

Marin County Flood Control and Water Conservation District

FLOOD ZONE 3 ADVISORY BOARD MEETING
JANUARY 10, 2023

Staff Report

Item 1. Review Meeting Minutes: April 13, 2022

Review minutes at this link: <https://marinflooddistrict.org/meetings/zone-3-advisory-board-meeting-april-13-2022/#/tab-minutes>

Item 2. Open Time for Items Not on the Agenda

Comments will be heard for items not on the agenda (limited to three minutes per speaker).

Item 3. Tam Valley Project Updates

a. Coyote Creek Levee Update (Written Update Only)

The Coyote Creek Flood Control Project (Project) is a U.S. Army Corps of Engineers flood mitigation project that was constructed in the 1960s. The Project provides flood mitigation for many of the homes, businesses, and roads located in Tamalpais Valley. After completion of construction, the Marin County Flood Control and Water Conservation District (District) was tasked with the operations and maintenance of the Project. The Project was constructed on lands that are now owned by the District and/or where easements were acquired for maintenance of the flood control project. The Project had been eligible, under Public Law 84-99, for reimbursement for damages occurring to the Project (not private properties) resulting from a federally declared disaster.

Staff from the Army Corps of Engineers (USACE) conducts periodic inspections of the Project. During one of these inspections, the USACE noted that the District should address any public or private encroachments on District lands in order to remain in the PL 84-99 program. To identify the encroachments, Cinquini & Passarino, Inc. completed a survey in 2021 for a total cost of \$198,095.

Following completion of the survey, District staff met with the US Army Corps of Engineers staff to review the encroachments, which consist of fences, trees, pathways and pedestrian bridges, portions of homes, and an electrical transmission tower. The USACE feedback at this meeting centered around the transmission tower. District research shows that the tower was built on County (not District) owned land where Pacific Gas & Electric has a Transmission Line Right of Way dating back to 1915.

With the current encroachments, the Coyote Creek Project is not at this time eligible for rehabilitation funding under PL 84-99, however, the Army Corps will continue to support the project through technical assistance and inspections. In June staff submitted a request to PG&E to consider relocation of the transmission line away from the levee along Nyhan Creek. PG&E reached out to the District in December to confirm project contacts. We do not yet know whether PG&E or Zone 3 will be expected to pay for the project.

In 2016, GEI performed an evaluation of the entire levee system but did not provide a specific evaluation of the effect of the tower on levee stability (<https://marinflooddistrict.org/documents/coyote-creek-levee-evaluation-existing-conditions/>). At the April meeting your board recommended a budget of up to \$50,000 for GEI to provide an evaluation to support the request. So far, this evaluation hasn't been needed so the budget adjustment has not yet been made.

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b. Crest Marin Pump Station Assessment (J. Jackson lead)

The Crest Marin Pump Station was constructed in 1978 and is reaching the end of its expected useful life. One of the station's smaller pumps (*station contains total of 4 pumps*) was removed for major preventive maintenance in 2021 and it needed to be extensively refurbished including having the bowl, oil tubes, and shafts replaced. One of the back-up pumps needed to be completely replaced during the same timeframe. Additionally, two flap gates on the pump discharge pipes were leaking water last summer so all three of the large flap gates were replaced in October 2021 for a contract cost of \$14,129.

The 2021 costs to replace the pump and the large flap gates amounted to over \$150,000, whereas average maintenance contract costs per year for this pump station had been less than \$20,000 prior to 2021. In November 2022 one of the pump's motors started smoking and was removed for diagnostics. The cost to repair the motor was quoted at \$23,025. The lead time is up to 4 weeks (as of 12/5/2022). Ordering a new motor would have doubled the cost and tripled the lead time. In the interim staff have a 6" portable pump at the station and the two back up pumps have equivalent capacity to the pump that is currently inoperable.

