



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



**SANTA MARIA RIVER 3A
LEVEE SEGMENT
SANTA BARBARA COUNTY, CALIFORNIA
NLD SYSTEM ID # 3805010095**

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

**FINAL SYSTEM RATING: MINIMALLY ACCEPTABLE
FINAL RATING DATE: MAY 6, 2015**

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

SUBMITTED: JANUARY 2013
INSPECTED: MARCH 12-15, 2012

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 Santa Maria River 3 (SMR-3A) 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 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 is beyond the scope of this levee system inspection.

1.2 System Summary

The Santa Maria River (SMR) levee project as originally constructed in 1963 consists of a set of levees with rip rap revetment. The levee along the south side of the river extends a distance of about 17 miles (89,760 ft). This levee begins at Fugler's Point and ends at the California Highway (Hwy) 1 Bridge. The project also includes a 5-mile (26,400 ft) long levee along the north side of the river. This levee is located between the U. S. Hwy 101 Bridge and the California Hwy 1 Bridge. As such, there is a total of about 22 miles (116,160 ft) of levee constructed in 1963. The levees provide flood protection to the Santa Maria Valley, which includes the entire city of Santa Maria. The entire 22 miles of the SMR Levee System is planned to be separated into four (4) separate systems. The SMR-1 Levee System consists of the 5-mile long levee along the north side of the river located between the U. S. Hwy 101 Bridge and the California Hwy 1 Bridge. The SMR-2 Levee System consists of the 6.8-mile (35,904 ft) long levee along the south side of the river from the California Hwy 1 Bridge to Blosser Road. The SMR-3 Levee System will be separated into two parts (SMR-3A and SMR-3B) due to a modification to the original construction. The SMR-3A Levee Segment consists of the 6.5-mile (34,320 ft) long levee along the south side of the river from Blosser Road to the confluence of the Bradley Canyon Wash and the Santa Maria River. The SMR-3B Levee Segment consists of a 2.2-mile (11,616 ft) long Bradley Canyon Levee System that extends from the confluence of the Bradley Canyon Wash and the Santa Maria River approximately 1.8 miles upstream. The last separated system, the SMR-4 Levee System, consists of approximately 3.7-miles (19,536 ft) of levee along the south side of the river from the confluence of the Bradley Canyon Wash and the Santa Maria River to Fugler's Point. The location map presented in Figure 1.1 shows the location of the different segments in the SMR Levee System.

This report addresses the periodic inspection of the SMR-3A Levee Segment. The SMR-3B Levee Segment periodic inspection and report will be added as a supplement to this report after the construction of the modification to the original design is completed. As previously stated the original construction of SMR-3A Levee Segment, completed in 1963, consisted of an approximate 6.5-mile-long (34,320 ft) reach of stone-revetted earthen levee located along the left (south) bank of the Santa Maria River in the City of Santa Maria, Santa Barbara County, California. SMR-3A Levee Segment extends from Blosser Road to the confluence of the Bradley Canyon Wash and the Santa Maria River, approximately 6.5 miles. The SMR-3A Levee Segment

was federally authorized and subsequently constructed and completed by the U.S. Army Corps of Engineers (USACE) Los Angeles District in November 1963. Due to design deficiencies in the original design, a modification to the original design of the SMR-3A Levee Segment was needed. The mitigation of SMR-3A Levee Segment was designed by the USACE Los Angeles District and construction was completed in 2011. The new design consisted of armoring the existing riverside levee slope with an 8-foot wide compacted soil cement from Blosser Road to approximately 1,720 ft from the confluence of the Bradley Canyon Wash to the Santa Maria River, approximately 6.2 miles. However, a 10-foot wide soil cement was constructed due to constructability purposes. It should be noted that 8-foot of soil cement was compacted and the remaining 2-foot was left un-compacted. The remaining 1,720 ft (0.33 miles) consisted of a combi-wall construction within the riverside of the existing levee crest. A combiwall was utilized within this portion of SMR-3A Levee Segment due to an environmental sensitive area. SMR-3A Levee Segment is part of a longer, 17-mile long levee system that was designed to convey the peak flow of the design flood on the Santa Maria River from the confluence of the Cuyama and the Sisquoc Rivers downstream to the State Hwy 1 Bridge near Guadalupe. The Water Resources Division of the Santa Barbara County Flood Control and Water Conservation District (hereafter the "County"), which is a branch of the Public Works Department, is the local agency responsible for the operation and maintenance of the levee.

