



April 28, 2017

Mr. Chris Gascon  
City of San Diego  
Transportation and Storm Water Department  
2781 Caminito Chollas MS 44  
San Diego, California 92105

SUBJECT: RESPONSE TO 1<sup>ST</sup> PLANCHECK COMMENTS ON THE DRAFT MASTER MAINTENANCE PROGRAM (MMP) MAP 70 AND 76 AUBURN CREEK CHANNEL INDIVIDUAL WATER QUALITY ASSESSMENT (IWQA) REPORT DATED MARCH 30, 2017 (RICK ENGINEERING COMPANY JOB NUMBER 17204-L)

Dear Mr. Gascon:

Pursuant to the email dated April 27, 2017 from the City of San Diego, there were no comments to the Auburn Creek IWQA. However, Figure 3 – Limits of Channel Maintenance for Auburn Creek Channel MMP Maps 70 and 76, Figure 4 – Hydraulic Workmap, and Figure 5 – Photo Locations Map have each been revised to remove the culvert under Fairmont Avenue from the limits of channel maintenance.

The revised, final Master Maintenance Program (MMP) Maps 70 and 76 Auburn Creek Channel Individual Water Quality Assessment (IWQA) is attached, following this letter. If you have any questions regarding this package or require any additional information related to this project, please contact Kelly Doyle at (619) 908-3555 or [kdoyle@rickengineering.com](mailto:kdoyle@rickengineering.com).

Sincerely,

RICK ENGINEERING COMPANY

A handwritten signature in blue ink, appearing to read "Jayne Marie Janda-Timba".

Jayne Janda-Timba  
R.C.E. #70649 Exp. 06/17  
Associate Principal



JJT:JS:rf:K/Text/17204-L.011

## INDIVIDUAL WATER QUALITY ASSESSMENT REPORT

**Site Name/Facility:** Auburn Creek Channel  
**Master Program Map No.:** Maps 70 and 76  
**Date:** March 30, 2017; Revised April 28, 2017  
**Civil Engineer (name, company, phone number):** Jayne Janda-Timba  
Rick Engineering Company  
5620 Friars Road  
San Diego, California 92110  
(619) 688-1448  
**Register Civil Engineer Number & Expiration Date (place stamp here):** RCE # 70649  
Exp. 06/2017



**Instructions:** This form must be completed for each facility prior to the completion of the Individual Maintenance Plan and prior to any work being conducted in the facility. Attach additional sheets if needed.

### EXISTING CONDITIONS

#### Introduction:

The City of San Diego developed the Master Storm Water System Maintenance Program (MMP) to optimize its business processes and environmental protection practices related to channel operation and maintenance activities. The MMP is intended to integrate operation and maintenance planning, implementation and assessment activities with its water quality protection programs. This document provides a summary of the Individual Water Quality Assessment (IWQA) Report activities conducted within Auburn Creek Channel (MMP Maps 70 and 76) (herein referred to as Auburn Creek Channel). Auburn Creek Channel is located within the City of San Diego (reference point 32°43'35.28"N; 117°6'2.29"W, Latitude and Longitude), near the intersection of Interstate 805 and Home Avenue, south of Home Avenue. For the location of Auburn Creek Channel, see Figure 1 – Regional Location Map, and Figure 2 – Project Vicinity Map attached.

The IWQA procedures are documented in the report titled, “Standard Operating Procedures (SOP) to Conduct Water Quality Assessment and Quantification Model for Flood Control Channel (Storm Water Facility) Maintenance,” written by Weston Solutions in March 2011 (herein referred to as SOP), located in Appendix A of the Water Quality Assessment and Quantification Model for Flood Channel Maintenance White Paper found in Appendix F of the report titled, “Master Storm Water System Maintenance Program Final Recirculated Programmatic Environmental Impact Report SCH. No. 2004101032, Project No. 42891,” prepared for the City of San Diego in October 2011. The SOP identifies two criteria that must be met for IWQA component implementation: 1) the storm water facility must have fairly consistent dry weather flows, and 2) it must have vegetation capable of assimilation of pollutants. Site visits were performed by Rick Engineering Company on November 10, 2016 and February 3, 2017 and no dry weather flows were observed.

