US Army Corps of Engineers ®
Los Angeles District

SAN LUIS REY RIVER 5 LEVEE SYSTEM

SAN DIEGO COUNTY, CALIFORNIA

NLD SYSTEM ID # 3805010011

PERIODIC INSPECTION REPORT NO. 1
GENERALIZED EXECUTIVE SUMMARY

FINAL SYSTEM RATING: UNACCEPTABLE
FINAL RATING DATE: SEPTEMBER 30, 2016

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

SUBMITTED: SEPTEMBER 2016
INSPECTED: MARCH 3, 2016

EXECUTIVE SUMMARY

This Executive Summary provides an introduction to the Periodic Inspection of the San Luis Rey River 5 (SLR5) Levee System, an overview of the SLR5 Levee System, a summary of the major findings of the Periodic Inspection, and the overall rating for the SLR5 Levee System.

1.1 Scope and Purpose of Periodic Inspections

The purpose of the SLR5 Levee System 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 SLR5 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

The SLR5 Levee System is located along the southern boundary of the Mar Lado residential development, on the right/north bank of the San Luis Rey River (SLRR) in the State of California, in San Diego County, in the City of Oceanside (Figure 1). This levee system runs 1.57 miles along the north (right) bank of the river from just downstream of Benet Road to just downstream of the intersection of Northwood Drive and Rivertree Drive. It is one of five levee systems on the San Luis Rey River 7.1 mile long project that were federally authorized and subsequently constructed by the U.S. Army Corps of Engineers, South Pacific Division, Los Angeles District (USACE SPL). The construction of the SLR5 Levee System was completed on July 9, 1994 (USACE SPL 2010). Per the National Levee Database (NLD), the SLR5 Levee System is currently operated and maintained by the USACE SPL Programs and Project Management Division (PPMD); however, in the future, the levee system will be turned over to the City of Oceanside for post-construction operation and maintenance per the Local Cooperation Agreement (LCA) signed on May 13, 1988 (USACE SPL 2010a). The NLD Number (NLD No.) for the SLR5 Levee System is 3805010011.

The SLR5 Levee System extends from Station 216+19 (approximately 200 feet downstream from the intersection of Northwood Drive and Rivertree Drive) to the downstream limit where the levee ties into high ground at Station 133+10 (approximately 290 feet downstream from Benet Road), a distance of approximately 8,309 feet (1.57 miles). It includes a parapet wall, earthen levee embankment, riprap revetment, grouted stone revetment, and knee stone and toe stone revetment. Other features along the SLR5 Levee System include side-drainage structures, a side channel and associated reinforced-concrete warped slope, utility crossings, bridge crossings, access ramps, a turnaround, and a cut-off wall.

1.3 Summary of Major Deficiencies Found

The Periodic Inspection (PI) No. 1 of the SLR5 Levee System was conducted on March 3, 2016, and representatives from both the USACE SPL and the City of Oceanside were present. During the inspection of the levee system, deficiencies were noted for which remedial actions are required. The following main deficiencies of the project features were noted during the PI No. 1:

- 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.

- Animal Control: Animal burrows, measuring up to 12 inches in diameter and up to 3.5 feet deep, were observed on the levee crown and landward slope.