1.3 Summary of Major Deficiencies Found

The levee segment was inspected on 12-15 March 2012. During the periodic inspection, several deficiencies were noted for which remedial actions are required. The following main deficiencies were noted during the periodic inspection of the project features:

- Levee Embankments
 - There was vegetation growth on the landside slope less than 2-inches in diameter and a few greater than 2-inches. Due to the vegetation grown observed on the landside slope greater than 2-inches, this item has been rated as "Unacceptable."
 - Depressions and rutting were observed along some portions of the landside levee slope due to some type of machinery riding on the levee slope. Based on field observations the rutting is more than 6-inches in depth. In addition, multiple pedestrian traffic paths have occurred at several locations at the landside slope of the levee which has depressed more than 6-inches. Due to the depth of depressions/rutting this item has been rated as "Unacceptable."
 - After the original construction of SMR-3A Levee Segment the Santa Maria Landfill utilized the land on the landward side of the levee for their landfill operations. Over the years of filling the landward side of the levee with trash/refuse the landward side of the levee has been filled with debris up to the levee crest approximately 2.5 miles upstream of Suey Crossing Road and is still being utilized today. However, the landfill could potentially reach its capacity by 2018 and at that point be shut down. This particular rated item was rated an Minimally Acceptable.
 - A majority of the concern for erosion came from the landside of the levee. There are some areas of concern that erosion at the landside could be an issue. The erosion areas appeared to be both man-made and natural in origin. This particular rated item was rated an Minimally Acceptable.

- Due to the soil cement revetment, all of the animal burrows observed were located on the landside slope of the levee. There are areas along the levee where the animal burrow control program is not effective. The animal burrows areas were locally clustered within one area of the levee, but spread sporadically along the entire segment. This particular rated item was rated a Minimally Acceptable.
- A cut to the toe of the landside slope of the levee upstream of the segment near the Bradley Canyon Confluence was observed. This was due to the City Landfill constructing a minor concrete drainage ditch near the landside toe. This particular rated item was rated an Minimally Acceptable.
- Interior Drainage System
 - During the inspection the grate for maintenance access for the outlet structures appeared to be in fair condition, however requires maintenance for safety issues. The grate at the three-cell box culvert at Station 86+88 and the 36-inch RCP at Station 179+63 is damaged. In addition, the lock on the grate at Station 68+73 supports some corrosion and would need to be replaced. Due to the corrosion of the lock and damage to the grates, this item has been rated as “Unacceptable.”
 - Exposed rebar due to concrete spalling was observed at the downstream most cell at the intake portion of the three cell box culvert. This particular rated item was rated a Minimally Acceptable.

1.4 Overall Rating

The SMR-3A Levee Segment has been rated as “Minimally Acceptable”:

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 significant runoff event.

The Local Sponsors will be notified of the overall rating of the levee system by letter with instructions to correct the “Unacceptable” rated items immediately, and correct the “Minimally Acceptable” rated items within two years so that they do not deteriorate further and become “Unacceptable.”

