



THE CITY OF SAN DIEGO

MEMORANDUM

DATE: July 24, 2015

TO: Distribution

FROM: Jamie Kennedy, Associate Planner, Transportation & Storm Water Department

SUBJECT: City of San Diego Master Storm Water System Maintenance Program (MMP)
Substantial Conformance Review for Upper and Lower Alvarado Creek Channel
Maintenance Project; MMP Maps 59, 60 and 64

The Transportation & Storm Water Department (T&SWD) formally requests your Department's expedited review and written approval to conduct maintenance and mitigation activities associated with four segments of Alvarado Creek within the College Area and Navajo Community Plan Areas via Substantial Conformance Review (SCR) of the subject project. It is critical that these facilities be maintained in fall 2015. Rains on July 18 and 19, 2015 caused flooding in properties adjacent to the channel.

In addition, T&SWD is requesting that your Department combine this application with PTS No. 228729, which was submitted per the Notice of Exemption dated 12/29/2010 which required subsequent permitting pursuant to the Land Development Code §143.0126 for emergency work which occurred in 2010/2011 and substantially overlaps the area currently being proposed for maintenance. The regrowth of vegetation in the channel after the emergency work in 2010/2011 necessitates the additional maintenance that is proposed.

PROPOSED MAINTENANCE

The site-specific individual assessments for the proposed maintenance which accompany this cover letter have been prepared in conformance with the Master Storm Water Systems Master Maintenance Program (MMP) and Program Environmental Impact Report (PEIR), as verified in the SCR Checklist (Attachment 2). The supporting documents do not identify any new potentially significant environmental impacts that have not already been identified, addressed and/or mitigated by the required conditions set forth in the associated Amended Site Development Permit (Amended SDP) and PEIR. Therefore, the proposed maintenance would substantially conform to the Amended SDP and environmental document.

In conformance with the City's modified MMP, amended SDP No. 1134892 and PEIR Project No. 42891/SCH No. 2004101032, the following documents have been included for your review related to the proposed maintenance:

- Application (Form DS-3032) (**Attachment 1**)
- Substantial Conformance Review (SCR) checklist with the following appendices (**Attachment 2**)
 - Individual Maintenance Plan (IMP) for Upper Alvarado Creek (**Appendix A.1**)
 - Individual Maintenance Plan (IMP) for Lower Alvarado Creek (**Appendix A.2**)
 - Individual Biology Assessment (IBA) for Upper and Lower Alvarado Creek (**Appendix B**)
 - Individual Historical Assessment (IHA) for Upper and Lower Alvarado Creek (**Appendix C**)
 - Individual Hydraulic and Hydrology Assessment (IHHA) for Upper Alvarado Creek (**Appendix D.1**)
 - Individual Hydraulic and Hydrology Assessment (IHHA) for Lower Alvarado Creek (**Appendix D.2**)
 - Individual Water Quality Assessment (IWQA) for Upper Alvarado Creek (**Appendix E.1**)
 - Individual Water Quality Assessment (IWQA) for Lower Alvarado Creek (**Appendix E.2**)
 - Individual Noise Assessment (INA) for Upper and Lower Alvarado Creek (**Appendix F**)
 - Water Pollution Control Plan (WPCP) for Upper Alvarado Creek (**Appendix G.1**)
 - Water Pollution Control Plan (WPCP) for Lower Alvarado Creek (**Appendix G.2**)
 - Stadium Mitigation Plan (**Appendix H**)
- Storm Water Checklist (Form DS-560) (**Attachment 3**)
- Public Notice Package (**Attachment 4**)

In addition, a CD containing the following documents is attached for your reference:

- Stadium Mitigation Plan (**Appendix H of Attachment 2**)
- MMP (**Attachment 5**)
- Final PEIR for the MMP (**Attachment 6**)
- Amended SDP (2013) (**Attachment 7**)

Scope of Work

Consistent with the MMP, the Upper/Lower Alvarado Creek Maintenance Project (Project) includes the mechanized removal of sediment, vegetation, trash and debris using equipment operated within and adjacent to the affected creek segments on a recurring basis. The maintenance is intended to restore the original conveyance capacity of these channels to provide flood control for the protection of life and property. A temporary check dam will be installed at the downstream end of the maintenance area within the Upper Alvarado Creek to control anticipated erosive velocities immediately post-maintenance. The maintenance would not

include any modification that would change the character, scope, or size of the original channel design, and would not increase the conveyance capacity of the channels beyond their as-built condition.

Project Location and Regional Setting

The Upper and Lower Alvarado Creek channels are located along Interstate 8, east of Interstate 15 (Figure 1). The Upper Alvarado Creek channel is located on the south side of Alvarado Road between College Avenue and Reservoir Drive. The Lower Alvarado Creek channel is located north of Interstate 8 on the west and east side of Mission Gorge Road and south of Mission Gorge Place (Figures 2 and 3). The channels are located in un-sectioned lands in Township 16 South, Range 2 West on the San Bernardino Base and Meridian U.S. Geological Survey (USGS) 7.5-minute La Mesa quadrangle map (Figure 2). The Upper Alvarado Creek channel is included in Map 64 of the MMP. The Lower Alvarado Creek channel is included in Maps 59 and 60 of the MMP.

The channels to be maintained are bordered by commercial uses and vacant land. There are no residential areas which lie immediately adjacent to the subject channels. Parcels adjacent to the portion of Upper Alvarado Creek to be maintained are zoned RS-1-7 (high-density single-family residential), CO-1-2 (commercial office), and RS-1-1 (low-density single-family residential). Parcels adjacent to the area to be maintained with the Lower Alvarado Creek are zoned IL-3-1 (Light Industrial) and CV-1-1 (commercial visitor).

According to the Federal Emergency Management Agency (FEMA), all 4 reaches to be maintained are inside the 1% Annual Chance Flood Area. The City's Multi-Habitat Planning Area (MHPA) designation lies along the south side of the portion of Upper Alvarado Creek to be maintained, and covers approximately 2,380 square feet (0.05 acre) of the maintenance at the eastern end of Reach 2 of the Upper Alvarado Creek channel. The maintenance associated with the Lower Alvarado River would not occur within an MHPA designation. The nearest MHPA designation in Lower Alvarado Creek lies approximately 250 feet west of the end of the proposed maintenance.

To facilitate the Individual Hydrology and Hydraulic Assessment (IHHA) prepared for the maintenance, the Upper and Lower Alvarado Creek channels were subdivided into separate reaches. The IHHA for the Upper Alvarado Creek evaluated a total of three "reaches". Maintenance in Reaches 2 and 3 is the responsibility of the City of San Diego. Maintenance in Reach 1 is the responsibility of the State of California. Although the IHHA determined that maintenance is only required in Reach 2, an evaluation of Reaches 1 and 3 was performed in the IHHA to understand how upstream and downstream conditions affect the proposed maintenance.

The IHHA for Lower Alvarado Creek evaluated a total of four reaches. Maintenance within Reaches 2A, 2B and 4 is the responsibility of the City of San Diego. Maintenance within Reach 1

is the responsibility of a private owner. Maintenance in Reach 3 is the responsibility of the Metropolitan Transit Development Board. Maintenance is only proposed within those reaches which are maintained by the City of San Diego (Reaches 2A, 2B and 4). Reaches evaluated by the IHHa are displayed in Figure 4.

A more detailed discussion of the channels is provided below.

Upper Alvarado Creek, Reach 2

Upper Alvarado Creek, Reach 2 (UR2) runs west approximately 335 meters to the beginning of an un-channelized reach of Alvarado Creek on the SDSU campus, near the bend in Alvarado Court. The most easterly 30 meters of the channel is fully lined with concrete. The remaining 305 meters is a natural-bottom channel with a concrete apron on the north side and an earthen bank on the south side. The bottom is mostly cobbled where it is visible. The channel in UR2 is trapezoidal in shape with dimensions of 5.8 meters wide at the bottom, 11.3 meters wide at the top, 2.7 meters deep, and slopes of 1:1 on both sides. Most of UR2 is densely vegetated with freshwater marsh or southern willow scrub vegetation.

Lower Alvarado Creek, Reach 4

Lower Alvarado Creek, Reach 4 (LR4) runs west approximately 160 meters from a culvert under a parking lot at 4579 Mission Gorge Place to a point behind an industrial building at 4533 Mission Gorge Place. It is bordered by development on both sides for its entire length. LR4 is a concrete trapezoidal channel with dimensions of 7.6 meters wide at the bottom, 15 meters wide at the top, 2.4 meters deep, and slopes of 1.5:1 on both sides. LR4 is densely vegetated with non-native riparian and southern willow scrub vegetation, which is supported by a large amount of accumulated sediment.

Lower Alvarado Creek, Reach 2B

Lower Alvarado Creek, Reach 2B (LR2B) runs southwest approximately 120 meters west to a culvert under Fairmount Avenue. It is bordered by development on both sides for its entire length. LR2B is a concrete trapezoidal channel with dimensions of 9.1 meters wide at the base, 14 meters wide at the top, 2.4 meters deep, and slopes of 1:1 on both sides.

Lower Alvarado Creek, Reach 2A

Lower Alvarado Creek, Reach 2A (LR2A) runs west for approximately 135 meters from a culvert under Fairmount Avenue to a point approximately 120 meters upstream of the confluence of Alvarado Creek and the San Diego River. It is bordered by development on both sides for its entire length. The eastern 105 meters of LR2A is a concrete trapezoidal channel with dimensions of 9.1 meters wide at the bottom, 14 meters wide at the top, 2.4 meters deep, and slopes of 1:1 on both sides. The western 30 meters of LR2A is an earthen channel with rip rap sides.

LR2A is densely vegetated with southern willow scrub, freshwater marsh, and non-native riparian vegetation.

Maintenance Methodology

The Individual Management Plans (IMPs), included as Appendix A.1 and A.2 of Attachment 2 identify the methods to be used in conducting the proposed maintenance. Applicable mitigation measures from the PEIR and protocols from the MMP are included in the IMPs. A full copy of the Mitigation and Monitoring Program (MMRP) from the PEIR is included as an attachment to the IMPs. The following summary highlights key components of the IMP.

Maintenance will involve removal of sediment and vegetation to restore the original capacity of the channel segments to convey storm water. In general, maintenance will begin with the placement of diversion pumps at the upstream and downstream ends of the maintenance areas. Water will be pumped around the maintenance areas in a pipe, and discharged downstream of the maintenance area. Due to the potential for downstream erosion a temporary check dam would be located at the west end of the maintenance in Upper Alvarado Creek. The check dam would consist of an 18-inch chainlink fence across the channel bottom, and would be removed once the vegetation has re-established in the channel to naturally control erosion.

