



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



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**NEW RIVER 1  
LEVEE SYSTEM  
MARICOPA COUNTY, ARIZONA  
NLD SYSTEM ID # 3805020013**

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

**FINAL SYSTEM RATING: MINIMALLY ACCEPTABLE**

**FINAL RATING DATE: 10 SEPTEMBER 2015**

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

SUBMITTED: AUGUST 2015  
INSPECTED: AUGUST 6, 2014

## EXECUTIVE SUMMARY

This Executive Summary provides an introduction to the periodic inspection, an overview of the New River 1 (NR1) Levee System, a summary of the major findings of the periodic inspection, and the overall system rating.

### 1.1 Scope and Purpose of Periodic Inspections

The purpose of the NR1 Levee System periodic inspection (PI) 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 NR1 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

Figure 1 shows the NR1 Levee System (NLD System ID #3805020013) and leveed area as depicted in the National Levee Database (NLD). Prior to this PI, USACE-SPL performed a field reconnaissance on December 4, 2013 to confirm or modify the information in the NLD concerning this levee system, including the extent (limits) of the levee system and levee segments; the leveed area; and the number and locations of levee segments, gravity pipes, floodwalls, closure structures, and pump stations. The reconnaissance team eliminated channel reaches from the upstream and downstream ends of the levee system (a channel reach is a reach where the elevation of the ground on the landside is greater than or equal to the elevation of the levee system alignment (LSA) to a significant distance from the alignment). The reconnaissance team also recorded the number and locations of drop structures and groins, which are not included in the NLD. The reconnaissance team prepared a Memorandum for Record with the findings of this reconnaissance and recommendations for updating the levee extent and leveed area in the NLD. This Memorandum for Record is referred to herein as the *Leveed Area Revision MFR*.

URS was asked to confirm the upstream and downstream limits proposed in an earlier version of the *Leveed Area Revision MFR* or to recommend a modified limit and conduct the current PI on the basis of URS' recommendations. URS was not tasked with reviewing the full extent of the portions of levee proposed for deletion, only with observing whether the endpoints appeared reasonable based on the available information and observations in the field. Based on the PI observations and other information, URS agrees with the upstream and downstream limits of the levee system. The extent of the levee system and leveed area recommended by this PI are shown on Figure 1.

The LSA recommended by this PI extends along the right bank (looking downstream) of the New River from a point about 80 feet upstream from the point where the 91st Avenue Drain discharges into the New River (Project Station 322+83) to Project Station 259+12, for a total length of 6,371 feet (1.21 miles) measured along the LSA. The LSA is formed by the crown of the levee embankment; there are no floodwalls.

The NR1 Levee System is a part of the Phoenix, Arizona and Vicinity (Including New River) Flood Damage Reduction Project (Project), which was authorized by the Flood Control Act of 1965, 79 Statute 1073, Public Law 89-298, 89th Congress, 1st Session, approved on October 27, 1965 (Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual [OMRRR],

USACE-SPL, 1997). Construction of the levee improvements was completed by USACE-SPL in 1989 according to the Flood Control District of Maricopa County (FCDMC, 2014).

The NR1 Levee System is located in the Cities of Peoria and Sun City, in Maricopa County, Arizona. It is in Arizona's eighth congressional district and in Federal Emergency Management Agency (FEMA) Region 9.

The levee system is operated and maintained by the Flood Control District of Maricopa County (FCDMC) in accordance with the local cooperation agreement for the Project signed on July 21, 1977 (O&M Manual, USACE-SPL, 1982).

### 1.3 Summary of Major Deficiencies Found

A team of five professionals from URS inspected the NR1 Levee System on August 6, 2014. Representatives from the FCDMC accompanied the inspection team. An engineer from the USACE-SPL Dam and Levee Safety Section acted as the Site Safety and Health Officer.

Each item on the levee system inspection checklists observed during the site inspection was rated Unacceptable (U), Minimally Acceptable (M), Acceptable (A) or Not Applicable (NA) following criteria incorporated in the Levee Inspection System. During the PI of the system, any deficiencies (Unacceptable or Minimally Acceptable observations) were noted, for which remedial actions are required. The following major deficiencies were noted during the PI of the NR1 Levee System features:

- Levee Embankments
  - Non-Compliant Vegetation Growth— Significant non-compliant vegetation—consisting of brush and trees with trunks greater than 2 inches in diameter—was observed within the vegetation-free zone (VFZ). The VFZ extends across the levee embankment and 15 feet outward from both the landward and riverward toes of the levee. In addition, an irrigation system (encroachment) has been installed on the land side of the crown.
- Interior Drainage System
  - Culverts/Discharge Pipes— The interior condition of the pipes has not been verified using television camera videotaping or visual inspection methods within the past 5 years.
- Flood Damage Reduction Channel
  - Vegetation and Obstructions—Significant vegetation, including trees with trunks up to 12 inches in diameter, was present in the channel.

