US Army Corps of Engineers ®
Los Angeles District

COYOTE CREEK 3 LEVEE SYSTEM

LOS ANGELES COUNTY AND ORANGE COUNTY, CALIFORNIA

NLD SYSTEM ID # 3805010025

PERIODIC INSPECTION REPORT NO. 2
GENERALIZED EXECUTIVE SUMMARY

FINAL SYSTEM RATING: MINIMALLY ACCEPTABLE
FINAL RATING DATE: MARCH 19, 2018

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

SUBMITTED: SEPTEMBER 2017
INSPECTED: JANUARY 17 AND 19, 2017

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 Periodic Inspections

The purpose of the Coyote Creek 3 (CC3) Levee System Periodic Inspection is to identify deficiencies that pose a hazard 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 CC3 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 are beyond the scope of this levee system inspection.

1.2 System Summary

This report is for the Periodic Inspection Number 2 (PI No. 2) of the CC3 Levee System. The Periodic Inspection Number 1 (PI No. 1) of the CC3 Levee System was conducted by the U.S. Army Corps of Engineers, South Pacific Division, Los Angeles District (USACE SPL) in 2012. The results of the PI No. 1 are documented in the report titled *Coyote Creek 3 Levee System Periodic Inspection Report No. 1* (PI Report No. 1 [USACE SPL 2012]).

The CC3 Levee System is part of the Los Angeles County Drainage Area (LACDA) project and is a single levee segment system (Figure 1.1). The CC3 Levee System provides flood risk reduction for a section of Coyote Creek, and is contained within the City of Cerritos and the City of Lakewood in Los Angeles County, and the City of Cypress and the City of La Palma in Orange County, California.

The CC3 Levee System is located on the left/east bank of Coyote Creek between Valley View Street and Moody Creek. The total distance of the CC3 Levee System is approximately 17,057 feet (3.23 miles). The upstream limit of the CC3 Levee System is at the downstream end of the Valley View Street Bridge crossing on Coyote Creek at Station 393+85. The downstream limit of the CC3 Levee System is at the confluence of Coyote Creek and Moody Creek at Station 223+28. The National Levee Database (NLD) shows that the system provides flood risk reduction to 1,157 acres. The various types of infrastructure located within the leveed area include residential, commercial, industrial, transportation, and civic improvements. This area is located east of the CC3 Levee System, west of Valley View Street, south of Artesia Boulevard, and North of Moody Creek and Lincoln Avenue.

The CC3 Levee System consists of an earthen levee embankment and a trapezoidal channel with reinforced concrete on the riverward slope and invert. Other features along the CC3 Levee System include 35 side-drainage structures, one pump station, one confluence, seven bridge crossings, and numerous utility crossings.

The CC3 Levee System is a flood risk reduction project that was federally authorized and subsequently constructed by the USACE SPL. The project was approved August 18, 1941 by Act of Congress, Public Law 228, Seventy-seventh Congress, first session, as set forth in House Doc. 838, 76th Congress, third Session. The NLD Number (NLD No.) for the CC3 Levee System is 3805010025. The construction of the CC3 Levee System was completed on March 21, 1967. The

CC3 Levee System is now entirely operated and maintained by the Los Angeles County Department of Public Works (LACDPW).

1.3 Summary of Major Deficiencies Found

The PI No. 2 of the CC3 Levee System was conducted on January 17 and 19, 2017 and the LACDPW staff were present. During the inspection of the levee system, deficiencies were noted for which remedial actions are required. The following major deficiencies of the project features were noted during the PI No. 2:

- Levee Embankment:
  - Non-Compliant Vegetation Growth: Significant vegetation growth including trees with trunks larger than 2 inches in diameter and shrubs were present within the vegetation-free zone. The vegetation-free zone extends 15 feet outward from both the landward and riverward toes of the levee.
  - Depressions/Rutting: There were depressions on the landward slope and levee crown measuring up to 6 feet deep, and up to 40 inches in diameter. Some of the depressions had undermined the top of the reinforced-concrete lining on the riverward slope.
  - Underseepage Relief Wells/Toe Drainage System: Vegetation and sediment completely clogging the 6-inch diameter subdrain outlets at the toe of the riverward slope. This was typical at intermittent locations throughout the levee system.
  - Seepage: Cracks measuring up to 100 feet in length were observed at multiple locations on the reinforced-concrete lining on the riverward slope. Signs of active groundwater seepage into channel were observed emanating through the cracks, which was also noted in the PI No. 1.
- Interior Drainage Systems:
  - Vegetation and Obstructions: The inlet of an 18-inch-diameter reinforced-concrete pipe (RCP) side-drainage structure was obstructed more than 10 percent by sediment and debris.
  - Trash Racks: There was a missing trash rack at the inlet of a 30-inch-diameter RCP side-drainage structure.
- Flood Damage Reduction Channels:
  - Concrete Surfaces: There were two locations with significant cracking, spalling, and exposed rebar on the reinforced-concrete lining on the riverward slope. The spalling measured up to 24 inches wide and up to 4 inches deep along 90 feet of the of the riverward slope.

1.4 Overall Rating

The Levee Safety Officer Out-Brief Meeting was held on July 27, 2017. An engineering determination has concluded that the observed deficiencies would not prevent the system from performing as intended during the next significant runoff event. Therefore, the Levee Safety Officer (LSO), Los Angeles District, has determined the overall rating of the CC3 Levee System to be "Minimally Acceptable."

> *A "Minimally Acceptable" system rating is defined as, "One or more items are rated Minimally Acceptable or one or more items are rated 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 Minimally Acceptable rated items within two years so that they do not deteriorate further and become Unacceptable.