In general, a skid steer or other form of excavator will operate within the channel. This equipment will enter the channels at access and loading locations designated on the IMP either by driving down ramps or being lowered with a Gradall. Once in the channel, the equipment will push sediment and vegetation within the channel to areas within the channel where the material would be scooped up by a Gradall or backhoe operating from outside the channel and loaded into dump trucks for disposal at the Miramar Landfill.

Upon completion of the maintenance, mechanized equipment, the pumps, by-pass pipe, and any sandbags placed within the channel will be removed. The equipment will be transported back to the City yard.

EMERGENCY MAINTENANCE

The emergency maintenance that took place in 2010-2011 was required to respond to a sudden and unexpected occurrence of significant rainfall over a two-day period in December 2010, which caused flooding adjacent to Alvarado Channel. To resolve the problem, the Operations and Maintenance (O&M) section of T&SWD removed sediment, debris and vegetation between January 19 and February 14, 2011.

The emergency maintenance was performed in accordance with the requirements of Section 143.0126 of the Municipal Code, which allows development within environmentally sensitive lands to proceed with approval from the City Manager, where necessary to protect public health and safety. Prior to conducting the emergency maintenance, a Notice of Exemption (NOE) was

issued on December 29, 2010, to satisfy the requirements of the California Environmental Quality Act (CEQA).

As with the proposed maintenance, the emergency work included removing sediment, debris and vegetation which were impeding the flow of water. As described in the enclosed Maintenance Activity Reports (Attachments 8 and 9), the emergency work was performed by a loader within the channel that pushed material to central location points where the material was removed by a Gradall operating outside the channel. The Gradall deposited the material in dump trucks which transported the material to an approved landfill. BMPs included a temporary dam constructed upstream of the maintenance area to control runoff during maintenance, and installation of gravel bags to control sediment. Note that the IMAR for Lower Alvarado Creek 2010-2011 Emergency dated February 2011 incorrectly identifies the limits of the work area and was updated in July 2015, reflecting corrections to the length and area of work based on subsequent analysis of photos, work logs, and an interview with a crew member who conducted the emergency maintenance.

The relationship of the footprint of the emergency maintenance as compared to the proposed maintenance is illustrated in Attachments 10a and 10b. As these figures illustrate, the two activities substantially overlap. As shown in Attachment 10a, the limits in Upper Alvarado Creek are the same. Within Lower Alvarado Creek (Attachment 10b), the emergency maintenance extends approximately 30 meters east of the proposed maintenance in LR2B. The emergency maintenance in LR 4 extends approximately 10 meters east of the proposed maintenance limits. The footprint of emergency maintenance is larger than or equal to the footprint of proposed maintenance in LR2B, LR4, and UR2. Emergency maintenance did not occur in LR2A but the 160-meter reach is proposed for maintenance in 2015.

Although the emergency maintenance preceded Council adoption of the MMP, many of the studies required by the MMP were performed in 2010 for the emergency maintenance work including the following:

- IBA (Attachment 11)
- IHAs (Attachment 12, 13 and 14)
- IHHAs (Attachments 15 and 16)
- IMPs (Attachments 17 and 18)

URS prepared a memo in 2013, "DSD/MSCP cycle review issues for Alvarado Channel Maintenance," that addressed DSD cycle review issues (Attachment 19). This memo also includes an outdated section on corrections to the IBA. An addendum to the IBA has been prepared that corrects impact acreages based on the actual maintenance footprint, as well as mitigation ratios based on the memo "2010 Emergency Maintenance Impact and Mitigation Update" (Helix 2015, Attachment 20).

The IHHAs determined the maintenance activities necessary to reduce the risk of flooding, and the IMPs established the location and methodology for the maintenance recommended in the IHHAs. As indicated earlier, the maintenance activities identified in the IMPs for the emergency maintenance are similar to the proposed maintenance activities. The Maintenance Activity Reports (MARs) summarize the maintenance that occurred.

The 2010 IBA established the baseline for biological resources, and determined the potential impacts of the emergency maintenance. Recent case law clarified that the baseline is set after completion of work implemented under an emergency exemption from CEQA. *CREED-21 v. City of San Diego*, 234 Cal. App. 4th 488 (2015). However, mitigation for impacts of the emergency work is proposed as part of this application. As documented in the updated emergency IMAR (City 2015, Attachment 9), the impact area of the emergency maintenance was less than the area assumed in the 2010 IBA because it was determined in the field that the maintenance work area could be reduced in size. The 2015 IBA addendum concluded that the emergency maintenance had impacted 0.96 acres rather than the 1.77 acres anticipated in the 2010 IBA, requiring 2.70 acres of compensatory mitigation.

With respect to historical resources, the IHA concluded that the emergency maintenance would not impact significant cultural resources.

MITIGATION

Per Condition 16 of the Amended SDP (2013), mitigation is required for initial channel maintenance impacts and need not be repeated when subsequent maintenance affects the same footprint. Therefore, the City shall provide mitigation for initial impacts to the emergency maintenance footprint as well as the proposed initial impacts to LR2A. The following table displays the total acreage of impacts requiring mitigation by vegetation community, mitigation ratios required by the Amended SDP, minimum 1:1 creation or restoration required by the City of San Diego Biology Guidelines, and total mitigation required for the emergency and proposed combined footprint.

The Stadium Mitigation Plan reserves 1.655 acres of USACE-Wetland Rehabilitation, which provides more than the the 1:1 creation or restoration component of 1.16 acres required by the City of San Diego Biology Guidelines. The Stadium Mitigation Plan also reserves 2.59 acres of USACE-Wetland Enhancement, for a total reservation of 4.245 acres of mitigation credit for impacts in Alvarado Canyon. This reservation is greater than the amounts required as displayed in Table 1.

Table 1 Mitigation Requirements for Combined Footprint of Emergency and Proposed Maintenance

Vegetation Community	Acreage of Impacts Requiring Mitigation	Mitigation Ratio	Wetland Creation or Restoration Acreage (1:1 minimum)	Wetland Enhancement or Acquisition Acreage	Total Mitigation Acreage Required
Freshwater Marsh	0.56	4:1	0.56	1.67	2.22
Southern Willow Scrub	0.12	3:1	0.12	0.24	0.35
Disturbed Wetland	0.36	2:1	0.36	0.36	0.72
Open Water (Natural Flood Channel)	0.13	2:1	0.13	0.13	0.26
Total	1.16		1.16	2.39	3.55

Note: Totals may not add due to rounding.

Sources: 2010 Emergency Maintenance Impact and Mitigation Update, Helix 2010; IBA, Helix 2015, Amended SDP, Land Development Code Biology Guidelines II.B.1.a.

CONCLUSION

The SCR Checklist concludes that the proposed maintenance is consistent with the requirements of both the MMP and PEIR. Supporting documentation including the IBA, IHA, IHHA and IMP demonstrate that the emergency maintenance was performed in accordance with the MMP and PEIR.

The City will provide 3.55 acres of wetlands mitigation at the Stadium Mitigation Site for the total footprint of impacts in Alvarado Creek, of which 1.16 acres is wetland restoration. Thus, the emergency and proposed maintenance is consistent with the Amended SDP.

SWD requests that the proposed maintenance of Alvarado Creek, past emergency maintenance, and allocation of mitigation credit in the Stadium Mitigation Plan to the proposed maintenance be approved for Substantial Conformance Review.

Should you have any questions or need additional information, please contact me by e-mail at JMKennedy@sandiego.gov or phone at (619) 527-3495.

Sincerely,



Jamie Kennedy
Associate Planner

Attachments:

1. Application (Form DS-3032):
2. Substantial Conformance Review Checklist with Appendices A-I
3. Storm Water Checklist (Form DS-560)
4. Public Notice Package
5. MMP (on CD)
6. Final PEIR (on CD)
7. Amended SDP (2013) (on CD)
8. Maintenance Activity Report for Upper Alvarado Creek, 2011
9. Maintenance Activity Report for Lower Alvarado Creek, 2011, Revised 2015
10. a. Comparison of Proposed and Emergency Maintenance Areas, Upper Alvarado Creek
10. b. Comparison of Proposed and Emergency Maintenance Areas, Lower Alvarado Creek
11. IBA, 2010
12. IHA for Upper Alvarado Creek (Map 64), 2010
13. IHA for Lower Alvarado Creek (Map 60), 2010
14. IHA for Lower Alvarado Creek (Map 59), 2010
15. IHHA for Upper Alvarado Creek, 2010
16. IHHA for Lower Alvarado Creek, 2010
17. IMP for Upper Alvarado Creek, 2010
18. IMP for Lower Alvarado Creek, 2010
19. DSD/MSCP cycle review issues for Alvarado Channel maintenance, 2013 (Addendum to 2010 IBA)
20. 2010 Emergency Maintenance Impact and Mitigation Update, 2015

- Figure 1: Regional Location Map
Figure 2: Project Vicinity Map
Figure 3: USGS Vicinity Map
Figure 4: Channel Segment Location Map

Distribution:

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Comparison of Emergency and Proposed Maintenance Areas

UPPER ALVARADO CREEK (MAP 64)

Attachment 10a



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Comparison of Emergency and Proposed Maintenance Areas

LOWER ALVARADO CREEK (MAPS 59 AND 60)

Attachment 10b



Memorandum

Date: March 7, 2013

To: Karina Danek
City of San Diego
Transportation & Storm Water Department
2781 Caminito Chollas
San Diego, CA 92105

From: Julie Stout

Subject: DSD/MSCP cycle review issues for Alvarado Channel maintenance

This memo is an addendum to the Individual Biological Assessment Report (IBA) for Alvarado Channel Sections 01, 02, 06 and 07 of 07 dated October 4, 2010. The maintenance work analyzed in this memo occurred between January 19 and February 14, 2011. This memo includes corrections to acreages affected by the project ("as-built" conditions differed slightly from what was planned and estimated at the time the IBA was written). This memo also addresses cycle review issues 1 through 4 from the City Development Services Department (DSD) MSCP review dated June 13, 2011. New figures reconciling the Maintenance Activity Report(s) and examining the MHPA interface for the Alvarado Channel segments are attached.