Given ongoing maintenance needs and increasing costs, staff solicited proposals from consultants to conduct an assessment of the Crest Marin Pump Station. The study would recommend improvements and categorize them into the following priority levels to help staff and the advisory board with planning and budgeting:

- High Priority – Improvements should be completed in the next two (2) years to maintain system reliability/safety. Failure may result in high emergency response costs and potential property damage.
- Medium Priority – Improvement should be completed in the next five (5) years.
- Low Priority – Improvement recommended but will not increase reliability of the pump station.

At your April 2022 meeting your board recommend a budget adjustment of \$125,000 for a consultant to provide an evaluation and recommendations to extend the expected life of Crest Marin Pump Station. A request for consultant qualifications and proposals (RFQ/P) was released in the summer and three proposals were received. Staff reviewed the proposals and will recommend that the Board of Supervisors award a contract to Schaaf & Wheeler in the amount of \$162,312 at their January 24 meeting. The cost is about \$35,000 more than the budget previously recommended by your board.

Recommended Action: recommend the District Board of Supervisors increase the budget for this project from \$125,000 to \$162,312.

In parallel to this assessment, District staff, utilizing baseline budget and available PC SWMM software, are preparing a model of the storm drainage system for Crest Marin Pump Station. The model will be utilized to evaluate potential storm drain improvements that could be considered as part of a future design scope for the Crest Marin Pump Station. We will return to your board later in 2023 with a proposed scope for pump station and storm drainage upgrade design.

c. County Led Caltrans SB1 Adaptation Grant Funded Studies for Highway 1 Corridor in Tam Valley (Written Update Only)

District staff led two studies related to the Caltrans' SB 1 planning grant funding that focused on increasing resilience for the area from the intersection of State Highways 101 and 1 north to Mill Valley in Marin County. **This work will help inform Caltrans' sea level rise project for State Route 1 and US 101 between Manzanita and Marin City, for which a Caltrans**

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Project Initiation Document (PID) will be completed in June 2023. Note, this Caltrans project is only funded through the PID preparation, and not yet funded for environmental review, design, nor construction, but the PID is a necessary step toward identifying funding.

Manzanita Area Flood Reduction Study:

<https://marinflooddistrict.org/documents/manzanita-area-flood-reduction-study/>

Bothin Marsh Restoration Update:

Flood District engineers have been working closely with Marin Parks and OneTam staff on the tidal marsh restoration and sea level rise planning for Bothin Marsh. District staff managed a task of the SB1 grant study which involved analyzing the realignment of Lower Coyote Creek below the Highway 1 bridge directly into Bothin Marsh. Staff developed an RFP and solicited bids from qualified consultants in 2019, and on September 24, 2019 awarded the project to Anchor QEA of San Francisco, CA. The first round of modeling results (Anchor December 2020) showed that there is a feasible alternative for rerouting lower Coyote Creek into Bothin Marsh that does not result in significant upstream flooding impacts. This report also evaluated the sediment transport benefits from realignment and showed that the long-term sustainability of Bothin Marsh would be enhanced from the proposed realignment project. Note that this analysis was preliminary and focused on flooding and sediment impacts and did not include permitting and other feasibility issues.

Marin Parks requested that the District work with Anchor to further refine the realignment alternatives to maximize sediment transport onto the Marsh while minimizing flooding impacts. To this end, your board recommended in October 2021 a \$50,000 budget for Anchor to conduct these additional analyses. This work benefits the District through supporting the dual flood reduction benefits of rerouting Coyote Creek and sustainability elevating the marsh with additional sediment over time as sea levels rise.

This work has been substantially completed in late-2022 as a technical memo and the results incorporated into an updated design technical memo of Tidal Marsh Resilience at Bothin Marsh Preserve in preparation by ESA Associates (consultants to Marin Parks) that is currently in draft and expected to be finalized in early 2023. These memos will be either posted on the Marin Parks or Golden Gate National Parks Conservancy website and will be linked from the new Flood District site MarinFloodDistrict.org.

