



**US Army Corps
of Engineers** ®
Los Angeles District



WARM CREEK 1 LEVEE SYSTEM
SAN BERNARDINO COUNTY, CALIFORNIA
NLD SYSTEM ID # 3805010055

PERIODIC INSPECTION REPORT NO 1
GENERALIZED EXECUTIVE SUMMARY

FINAL SYSTEM RATING: MINIMALLY ACCEPTABLE
FINAL RATING DATE: SEPTEMBER 23, 2013

PERIODIC INSPECTION REPORT PREPARED BY TETRA TECH
FOR THE U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

SUBMITTED: JULY 2013
INSPECTED: JUNE 8, 2011

EXECUTIVE SUMMARY

This Executive Summary provides an introduction to the periodic inspection, an overview of the system, a summary of the major findings of the periodic inspection, and the overall rating for the system.

1.1 Scope and Purpose of this Periodic Inspection

The purpose of the Periodic Inspection is to identify deficiencies that pose hazards to human life or property. The inspection is intended to identify the issues in order to facilitate future studies and associated repairs as appropriate.

This assessment of the general condition of the levee system is based on available data and visual inspections. Detailed investigation and analysis involving hydrologic design, topographic mapping, subsurface investigations, testing, and detailed computational evaluations is beyond the scope of this levee system inspection.

1.2 System Summary

Warm Creek 1 Levee System is located in the cities of Colton and San Bernardino, in the County of San Bernardino, in the State of California. Warm Creek 1 Levee System is part of Lytle and Warm Creek Channels. Warm Creek 1 Levee System includes the earthen landward slope adjacent to the concrete channel located along the west/right bank (looking downstream) that starts on West Branch Lytle Creek Channel and ends on Warm Creek Channel. The riverward portion of Warm Creek 1 Levee System along West Branch Lytle Creek Channel is a rectangular reinforced concrete channel, and the riverward portion along Warm Creek Channel is a trapezoidal reinforced concrete channel that transitions into a rectangular reinforced concrete channel near the downstream end. The levee starts along West Branch Lytle Creek Channel approximately 1,500 feet downstream of North Colton Avenue, and it ends along Warm Creek Channel at the Southern Pacific railroad (SPRR). A location map is shown on Figure 1. Warm Creek 1 Levee System was federally authorized and subsequently constructed by the United States Army Corps of Engineers (USACE). It is now entirely operated and maintained by the San Bernardino County Flood Control District (hereafter the "County"). The National Levee Database (NLD) System ID Number for Warm Creek 1 Levee System is 3805010055.

1.3 Field Inspection and Summary of Major Deficiencies Found

The field inspection of the Warm Creek 1 Levee System was conducted on June 8, 2011. The Local Sponsor representative met with the inspection team and assisted with granting access along the length of the levee. During the inspection of the system, deficiencies were noted for which remedial actions are required. The following main deficiencies were noted during the inspection of the Warm Creek 1 Levee System. The respective Segment is noted for each major deficiency. The main system deficiencies are:

Levee Embankments

- Significant vegetation growth was present within the vegetation-free zone. The vegetation-free zone extends 15 feet outward from both the landward and riverward toes of the levee.

- A large depression is beginning to undermine the access road. Also, there are erosion gullies greater than 6 inches deep elsewhere on the landward slope.
- Two manhole covers are missing. The manhole covers are associated with the subdrainage system. In addition, there are no maintenance records which indicate that the subdrainage system has been regularly cleaned.

Floodwalls

- Trash and debris prevented inspection of portions of the floodwall.

Interior Drainage System

- There is debris surrounding the inlet and outlet of several of the side-drain-junction structures and drainage inlet.
- The fence on the diversion structure is damaged.
- The condition of the pipes has not been verified using a television camera or other visual-inspection method within the past five years.

Flood Damage Reduction Channels

- Reinforcing steel is exposed along intermittent reaches.
- Joint-filler material missing along a section of the channel invert.

Tetra Tech presented an out-brief concerning Periodic Inspection No. 1 to the Los Angeles District Levee Safety Officer, reviewers of the draft report, and other interested USACE personnel. The USACE Los Angeles District has determined the overall system rating for the Warm Creek 1 Levee System as described in section 1.4 below.

1.4 Overall System Rating

The Levee Safety Officer, Los Angeles District, has determined the overall system rating of Warm Creek 1 Levee System to be “Minimally Acceptable”:

A Minimally Acceptable System is where one or more items are rated as Minimally Acceptable or one or more items are rated as Unacceptable and an engineering determination concludes that the Unacceptable items would not prevent the segment/system from performing as intended during the next significant runoff event.