Corrections to the IBA

The work completed for the Alvarado maintenance project differed slightly from the proposed work as described in the IBA. The total length of channel cleared was reduced, and subsequently included less natural (earthen) bottomed areas than originally proposed. Revised calculations of impacts to jurisdictional waters based on the Maintenance Activity Reports for this work are presented in the attached Figures 1 and 2. For simplicity and clarity we reduced the number of categories of impacts. Rather than denoting concrete bottomed, unvegetated areas within the channel as "developed", all nonwetland waters/unvegetated streambed areas were combined and then categorized as either concrete bottomed or earthen bottomed. Vegetation data were missing for a few small areas totaling approximately 0.02 acres. These small data gaps appear to have been caused by registry or scaling issues and were corrected by using aerial imagery from early 2010, and comparing the photo signatures in the missing areas to those of known vegetation or land surface types nearby.

GIS methodology for corrections to the impact areas involved modification of the following original GIS datasets from the City of San Diego including CDFG_2010.shp, Corps_2010.shp, Channel_Survey_Area_020911.shp, Vegetation.shp, Map63_64_Impacts.shp, Map59_Impacts.shp, and Map60_Impacts.shp. At the direction of a URS biologist, GIS staff performed standard overlay analysis to derive disturbances of habitats based on the extent of channel impacts. When input data was not visually in accordance with aerial imagery from 2010, the biologist would propose modification of the data position, extent, and habitat designation based on the aerial signature.

An RG63 Permit from the U.S. Army Corps of Engineers (ACOE) was obtained after submitting a Nationwide 43 permit Notification of Use application on October 6, 2010. Although the acreages for impacts to ACOE and CDFG jurisdictional areas have been adjusted to account for the actual clearing

as described in the Maintenance Activity Report, the fundamental conclusions reached in the letter to the ACOE regarding impacts are not changed by these adjustments. The maintenance activities within the concrete-lined portions do not require mitigation for the ACOE and CDFW because they do not alter the capacity or change the function of the channel from its original design. In the earthen-bottomed portions, the ACOE and CDFW may require mitigation, but the agencies have not yet directed that mitigation is required for this project. The wetland vegetation has traditionally returned to these areas in a relatively short time after clearing. These channels are found in an urban setting and will require ongoing maintenance activities for the foreseeable future and will be mitigated in accordance with the City's Storm Water Master Maintenance Program PEIR. This mitigation can be used to satisfy ACOE and CDFW mitigation as needed.

In order to be in compliance with City guidelines regarding impacts to native vegetation, a table of mitigation acreages is presented below following the discussion of Issue 4 from the DSD/MSCP review, which discusses wetland mitigation.

DSD/MSCP Review Cycle Issues

Wording in italics is copied from the Cycle Review.

Issue 1: *The project site lies partially within the Multi-Habitat Planning Area (MHPA of the City's MSCP (Map 59 and 64). Please provide a map of the MHPA boundary on the project plans at the same scale as the project or a maximum scale of 1":200'. This map should also be provided in the biological survey report. In addition, please identify any MHPA guidelines, as described in the MSCP Subarea Plan, that apply to the site and any management conditions that would apply to the areas conserved as MHPA open space.*

MHPA boundaries near Alvarado Channel are presented on Figures 1 and 2 (attached). Maintenance work in the westernmost channel segments (Map 59, Figure 1) did not encroach into the MHPA. The MHPA boundary is located approximately 380 feet to the west of the end of the maintenance area.

On Map 64 (Figure 2), the MHPA boundary intersects the maintenance area at its eastern end along approximately 200 feet of the channel. Most of this section of the channel is concrete bottomed but did contain small areas of freshwater marsh and other wetland habitats. The extent and vegetation types impacted are shown on Figure 2. The total area of wetland impacts within the MHPA boundary is 0.11 acres.

Section 1.5.2, **General Management Directives**, of the MSCP Sub-Area Plan indicates an assumption that maintenance activities, such as vegetation clearing and dredging within flood control channels are necessary and expected to occur. The section does not discuss specifically how or what kinds of mitigation would be required for such activities, only that "*Mitigation, when required as part of project approval, shall be performed in accordance with the City of San Diego Environmentally Sensitive Lands Ordinance and Biology Guidelines*". Mitigation for the Alvarado Channel emergency actions is discussed below in response to Issue 4.

Section 1.5.2 also includes **Invasive Exotics Control and Removal** as a priority item. Vegetation identified in the IBA as "Disturbed Habitat" consisted primarily of giant reed (*Arundo donax*) and other

weed species. Clearance of targeted species such as giant reed during routine or emergency maintenance enhances both flood control and habitat management efforts.

Sections 1.4.1, 1.4.2, and 1.4.3 of the MSCP Sub Area Plan also address flood control and general public utility maintenance. Section 1.4.1 acknowledges that essential public utilities constitute acceptable and compatible use of MHPA lands. Flood control is addressed specifically in Section 1.4.2 which primarily deals with planning and construction although item #4 under the header **Road Construction and Utilities Maintenance** states; “Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met. A responsible party must be specified”. This emergency maintenance work was performed in accordance with this guidance.

Issue 2: *Individual Biological Assessment (IBA) Page 2 3rd Paragraph: Map 59 staff does not agree that this area has “limited wildlife value” as it is directly within the MHPA and adjacent to a large area of woodland adjacent to the San Diego River. Please provide additional discussion in the assessment regarding this adjacency and potential impact regarding listed species with moderate to high potential to occur in the riparian area. Including the Least Bell’s Vireo.*

The MHPA boundary is approximately 380 feet to the west of the maintenance area (Figure 1). Numerous factors make the area unsuitable for Least Bell’s Vireo (LBV) including, (1) the general lack or sparse density of trees that might provide habitat (2) the extensive patches of non-native species that do not provide habitat, (3) the upper banks of the channel are immediately adjacent to parking lots and other commercial development, and (4) Fairmont/Mission Gorge is a very busy roadway and is immediately adjacent to the maintenance area. These conditions are not conducive to LBV occupation or breeding and resulted in the conclusion of the IBA authors that the area has limited wildlife habitat value. URS biologists concur with this conclusion. The area may have some potential to serve as a wildlife corridor however this is also limited due to habitat discontinuities in the upstream direction (to the east).

Issue 3: *IBA Page 2 “Moderate to high Potential for Listed species”. Staff believes there is a moderate potential for LBV to inhabit the western portion of Map 59. Please provide additional reasoning within the assessment why the potential is low. Also reference the CNDDDB for known sitings adjacent to the site.*

The channel in this area is approximately 30 feet wide with mostly ruderal vegetation on the banks. As stated above, trees that could provide habitat for LBV are sparse and intermixed with non-native species that do not provide habitat. The upper banks are immediately adjacent to parking lots and other commercial development. These conditions are not conducive to LBV breeding or occupation. The nearest LBV occurrence documented in the California Natural Diversity Database (CNDDDB) is approximately 0.9 miles away from this location within the dense riparian forest along the San Diego River.

Issue 4: *Wetland mitigation: The Master Storm Water System Maintenance Program has not been adopted and therefore mitigation for wetland impacts must be consistent with the City’s Bio Guidelines.*

Please make this change to the Biological Report and provide a more detailed plan on how mitigation requirements will be met.

The Transportation and Storm Water Department is moving forward with the master maintenance program and will be using the PEIR for all mitigation requirements. The IBA was prepared to be consistent with the PEIR. The IBA was intended to also be consistent with current City guidelines regarding mitigation for impacts to wetlands within and outside of the MHPA. The mitigation described in the IBA will be undertaken for wetland impacts. The PEIR mitigation requirements for the maintenance of Alvarado and other flood control channels were taken within the context of a larger programmatic planning effort that took into consideration flood control capacity as well as ecological considerations relevant to the MSCP including control of invasive species, wildlife corridors and connectivity, and protection of sensitive species and environmentally sensitive lands.

HABITAT MITIGATION FOR ALVARADO CHANNEL WEST, MAPS 59 & 60

Habitat Type	Concrete Channel	Earthen Channel	Total Acreage	Earthen Channel Mitigation Ratio	Earthen Channel Mitigation Acreage
Disturbed Wetland	0.027	0.015	0.042	2:1	0.030
Freshwater Marsh	0.576	0.044	0.620	2:1	0.088
Southern Willow Scrub	0.090	0.001	0.091	2:1	0.002
Total	0.693	0.060	0.753		0.120

HABITAT MITIGATION FOR ALVARADO CHANNEL EAST, MAPS 63 & 64

Habitat Type	Concrete Channel	Earthen Channel	Total Acreage	Earthen Channel Mitigation Ratio	Earthen Channel Mitigation Acreage
Disturbed Wetland		0.034	0.034	2:1	0.068
Freshwater Marsh	0.051	0.297	0.348	2:1	0.594
Southern Willow Scrub		0.009	0.009	2:1	0.018
Southern Willow Scrub-Disturbed		0.023	0.023	2:1	0.046
Total	0.051	0.363	0.413		0.726
TOTAL ALVARADO CHANNEL (EAST AND WEST) HABITAT MITIGATION					0.846

The vegetated portion primarily consists of sparse, low-growing freshwater marsh species with a small amount of immature willows (*Salix* sp.) which have established on accumulated sediment. The urbanized location and temporal nature of the vegetated portions of these channels results in extremely low function and services. These channels do not support nesting or foraging by wildlife because of their sparse vegetative cover and immature vegetation structure, they also provide very limited potential for nutrient transformation due to limited vegetative cover and no opportunity for flood attenuation or

groundwater recharge due to their location within a concrete-lined channel. The concrete portions of these channels do not meet the criteria of wetlands as defined by the City's Land Development Code, Biology Guidelines due to the lack of potential for hydric soil development, their small size, and the short-term (1–2 year old) nature of the vegetated area which highly limits their function as habitat or as native vegetation communities. These vegetated areas do not change the overall characterization of the channels as concrete-lined, urban channels that do not constitute environmentally sensitive lands.

Maintenance of flood control channels will be an ongoing effort. The same areas will need to be cleared repeatedly over the foreseeable future as the vegetation regrows. It is therefore difficult to ascribe a definition of temporary or permanent to the impacts due to the repeated clearing followed by interim habitat values. URS recommends a one-time mitigation for any areas cleared in natural bottomed channels that have not been previously mitigated. The mitigation should be done in accordance with the City of San Diego Biology Guidelines and Storm Water Master Maintenance Program PEIR. To be in compliance with these guidelines, mitigation for the 2010 maintenance activities on Alvarado Channel should be as presented in the Tables above.

