sediment removal, temporary stockpiling, and post-maintenance clean-up of the project area. A temporary sand bag dam was installed at the upstream end of the maintenance area and pumps were used as necessary to bypass water out of the work area and create dry work conditions. A filter bag was utilized at the hose outlet of the bypass water pump to reduce turbidity and/or downstream discharge of sediment. In addition, a temporary earthen berm was installed at the downstream end of the maintenance area to allow work to be performed near and under the National Avenue bridge, and to prevent unrestricted flows from exiting

the maintenance area. All BMPs were implemented by trained personnel. Additional BMPs/mitigation measures related to protection of water quality are described in the Water Quality Assessment section. All work was monitored by a qualified biologist and all equipment and materials were removed following completion of work. No work occurred during the breeding or nesting season of any sensitive species.

Hydrologic and Hydraulic Assessment

No quantitative hydrologic or hydraulic studies (e.g., modeling) were completed for this channel. Instead, the evidence of flooding as reported by adjacent private residences and observed by City crews was investigated and determined to be the result of sediment and vegetation that had accumulated within the Chollas Creek Channel. City crews had been called out in November 2015 to clean up the area from mud and debris that had overflowed from the channel onto South Gregory Street during a rain event (IBA; Photo Log). It is estimated the area impacted by flood waters at this time was several acres in size. 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 subject areas of the Chollas Creek channel are a combination of a trapezoidal concrete-lined channel (MMP Map 91; Figure 3a) in the northern section, and an earthen natural flood channel in the southern section (MMP Map 93; Figure 3b), extending a total of approximately 2,899 feet downstream with an average bottom width of approximately 50 feet. Assessments by City staff and engineers were conducted for the earthen and concrete-lined sections of the Chollas Creek channel during the week of November 11th, 2015. The City's assessment revealed that sediment and vegetation were constricting flows in the channel, resulting in significantly reduced channel capacity.

In the northern section of the channel along South Gregory Street (MMP Map 91; Figure 3a), the City's assessment determined that accumulated sediment and freshwater marsh vegetation had accumulated downstream of the Ocean View Blvd. bridge and was contributing to flood risk and reduced capacity of the channel.

The City's assessment in the southern channel section (MMP Map 93; Figure 3b), which is located directly downstream of MMP Map 91; Figure 3a, determined that sediment buildup had narrowed the channel in several locations, resulting in reduced flows. Recent communication with residents substantiated that several properties, including 818 South Gregory Street, had flooded during recent rain events. The City determined that residential properties adjacent to the channel (Attachment B) were under imminent threat of potential severe damage from storm flows, given the channel condition. Based on the City's assessment of the southern channel section, it was estimated that the National Avenue bridge experienced an approximately 40% reduction in flow capacity from its as-built capacity (Attachment A; Photograph 12). This reduction in capacity under the bridge caused flows to back-up upstream, further exaggerating the imminent flood risk to adjacent properties and also contributing to the flooding threats in the northern channel section (MMP Map 91; Figure 3a). The channel conditions combined with the prediction of an El

Nino weather pattern and heavy winter storms constituted an emergency situation requiring immediate action to prevent further flood damage to surrounding areas.

Water Quality Assessment

Due to the emergency nature of the maintenance activities, a comprehensive water quality assessment was not 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 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 Chollas Creek Channel is presented here based on an evaluation of pre- and post-maintenance vegetation surveys, and BMPs implemented during maintenance.

The Chollas Creek 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 services (prior to emergency maintenance) in the maintenance area was made on November 11, 2015 by Dudek biologist Scott Gressard. There were 0.34 acre of natural flood channel, 1.69 acres of developed concrete-lined channel, 0.23 acre freshwater marsh (earthen), 0.80 acre freshwater marsh (concrete-lined), 0.04 acre open water (earthen), 0.06 acre open water (concrete-lined), and 0.06 acres of disturbed wetland (*Arundo*-dominated) affected as part of emergency maintenance activities. The project resulted in the re-establishment of 0.04 acre of natural flood channel through the removal of disturbed land.