The Local Sponsor will be notified of the overall rating of the levee system by letter with instructions to correct the “Unacceptable” rated items as soon as possible, and correct the “Minimally Acceptable” rated items within two years so that they do not deteriorate further and become “Unacceptable.”

WARM CREEK 1 LEVEE SYSTEM
FINAL PERIODIC INSPECTION REPORT NO. 1

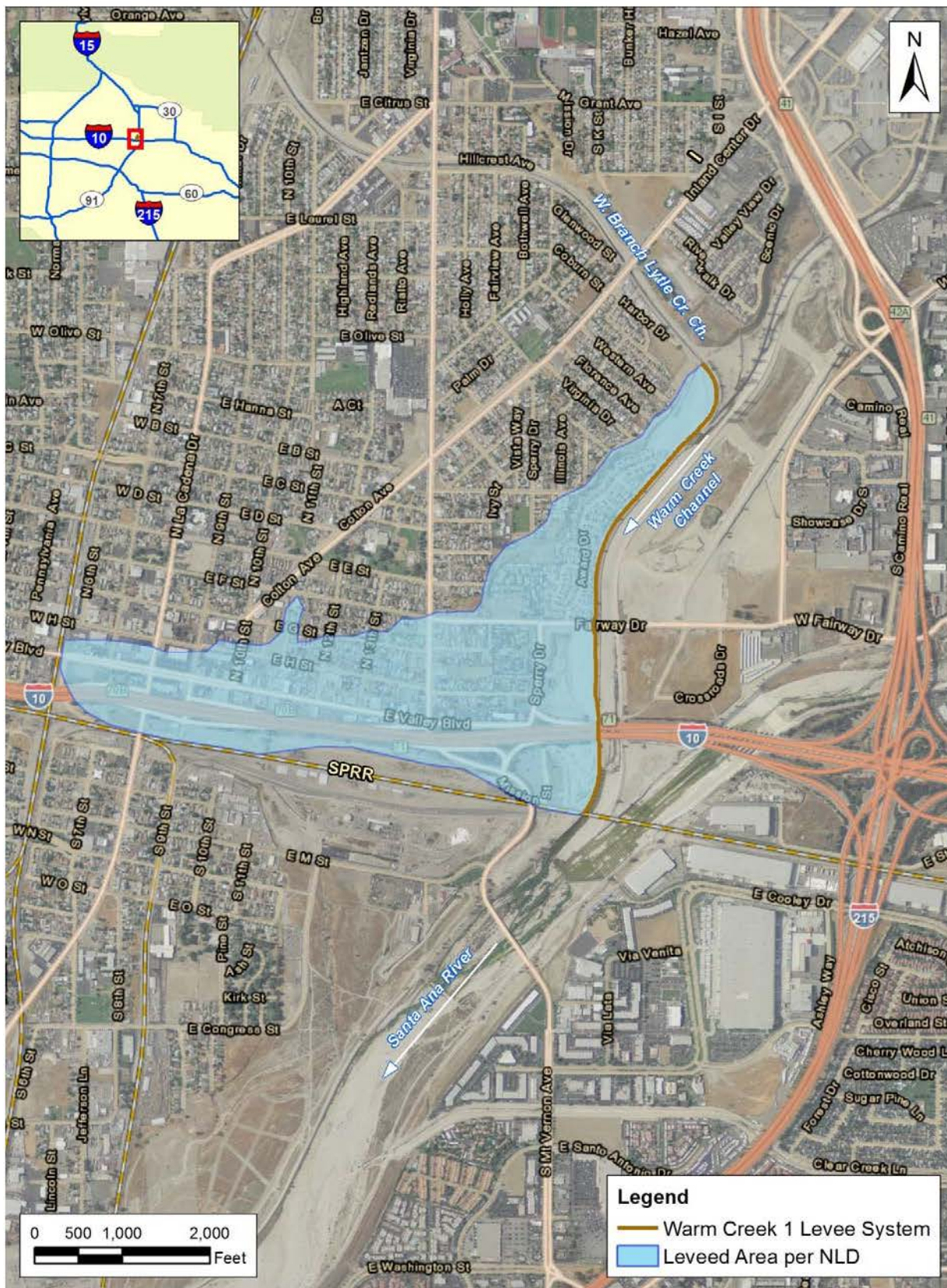


Figure 1. Warm Creek 1 Levee System