



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



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**LOS ANGELES RIVER/COMPTON  
CREEK 1 LEVEE SYSTEM  
LOS ANGELES COUNTY, CALIFORNIA  
NLD SYSTEM ID # 3805010026**

**PERIODIC INSPECTION REPORT NO 1  
GENERALIZED EXECUTIVE SUMMARY**

**FINAL SYSTEM RATING: MINIMALLY ACCEPTABLE  
FINAL RATING DATE: MARCH 15, 2013**

PERIODIC INSPECTION REPORT PREPARED BY URS GROUP, INC.  
FOR THE U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

SUBMITTED: AUGUST 2012  
INSPECTED: SEPTEMBER 28, 2010 THROUGH OCTOBER 7, 2010

## 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 U.S. Army Corps of Engineers (USACE) Los Angeles District has authorized URS Group, Inc. (URS) to perform a Periodic Inspection (PI) of the Los Angeles River/Compton Creek 1 (LAR/CC1) Levee System in Los Angeles County, California. This Periodic Inspection Report was prepared following the Scope of Work for Task Order CQ01 on USACE Contract W912P9-10-D-0501, *Indefinite Delivery A-E Contract for Dam and Levee Safety for Areas Selected by the St. Louis District, US Army Corps of Engineers*.

### 1.2 System Summary

The LAR/CC1 Levee System, shown on Figure 1, is located in the County of Los Angeles, California, and is part of the Los Angeles County Drainage Area (LACDA).

The LAR/CC1 Levee System comprises two levee segments (See Figure 1):

- Los Angeles River LAR/CC1 Levee Segment which runs on the right (west) bank of the Los Angeles River from the confluence with Compton Creek to the ocean.
- Compton Creek LAR/CC1 Levee Segment which runs on the right (west) bank of Compton Creek from the 91 Freeway to the confluence with the Los Angeles River.

The LAR/CC1 Levee System, along with other similar works in the LACDA, was authorized initially by the Emergency Relief Act of 1935 to provide drainage and flood control. On June 30, 1937, it was transferred to the more comprehensive project adopted in the Flood Control Act of June 22, 1936. The project was modified by additional Acts and was eventually built under the Flood Control Acts of August 18, 1941 and May 15, 1950. The Los Angeles County Drainage Area, California Flood Control Improvements project was authorized under Title I, Section 101(b) of the Water Resources Development Act of 1990 (Public Law 101-640).

The USACE Los Angeles District and the Los Angeles County Flood Control District (LACFCD) entered into a Project Cooperation Agreement on August 7, 1995, as required by Public Law 99-622. The LACFCD is responsible for operating and maintaining all the non-federal features of the Los Angeles County Drainage Area. The Los Angeles County Department of Public Works (LACDPW) has assumed the functions of the LACFCD. The LACDPW is the Local Sponsor for the LAR/CC1 Levee System.

### 1.3 Field Inspection and Summary of Major Deficiencies Found

The field inspection for the LAR/CC1 Levee System was conducted September 28 through October 4, 2010. The pump stations were inspected October 5 and 7, 2010. The Local Sponsors show an active participation in operation and maintenance of the project; however, some deficiencies were noted and remedial actions are required. The main system deficiencies are:

### Levee Embankments

- **Unwanted Vegetation Growth:** The growth of non-compliant vegetation in the vegetation-free zone, including on the crown, landside slope, and riverside slope of the levee.
- **Encroachments:** The encroachment of side drains, utilities, facilities, power poles, retaining walls, irrigation lines, manholes, fences, monitoring wells, solar panels, and signs on the landside slope and near the crown of the levee. The Levee Embankments checklist was used to record (1) any side drain that was shown on available as-built drawings but was not found during the field inspection and for which no approved permit for removal was found and (2) any side drain that was found during the field inspection but is not shown on the as-built drawings (this may include side drains where changes have occurred, such as change in pipe material, change in diameter/size, or fewer or more pipes/conduits) and no approved permit for installation/modification was found. Side drain encroachments are important because they may have been removed or installed using unacceptable methods that could cause seepage and erosion along the pipe/conduit or leakage of water and backfill into the pipe/conduit. A total of 36 side drain encroachments were identified.
- **Erosion/Bank Caving:** Erosion on the landside slope and crown, typically caused by broken irrigation pipes or drainage from the crown.
- **Depressions/Rutting:** Depressions and rutting on the crown and landside slope.
- **Cracking:** Deterioration of the asphalt-paved and concrete-paved crowns of the levee embankments, such as alligator cracks, upheaval and raveling, was observed. Some cracks in the grouted riprap surface on the riverside slope.
- **Animal Control:** Large animal burrows on the crown and landside slope.
- **Culverts/Discharge Pipes:** See Culverts/Discharge Pipes under the Interior Drainage System heading for details.
- **Riprap Revetments & Bank Protection:** Riprap displacement on the riverside slopes within the Los Angeles River.
- **Revetments other than Riprap:** Cracks and holes in grouted riprap on riverside slopes.
- **Underseepage Relief Wells/Toe Drainage Systems:** Vegetation and debris obstructing the subdrain collector vaults within the Los Angeles River.

### Floodwalls

- **Unwanted Vegetation Growth:** Vegetation on top of or at the toe of the floodwall.
- **Encroachments:** Utility encroachments.

### Interior Drainage System

- **Vegetation and Obstructions:** Vegetation and debris obstructing drainage.
- **Concrete Surfaces:** Cracking and/or spalling in the side drain outlet structures. Some cracking and/or spalling of concrete around various metal door frames located on the toe of the riverside levee slope.

- **Culverts/Discharge Pipes:** Documentation of the interior condition of the pipes (via video or visual inspection methods) was not provided.
- **Flap Gates/Flap Valves/Pinch Valves:** Flap gates were corroded, blocked by debris, missing, or non-operational.
- **Trash Racks (non-mechanical):** Some trash racks were blocked by debris.

### **Pump Stations**

- **Pump Stations Operating, Maintenance, Training, & Inspection Records:** Personnel training or refresher training in pump station operations were not being conducted and documented.
- **Pump Station Operations and Maintenance Equipment Manuals:** Operations and maintenance equipment manuals were not at some pump stations and were not readily available. The pump station operation and maintenance equipment manuals are present and updated but incomplete at some pump stations.
- **Pumps:** Bearing sensor records were not readily available. Proper operation of the pumps was not demonstrated.
- **Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc.:** Upstream pumps to a city pump station appeared to be non-operational.
- **Sumps/Wet Well:** Sump well contained significant trash, debris, and sediments.
- **Megger Testing on Pump Motors and Critical Power Cables:** The megger testing programs for the pump stations were not available.
- **Intake and Discharge Pipelines:** Inaccessible to visually inspect intake pipes.
- **Flap Gates/Flap Valves/Pinch Valves:** Flap gates were missing.

### **Flood Damage Reduction Channels**

- **Shoaling (sediment deposition):** Sediment has been deposited at the bottom of the flood-damage reduction channel, facilitating vegetation growth and obstructing flow in the channel.
- **Concrete Surfaces:** Cracking and spalling of concrete surfaces on the riverside slope.
- **Slab and Monolith Joints:** Some joints were observed to have deteriorated and/or vegetation was found growing within the joints.
- **Flap Gates/Flap Valves/Pinch Valves:** See Flap Gates/Flap Valves/Pinch Valves under the Interior Drainage System heading for details.
- **Revetments other than Riprap:** For details of Revetments other than Riprap (riverside slopes that consist of grouted riprap), see the same rated item under the Levee Embankments heading.

URS 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 LAR/CC1 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 Los Angeles River/Compton Creek 1 Levee System to be “Minimally Acceptable.” A “Minimally Acceptable” system rating is defined as:

*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 flood 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.”