#### Description of Creek/Channel Geometry (length, width, and depth):

Pursuant to the MMP, the Individual Hydrologic and Hydraulic Assessment (IHHA) recommends the limits and amount of maintenance for each channel. The IHHA Report for Auburn Creek Channel consists of five reaches (Reach 1, 2, 3, 4, and 5). Pursuant to the IHHA, it should be noted that only Reach 1 and Reach 5 are proposed for maintenance.

The reaches to be maintained are indicated below and illustrated in Figure 3 – Limits of Channel Maintenance attached. See Figure 4 – Hydraulic Workmap for reach locations and HEC-RAS Cross-sections.

- Reach 1: HEC-RAS Cross-sections 4.590 to 141.507
- Reach 5: HEC-RAS Cross-sections 2916.303 to 3283.479

The limits of Reach 1 and Reach 5 are identified in Figure 4 – Hydraulic Workmap attached. Reach 1 and Reach 5 are mapped within the MMP.

Reach 1: (HEC-RAS Cross-sections 4.590 to 141.507) MMP Map 76

Reach 1 is bound from the downstream end by an existing triple 6-ft. wide by 6-ft. high box culvert under Spillman Drive and extends approximately 150-ft. upstream. Reach 1 is earthen and trapezoidal through the reach, having a bottom width of approximately 15-ft., a minimum depth of approximately 11-ft., a grouted rip-rap southern side slope of 1.5-ft. horizontal to 1-ft. vertical (1.5H:1V), and an earthen northern side slope of 1.5H:1V. The dimensions of the channel were determined during the site visit performed on February 3, 2017, in conjunction with the cross sectional geometry based on 2014 LIDAR contours. As observed during the site visit performed on February 3, 2017, Reach 1 contains approximately 1 ft. of sediment deposition. The existing downstream 6-ft. wide by 6-ft. high box culvert under Spillman Drive is approximately 50% clogged by trash, debris, and sediment.

Reach 5: (HEC-RAS Cross-sections 2916.303 to 3283.479) MMP Map 70

The downstream limit of Reach 5 is the upstream limit of Reach 4, the downstream end of the double 6-ft. wide by 6-ft. high RCB that extends beneath Fairmount Avenue. Reach 5 extends approximately 370 ft. upstream and is bound by a double, 74-inch concrete pipe culvert. Reach 5 is a trapezoidal channel with an earthen bottom. The RCB culvert beneath Fairmount Avenue is approximately 100-ft. long. The downstream most 140-ft. of the channel portion of Reach 5 consists of a concrete side slope on the right (looking downstream), and a shotcrete side slope on the left (looking downstream). The remaining 130-ft. upstream consists of a right (looking downstream) concrete side slope and a vegetated left (looking downstream) side slope. Pursuant to As-Built plan sheet 12728-2-L for Home Avenue in Valle Granado, Prepared by Byrl Phelps, December 11, 1956, the channel geometry consists of a bottom width of 12-ft., depth of 6-ft. and side slopes of 1.5H:1V. The channel appears to be relatively free of vegetation but standing water was observed at the outlet of the double, 74-inch concrete pipe culvert where erosion has occurred. Reach 5 is proposed for sediment and vegetation maintenance. Pursuant to the site visit on February 3, 2017 the culvert beneath Fairmount Avenue is clear of sediment or vegetation. This culvert is not included in the proposed maintenance of Reach 5.

**Description of Sediment Sampling Activities (location(s), depth, shipment/deliverer to laboratory(s)):**

Site visits were conducted on November 10, 2016 and February 3, 2017 to determine if dry weather flows exist. No dry weather flows were observed on either date. See site photos attached and Figure 5 – Photo Locations Map for photos showing no dry weather flows. The field observation activities (described below) established that there are no negative water quality impacts associated with channel maintenance due to no dry weather flows in the channel, pursuant to the SOP. For this reason, sediment sampling activities are unnecessary, and would only serve to prove that channel maintenance has a greater positive impact on water quality than leaving the vegetation and sediment in place.