In addition, because the "Minimally Acceptable" rating was conditional on a promise from LACDPW of performing a significant amount of work, the USACE SPL Levee Safety Program Manager (LSPM) will revisit this rating in one year or immediately after the LACDPW contract is complete (whichever comes first). A routine inspection will be performed, and if concerns noted during the outbrief meeting were not resolved, especially seepage noted along the levee system, the clogged/capped subdrain outlets, and lack of records for the cleaning and maintenance of the subdrainage system, the LSPM will recommend to the LSO that the system rating should be changed to "Unacceptable."

1.5 Overall System Rating Comparison

The Overall System Rating for this levee system associated with the PI No. 1 was "Minimally Acceptable." The Overall System Rating for this levee system associated with the PI No. 2 was "Minimally Acceptable." The "Minimally Acceptable" rating associated with the PI No. 1 was driven by a number of Unacceptable and Minimally Acceptable rated items, many of which overlap with PI No. 2.

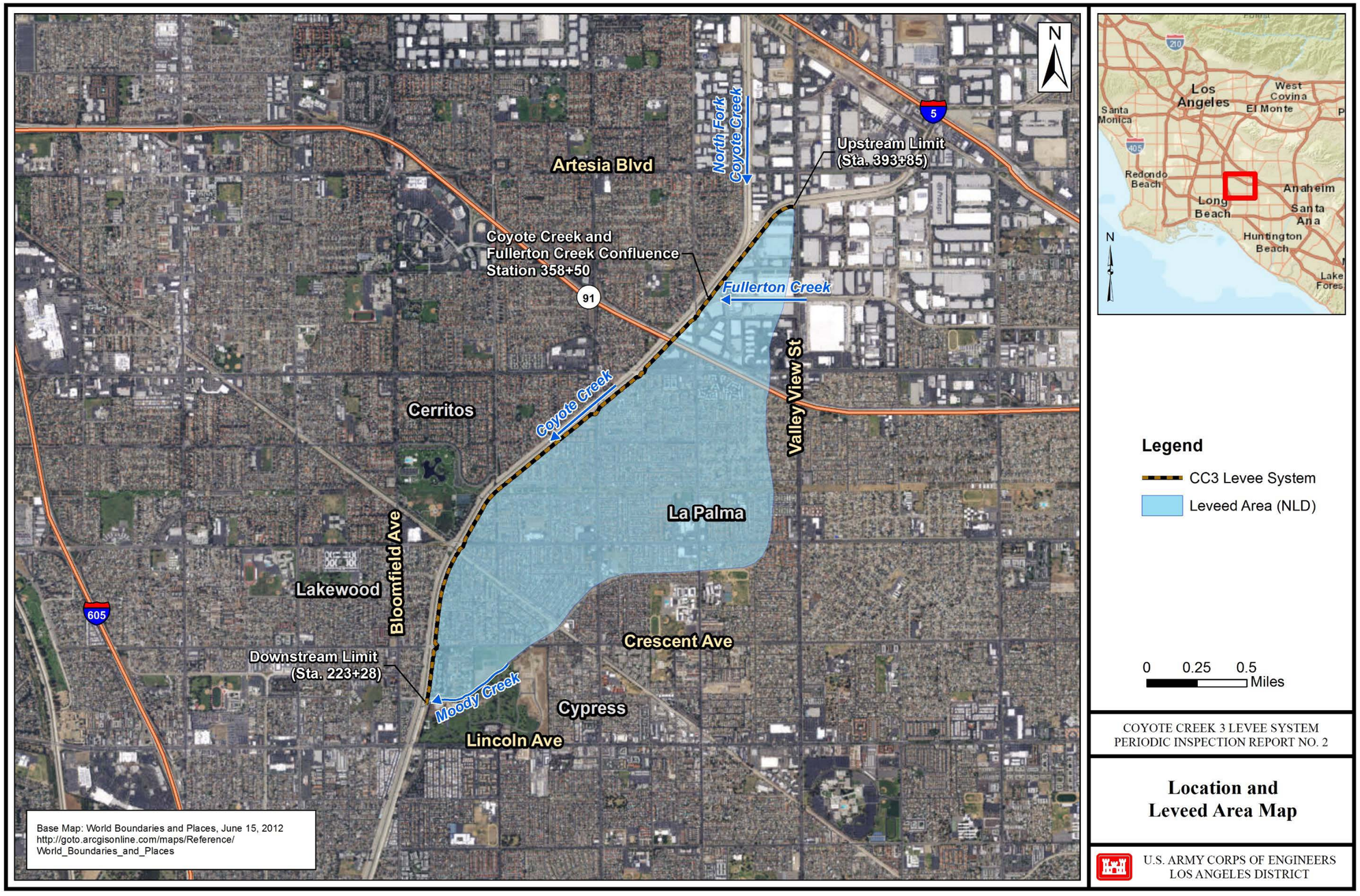
N
Artesia Blvd
North Fork Coyote Creek
Upstream Limit
(Sta. 393+85)
5
Coyote Creek and
Fullerton Creek Confluence
Station 358+50
91
Fullerton Creek
Valley View St
Coyote Creek
Cerritos
La Palma
Bloomfield Ave
Lakewood
605
Crescent Ave
Downstream Limit
(Sta. 223+28)
Moody Creek
Cypress
Lincoln Ave
Base Map: World Boundaries and Places, June 15, 2012
http://goto.arcgisonline.com/maps/Reference/
World_Boundaries_and_Places
Los Angeles
West Covina
El Monte
Santa Monica
Redondo Beach
Long Beach
Anaheim
Santa Ana
Huntington Beach
Legend
CC3 Levee System
Leveed Area (NLD)
0 0.25 0.5
Miles
COYOTE CREEK 3 LEVEE SYSTEM
PERIODIC INSPECTION REPORT NO. 2
Location and
Leveed Area Map
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Figure 1