The removal of vegetation and sediment as a result of maintenance may decrease the capacity of a channel to uptake pollutants. The capacity of the Chollas Creek Channel to uptake pollutants in the pre-maintenance condition is unknown; earthen-bottom facilities would be expected to have some potential pollutant removal capability due to the presence of fresh water marsh vegetation and natural substrate. Concrete-lined facilities would be expected to have more-limited pollutant removal capability due to the impermeable substrate, however the presence of fresh water marsh vegetation within this section (0.80 acre) combined with the small amount (0.06 acre) of disturbed wetland (*Arundo*-dominated) vegetation may provide some potential for pollutant uptake. 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. 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 2.06 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 0.80 acres of freshwater marsh (concrete-lined) and 0.23 acres of freshwater marsh (earthen) vegetation. For emergency maintenance conducted in the Chollas Creek 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.

The assessment of potential water quality impacts resulting from emergency maintenance activities in the Chollas Creek Channel may also be performed by evaluating the effectiveness of the BMPs implemented during maintenance. 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 water diversion activities did not result in degradation of beneficial uses. Placement of temporary dams caused little or no siltation. A filter bag was utilized at the hose outlet of the bypass water pump to reduce turbidity and/or downstream discharge of sediment. 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. Channel maintenance was conducted within the channel bed which cannot be revegetated and will naturally recruit where areas are suitable for vegetation. Areas of invasive species which were cut to grade will continue (for up to 2 years) 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 1,808 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. Over time, these activities may also lead to reduced maintenance needs in downstream channel areas as sediment sources and other pollutants are reduced and/or eliminated in the upstream watershed.

Historical Assessment

A records search was conducted at the South Coastal Information Center for Chollas Creek Channel (Maps 91 and 93) and a 1/2-mile radius around the channel. The records search identified 70 studies which have been performed within 1/2 mile of the channel, at least 10 of

which addressed the channel directly, including one which was a study of the creek itself. Twenty-five (25) cultural resources have been identified within ½ mile of the channel, six of which are mapped along the banks of the channel and, prior to modern development, all likely would have constituted the Village of Las Chollas. Records search results are included separately as Attachment A.

In 2010 Affinis performed an Individual Historical Assessment of the channel which included a records search, a Sacred Lands File search at the Native American Heritage Commission, and a pedestrian survey. Neither the pedestrian survey nor the NAHC search identified any cultural resources in the channels. The record search did note the archaeological sites which intersect the channel, and recommended archaeological and Native American monitoring for channel maintenance activities.

Chollas Creek Channel Map 91 is a concrete-lined ditch and Chollas Creek Channel Map 93 partially concrete-lined and partially earthen ditch. 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 berm channel segments are also present in the channel as a result of erosion, and therefore also do not contain intact archaeological deposits. However, should channel maintenance intentionally or unintentionally impact the berms which form the earthen channel, it is possible that intact archaeological deposits could be impacted. Therefore, archaeological and Native American monitoring in the earthen portion of the channel was performed.

Recently, a nearby project, located outside the channel maintenance activity areas, identified human remains within the boundary of the village site (LSA 2011). Given the proximity of human remains to the channel, there is a potential to find human remains if intact/native sediments are encountered. Intact native sediments are most likely to occur along the banks of the drainage above the channel. No ground disturbing activities occurred outside the channel, and no ground disturbing activities impacted the earthen ditch or broke through the concrete lined ditch.

Archaeological and Native American monitors were present for ground disturbing activities for 8 days between December 30, 2015 and January 18, 2016. 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.

Noise Assessment

Consistent with the requirements of the MMP PEIR, a noise assessment was not performed for the Chollas Creek Channel (Maps 91 & 93). The PEIR identifies sensitive avian species as the only sensitive noise receptors for channel maintenance activities. The emergency maintenance work was conducted outside of the breeding season of any sensitive avian species; therefore impacts from noise were not expected and no technical studies for noise impacts from maintenance were conducted.

Page 8
Helene Deisher
March 17, 2016

Please find the attached documents submitted for the SCR for the Auburn Creek Channel (MMP Maps 67 & 68) emergency channel maintenance project. If you have any questions or concerns regarding the emergency channel maintenance activities or associated documentation, please call me at (619) 527-3470

Sincerely,



Christine Rothman, Development Project Manager III, Transportation & Storm Water Department

CR/tw

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 3, 2016)
- F – Records Search Summary
- G – Regulatory Permits

cc: Gene Matter, Assistant Deputy Director, Transportation & Storm Water Department
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