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 FINAL PERIODIC INSPECTION REPORT NO. 1

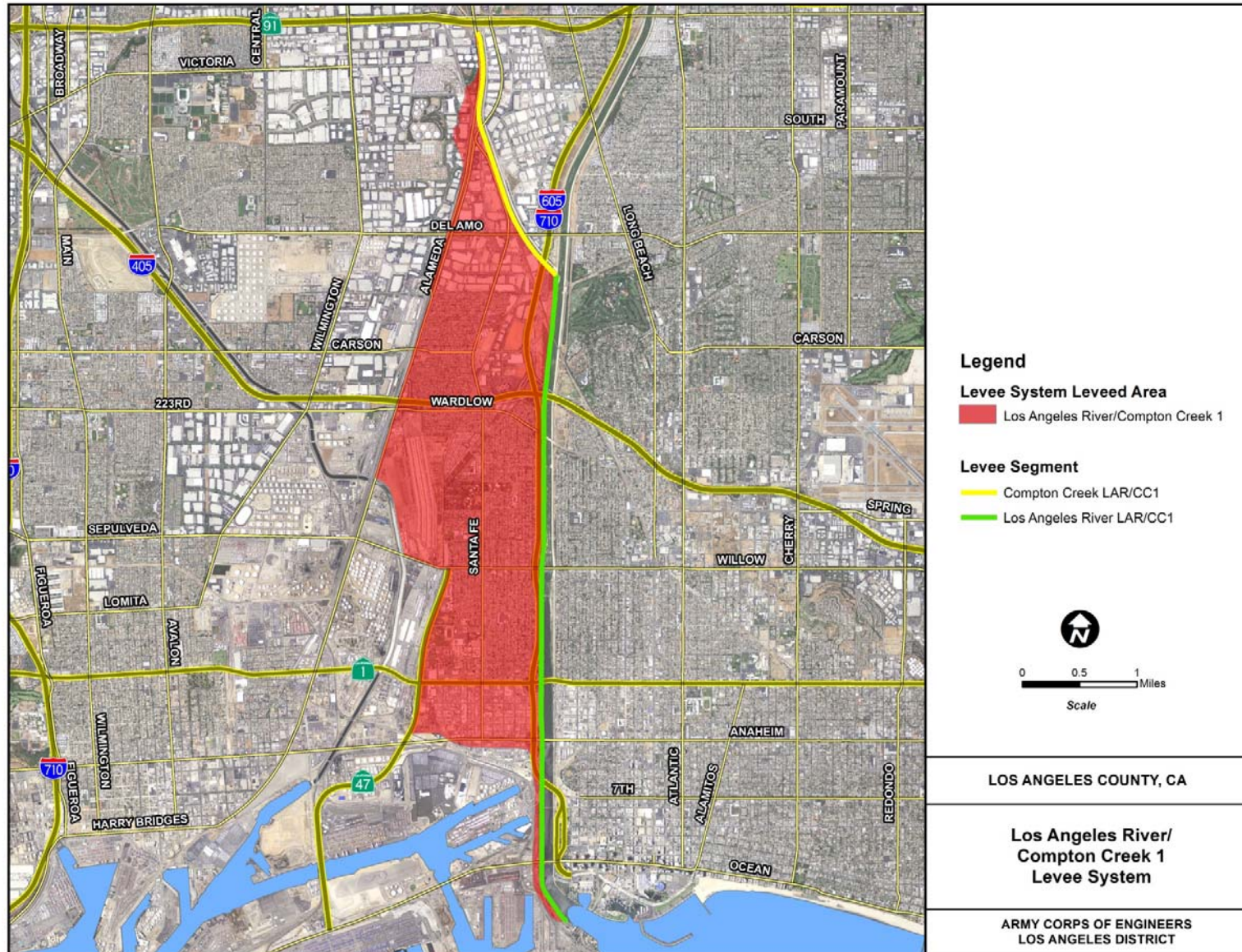


Figure 1. Los Angeles River/Compton Creek 1 Levee System