

US Army Corps of Engineers ® Los Angeles District



SAN DIEGO RIVER 1 LEVEE SYSTEM SAN DIEGO COUNTY, CALIFORNIA NLD SYSTEM ID # 3805010006

PERIODIC INSPECTION REPORT NO 1 GENERALIZED EXECUTIVE SUMMARY

FINAL SYSTEM RATING: UNACCEPTABLE FINAL RATING DATE: SEPTEMBER 30, 2015

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

> SUBMITTED: SEPTEMBER 2015 INSPECTED: JANUARY 21 -22, 2015

EXECUTIVE SUMMARY

This Executive Summary provides the scope and purpose of the periodic inspection, an overview of the San Diego River 1 (SDR1) Levee System, a summary of the major findings of the periodic inspection, and the overall levee system rating.

1.1 Scope and Purpose of Periodic Inspection

The purpose of the SDR1 Levee System periodic inspection is to identify deficiencies that pose hazards to human life or property, and to determine design adequacy relative to present day criteria. 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 SDR1 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 SDR1 Levee System periodic inspection.

1.2 System Summary

The SDR1 Levee System is located on the south bank (left bank [looking downstream]) of the San Diego River in San Diego, California. This levee system was federally authorized and subsequently constructed with earthen fill by the United States Army Corps of Engineers, Los Angeles District (USACE SPL). The San Diego River and Mission Bay Improvement Project is a combined flood risk reduction and coastal navigation project. This project included realignment of the San Diego River, construction of ocean jetties, and dredging within Mission Bay through multiple construction contracts. Realignment of the San Diego River began with the construction of ocean jetties. Construction of the San Diego River floodway was initiated under two construction contracts which incorporated channel widening, riverside slope protection, and various drainage structures on both banks. Based on as-built drawings, the alignment of the left bank levee was originally between Station 50+60 and 206+70 (a channel reach continued upstream to Station 216+00) and the right bank levee between Station 58+40.74and 217+00.

Several development projects have occurred since the original construction of the San Diego River and Mission Bay Improvement Project. Development projects included the construction of multiple bridge crossings (Sunset Cliffs Blvd., Mission Bay Drive, Interstate 5, San Diego Metropolitan Transit System [SDMTS] Railway, and Morena Blvd.) and Interstate 8. Upstream from Station 180+00, the alignment of the left bank maintenance road was modified due to the construction of Interstate 5, SDMTS Railway, Morena Blvd., and Interstate 8. Interstate 8 is aligned parallel to the left bank levee, with portions (e.g. upstream from Station 190+00) of the highway embankment constructed coincident (i.e. on top of) with the left bank levee and channel. Between Station 50+60 and 180+00, Sunset Cliffs Blvd. and Mission Bay Drive were constructed. Downstream from Station 50+60, the left bank levee ties into the south jetty. Due to significant differences between present day conditions and the as-built drawings, it was recommended to inspect the as-built left bank levee (Station 50+60 to 206+70). It is unknown if the maintenance road was built as a bike path. Development adjacent to the left bank levee has modified the continuous levee into a series of alternating channel and levee reaches. The SDR1 Levee System

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extent and leveed area were revised on March 27, 2015 (USACE 2015) to include levee and channel reaches totaling a distance of 9,160 ft (1.73 miles) between Station 50+60 and 142+20 (Figure 1). The additional channel reach between Station 142+20 and 216+00 was not included in the levee system extent, but corresponding inspection observations were retained in this report.

The SDR1 Levee System is operated and maintained by the City of San Diego (Local Sponsor). The *Operation and Maintenance (O&M) Manual, San Diego River and Mission Bay Project, Pacific Ocean to Mission Valley, San Diego County, California* (USACE 1956) included a detailed description of acceptance by the Local Sponsor of operation and maintenance responsibilities on December 3, 1953. The National Levee Database (NLD) number for the SDR1 Levee System is 3805010006.

1.3 Summary of Major Deficiencies Found

The periodic inspection of the SDR1 Levee System was conducted on January 21-22, 2015 by the USACE San Francisco District (SPN) along with staff from USACE SPL and the Local Sponsor. Levee safety issues identified during the periodic inspection are further discussed in the subsections below.

- Levee Embankment
 - Encroachments Encroachments without documented permits include 14 undocumented levee penetrations within the levee reaches, modifications to inlet/outlet structures, and development adjacent to the landside levee slope.
- Interior Drainage System
 - Vegetation and Obstructions Sediment accumulation (greater than 50%) was located near the outlet of one 36 inch (in.) reinforced concrete pipe (RCP) culvert.
 - Fencing and Gates Damaged fencing creates a fall hazard at four outlet structures.
 - 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 Channels
 - Shoaling A large area of shoaling was observed at the mouth of the river. The channel cross-sectional area is reduced up to 66% which reduces flow capacity.

1.4 Overall Rating

The Levee Safety Out-Brief Meeting for the SDR1 Levee System was held on April 22, 2015 at the USACE SPL headquarters, with USACE SPL and representatives of the City of San Diego participating by webinar. An engineering determination has concluded that multiple observed deficiencies would prevent the system from performing as intended during the next significant runoff event. Therefore, the Levee Safety Officer, Los Angeles District, has determined the overall system rating to be "Unacceptable." An "Unacceptable" system rating is defined as:

The Periodic Inspection has identified one (or more) System Components which are rated Unacceptable and require immediate correction. An engineering determination has concluded that the Unacceptable System Components identified seriously impair the functioning of the levee system, would prevent the system from performing as intended, and pose unacceptable risk to public safety.

The Local Sponsor will be notified of the overall rating of the levee system by letter with instructions to correct any 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. Because this levee system is rated as "Unacceptable" a public notice will be prepared and coordinated between the USACE and the Local Sponsor. Once the Critically Unacceptable deficiencies are corrected by the sponsor and verified by the USACE, the system rating will be revised to "Minimally Acceptable."



Figure 1