Mitigation for earthen channel impacts is proposed at the Stadium Wetland Mitigation site, located within the San Diego Hydrologic Unit on City-owned parcels within and adjacent to the San Diego River in the vicinity of Qualcomm Stadium. The mitigation program is outlined in the *City of San Diego Storm Water System – Stadium Wetland Mitigation Plan May 31, 2012* and subsequent addendum prepared by URS and dated March 6, 2013. The goal of wetland mitigation is to establish habitat that can perform the same functions and services (storm water conveyance and flood abatement, pollutant uptake, ground water recharge, wildlife habitat, and corridors for wildlife movement) that have been impacted as part of storm water system maintenance. Habitat quality, and therefore functions and services for wildlife, are currently reduced at the Stadium site as a result of the high amount of non-native vegetation. Mitigation in this area will greatly increase the value to native flora and fauna, and also reduce the spread of non-native species to downstream areas within the watershed.

Areas of native vegetation interspersed with exotics will be used as enhancement areas. The Stadium mitigation area is also currently infested with large monocultures of giant reed (and other invasive non-native plant species) that have little value for wildlife. The conceptual goal of the restoration portion of the project will be to rehabilitate all areas of giant reed that are greater than 0.10 acres. There are 7.74 acres of stands of heavy monocultures of giant reed greater than 0.10 acre that are proposed for restoration/rehabilitation credit. These relatively large monoculture stands will be removed and native habitat will be restored through the use of native cuttings, container plants, and seeds. There are an estimated 14.99 acres of enhancement credit available within the mitigation area boundary. At the end of 5 years of maintenance and monitoring, the habitat is expected to be free of the target invasive non-native species and contain increased native cover. If the success criteria outlined in the plan are not being met, contingency measures would be implemented.

Proposed mitigation acreages are summarized in the table below. The 0.881 acres of mitigation proposed at the Stadium Wetland Preserve, including 0.307 acres of restoration and 0.574 acres of enhancement, exceeds the 0.846 acres required to cover mitigation for impacts at Alvarado at a 2:1 ratio.

STADIUM WETLAND PRESERVE MITIGATION FOR ALVARADO MAINTENANCE IMPACTS

Total Earthen Channel Impacts	Required Mitigation (see below)	Allocated Restoration Mitigation at Stadium	Allocated Enhancement Mitigation at Stadium	Total Proposed Stadium Mitigation	Mitigation Exceeding Requirement
0.423	0.846	0.307	0.574	0.881	0.035

Issue 5: *Early Consultation with the Agencies. Please provide evidence of early consultation with the Resource Agencies prior to MSCP approval. Please include any project and/or mitigation recommendation from the consultation to MSCP staff for review.*

Early consultation with the Agencies included the submittal of a Notification of use of Nationwide Permit 43 for the City of San Diego's Routine Maintenance of Storm Water Facility Facilities Maps 59, 60, 63, and 64 on October 6, 2010. In response to this submittal, an RG63 Permit was granted.

Thank you for the opportunity to assist with this project. If you have any questions please feel free to contact me or Mark Tucker.

Sincerely,

Julie Stout, Biologist
URS Corporation
4225 Executive Square, Suite 1600
La Jolla, CA 92037
858.812.8704
julie.stout@urs.com

Puh: G:\gis\projects\1577\2767905\map_docs\msd\Alvarado\Alvarado_East_MHPA.mxd, paul_moreno, 10/30/2012, 12:28:54 PM

Channel Survey Area

MHPA (Multi-Habitat Planning Area)

Channel Type

Concrete

Earthen

ACOE/CDFG Habitat Type

Disturbed Wetland

Freshwater Marsh

Unvegetated Streambed

Southern Willow Scrub

Southern Willow Scrub-Disturbed



ACOE/CDFG Habitat Type	Concrete Channel	Earthen Channel	Total Acreage
Disturbed Wetland		0.034	0.034
Freshwater Marsh	0.051	0.297	0.348
Nonwetland Waters / Unvegetated Streambed	0.053	0.203	0.256
Southern Willow Scrub		0.009	0.009
Southern Willow Scrub-Disturbed		0.023	0.023
Total	0.104	0.565	0.669

Habitat in MHPA	Concrete Channel	Earthen Channel	Total Acreage
Disturbed Wetland		0.014	0.014
Freshwater Marsh	0.044	0.008	0.052
Nonwetland Waters / Unvegetated Streambed	0.035	0.004	0.039
Southern Willow Scrub-Disturbed		0.005	0.005
Total	0.079	0.031	0.110

SOURCES:
Channel Survey Area (City of SD, 2011).
MHPA (SanGIS, 08/2010), Channel Types
(City of SD, 09/2012), CDFG (Helix, 2012).
Roads (SanGIS, 2012), Aerial (Aerials
Express, 2010).

CITY OF SAN DIEGO

MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM - MAP 64

ALVARADO CREEK VEGETATION IMPACTS WITH MHPA

1000

0

100

200

Feet

1" = 200' (1:2,400)

SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: LR

DATE: 10/30/2012

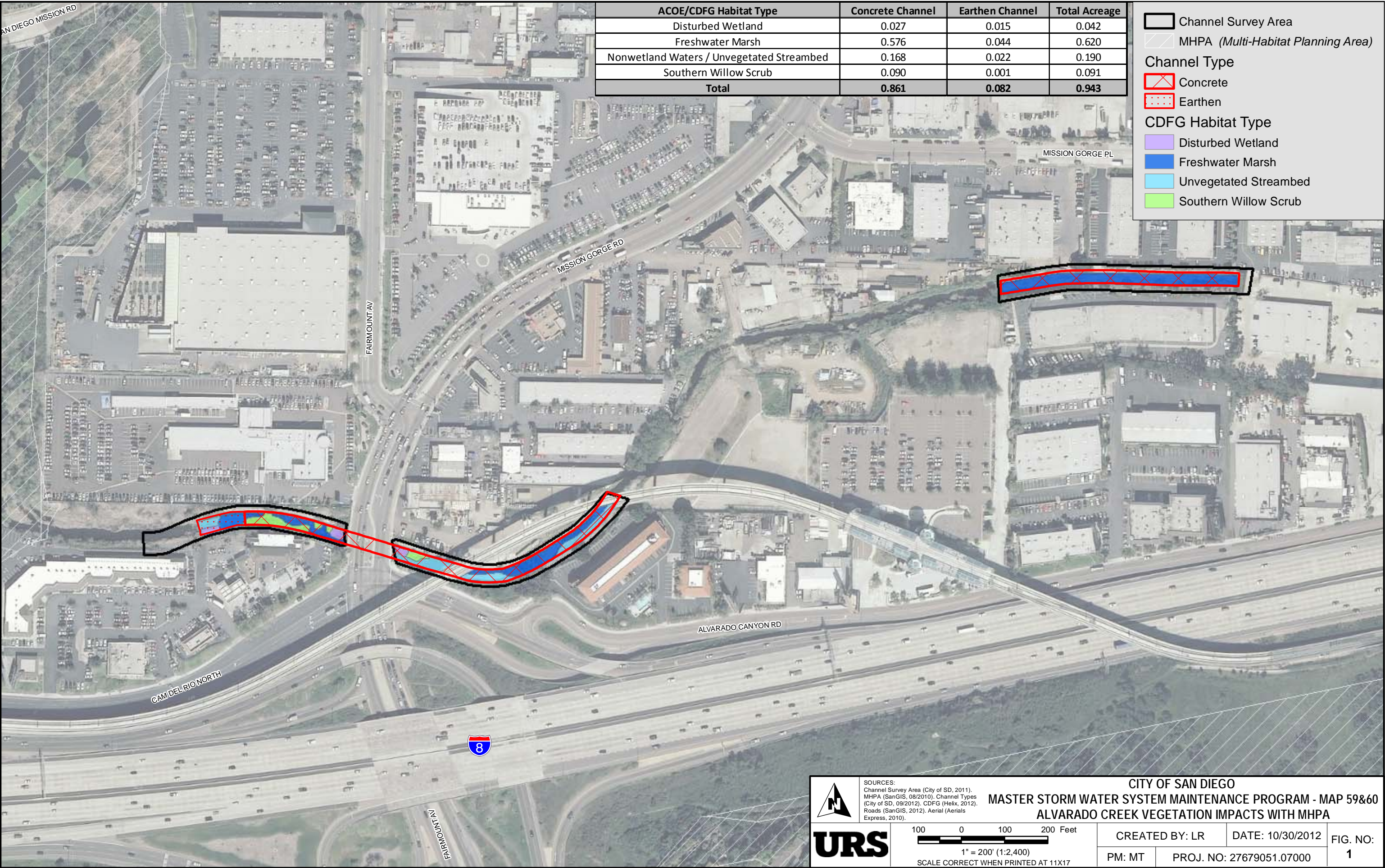
FIG. NO:

PM: MT

PROJ. NO: 27679051.07000

2

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SOURCES:
Channel Survey Area (City of SD, 2011).
MHPA (SanGIS, 08/2010), Channel Types
(City of SD, 09/2012), CDFG (Helix, 2012).
Roads (SanGIS, 2012), Aerial (Aerials
Express, 2010).

URS

100 0 100 200 Feet
1" = 200' (1:2,400)
SCALE CORRECT WHEN PRINTED AT 11X17

CITY OF SAN DIEGO
MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM - MAP 59&60
ALVARADO CREEK VEGETATION IMPACTS WITH MHPA

CREATED BY: LR	DATE: 10/30/2012	FIG. NO:
PM: MT	PROJ. NO: 27679051.07000	1

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.helixepi.com



July 24, 2015

SDD-24.14

Ms. Jamie Kennedy
City of San Diego
Storm Water Division, Operation and Maintenance Section
2781 Caminito Chollas
San Diego, California 92105

Subject: 2010-2011 Alvarado Channel Emergency Maintenance Impact and Mitigation Update

Dear Ms. Kennedy:

Based on a recent determination that the emergency maintenance that took place in 2011 did not encompass as much area as originally assumed in Map 59, HELIX has re-estimated the wetland impacts and the associated mitigation requirements for Map 59 as well as Maps 60 and 64 which were also included in the 2011 emergency maintenance.

Background

The emergency maintenance that took place in 2011 was required to respond to a sudden and unexpected occurrence of significant rainfall over a two-day period in December 2010, which caused flooding adjacent to Alvarado Channel. To resolve the problem, the Operations and Maintenance (O&M) section of T&SWD removed sediment, debris and vegetation between January 19 and February 14, 2011.

