

SEMSWA Vulnerability Analysis Executive Summary

Statement of Purpose

The purpose of this analysis was to identify areas within SEMSWA's Service area that would be the most vulnerable in a major storm event with the goal of identifying and prioritizing future projects to reduce the risks.

Actions

SEMSWA staff utilized data from the stream inventory, Drainage Basin Master Plans, staff observations and resident inquiries to generate a list of projects. These projects include inadequate or failing storm infrastructure, eroding or blocked stream channels and others that pose significant risk.

Another part of the analysis was to look at regulatory floodplains. Staff utilized GIS mapping of current regulatory floodplains and overlaid the DRCOG mapping of all structures within the SEMSWA service area. By utilizing the GIS tools staff were able to create a subset of the data to identify building structures within the floodplain. The data was reviewed further to try to identify insurable structures (residential, commercial and industrial) while filtering out miscellaneous structures, such as sheds. A total of 145 structures are currently within the regulatory floodplains within SEMSWA's service area.

Staff also reviewed roadway overtopping in areas where buildings were identified to be within the floodplain. In some cases increasing the conveyance underneath a roadway via an expanded culvert, up to a multi-span bridge along with channel stabilization improvements would significantly reduce flooding risk and remove homes or commercial buildings from the floodplain. In other cases a very expensive project would be required to remove a single residence from the floodplain. As a result of this floodplain analysis, additional projects were identified.

Conclusions

The overall cost of future projects can be estimated from those that are identified in all the Drainage Basin Master Plans. To prepare for the recent update in SEMSWA System Development Fees (SDFs), staff determined that the total cost of those Master Plan identified projects is \$130 million. Through this current effort staff identified \$60 million in potential projects from the stream inventory alone.

As a result of this analysis, staff has identified and ranked the most critical projects totaling over \$50 million and of those, roughly \$8 million are projects to remove several residential and commercial buildings from the floodplain. SEMSWA staff will use the results of this analysis to prepare the 10-Year Capital Improvements Projects Plan.