To this end, the **District is working with Parks to propose a potential pilot project for thin-lift placement of sediment from Coyote Creek in Bothin Marsh. It would have to be a Zone 3-led project and would require a Measure AA grant to design, permit, construct, and monitor.** Based on a 2017 hydraulic study of Coyote Creek by GHD (<https://marinflooddistrict.org/documents/coyote-creek-and-nyhan-creek-topographic-and-bathymetric-survey-and-hydraulic-analyses-2017/>), including what was stockpiled from the concrete channel sediment removal in 2018, the amount of sediment needed for this pilot project is approximately the same as what is currently available in Coyote and Nyhan Creeks to increase freeboard in the Coyote Creek earthen channel and reduce flood risk at Marin Ave and Enterprise Concourse bridges in Nyhan Creek. **The application would leverage a 2017 study by the District that can be found here:** <https://marinflooddistrict.org/documents/coyote-creek-to-bothin-marsh-dredge-sediment-beneficial-reuse-feasibility-study/>

In your last meeting, your Board voted to spend up to \$15,000 to prepare this Measure AA grant application, Unfortunately, there was no SFBRA grant round in 2022 so we anticipate

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working with Parks to prepare this grant application for the 2023 grant round, typically due in November 2023.

Item 4. Marin City Project Updates

a. McGuire Funding for Marin City (R Leventhal, lead)

District staff are coordinating with Caltrans and the Marin City CSD to make a plan for how to spend the \$10 million that Senator McGuire designated for flood risk reduction in Marin City. The Senator, Caltrans, and the District are planning a presentation to the CSD Board in January. The most urgent task for the District is the design and right-of-way acquisition for a temporary pumping system at Donahue until a permanent pump station in the pond can be constructed. The goal is to be operational for the 2023 winter season, pending approval by permitting agencies and Gerrity Group (for the final 45 feet of pipe). Longer-term, this funding is also being considered for dredging the pond. This item will be discussed in more detail at a later meeting in 2023 when more is known.

b. Marin City Stormwater Pond Flood Infrastructure Improvements (R Leventhal, lead)

On June 23, 2020, the Marin County Flood Control and Water Conservation District (District) received award of a grant from the Federal Emergency Management Agency (FEMA) through CalOES for \$337,500 (Phase I of a larger grant) to be used for design, permitting and preparation of plans and specifications for construction of Marin City Stormwater Pond improvements. The 2020 project award included the design of a new drainage culvert under 101 to be installed using trenchless technology and a floodwall along a portion of the Marin City Pond. The trenchless approach was subsequently found to be technically infeasible following a geotechnical investigation in August 2021 due to issues around the subsurface soils that made trenchless installation highly risky and prone to failure.

In response, the Project design team has developed a new design with a pump station from the pond that utilizes the existing pipe under the 101 and provides better flood protection under current and sea level rise conditions as compared to the 2020 proposal, but at a cost of approximately \$10M, or more than double the original grant amount. To fill this funding gap, District staff has requested a scope change from FEMA to significantly increase the grant amount. In the same request, staff have also included an ask for dredging of the pond at approximately \$2M. This request is in the final stages of review by CalOES and is waiting on the BCA (benefit to cost analysis) to be completed in the next two to three weeks and then will be passed along to FEMA for final review and approval. FEMA has not provided a timeline for approval, but the District should learn if the new grant request is funded in the next eight to eight weeks.

Staff did apply and received a one-year extension to Phase I design and permitting until March 23, 2023. However, the design firm's (BKF) work and schedule has been severely inhibited by a lack of access to the stormwater pond. In addition, the project will require the property Owner's consent to submit permits to the regulatory agencies and for construction. The pond is privately-owned, and the Flood District is not a regulatory agency and can only work with willing landowners. Given the delays in access, the costs for the proposed flood improvements are preliminary.

Discussions regarding pond ownership and maintenance are happening at a high level at the County. The District and County have a legal and fiscal duty to fully understand any liabilities when using public funds.

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District staff revised the scope and budget change request in September 2022 based on feedback from CalOES to focus on just updated Phase I (design and permitting) for the project and remove dredging of the pond from the updated grant ask. CalOES staff have indicated that if FEMA approves the updated Phase I costs, then the Phase II costs for construction of the new pump station would be approved once Phase I is completed. To-date, District staff have not heard back from FEMA on the updated scope and budget change request for Phase I design and permitting costs.