An Individual Maintenance Plan (IMP) was prepared before the emergency maintenance to identify the areas that were anticipated to be maintained to alleviate the emergency conditions (see Attachment A). The IMP anticipated maintenance within specific segments of Maps 59 and 60 within the Lower Alvarado Channel and Map 64 within the Upper Alvarado Creek. Based on this IMP, HELIX prepared an Individual Biological Assessment (IBA), dated October 4, 2010, that estimated the amount of wetlands expected to be impacted by the maintenance shown on the IMP. The IBA determined that the combined impact of maintenance shown on the IMP, using the City's guidelines, was 1.77 acres comprised of 0.05 acre of riparian woodland (RW), 0.15

acre of disturbed riparian forest (dRF), 0.24 acre of southern woodland scrub (SWS), 0.96 acre of freshwater marsh (FWM), and 0.37 acre of disturbed wetland (DW). While the IBA did not separate impacts in the Lower Alvarado Creek (Maps 59 and 60) from those in the Upper Alvarado Creek (Map 64), the field data, vegetation mapping, and GIS information used to write the IBA contained detailed information used in subsequent analysis described below.

On March 7, 2013, URS prepared an addendum to the 2010 IBA. The addendum was primarily prepared to respond to questions raised by DSD after the emergency and to revise the wetland impact estimate to reflect the areas shown on the IMP which were assumed to have been actually maintained in 2011. At the time the addendum was prepared, the Maintenance Activity Reports (MARs) prepared after emergency maintenance had been completed indicated that the length of maintenance had been reduced from that assumed in the IMP and IBA. Overall, the addendum determined that the combined impact to wetlands, based on the MARs, was 1.16 acre rather than the 1.77 acre estimated in the IBA. Of the 1.16 acres, a total of 0.75 acre was estimated to have occurred within the Lower Alvarado Creek (Maps 59 and 60); no distinction was made between Maps 59 and 60. This evaluation corrects errors in the 2013 addendum and the 2010 IBA.

Updated Evaluation

In July 2015, O&M staff reviewed the original MAR for Maps 59 and 60, and determined that the area shown on the IMP within Map 59, west of Fairmount Avenue, was not included in the emergency maintenance. This determination was based on a review of the photographic logs and interviews with a field crew member who worked on the emergency maintenance. It was also determined that the emergency maintenance area reflected in the original MAR within Maps 60 and 64 were unchanged. A revised MAR for Maps 59 and 60 is included as Attachment B.1. A copy of the original MAR for Map 64 is included as Attachment B.2. A comparison of the maintenance areas assumed in the IMP with the actual maintenance areas is depicted in Attachments C and D. Overall, the actual area of the emergency maintenance that took place in 2011 covered a total of 1.44 acres, as shown in yellow on Attachments C and D.

In order to determine the impacts of the actual emergency maintenance on wetlands, HELIX calculated the impact of emergency maintenance in Map 59, excluding the area west of Fairmount Avenue, and added the impacts associated with Maps 60 and 64, which were unchanged from the original estimate (Table 1). The analysis was done by overlaying the revised emergency maintenance area over the vegetation mapping performed in 2010 of the IBA. A GIS overlay had to be performed because the 2010 IBA did not separate impacts in Lower Alvarado Creek and Upper Alvarado Creek, nor did the 2013 URS addendum distinguish impacts between Maps 59 and 60. The analysis concluded that, with the reduced impacts within Map 59, the wetland impacts of maintenance area within Maps 59 and 60 was reduced from the 0.75 acre estimated in the 2013 URS memo to 0.51 acre, without maintenance west of Fairmount Avenue. As indicated in Table 1, the total wetland impact associated with the actual emergency maintenance that took place in Maps 59, 60 and 64 was 0.96 acre. The remaining acreage (0.48 acre) comprise vegetation communities which do not require mitigation under condition 9e of Coastal Development Permit A-6-NOC-11-068 or the City's Significance Determination Thresholds (2007, updated 2011) (e.g. non-native riparian, non-native ornamental, disturbed habitat, and developed land).

With the reduction in impacts within Map 59, the overall mitigation required by the City of San Diego for the emergency maintenance, as determined by this analysis, is 2.70 acres. Table 1 identifies the revised mitigation requirements for the emergency maintenance based on the revised wetland impact estimate for Map 59, the original impacts estimates for Maps 60 and 64, and the mitigation ratios defined in amended Site Development Permit No. 1134892.

Table 1 Mitigation Requirements For 2011 Emergency Maintenance¹						
Vegetation Community	Impact (ac)				Ratio	Mitigation (ac)
	Map 59	Map 60	Map 64	Total		
Freshwater Marsh	0.14		0.27	0.41	4:1	1.64
Southern Willow Scrub	0.02	0.004	0.02	0.04	3:1	0.12
Disturbed Wetland	0.02	0.33	0.01	0.36	2:1	0.72
Open Water (Natural Flood Channel)	--	--	0.11	0.11	2:1	0.22
Total	0.18	0.33	0.41	0.92		2.70

¹ Based on 2010 vegetation mapping and revised IMAR dated July 15, 2015.






Please call me if you have any questions or would like additional information.

Sincerely,



Shelby Howard
Biological Group Manager

Enclosures: Attachment A: 2011 IMP
Attachment B.1: Revised MAR (Maps 59 and 60)
Attachment B.2: Original MAR (Map 64)
Attachment C: Emergency Maintenance Area Comparison (Maps 59 and 60)
Attachment D: Emergency Maintenance Area Comparison (Map 64)

-  SEDIMENT & VEGETATION REMOVAL (1080 FT (L) X 30 FT (W) & 550 FT (L) X 30 FT (W)) CITY OWNED CONCRETE CHANNEL
-  SEDIMENT & VEGETATION REMOVAL (140 FT (L) X 30 FT (W)) METROPOLITAN TRANSIT DEVELOPMENT BOARD OWNED
-  VEGETATION REMOVAL (880 FT (L) X 30 FT (W)) METROPOLITAN TRANSIT DEVELOPMENT BOARD OWNED
-  FUTURE VEGETATION REMOVAL (300 FT (L) X 30 FT (W)) (PRIVATE) WILLIS ENTERPRISES INC. OWNED
-  FUTURE VEGETATION REMOVAL (170 FT (L) X 30 FT (W)) CITY OWNED EARTHEN CHANNEL

CHANNEL TYPE: 9/10 CONCRETE AND 1/10 EARTHEN

CITY OWNED CHANNEL SEGMENT DIMENSIONS: ~ 1,800 FT (L) X 30 FT (W)

MAINTENANCE METHOD: SELECTIVE MAINTENANCE

EQUIPMENT: DOZER, EXCAVATOR, FRONT LOADER, DUMP TRUCKS, PORTABLE PUMPS, VACTORS

SCOPE OF WORK:

1. INSTALL TEMPORARY DAM UPSTREAM OF MAINTENANCE AREA.
2. BYPASS WATER USING TWO 6 INCH PORTABLE PUMPS.
3. DOZER ENTERS THE DRAIN FACILITY FROM TEMPORARY ACCESS RAMP.
4. DOZER PUSHES ACCUMULATED MATERIAL WITHIN DRAINAGE FACILITY TO A CENTRAL SITE NEAR ACCESS RAMP.
5. LOADER ENTERS DRAIN FACILITY FROM TEMPORARY ACCESS RAMP.
6. LOADER SCOOPS ACCUMULATED MATERIAL FROM CENTRAL SITE AND LOADS INTO DUMP TRUCK.
7. LOADED DUMP TRUCK LEAVES DRAIN FACILITY AND TRANSPORTS MATERIAL TO AN APPROVED OFFSITE DISPOSAL LOCATION.

ACCESS: TEMPORARY ACCESS RAMP

STAGING AREA: NONE

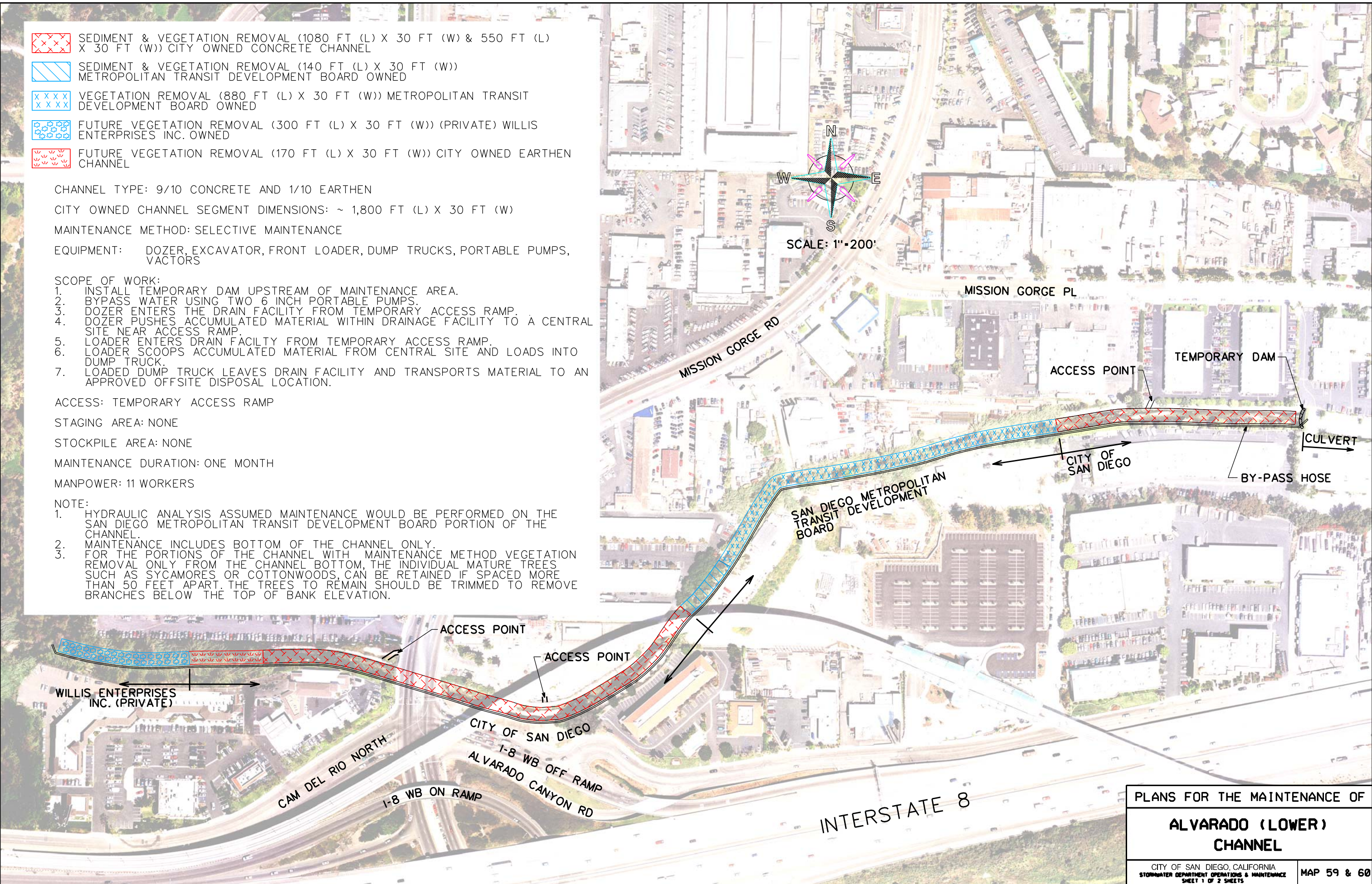
STOCKPILE AREA: NONE

MAINTENANCE DURATION: ONE MONTH

MANPOWER: 11 WORKERS

NOTE:

1. HYDRAULIC ANALYSIS ASSUMED MAINTENANCE WOULD BE PERFORMED ON THE SAN DIEGO METROPOLITAN TRANSIT DEVELOPMENT BOARD PORTION OF THE CHANNEL.
2. MAINTENANCE INCLUDES BOTTOM OF THE CHANNEL ONLY.
3. FOR THE PORTIONS OF THE CHANNEL WITH MAINTENANCE METHOD VEGETATION REMOVAL ONLY FROM THE CHANNEL BOTTOM, THE INDIVIDUAL MATURE TREES SUCH AS SYCAMORES OR COTTONWOODS, CAN BE RETAINED IF SPACED MORE THAN 50 FEET APART. THE TREES TO REMAIN SHOULD BE TRIMMED TO REMOVE BRANCHES BELOW THE TOP OF BANK ELEVATION.