This levee segment inspection was based on observations of field conditions and available data at the time of the inspection. The condition of any levee segment depends on numerous and constantly changing internal and external conditions and is evolutionary in nature. It is incorrect to assume the present condition of the levee segment will continue to represent the condition of the levee segment in the future. Only through continued inspection, maintenance, repair, and rehabilitation can there be a reasonable chance that unsafe conditions can be avoided

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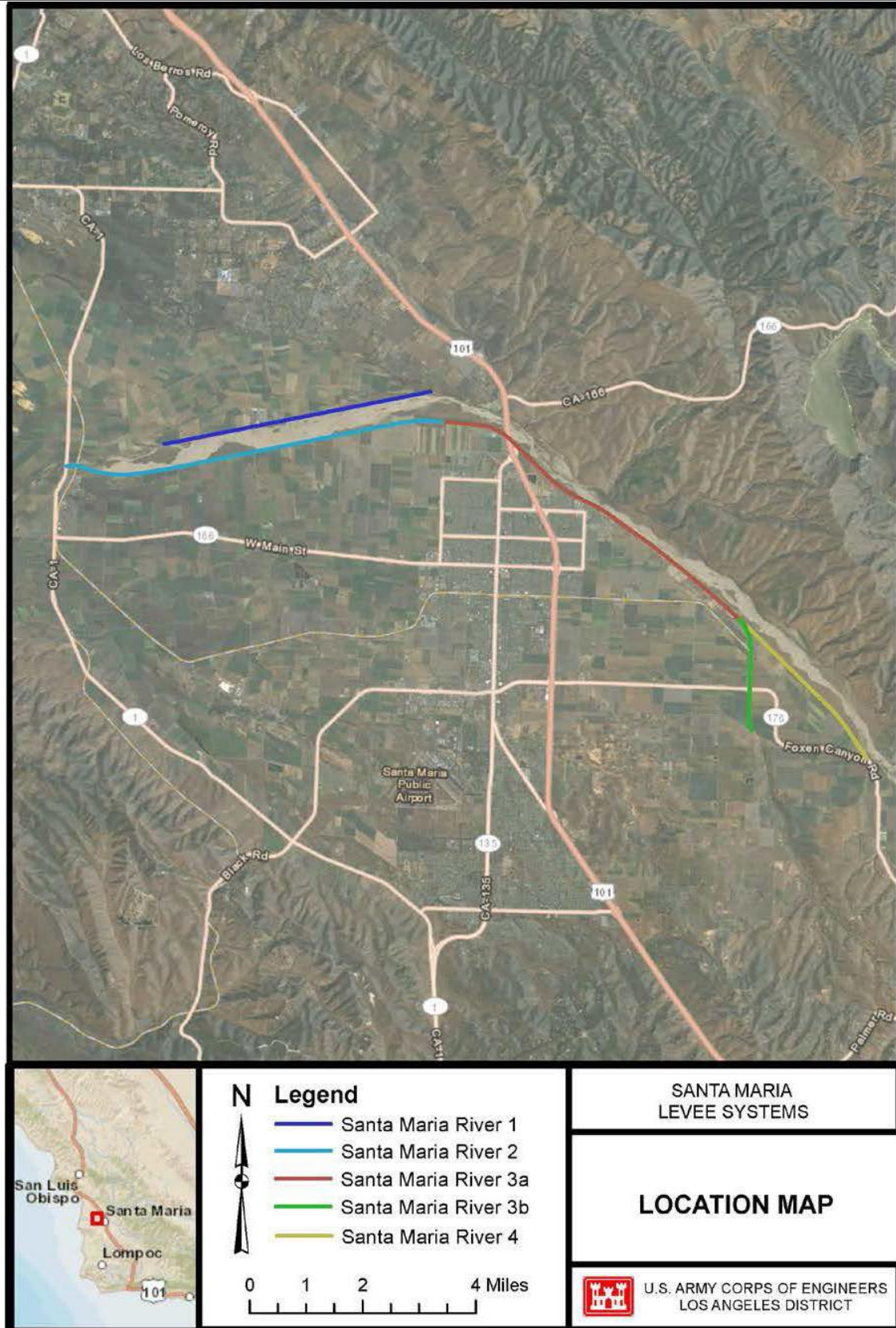


Figure 1.1 Santa Maria River Location Map