Update: District just requested an extension of the phase I timeline from March 2023 to 2024. In addition, the District is working with Cal OES to update the phase I scope and budget change letter from September 2022 to add additional scope and budget. The District has finally received permission from Gerrity to conduct a wetlands assessment, topographic survey and a geotechnical boring for the permanent pump station project. This work will happen in January 2023.

c. Marin City Stormwater Plan (F. Meneau lead)

In October of 2021, your Advisory Board requested the District develop a comprehensive stormwater plan for Marin City. A request for qualifications was developed by staff following input received from four Flood Zone 3 ad-hoc subcommittee meetings held from February to June. The input received by the subcommittee included important considerations for the overall community, some of which were not directly related to flood risk reduction and so will need to be led by and addressed by other agencies and County governmental efforts such as Marin County Stormwater Pollution Prevention Program, the Marin Housing Authority, Caltrans, the San Francisco Regional Water Quality Control Board, the Department of Toxic Substances and Control, and the Sausalito Marin City Sanitary District. After incorporating flood risk reduction specific input raised by the subcommittee the District then requested qualifications through a public solicitation process for civil engineering and outreach services in June 2022, and three proposals were received in August 2022.

The recommendation for the highest qualified firm was determined after completing review of written proposals followed by two rounds of interviews focused on technical content in the first round and a community outreach focus for the second round. The second round of interviews included participation from representatives of the local Marin City community including the Marin City Community Services District, Marin City Community Development Corporation, and the Marin City People's Plan.

Schaaf & Wheeler along with their subconsultant team which includes Circlepoint, WRA, Miller Pacific Engineering Group, and a local community coordinator is recommended by staff and the local community panelists as the most qualified team for completing the Marin City Comprehensive Stormwater Plan. The cost for the study is \$784,638 and includes a community coordinator position.

Your Board previously recommended a budget of \$600,000 for this effort so staff request that the advisory board make a recommendation to increase the budget to this amount. The scope of work is anticipated to take 16-18 months to complete and includes performing hydrologic and hydraulic modeling of large-scale flood risk reduction options (including refining large-scale improvements previously proposed by prior consultants) as well as looking at smaller drainage improvement opportunities. The negotiated scope with Schaaf & Wheeler and the Circlepoint outreach subconsultant includes working with a Marin City Task Force made up of community representatives that would provide input to and evaluate flood risk reduction alternatives, as well as holding three community meetings to present the draft and final plan.

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This Plan will result in recommendations but will not commit the County or District to implement specific actions. If an agency decides to proceed with implementation of any project CEQA would be undertaken first.

Recommended Action: recommend the District Board of Supervisors increase the budget for this project from \$600,000 to \$785,000.

Item 5. Mill Valley Update

Two funding agreements between Flood Zone 3 and the City of Mill Valley have been closed out a total of \$176,720.21 under budget. One agreement was for flood studies including the City's [Flood Control and Storm Drainage Master Plan](#) and the Arroyo Corte Madera del Presidio Flood Study. The final total contribution from Zone 3 was \$407,097.27. The other agreement was for construction funding toward Miller Avenue improvements designed to provide flood benefits. The total final contribution from Flood Zone 3 under that agreement was \$596,339.52.

Recommended Action: recommend the District Board of Supervisors approve an agreement for \$176,720 for additional drainage improvements and studies utilizing the cost savings from the prior agreements.

Item 6. Annual and Preventive Maintenance Work Program (Written Update Only)

Maintenance updates were posted twice this year on NextDoor for the Tam Valley neighborhoods as well as on the District's new website: <http://marinflooddistrict.org>. Below is an update on facility maintenance activities.

a. Pump Stations

- i. Regular Maintenance:* Preventive maintenance for all five pump stations was completed this summer and includes the inspection, testing, and as needed replacement of electrical and mechanical components. All pump station back-up generators have been run-tested and the fuel checked and maintained as needed.