PLANS FOR THE MAINTENANCE OF
**ALVARADO (LOWER)
CHANNEL**

CITY OF SAN DIEGO, CALIFORNIA
STORMWATER DEPARTMENT OPERATIONS & MAINTENANCE
SHEET 1 OF 2 SHEETS

MAP 59 & 60

MAINTENANCE ACTIVITY REPORT

Site Name/Facility:	Lower Alvarado channel
PEIR Map No:	Maps 59 & 60
Date:	<u>Start of Maintenance: 12-31-15; End of Maintenance: 02-14-11</u> <u>Original Report: February 2011 (No Day); Updated Report: 07-15-15</u>
Preparer Name:	<u>Original: Rudy Bilan, City of San Diego; Updated: Jamie Kennedy, City of San Diego</u>

Instructions: This form must be completed following any work done at a storm water facility. Attach additional sheets if needed.

Description of Work (e.g., routine, re-occurring; also note general frequency maintenance at this site): Emergency maintenance to remove accumulated trash/debris, vegetation, and sediment within concrete-lined sections of and earthen drainage Lower Alvarado channel which runs upstream from the west end of Map 59 towards a double box culvert next to 4580 Alvarado Road.	
Street Name: Alvarado Canyon & Mission Gorge Pl Latitude: N 32°46'49.76" Longitude: W 117°06'10.50"	Work Orientation from Street (N, S, E, W): Commercial/Industrial (N&S), Open Space (W), Commercial Office Park (E) Southwest of Mission Gorge Pl, North of Alvarado Canyon Rd, East of Fairmount Ave. Location Between Street Camino Cascara (N), Camino Del Rio (S), Ward (W), Mission Gorge Place (E)
Maintenance Facility Type: <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Roadside Ditch <input type="checkbox"/> Spillway <input checked="" type="checkbox"/> Culvert <input type="checkbox"/> Detention Basin <input type="checkbox"/> Other: _____	Additional Description: Constructed channel is a small, under-sized concrete-lined and earthen drain facility taking and conveying runoff from surrounding industrial and commercial businesses in the area.
Work within drainage/creek: Length: 1166+630' of 3,420' channel segment (How many linear feet were cleared)	Name of drainage/creek: Width (FT): 30 ft Area (SQ FT): 48,900 34,980 Depth (FT): 2'-3' to channel bottom
Is the creek lined: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Notes: 9/10 Maintenance area was in concrete-lined section and 1/10 earthen. Maps 59 and 60 have earthen segments that were not maintained.	Lining Type: <input checked="" type="checkbox"/> Concrete lined both sides, bottom <input type="checkbox"/> Earthen Earthen, both sides, bottom <input type="checkbox"/> Riprap sides, earth bottom <input type="checkbox"/> Concrete sides, earth bottom <input type="checkbox"/> Other type: _____
Silt/Sand Removal: Length: 1166+630' (How many linear feet were cleared of silt/sand)	Describe cause of silt/sand: <u>This channel naturally accumulates vegetation and sediment due to box culvert at Mission Gorge Road bridge, and non- maintenance of downstream portion.</u> 1,864.38 Tons
Debris Removal: Length: 0+630' (How many linear feet were cleared of debris)	Describe debris and cause: <u>There was no measureable length dominated with debris (i.e., large accumulation of trash).</u> 75% silt, 25% vegetation
Were any toxic materials found: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> List toxics: Hazardous Material Manifest:	Were more than 9 tires recovered? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> CTL Number: _____

Access via previously disturbed area: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Access route: Existing paved parking lot, <u>concrete channel embankment</u> , and driveway. Two small areas on the north side of the channel (Auto repair site <u>at east of the Mission Gorge Fairmount Road Ave bridge</u> , Office park complex at the east end of Map 60 at 4561 Mission Gorge Pl) were used for access and storage of maintenance equipment. Maintenance Equipment Used: Loader, Gradall, Trucks
Vegetation Removal: Length: <u>1166+630'</u> (How many linear feet were cleared of vegetation)	Types of Vegetation Removed: Grass, Weeds, Willows (Indicate bush, trees, plants, grasses, list diameter of trunk at 4' height)
Ground Disturbing Activities: Length: <u>1166+630'</u> (How many linear feet were disturbed by activity)	Upland Vegetation Removed - Types & Area: None.
Were erosion controls necessary? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Describe interim erosion control measures: <u>Implemented sweeping BMP to remove vegetation debris and sediment after loading of spoils from channel was completed. N/A</u>
Did work occur within nesting breeding season (January 15 – August 31)?: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Biologist/Monitor/Archaeologist present: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Names: _____
Was any water quality sampling required?: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Additional Maintenance Description: This channel naturally accumulates vegetation and sediment due to box culvert at Mission Gorge Road bridge, and non-maintenance of downstream portion. Channel maintenance conducted at two segments, which were at the east end of the Map 59 and the section including the Mission Gorge Road bridge (see Figure 1). <u>Material that was removed comprised 75% silt, 25% vegetation, totaling 1,864.38 tons.</u> Work included the following: 1) Temporary dam constructed upstream of maintenance area at east end of Map 60; 2) BMP gravel bags installed into channel for sediment removal at access point near east end of Map 60; 3) Loader entered the drain facility at 2 access points (used concrete channel embankment); 4) Loader pushed accumulated material within drainage facility to a central site near access ramps; 5) Gradall scooped accumulated material from central site and loaded items into dump truck; 6) Loaded dump truck departed from drain facility; and off-loaded materials at approved off-site disposal location.	
Describe surrounding land use within work area (assume 500-foot buffer area): The surrounding land uses include industrial and commercial business activities throughout the length of this portion of the Alvarado channel from the west end (strip mall) to east end (office park complex).	
Identify temporary/permanent impacts to habitat by area (acres/square footage) as determined by Biologist: Temporary impact included vegetation trimming/clearing and sediment removal from drain facility, and installation of temporary dam and gravel bags. <u>As of January 2011, impacts to the maintenance area should be considered permanent with respect to after-the-fact permitting requirements. If emergency work involves temporary impacts to ESL, SDMC sec. 143.0126(f)(2) requires submittal of a restoration plan within 60 days of completion of emergency work and restoration initiation within 90 days of completion, and an SDP is not required. This plan and restoration were not completed, so SWD shall submit for an SDP. However, Alvarado Comparison of Pre-and Post-Maintenance Conditions (URS 2014) documented that impacts to ESL were temporary in the sense that vegetation grew back, necessitating the maintenance proposed in 2015. This lower portion of the channel has very limited wildlife due to it adjacent proximity to developed lands.</u>	

Additional Comments (Describe any unusual conditions, situations or special requirements needed to do the work such as diversion of water, construction of staging area, replacement of bank material, presence of utilities, etc.):

Subsequent documentation that relied on the original IMAR incorrectly stated 1) that maintenance occurred west of Fairmount Ave north of Body Beautiful Car Wash, and 2) that maintenance did not impact vegetation underneath the trolley overpass directly east of Fairmount Rd. This IMAR was corrected by:

- Using photos from the original Feb 2011 IMAR;
- Confirming work areas with Equipment Operator Ed Rodriguez on July 13 and 14, 2015, to reflect that maintenance was limited to the impact area depicted in Figure 1;
- Confirming channel substrate in the field
- Editing sections of the IMAR for clarity and consistency; and
- Correcting impact length and acreages using the GIS shapefiles from Figure 1 of this IMAR.

~~Crew utilized existing paved driveways, parking lots, and the concrete channel embankment as access points to enter channel. Access points were at east side of the Mission Gorge Road bridge and office park complex near east end of Map 60. Implemented sweeping BMP to remove vegetation debris and sediment after loading of spoils from channel was completed. Parking areas were used for storage, and staging area for all the machinery. All waste was transferred to a landfill after dried off in the storage area.~~

SITE PHOTOS



PHOTO NOTES: View from midpoint of west boundary of Map 59 & Mission Gorge Road Bridge (MGRB).
Looking downstream in western direction. (No maintenance conducted in this segment)



PHOTO NOTES: View from midpoint of west end of Map 59 and MGRB. Looking upstream in eastern direction.
(No maintenance conducted in this segment.)

SITE PHOTOS



PHOTO NOTES: View looking downstream in western direction from MGRB. (No maintenance conducted in this segment).



PHOTO NOTES: View looking upstream in eastern direction from MGRB.

SITE PHOTOS



PHOTO NOTES: View from about twenty feet from end of concrete lined channel and start of earthen channel at a segment between auto repair shop and hotel near MGRB. Looking downstream towards east side of MGRB.



PHOTO NOTES: View from about twenty feet from end of concrete lined channel & start of earthen channel. This segment is between auto repair shop and hotel near MGRB (east side). Looking upstream in eastern direction.

SITE PHOTOS



PHOTO NOTES: View from access point to box drain culvert at east end of map 60. Looking in eastern direction towards box drain culvert.



PHOTO NOTES: View from south side of channel next to box drain culvert at east end of Map 60 Looking downstream in western direction.