**Description of Flow Measurement Activities (location(s) and equipment):**

The flow chart (Figure A-1) found on page 2 of the SOP states that if there is no dry weather flow, it can be concluded that maintenance will have no negative impact on water quality, and no further water quality analysis is required.

Two field visits were made to the Auburn Creek Channel to determine if dry weather flows exist, on November 10, 2016 and February 3, 2017. During each of these visits, no dry weather flow was observed within the channels.

**Description of Volume Measurement Activities (interval, total number, equipment):**

No dry weather flows were observed in the Auburn Creek Channel. Therefore, there is no dry weather flow volume of water flowing through the channels and it cannot be measured.

**Description of Water Quality Sampling Activities (location(s), shipment/delivery to laboratory(s) ):**

Water samples were not taken since there was no observed dry weather flow to be analyzed.

**Description of Wetland Assessment (Existing) Activities (personnel, general conditions):**

Wetland Assessment (existing) activities were not performed since the SOP explains that if there is no dry weather flow, then it can be concluded that maintenance will have no negative impact on water quality.

**Description of Wetland Assessment (Recovery) Activities (personnel, general conditions):**

Wetland Assessment (recovery) activities were not performed since the SOP explains that if there is no dry weather flow, then it can be concluded that maintenance will have no negative impact on water quality.

**Sediment Pollutant Loading Estimates:**

Field observations with no dry weather flows support the conclusion that there are no negative water quality impacts associated with channel maintenance. For this reason, sediment loading estimates are unnecessary, and would only prove that channel maintenance has a greater positive impact on water quality than leaving the vegetation and sediment in place.

**MAINTENANCE IMPACTS**

**Evaluation of Benefits / Impacts:**

**Are there constituents that have potential impacts greater than benefits?**

Yes  No

After analyzing the channels pursuant to the SOP for preparation of an IWQA, it was determined that, due to no dry weather flow, there are no negative water quality impacts associated with channel maintenance.

**If so, identify constituents here and compare measured concentrations to thresholds.**

Not Applicable.

**MITIGATION**

**If impacts are identified, list potential mitigation efforts (e.g., BMPs type(s) and number(s)) that may be implemented in the watershed:**

The analysis for this IWQA has determined that there are no negative impacts to water quality associated with channel maintenance, due to no dry weather flows in the channel.

**LIST OF ATTACHMENTS (Check All That Apply):**

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- Site Photos
- Chain of Custody Sheet(s) for Sediment Sampling
- Analytical Results of Sediment Sample(s)
- Chain of Custody Sheet(s) for Water Column Sampling
- Analytical Results of Water Column Sample(s)
- Flow Measurement Model
- Volume Measurement Model (Existing Condition)
- Wetland Land Assessment Scoring Sheet (Existing Condition)
- Wetland Land Recovery Assessment Scoring Sheet (Maintained Storm water facility)
- Sieve Analysis Laboratory Results
- Sediment Pollutant Loading Model (Load Removal in Sediment)
- Potential Water Quality Impacts Model and Comparison to Benefits
- Potential Mitigation Efforts Model
- Figures:
  - 1) Regional Location Map
  - 2) Project Vicinity Map
  - 3) IWQA Limits of Channel Maintenance for Auburn Creek Channel  
MMP Maps 70 and 76
  - 4) Hydraulic Workmap
  - 5) Photo Locations Map

## SITE PHOTOS

Date of Site Visit: 11/10/16

See notes below and Figure 5 – Photo Locations Map for picture location and orientation.

1.



Downstream portion of Auburn Creek Channel Reach 1 facing east along Spillman Drive. No dry weather flows and dense vegetation was observed in Reach 1.

2.



Downstream portion of Auburn Creek Channel Reach 1 facing east along Spillman Drive. No flowing water was observed in Reach 1.

## SITE PHOTOS

Date of Site Visit: 2/3/17

See notes below and Figure 5 – Photo Locations Map for picture location and orientation.

3.



