

## Where Will All That Water Go?

*by Sandy Goldman (2019)*

Flood Zone 9 (FZ9), the collaboration of the Marin County Water Conservation and Flood Control District, together with the towns of Fairfax, Ross, and San Anselmo and the City of Larkspur, is implementing the Ross Valley Watershed Program (RVWP) by moving forward on several fronts to reduce the risk of flooding. The focus is on completing design and environmental review of identified projects and obtaining additional funding from outside sources where necessary. Here's a rundown, starting at the top of the watershed.

The **San Anselmo Flood Risk Reduction Project** will reduce the risk of flooding in Ross Valley by implementing projects on two parcels along San Anselmo and Fairfax creeks: one to remove a channel-constricting building and another to construct a flood diversion and storage basin. Marin County purchased the building at 634–636 San Anselmo Avenue and is working with the owners of the businesses to relocate by the end of 2019. The businesses continue to operate as of mid-2019. The basin property is a 7.7-acre parcel located along Fairfax Creek at the former location of the Sunnyside Nursery growing grounds. A depression to accommodate diverted creek water will be created to temporarily reduce downstream flooding. The Environmental Impact Report (EIR) for this project was certified in September 2018 and final design work is underway for both components. Construction is scheduled to begin in mid-2020 and be completed by late 2021. This project is funded by RVWP fees and a grant from the California Department of Water Resources (DWR).

Planning is underway for various **bridge replacements** that will reduce the risk of flooding. The Town of Fairfax plans to replace the Azalea Avenue bridge by the end of 2021. The Town of San Anselmo expects to replace the Madrone Avenue and Nokomis Avenue bridges by the end of 2020. The more complex planning involved to design replacements for the Bridge Avenue, Sycamore Avenue, and Center Boulevard bridges results in an expected completion date of late 2024.

The Town of Ross plans to replace the Winship Avenue bridge by the end of 2020. All of the bridge work is funded by Caltrans with local contributions from the towns and support from RVWP funds. Another bridge, the Saunders Avenue bridge at San Anselmo Creek, was recently declared deficient by Caltrans; this bridge causes local flooding and structures in the creek represent a major barrier to fish passage. Friends is helping the Town raise \$25,000 to prepare the application necessary for Caltrans to add Saunders to the list of bridge replacement projects eligible for Caltrans funding.

The **Corte Madera Creek Flood Risk Reduction Project** has a long and complicated history. It was intended to complete the US Army Corps of Engineers (USACE) Project, begun in the 1960s. Fast forwarding several decades and skipping the many false starts, the USACE presented a series of alternatives to reduce the risk of flooding along Corte Madera Creek in Ross and Kentfield. These alternatives were presented to the public in September 2018 when a draft environmental document was released. This



*Existing concrete structures at the Saunders Avenue bridge cause multiple problems for people, property and migratory fish. Photo by Charles Kennard*

document was intended to serve both as an Environmental Impact Statement (EIS) required by the National Environmental Policy Act and an EIR to satisfy the California Environmental Quality Act (CEQA). The only project that met USACE criteria was not favorably received by the local community. Typical of USACE work from the 1960s, this project was authorized with the single purpose of reducing the risk of flooding; the alternatives did not consider other benefits. In addition, the joint EIS/EIR was not considered adequate by CEQA standards and reviewers had a number of substantive comments. Another major problem was the unwillingness of the USACE to address fish passage problems in the concrete channel downstream of its preferred project; this would have made it challenging for the USACE project to receive permits from wildlife agencies. When the USACE declared that it could not continue work on the project because its authorization provided neither adequate funding nor time to deal with extensive revisions to the draft EIS/EIR, Marin County decided to suspend the agreement with the USACE. At this time, FZ9 staff, in consultation with local stakeholders, is developing a new project description and a new set of alternatives, with a new EIR to follow. Recent field work on this project has included taking core samples to evaluate the condition of the ~50-year-old concrete channel and conducting land surveys to identify the right-of-way. The current schedule indicates that construction of the new project will be completed by the end of 2023 using funding from DWR and the RVWP.

**Fish passage in the concrete channel** is a key issue for wildlife agencies. To facilitate permitting of the Corte Madera Creek Flood Risk Reduction Project, Friends submitted a proposal to the Coastal Conservancy for the conceptual design of measures that would modify the concrete channel to meet fish passage criteria for salmonids. The proposal, prepared in cooperation with FZ9, would use the results of the recent concrete borings to inform the design. The work would also be done in collaboration with engineers developing the flood risk reduction measures for the concrete channel, so that an integrated design would be prepared. Construction to address fish passage issues throughout the concrete channel likely will need additional funding above and beyond work that will be funded by the DWR grant. That funding will be sought from programs that specifically address fish passage.

**Concrete channel removal** has been a goal of Friends since the organization's beginning, but it always seemed a distant prospect. However, Friends funded the preparation of conceptual designs for removal of the right side (viewed looking downstream) of the concrete channel on the College of Marin



*The 1998 dredging of Corte Madera Creek immediately downstream of the concrete channel required the building of two temporary dams. Photo by Charles Kennard*

campus downstream of the SMN Bridge. The left side of the channel would stay in place to protect a large sewer that was installed at the same time the concrete channel was constructed. In cooperation with the College of Marin and FZ9, Friends submitted a proposal for funding to prepare final designs for a project downstream of Stadium Way in Kentfield. If the proposal is successful, the design work would be funded by the Marin Community Foundation. With the final design in hand, FZ9, Friends, and the College could seek funding for construction.

We expect to pursue additional funding opportunities for other work in Kentfield in collaboration with FZ9, and the College of Marin. Drawings of the concrete channel conceptual designs are posted on Friends' website under pulldown menus for Restoration Projects—More FCMCW Projects—Kentfield and Larkspur.

**Dredging** in the lower reaches of Corte Madera Creek is a perennial topic of discussion.

Unfortunately, dredging as a solution to flooding in this reach is not sustainable. Sedimentation rates are high, dredging is expensive and unfunded, permits are challenging to obtain, and there are limited disposal options for dredged material. Furthermore, sea level rise will increasingly dominate flooding in the downstream portion of the watershed. Engineers with the Flood Control District are working to evaluate the feasibility of what is called a geomorphic dredge. This would identify a channel that could be maintained by the natural flow tides and upstream contributions to flow with very limited dredging.

**Levees** may be one component of adaption to sea level rise. With funding from DWR, the RVWP is evaluating locations in Kentfield and Larkspur where levees could serve to protect residential areas. Results are expected by late fall 2019.

**Pump stations** are sometimes necessary to deal with stormwater that accumulates in low-lying areas. One pump station will be constructed to drain the Hillview neighborhood in Larkspur, work being done in conjunction with replacement of the Bon Air Bridge currently underway. Another pump station will likely be needed in Granton Park, in Kentfield. Although a wall will be built to protect this neighborhood from creek overflows, this low-lying neighborhood accumulates stormwater.

Stay tuned for news from the RVWP and Friends as work progresses on these many projects. On-the-ground results will soon be seen throughout the watershed.

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