Figure 1: Map of Emergency Maintenance, Lower Alvarado. Though satellite imagery was obtained 07-13-15, it is substantially representative of surrounding landmarks as of the dates of maintenance.



MAINTENANCE ACTIVITY REPORT

Site Name/Facility:	Upper Alvarado channel		
PEIR Map No:	Map 64		
Date:	February 2011		
Preparer Name:	Rudy Bilan, City of San Diego		
Instructions: This form must be completed following any work done at a storm water facility. Attach additional sheets if needed.			
Description of Work (e.g., routine, re-occurring; also note general frequency maintenance at this site): Emergency maintenance to remove accumulated trash/debris, vegetation, and sediment within concrete-lined and earthen drainage channel which runs upstream from the west end of Map 59 towards a double-box culvert next to 4580 Alvarado Road.			
Street Name: Alvarado Ct Latitude: N 32°46'38.57" Longitude: W 117°03'49.15"		Work Orientation from Street (N, S, E, W): Commercial (N), Residential (S), SDSU Dormitory (W), Open Space (E) Location Between: Alvarado Rd (N), Cleo St (S), College Av (W)____ Reservoir Dr (E)	
Maintenance Facility Type: <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Roadside Ditch <input type="checkbox"/> Spillway <input type="checkbox"/> Culvert <input type="checkbox"/> Detention Basin <input type="checkbox"/> Other: _____		Additional Description: Constructed channel is a small, under-sized concrete-lined and earthen facility taking conveying runoff from surrounding industrial and commercial businesses in the area.	
Work within drainage/creek: Length: 1,120' of 3,945' (How many linear feet were cleared)		Name of drainage/creek: Width (FT): 25' to 30' Area (SQ FT): 27,900 Depth (FT): 2'-4' to channel bottom	
Is the creek lined: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Notes: 2/3 of channel earthen and 1/3 concrete		Lining Type: <input checked="" type="checkbox"/> Concrete lined both sides, bottom <input checked="" type="checkbox"/> Earthen, both sides, bottom <input type="checkbox"/> Riprap sides, earth bottom <input type="checkbox"/> Concrete sides, earth bottom <input type="checkbox"/> Other type: _____	
Silt/Sand Removal: Length: 630' (How many linear feet were cleared of silt/sand)		Describe cause of silt/sand: 805.39 Tons	
Debris Removal: Length: 1,120' (How many linear feet were cleared of debris)		Describe debris and cause: 75% silt, 25% vegetation	
Were any toxic materials found: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> List toxics: Hazardous Material Manifest: _____		Were more than 9 tires recovered? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> CTL Number: _____	
Access via previously disturbed area: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Access route: Existing paved parking lot/driveway and concrete access ramp at west end of Map 64. This area was used for access and storage of	

	<p>maintenance equipment.</p> <p>Maintenance Equipment Used: Loader/Excavator, Trucks</p>
<p>Vegetation Removal: Length: 1,120' (How many linear feet were cleared of vegetation)</p>	<p>Types of Vegetation Removed: Cattails, Weeds, Willows</p> <p>(Indicate bush, trees, plants, grasses, list diameter of trunk at 4' height)</p>
<p>Ground Disturbing Activities: Length: 1,120' (How many linear feet were disturbed by activity)</p>	<p>Upland Vegetation Removed - Types & Area: None.</p>
<p>Were erosion controls necessary? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Describe interim erosion control measures: Gravel bags were placed in the drainage facility to isolate maintenance area, and filter sediment, which was removed by loader.</p>
<p>Did work occur within nesting breeding season (January 15 – August 31)?: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Biologist/Monitor/Archaeologist present: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Names: Helix_</p>
<p>Was any water quality sampling required?: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Additional Maintenance Description: This channel naturally accumulated vegetation and sediment due to non- maintenance of downstream portion. Channel maintenance conducted from access ramp to end of Alvarado Medical Building.</p> <p>Work included the following: 1) Temporary dam constructed upstream of maintenance area near east end of Alvarado Medical Building; 2) Sediment and/or vegetation removal performed at two segments of the channel; 3) Loader entered the drain facility from access concrete lined-ramp at parking lot; 3) Loader pushed accumulated material within drainage facility to a central site near access ramp; 4) Gradall scooped accumulated material from central site and loaded items into dump truck; 5) Loaded dump truck departed from drain facility, and off-loaded materials at approved off-site disposal location.</p>	
<p>Describe surrounding land use within work area (assume 500-foot buffer area): The surrounding land uses included commercial business activities throughout the length of the channel from the access ramp (SDSU Plant Nursery Facility) to east end (Alvarado Medical Building).</p>	
<p>Identify temporary/permanent impacts to habitat by area (acres/square footage) as determined by Biologist: Temporary impact included vegetation trimming/clearing and sediment removal from drain facility.</p>	
<p>Additional Comments (Describe any unusual conditions, situations or special requirements needed to do the work such as diversion of water, construction of staging area, replacement of bank material, presence of utilities, etc.):</p> <p>Crew utilized existing paved driveways, parking lots, and the concrete access ramp to enter channel at 6363 Alvarado Court. Implemented sweeping BMP to remove vegetation debris and sediment after loading of spoils from channel was completed. Parking area was used for storage, and staging area for all the machinery. All waste was transferred to a landfill after dried off in the storage area.</p>	

SITE PHOTOS



PHOTO NOTES: View of concrete access ramp about 280 feet from west end of Map 64. Concrete-lined & earthen channel. Looking at side profile of channel from north side.



PHOTO NOTES: View from east side of access ramp. Looking upstream in eastern direction.

SITE PHOTOS



PHOTO NOTES: View from midpoint of parking area at 6363 Alvarado Court. Looking upstream in eastern direction.

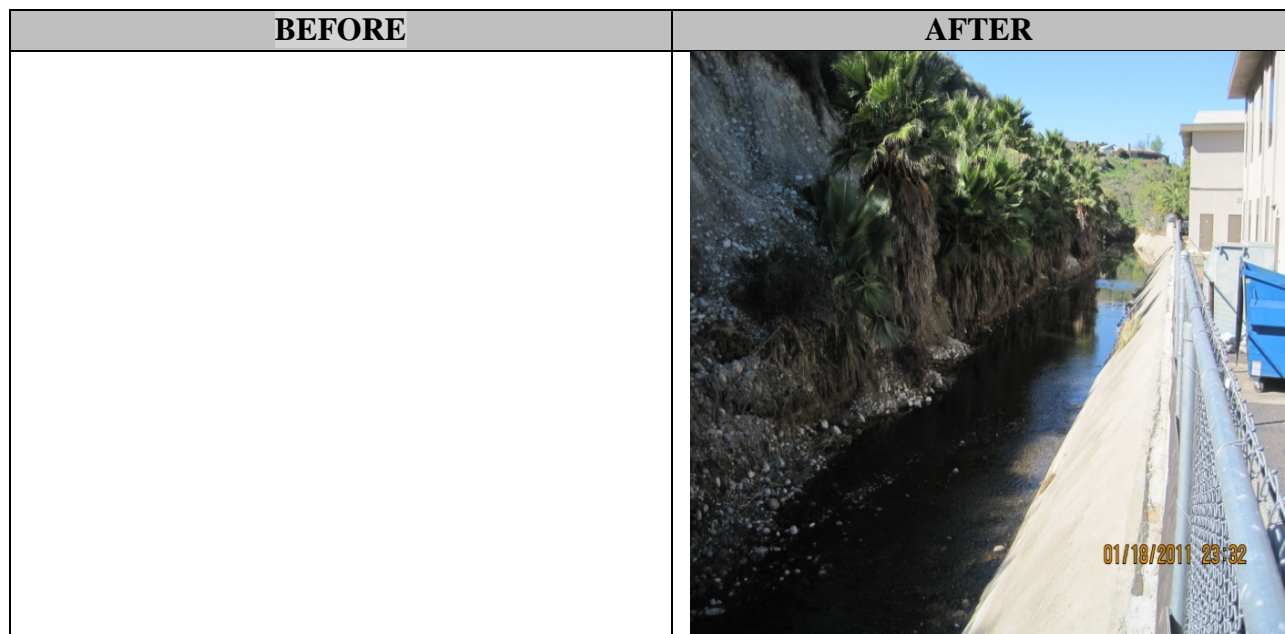


PHOTO NOTES: View from midpoint between 6363 and 6367 Alvarado Court. Looking downstream towards west end of Map 64.

SITE PHOTOS



PHOTO NOTES: View from midpoint of 6367 Alvarado Court. Looking upstream in eastern direction.



PHOTO NOTES: View from midpoint between 6367 and 6386 Alvarado Court. Looking downstream in western direction.

SITE PHOTOS



PHOTO NOTES: View from midpoint between 6367 and 6386 Alvarado Court. Looking upstream towards east end of Map 64.