Downstream portion of Auburn Creek Channel Reach 1 facing west (downstream) at the triple 6-ft. by 6-ft. box culvert under Spillman Drive. No flowing water was observed in Reach 1.

4.



Downstream portion of Auburn Creek Channel Reach 1 facing west (downstream). Photo shows 50% clogging of box culvert. No flowing water was observed in Reach 1.

## SITE PHOTOS

Date of Site Visit: 2/3/17

See notes below and Figure 5 – Photo Locations Map for picture location and orientation.

5.



Upstream portion of Auburn Creek Channel Reach 1 facing east (upstream). No flowing water was observed in Reach 1.

6.



Downstream portion of Auburn Creek Channel Reach 5 facing southwest (downstream) at the 6-ft. by 6-ft. double box culvert. No flowing water was observed in Reach 5.



## SITE PHOTOS

Date of Site Visit: 2/3/17

See notes below and Figure 5 – Photo Locations Map for picture location and orientation.

7.



Middle portion of Auburn Creek Channel Reach 5 facing northeast (upstream). No flowing water was observed in Reach 5.

8.



Upstream portion of Auburn Creek Channel Reach 5 facing northeast (upstream) at the 74'' double concrete pipe culvert. No dry weather flows and ponded water was observed in Reach 5.

## SITE PHOTOS

Date of Site Visit: 2/3/17

See notes below and Figure 5 – Photo Locations Map for picture location and orientation.

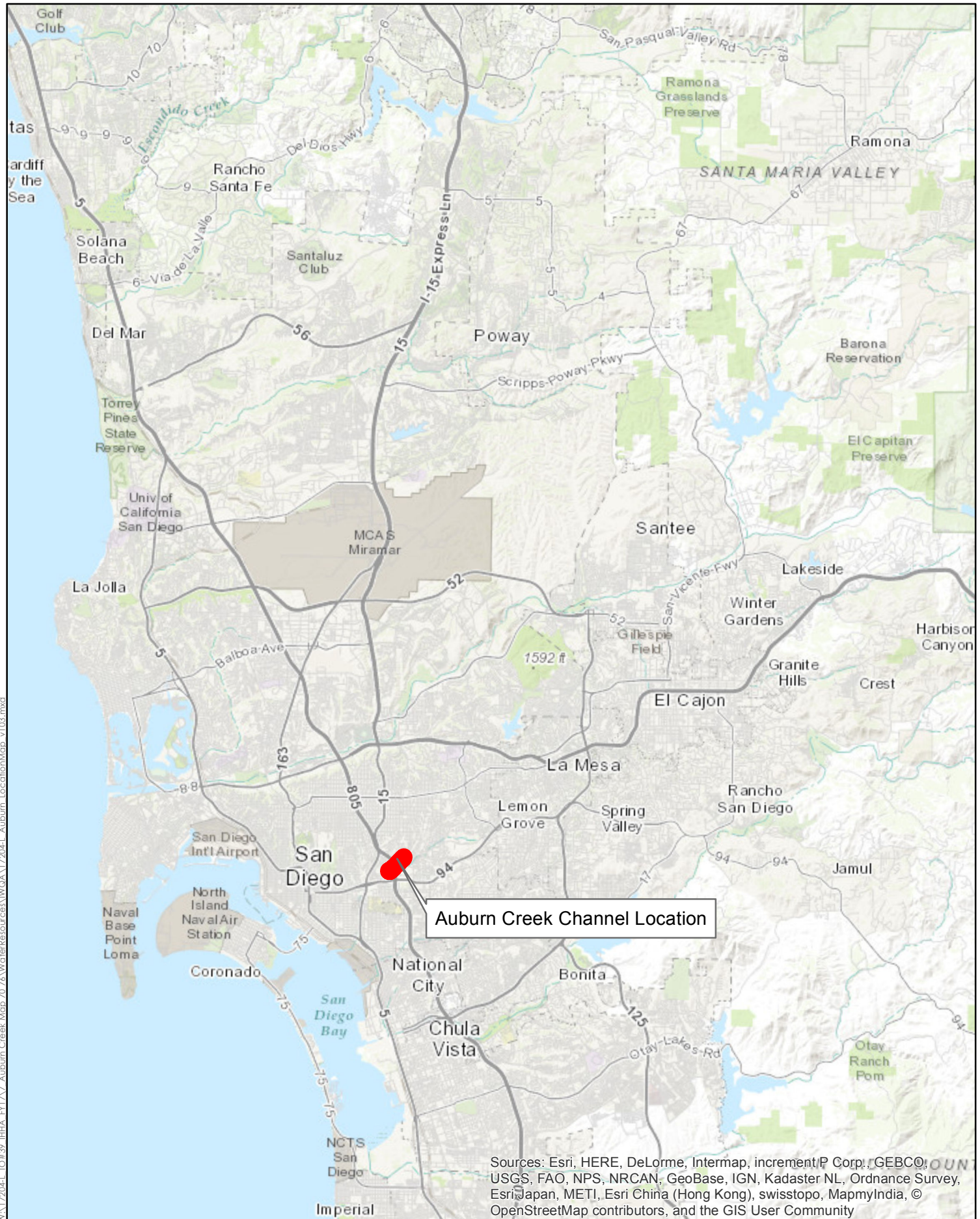
9.