Individual pumps and motors are also scheduled for major maintenance on a six-year interval at each of the zone's pump stations. Major preventive maintenance occurred over the summer at Cardinal and Ryan Creek Pump Stations. Based on historical expenses staff would have budgeted \$60,000, but with both these pump stations now more than 30 years old, we anticipated potentially \$120,000 in contracting costs for refurbishment and potentially replacement with new pump(s). The final actual cost for Zone 3 in summer 2022 was under budget at \$65,244.76 for this work.

- ii. Repair Needs:* The motor for the #2 pump (of 4 pumps) at Crest Marin had to be removed for rebuilding in the fall and the contractor anticipates being able to reinstall the rebuilt pump in early January. A 6" pump is stationed at Crest Marin in the meantime. The stations two large back up pumps have been tested and are ready.

Additionally, in 2022 a District contractor replaced the roof at Cardinal Pump Station and repaired the roof at Shoreline pump station.

b. Vegetation and Sediment Removal

Vegetation overhanging the concrete channel of Coyote Creek was removed in September to facilitate inspection of the concrete walls and tide gates. Sediment removal was completed in

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Crest Marin Creek in the vicinity of the Ross Drive footbridge and along a tributary to Nyhan Creek at the Tam Valley Elementary school.

The City of Mill Valley also conducts maintenance of their stormwater facilities and drainage channels each year with funding support through a cooperative agreement with Flood Zone 3.

c. Levee Maintenance

Two phases of rodent control were completed along the levees during the summer and fall. New burrows have already been observed so an additional phase of rodent control is anticipated this winter. Conditions of the levee are continually inspected throughout the winter during storms, and/or high tides when seepage is most evident. In October, a geotechnical consultant visited the levee section along Cardinal Road where increased seepage has been reported by residents recently. The consultant is preparing potential options to reduce seepage of water through the levee and the report is expected in February.

d. Programmatic Maintenance Permit Status

In 2011 District staff began working with State environmental regulatory agencies requiring programmatic maintenance permits for agencies working in waterways. Creek maintenance activities requiring programmatic permitting include vegetation management, sediment and debris removal, erosion control, maintenance and repair of flood control structures, and levee maintenance. The process began by developing a Stream Maintenance Program (SMP) Manual (see it here: <https://marinflooddistrict.org/documents/marin-county-stream-maintenance-manual-june-2021/>) and then applying for permits from relevant agencies, which for most sites includes the CA Department of Fish and Wildlife and the San Francisco Bay Regional Water Quality Control Board.

- i. Department of Fish & Wildlife (DFW) Routine Maintenance Agreement (RMA)*

In October of 2012 the CA Department of Fish & Wildlife issued the District's first Routine Maintenance Agreement (see it here: <https://marinflooddistrict.org/documents/ca-department-of-fish-and-wildlife-creek-maintenance-activities-permit-2021/>) for the District's creek maintenance activities. This RMA outlines various measures required in order to minimize impacts to valuable fish and wildlife resources in Marin's creeks. Conditions also included annual notifications, reports, and fees. The 2012 RMA was set to expire at the end of 2016, but an extension was approved until the end of 2021. Last year staff applied to renew the permit, negotiating a consolidated "site" definition in order to reduce annual fees. This resulted in savings in 2022 of \$4,522 District-wide. The permit was granted, this time for a 20-year period. It came with a requirement for additional environmental and biological studies to be incorporated into the maintenance program, so the net permitting cost is greater overall in spite of the negotiated fee reduction.
- ii. San Francisco Bay Regional Water Quality Control Board (RWQCB) Order*

This permit took additional years to develop and update after the first DFW permit was approved. During the summer of 2017 RWQCB issued the first Waste Discharge Requirements and Water Quality Certification for five years of the District's Stream Maintenance Program. The thirty-page order came with 62 conditions (see it here: http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2017/R2-2017-0028.pdf) and RWQCB has allowed the District to stagger their compliance over the first several years of the permitted period. Some conditions resulting in the most significant changes to maintenance practices, creek inspection, and documentation processes include:

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- Maintenance activities including vegetation management (not for purposes of fire fuel reduction), sediment and debris removal, erosion control, maintenance and repair of flood control structures, and levee maintenance may not exceed a program wide cumulative total of 5,000 linear feet of creek channel and 11,000 cubic yards of sediment and debris.
 - Vegetation management activities are limited to above ground trimming, limbing and removal. The SMP Manual allows for limited treatment of emergent vegetation removal (like cattails and tules). The work must leave the subsurface root structures behind to allow it to reestablish in the spring and summer. Full root mass removal of cattails can be performed using hand tools to maintain a low flow channel if approved on a case-by-case basis.
 - By May 1 of each year RWQCB requests that the District submit a list of sites to be maintained that summer for their review and approval. 2019 is the first year that RWQCB denied vegetation management approval until it could verify planned work would not exceed program limits. Because of this, staff needed to identify specifically a subset of which sites would have maintenance activities and what the estimated length was. Previously we had been notifying DFW and RWQCB each May that the full length of nearly all sites would be included in the program as we do not know exact sites and lengths needing work that early in the year, but this exceeded the program limits of 5,000 linear feet by approximately twelve-fold. In order to narrow down the program early in the year staff developed a new method of tracking maintenance needs based on GIS data collection coupled with prioritization of sites based on property ownership that allows for more accurate reporting to the regulatory agencies.
 - With respect to sediment removal, when the District notifies the RWQCB of planned activities for the summer an update is required regarding potential capital improvement projects that may reduce or eliminate the need for the maintenance activity in the future.

With this permit expiring soon, the District is working with RWQCB to add Marin to this regional permit which could result in significantly different permit requirements than the existing order:

https://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2021/R2-2021-0005.pdf

Item 7. Marin LAFCo Golden Gate Corridor Study

LAFCo is a state authorized commission that works at the local level which has many responsibilities, one of which is the review of certain local agencies. LAFCo conducts these reviews in documents called Municipal Service Reviews (MSR). They have started the MSR process for the City of Mill Valley, City of Sausalito, Marin City CSD, Tamalpais CSD, Sausalito-Marín City Sanitary District, Southern Marin Fire Protection District, CSA 14 (Homestead), and County Flood Zone 3. During the MSR process they have been talking with local leaders about how things are working with these agencies. A draft MSR for these agencies – Golden Gate Corridor Study – will be available at www.marinlafco.org soon. Questions and comments can be directed to staff@marinlafco.org.

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Item 8. Supporting Enhanced Storm Drain Inspection and Cleaning in Zone 3

In October 2021 staff presented to your advisory board a proposal to expand the existing vactoring program for county roads in Marin City. Previously, storm drain structures on Drake and Donahue were vactored once annually after the leaf drop, which is standard for major county roads. Zone 3 will fund expanding the vactoring program to certain structures on Cole Drive, Eureka Street, and Terrace Drive that are prone to accumulate trash and experience flooding, and increase vactoring to monthly from December through March if an inch or more of rain fell in the preceding month.

In spring 2022 the Marin County Department of Public Works' Stormwater and Road Maintenance Division piloted a new GIS-based program to track inspection and maintenance of thousands of county road catch basins. After the initial testing they invited the District to utilize the system for requesting and tracking enhanced catch basin maintenance in certain parts of Zone 3. As of December 1, 2022 a subset of catch basins for enhanced wet weather maintenance was flagged as needing inspection due to receipt of 1" of rain in November. In December the Road Maintenance division completed inspection of hundreds of catch basins and identified 6 catch basins in Marin City and 7 in Kay Park that they will clean for Zone 3.

The District is continuing to coordinate with Roads and Stormwater to further develop and test the GIS system and increase availability of resources for ongoing implementation of this enhanced program.

Item 9. Schedule Next Meetings

Schedule meetings on the second Tuesday of the months of January, April, July, and October. The advisory board will discuss preferred meeting timing.