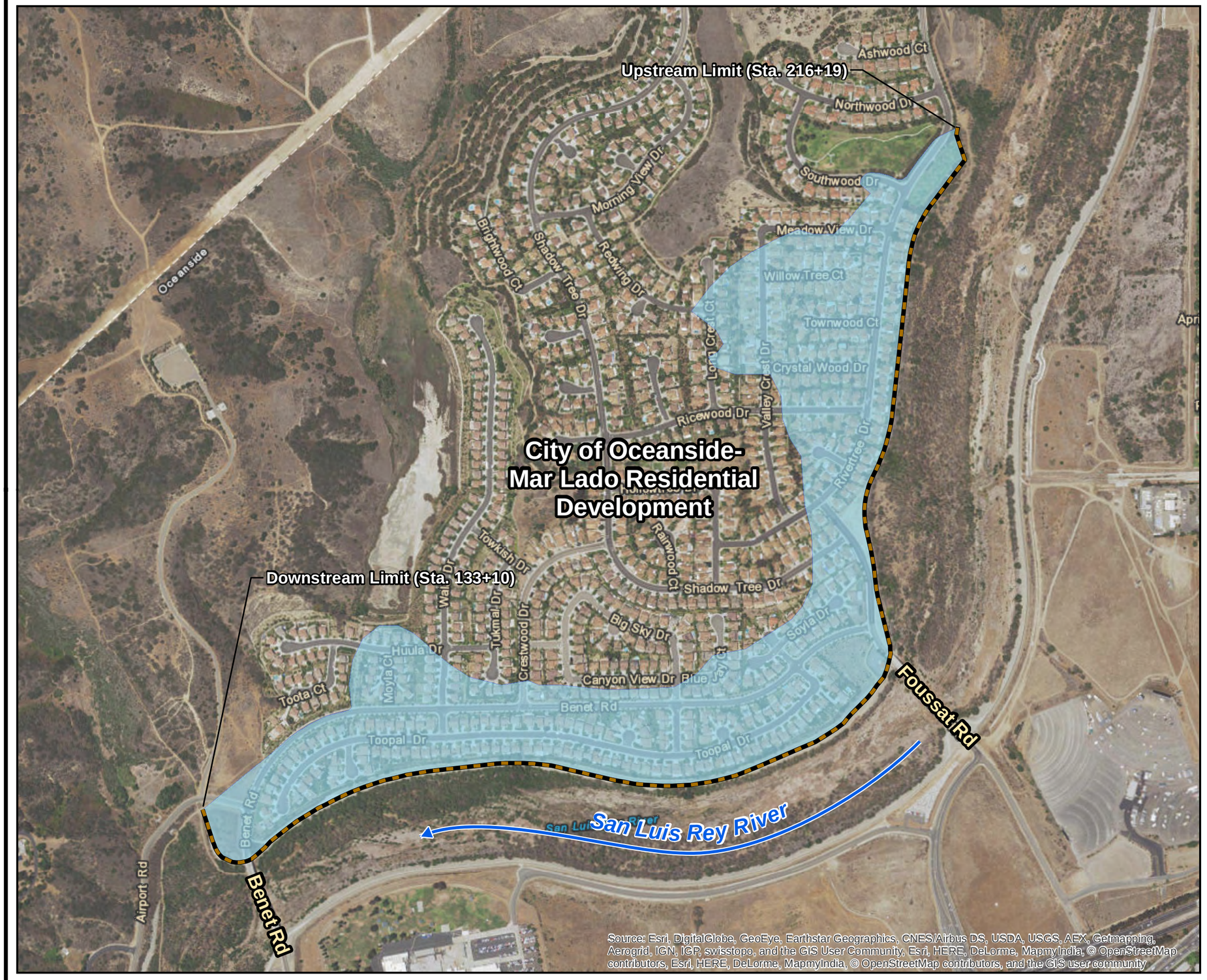
- Floodwalls:
  - Non-Compliant Vegetation Growth: Significant vegetation growth including trees with trunks larger than 2-inches in diameter and shrubs were present within 15 feet of the landside and riverside face of the parapet wall.
- Interior Drainage Systems:
  - Vegetation and Obstructions: The outlets of two side-drainage structures were significantly obstructed by sediment and debris.
  - Culverts/Discharge Pipes: The side-drainage structures could not be visually inspected and have not been video inspected.
- Flood Damage Reduction Channels:
  - Vegetation and Obstructions: Significant portions of the riprap slope protection were hidden by dense brush, trees, and grass and was unable to be completely inspected. Some of the vegetation exceeded 2 inches in diameter.
  - Revetments other than Riprap: Significantly sized voids were observed behind the grouted stone at the top of the riverward slope at three locations. These items were included under the Flood Damage Reduction Channel checklist, because they were located along a channel reach, where there was no levee backslope.

1.4 Overall Rating

The Levee Safety Out-Brief Meeting was held on May 26, 2016. An engineering determination has concluded that the observed deficiencies could prevent the SLR5 Levee 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 SLR5 Levee System to be "Unacceptable."

> *An "Unacceptable" system rating is defined as, "One or more items are rated as Unacceptable and would prevent the segment/system from performing as intended, or a serious deficiency noted in past inspections (which had previously resulted in a minimally acceptable system rating) has not been corrected within the established timeframe, not to exceed two years."*

The USACE SPL Programs and Project Management Division will be notified of the overall rating of the levee system by letter with instructions to correct Critically Unacceptable rated items immediately, Unacceptable rated items as soon as possible, and to correct the Minimally Acceptable rated items within two years so that they do not deteriorate further and become Unacceptable. A public notice will be prepared and coordinated between the USACE SPL and the City of Oceanside. Once the Critically Unacceptable deficiencies are corrected by the USACE SPL in cooperation with the City of Oceanside, the overall system rating will be revised to "Minimally Acceptable." The Critically Unacceptable rated item included the vegetation within the vegetation free zone on the riverside of the levee.



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Legend

- SLR5 Levee System
- Leveed Area (NLD)

0 500 1,000 Feet

SAN LUIS REY RIVER 5 LEVEE SYSTEM PERIODIC INSPECTION REPORT NO. 1

Location and Leveed Area Map

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Figure 1