

Appendix D
INDIVIDUAL HYDROLOGIC & HYDRAULIC ASSESSMENT (IHHA) REPORT

Site Name/Facility: Reservoir Drive Channel

Master Program Map No.: 64a

Date: January 21, 2015

Civil Engineer (name, company, phone number): N/A

Register Civil Engineer Number & Expiration Date (place stamp here): N/A

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

EXISTING CONDITIONS
<p>Description of creek/channel (limits of reach, surrounding land use and area, creek/channel geometry and vegetative condition):</p> <p>The site of the emergency maintenance is characterized by a concrete-lined storm water channel that is 10 feet wide and 810 feet long. The channel is located on the east side of Reservoir Drive, south of Alvarado Road and north of Reservoir Lane.</p> <p>The emergency maintenance was performed with a Gradall, backhoe and skid steer on November 28, 2014. The skid steer was lowered into the channel from Reservoir Drive and pushed vegetation and sediment in the channel to central locations in the channel. Operating from Reservoir Drive, the Gradall and backhoe removed the material from the channel and loaded into dump trucks. The excavated material was taken to an approved disposal site. Approximately 130 tons of material was removed from the channel. A vector truck was located at the downstream end of the channel to collect water and debris during maintenance to protect downstream areas.</p> <p>Due to the emergency nature of the project, there was insufficient time available to prepare a hydrologic and hydraulic assessment. Furthermore, there was no opportunity to reduce vegetation impacts in this concrete lined channel. Full removal of sediment and vegetation within the channel was required to prevent uprooting and clogging of the downstream culvert which happened at a similar location a few weeks prior during a moderately sized storm. Partial removal of vegetation would increase the likelihood that high flows would dislodge the vegetation and sediment creating the potential for clogging the downstream culvert.</p>
<p>Hydrologic information (source of hydrologic information, summary of flow rates and return frequencies):</p> <p>In the absence of hydrologic and hydraulic calculations, this information is unavailable.</p>
<p>Hydraulic analyses (description of hydraulic models created for project):</p> <p>In the absence of hydrologic and hydraulic calculations, the information is unavailable.</p>
<p>Current Vegetated Condition:</p> <p>N/A</p>

Ultimate Vegetated Condition:
N/A
Maintained Condition - No sediment removed:
N/A
Maintained Condition - Sediment removed (if applicable):
N/A
MAINTENANCE IMPACTS
Hydraulics Results (Describe capacity of channel for each condition):
NA
Ultimate Vegetated Condition:
N/A
Maintained Condition - No sediment removed:
N/A
Maintained Condition - Sediment removed (if applicable):
N/A
Areas within channel that can be avoided (this section can be completed upon completion of Individual Biological Assessment Form):
Based upon the narrow width of the channel, and the fact that the vegetation is located on the channel bottom, all of the existing vegetation within the channel was required to be removed in order to accomplish the goal of maximizing the ability of the channel to avoid potential downstream flooding. Furthermore, as discussed earlier partial removal would have increased the risk that the remaining vegetation and sediment would be dislodged during high flows.
Would the velocity of storm water during a “bank-full” storm event exceed the velocities identified for unlined channels per Table 1-104.108 of the City’s Design Manual? If so, describe the appropriate form of erosion control (e.g., check dam or comparable mechanism).
N/A
MITIGATION
Conclusion/Recommendations (Describe the limits of recommended maintenance, degree to which native vegetation within the facility can be retained, and capacity of maintained channel):
As discussed earlier, all of the vegetation within the channel was required to be removed to maximize the ability of the channel to convey flood water.
ADDITIONAL COMMENTS OR RECOMMENDATIONS
N/A

LIST OF ATTACHMENTS (Check All That Apply):

- ✓ Site Photos
- ❑ Hydraulic Profiles for Current Vegetated Condition Model
- ❑ Hydraulic Profiles for Ultimate Vegetated Condition Model
- ❑ Hydraulic Profiles for Maintained Condition Model (No Sediment Removed)
- ❑ Hydraulic Profiles for Maintained Condition Model (Sediment Removed)
- ❑ Hydraulic Workmap
- ❑ Detailed Hydraulic Results for Current Vegetated Condition Model
- ❑ Detailed Hydraulic Results for Ultimate Vegetated Condition Model
- ❑ Detailed Hydraulic Results for Maintained Condition Model (No Sediment Removed)
- ❑ Detailed Hydraulic Results for Maintained Condition Model (Sediment Removed)

SITE PHOTOS:

Date of Site Visit: November 25, 2014 (before maintenance)



Photo 1: Upstream (facing north), November 25, 2014.



Photo 2: Upstream (facing north), November 25, 2014.



Photo 3: Downstream (facing north) looking toward inlet pipe, November 25, 2014.



Photo 4: Downstream (facing north), November 25, 2014.

SITE PHOTOS:

Date of Site Visit: December 22, 2014 (after maintenance)



Photo 5: Upstream (facing north), approximate location of Photo 1, December 22, 2014.



Photo 6: Upstream (facing north), approximate location of Photo 2, December 22, 2014.



Photo 7: Downstream (facing north) looking toward inlet pipe, approximate location of Photo 3, December 22, 2014.



Photo 8: Upstream (facing south), December 22, 2014.