Auburn Creek Channel Reach 5 facing southwest (downstream). No dry weather flows and ponded water was observed in Reach 5.

## **Figures:**

- 1) Regional Location Map
- 2) Project Vicinity Map
- 3) IWQA Limits of Channel Maintenance for Auburn Creek Channel MMP  
Maps 70 and 76
- 4) Hydraulic Workmap
- 5) Photo Locations Map

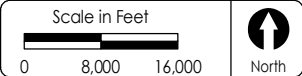


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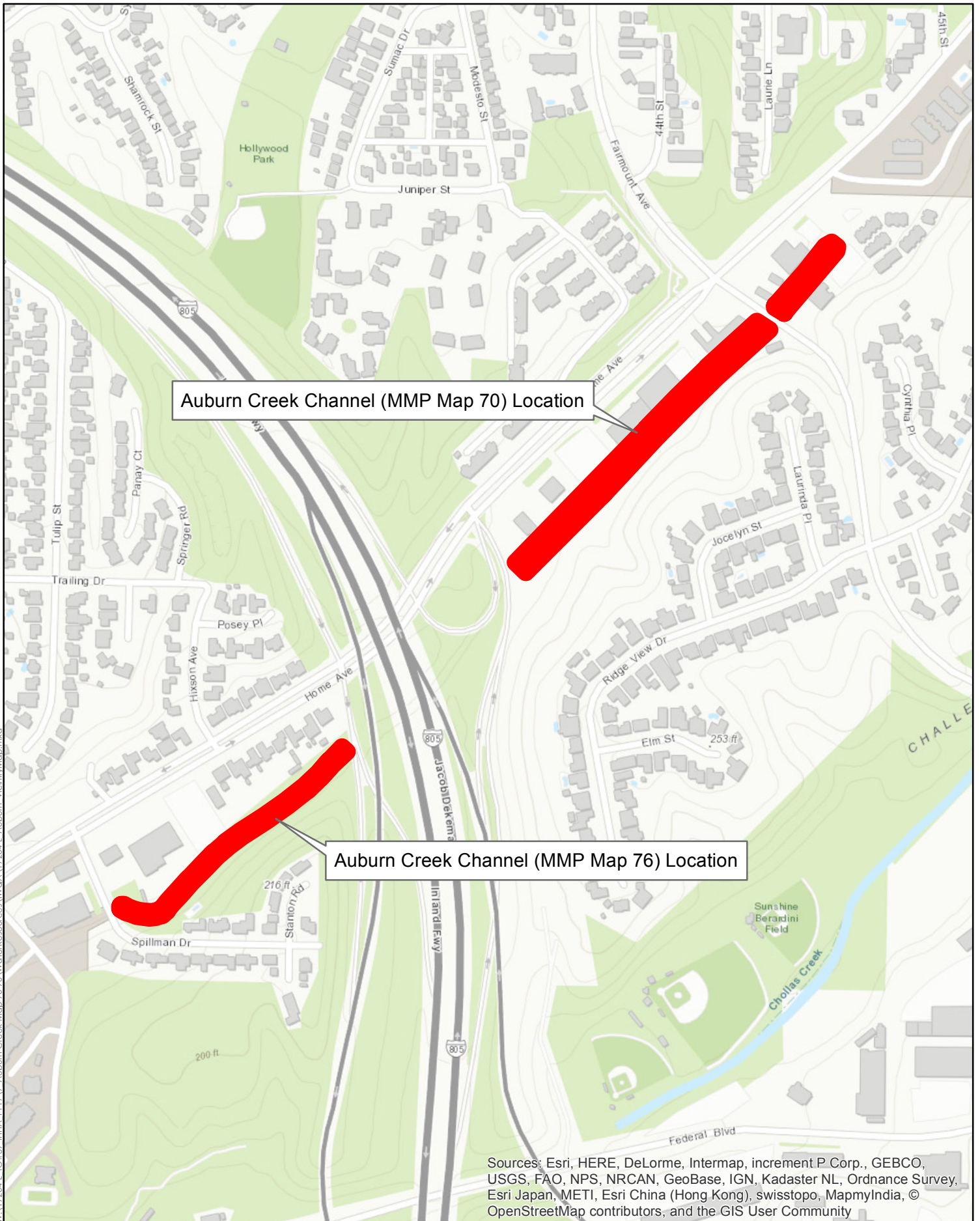
Sources: Esri, HERE, DeLorme, Intermap, increment/P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Date of Exhibit: 3/30/2017  
 DigitalGlobe Aerial Image: 04.2013

