

# CSA-50 Lower Carmel River Stormwater Management and Flood Control Report

## **Why was this study completed?**

The goal of this report is to utilize past studies and new information to identify projects that, implemented alone or in combination, are designed to improve flood control/stormwater management for County Service Area 50 (CSA-50).

## **What are the most important risks?**

CSA-50 is subject to flooding from the adjacent Carmel River combined with low-lying areas in the developed portion of the CSA and steep canyons above that drain into this area. The local storm drain system can potentially be overwhelmed during large rain events that expose CSA-50 to significant risk.

## **How can these risks be mitigated?**

Because flood protection projects can be expensive to implement, the report presents two levels of flood protection:

1. “Reasonable protection from the 100-year storm.” Projects in this category would protect CSA-50 from 100-year flooding, but FEMA’s mandates for having flood insurance would still apply. This level of protection requires less infrastructure and is therefore less expensive.
2. “FEMA protection level.” These projects would be constructed to meet all FEMA standards. Adherence to FEMA guidelines would change the Flood Insurance Rate Map for CSA-50 and would eliminate the need for mandatory flood insurance policies. This level of protection would be inherently more expensive.

## **What is the 100-year storm?**

This is a large flood event that, statistically speaking, has a one percent chance of occurring in any particular year. It should not be assumed

that it is a storm that will only happen once every 100 years. Such a large event could occur more frequently, and it is the benchmark flood event for FEMA insurance purposes.

## **What do the proposed projects look like?**

Projects in this report include flood walls, levee improvements, storm drain upgrades, pump stations, pipe outfall closure devices, culverts, and more. Each project was considered in the context of the “Reasonable” and “FEMA” protection levels. Additionally, the report looked at possible future changes in the floodplain such as the potential Highway 1 Causeway project and how that could affect conditions within CSA-50.

## **How much will these projects cost?**

Total costs range depending on the level of protection desired from \$8.4 million for “Reasonable” (non-FEMA) to \$25.8 million for full “FEMA” protection. The cost to realize full “FEMA” protection will be significantly reduced by the completion of the Carmel River Floodplain Restoration and Environmental Enhance Project (which includes construction of the causeway). Environmental impacts and aspects such as permitting costs were considered in predicted project costs.

Costs for individual projects presented in this report range from \$80,000 to \$9 million. There are seven projects that can be prioritized, in whole or in part, and implemented as resources are identified and secured in a manner that is consistent with other activities in the lower Carmel Valley.