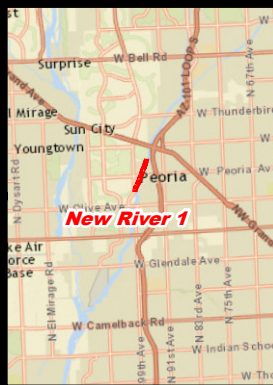
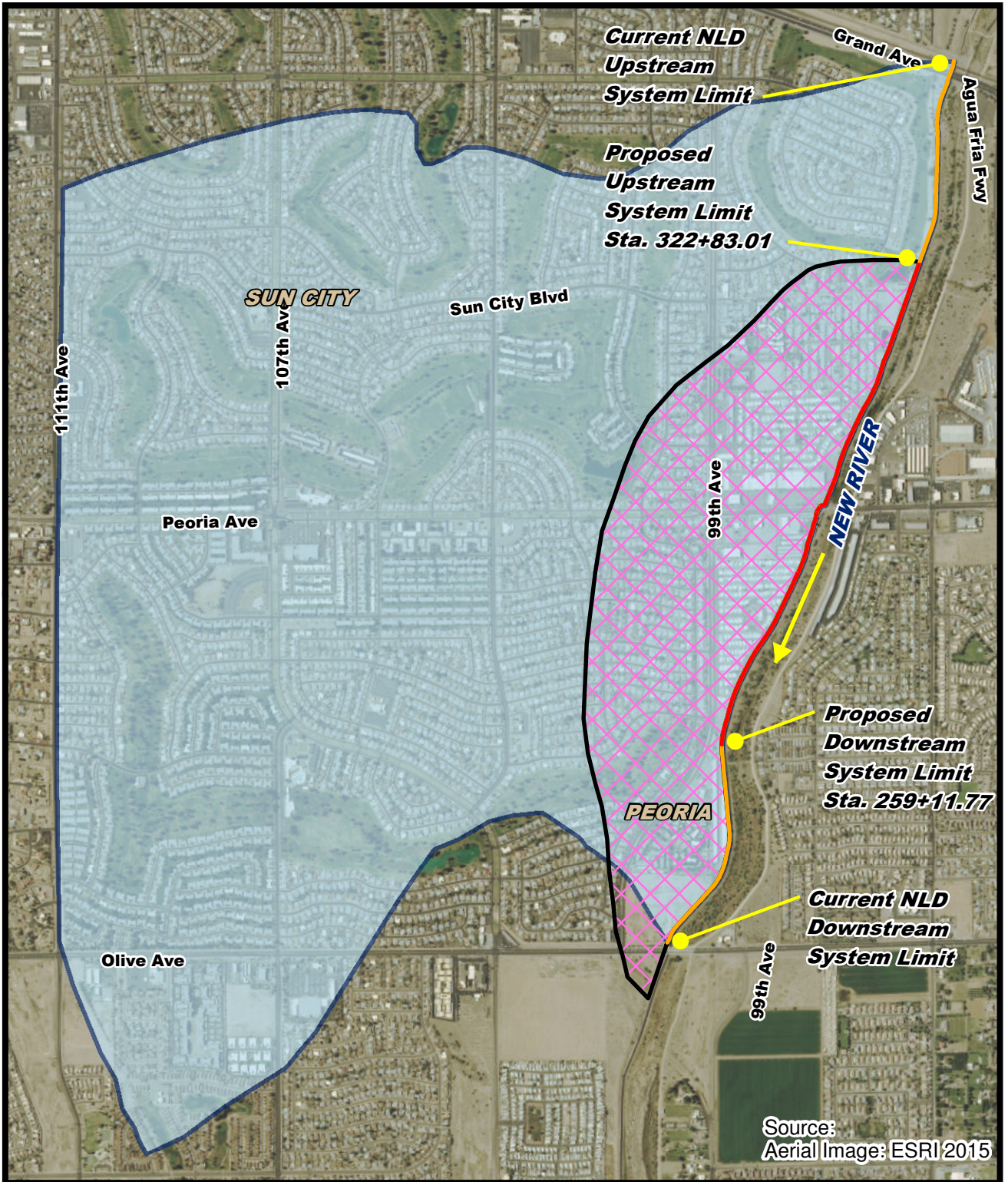
### 1.4 Overall Rating

The Levee Safety Out-Brief Meeting for the NR1 Levee System was held on January 28, 2015 at the USACE-SPL headquarters, with representatives of the local sponsor participating by webinar. An engineering determination has concluded that the observed deficiencies would not prevent the systems from performing as intended during the next significant runoff event. Therefore, the Levee Safety Officer, Los Angeles District, has determined the overall rating of the NR1 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 Unacceptable rated items as soon as possible, not to exceed two years, and to correct the Minimally Acceptable rated items so that they do not deteriorate further and become Unacceptable.





**Legend**

- Recommended LSA
- NLD LSA
- Leveed Area Per NLD
- Leveed Area Recommended

0      0.2      0.4 Miles

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**LOCATION AND  
LEVEED AREA MAP**

**URS** U.S. Army Corps of Engineers  
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