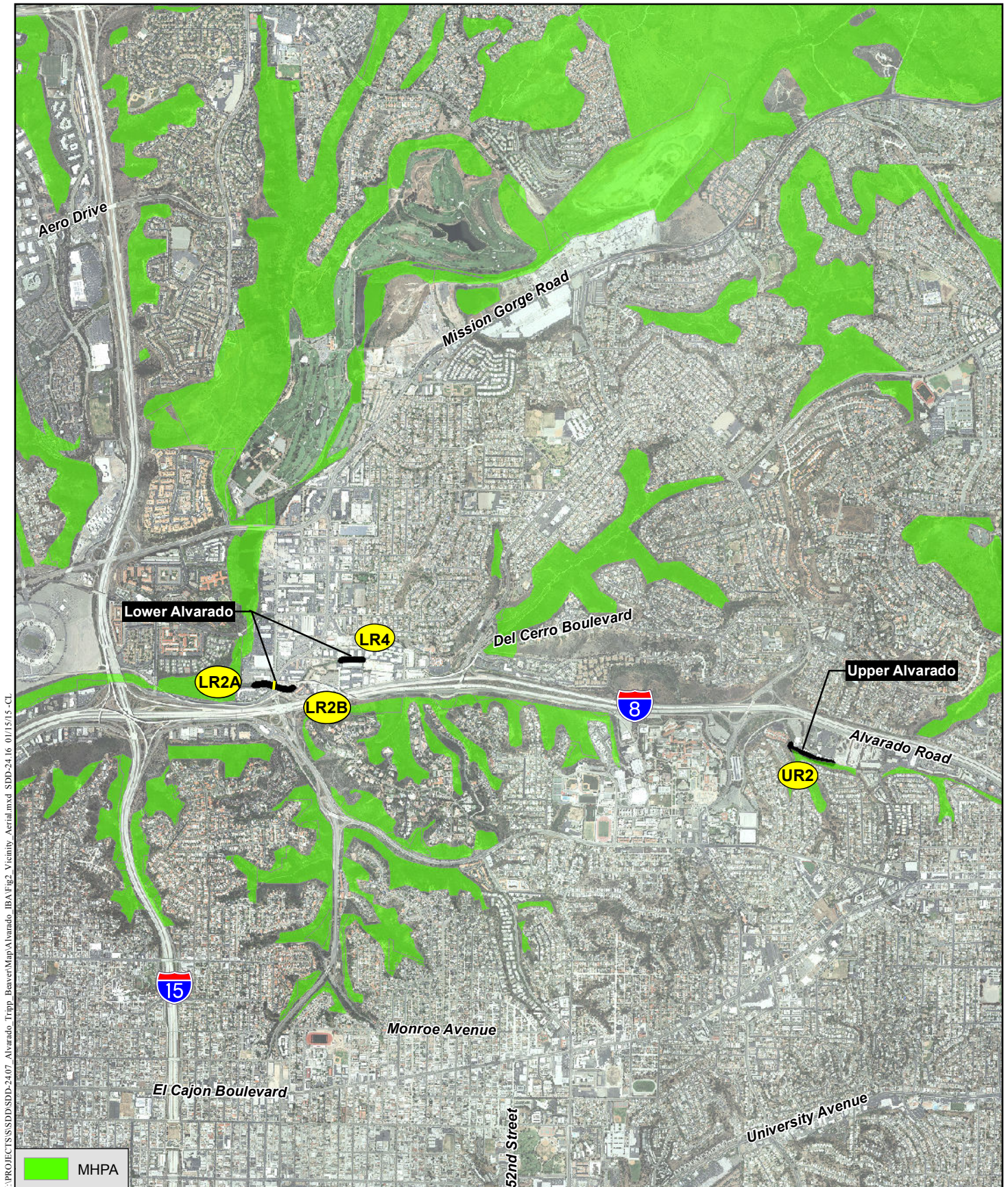


PHOTO NOTES: View from north side of channel at east end of bldg at 6386 Alvarado Court. Looking downstream in western direction.

SITE PHOTOS

BEFORE	AFTER
	

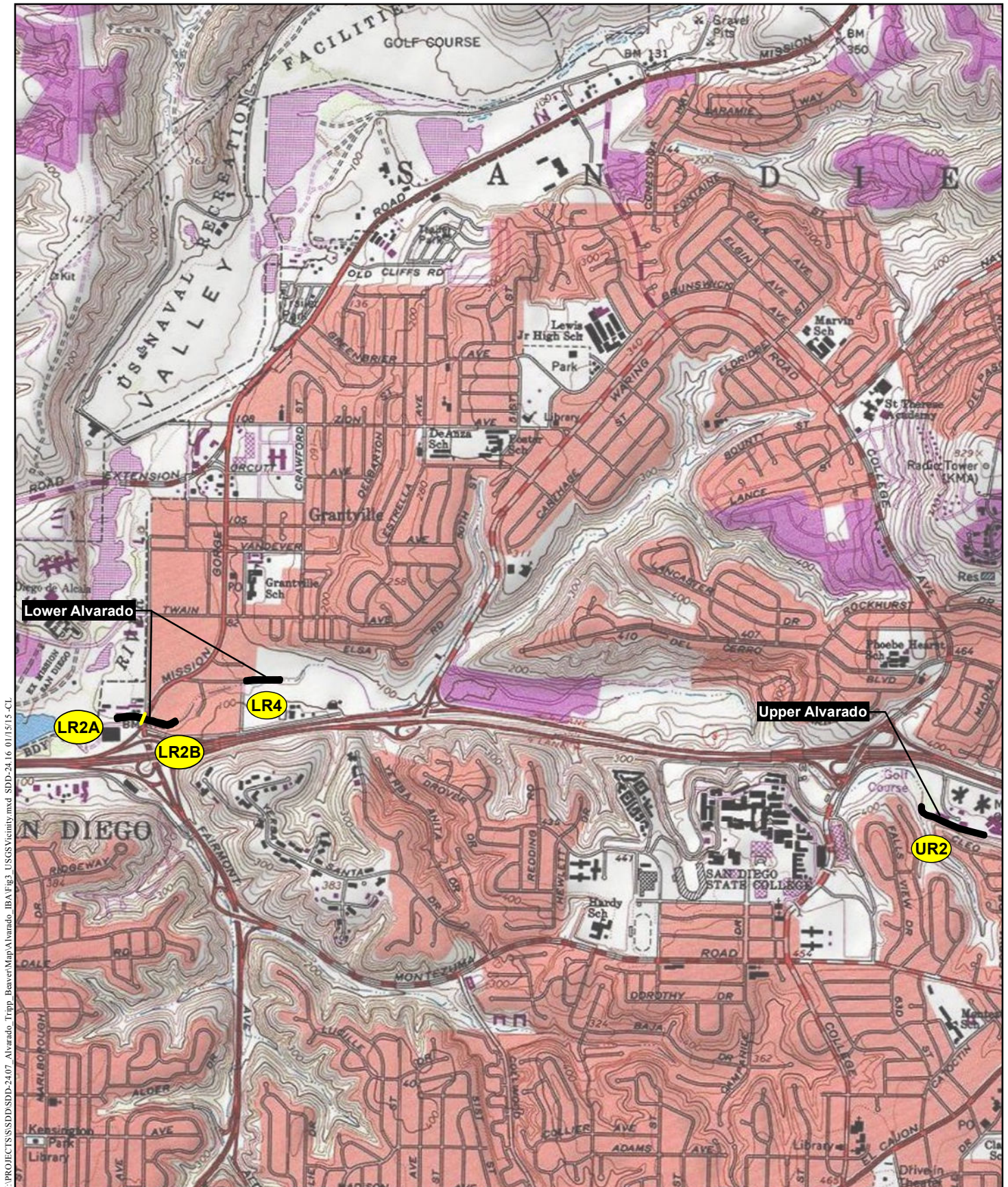
PHOTO NOTES: View from north side of channel near east end of 6386 Alvarado Court. Looking downstream in western direction.



Project Vicinity Map (Aerial Photograph)

STORM WATER FACILITY MAPS 59, 60, AND 64
(UPPER/LOWER ALVARADO CREEK CHANNELS)

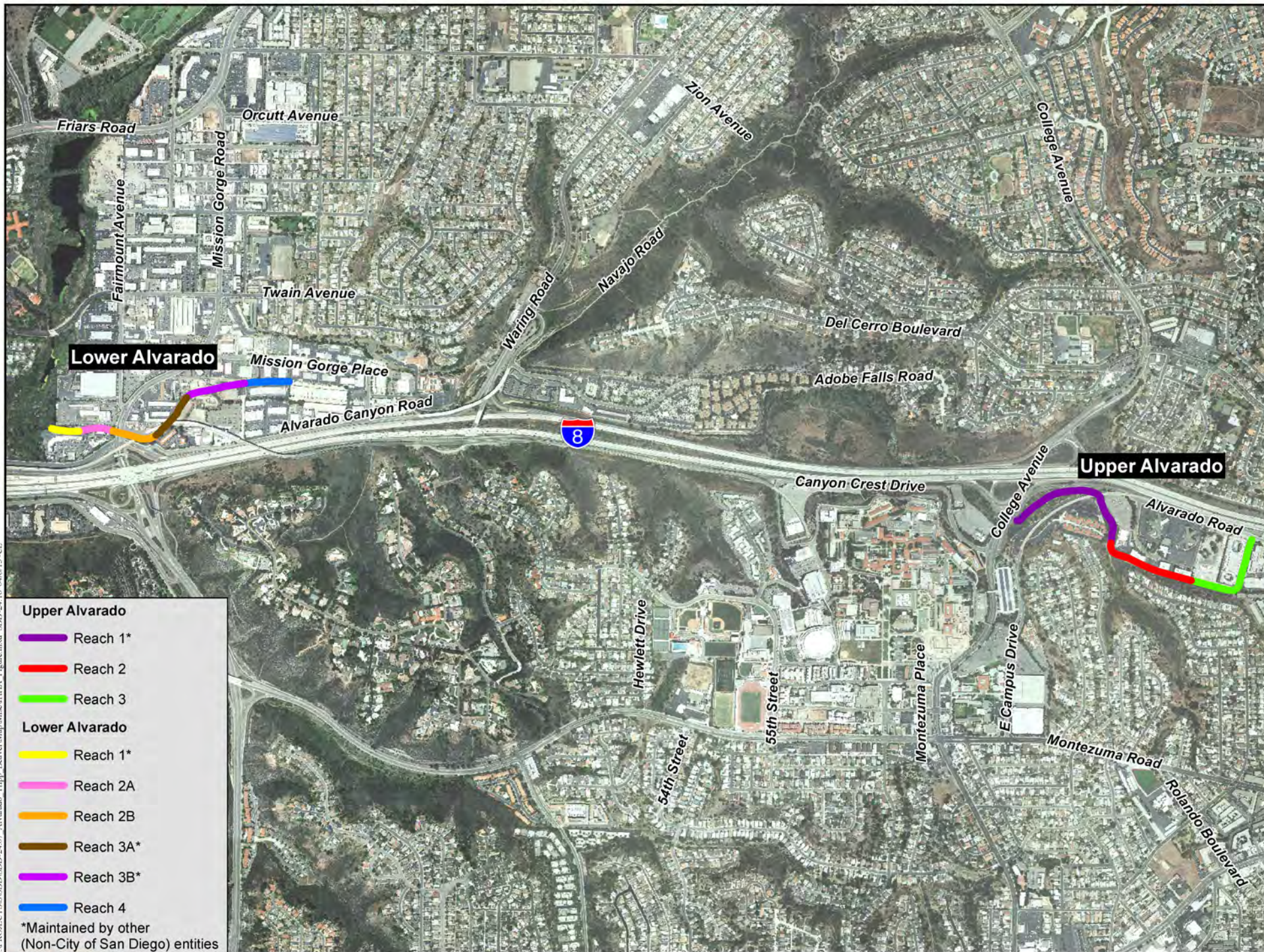
Figure 2



Project Vicinity Map (USGS Topography)

STORM WATER FACILITY MAPS 59, 60, AND 64
(UPPER/LOWER ALVARADO CREEK CHANNELS)

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Comparison of IMP - Estimated and Actual Emergency Maintenance Areas

LOWER ALVARADO CREEK (MAPS 59 AND 60)



Comparison of IMP - Estimated and Actual Emergency Maintenance Areas

UPPER ALVARADO CREEK (MAP 64)