**IWQA Report - Figure 1 - Regional Location Map**  
**Auburn Creek Channel MMP Maps 70 and 76**



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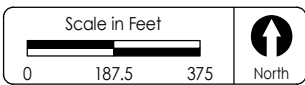
Auburn Creek Channel (MMP Map 70) Location

Auburn Creek Channel (MMP Map 76) Location

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Date of Exhibit: 3/30/2017  
 DigitalGlobe Aerial Image: 04.2013

**IWQA Report - Figure 2 - Project Vicinity Map**  
**Auburn Creek Channel MMP Maps 70 and 76**

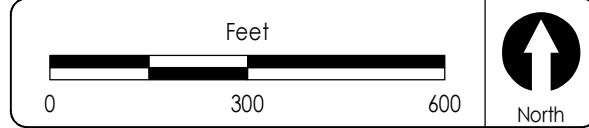


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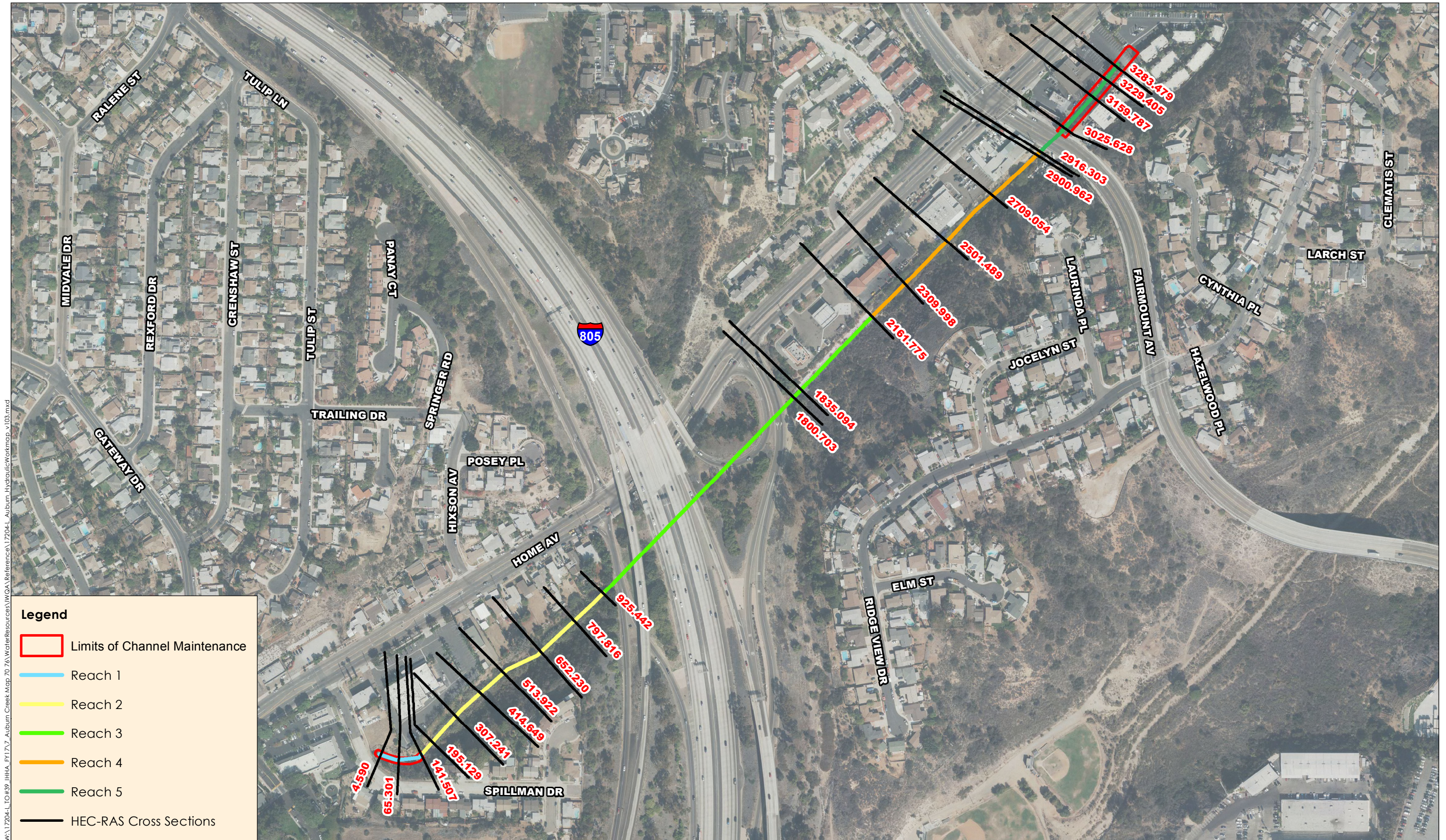
**Legend**

- Limits of Channel Maintenance
- ← Direction of FLow



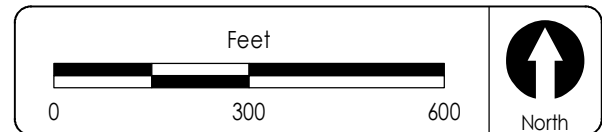
Date of Exhibit: 4/28/2017  
ESRI World Topographic Basemap

**Figure 3 - IWQA Limits of Channel Maintenance for Auburn Creek Channel MMP Maps 70 and 76**



**Legend**

- Limits of Channel Maintenance
- Reach 1
- Reach 2
- Reach 3
- Reach 4
- Reach 5
- HEC-RAS Cross Sections



Date of Exhibit: 4/28/2017  
ESRI World Topographic Basemap

### Auburn Creek Channel - Figure 4 - Hydraulic Workmap

MMP Maps 70 and 76

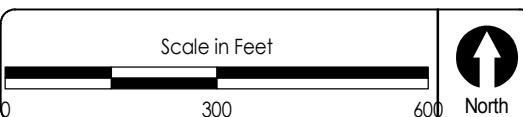
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**Legend**

- Limits of Channel Maintenance
- Reach 1
- Reach 2
- Reach 3
- Reach 4
- Reach 5
- Photo Locations

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Date of Exhibit: 4/28/2017  
 DigitalGlobe Aerial Image: 04.2013

**IWQA Report - Figure 5 - Photo Locations Map**  
 Auburn Creek Channel MMP Maps 70 and 76