

FLOOD ZONE 1 ADVISORY BOARD

FEBRUARY 10, 2022

STAFF REPORT

We acknowledge the land we are on today as the traditional territory of the Coast Miwok and the federally recognized tribe the Federated Indians of Graton Rancheria. We thank the Coast Miwok who were the stewards to the land and water here before us and those who are here now for sharing their ancestral homeland with us. For more information: <https://native-land.ca/resources/territory-acknowledgement/>

Item 1. Approval of Meeting Minutes: December 2, 2021

The advisory board is being asked to approve the minutes from the December 2, 2021 meeting. The draft minutes can be found here:

Recommended Action: Approve 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. Deer Island Basin Complex Wetland Restoration Design

Status Update: ESA has conducted biological surveys, an aquatic habitat report and a public access assessment that are all in final drafts and should be available soon. In addition, Staff have been working with ESA engineers and modelers on an improved HEC-RAS model based on the Stetson model of the lower watershed and on preliminary design for the restoration alternatives. Our goal is to keep improving the Novato watershed RAS model for current and future projects. The current schedule is to complete CEQA in early 2023.

Zone 1 was able to save hundreds of thousands of dollars in permit fees in 2020 by permitting the Novato Creek Sediment Removal Project as a wetland restoration project rather than a traditional flood control sediment removal project. This was accomplished through beneficial reuse of the creek sediment within Deer Island Basin and Heron's Beak Pond. Permits for this sediment reuse required that the culvert connecting Heron's Beak (HB) pond to Novato creek be fitted with a fish screen to prevent salmonid fish entrainment until the pond can be opened up for full tidal restoration under the Deer Island (DI) Basin Complex project (no construction funding at this time). The fish screen is an interim measure, with no self-cleaning capabilities. However, maintenance of the fish screen has been much more labor intensive than planned so District staff are looking into an option to construct portions of the Lynwood Levee upgrades that are part of the Deer Island Basin Complex Wetland Restoration Project Design using the recently awarded American Rescue Act Funding (\$1M) that was recently set aside by the Board of Supervisors. This will allow for full tidal restoration of HB pond prior to award of a grant for the full Bird Ponds project. This will result in some increased construction costs for the larger Bird Ponds restoration project and staff will factor these additional costs into future grant applications required to construct the project. Construction in 2023 would allow the District to remove the culvert, improve the wetland plant establishment as required by the sediment removal permit, reduce the risk of entrainment to fish that use Novato Creek and reduce on-going maintenance costs. The initial estimate for this work is approximately \$200,000 and staff will be refining these costs over the next several months. If for some reason, more than the \$1M set aside is needed for the levee and culvert work, staff will return to the advisory board.

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Background: The SF Bay Restoration Authority (SFBRA) Governing Board approved funding design, preparation of construction plans and specifications and permitting for the first phase of Deer Island Basin Tidal Wetlands Complex Restoration Project. The District's Deer Island Basin Complex includes both the Deer Island Basin and the two stormwater ponds (Ducks Bill and Herons Beak) along Novato Creek.

Following a solicitation for proposals, competitive selection, and negotiation, the cost for the proposed scope exceeded available budget. Staff worked with SFBRA staff to modify the scope to scale back the design for the Deer Island Basin restoration element to a preliminary design level while leaving the scope for the restoration of the two ponds adjacent to Novato Creek unchanged. Restoration of the two ponds would effectively widen Novato Creek and increase the floodplain between the SMART Bridge and Highway 37. The cost for this reduced scope still exceeds the \$630,000 grant by \$108,540 so the balance is coming from Flood Control Zone 1 funds. On January 28, 2020, the District awarded the contract to ESA and we have been working closely with them on the project design. **Your board approved an amendment in the amount of \$146,573 in December for additional geotechnical and permitting needs. On January 25, 2022, the District BOS authorized an addendum to ESA for \$145,593.**

Item 4. Arroyo Avichi-Baccaglio-Scottsdale-Lynwood Complex Flood Study

Status Update: Mapping and inspections of storm drains, drainage ditches and other facilities in Nave Gardens were completed this summer and a draft scope for a hydraulic study focusing on the bypass system around this area has been prepared for advisory board consideration. The estimated total cost as scoped is approximately \$250,000. **In December your board recommended a professional services budget adjustment of up to \$300,000 for this study. The first step is reviewing existing models and studies and installing water level gages in the study area. The gage locations have been developed but they are back ordered (supply chain issues) and the gages have been ordered but have not yet arrived. The plan is to install them in February once they arrive.**

Background: As presented at the February 6, 2017 Advisory Board meeting, a limited evaluation of potential flood reduction benefits for potential projects at Scottsdale Pond was included in the Novato Watershed Study. In November 2020 staff recommended that a more detailed analysis of Novato Creek and the bypass system from Arroyo Avichi through Baccaglio Basin, Scottsdale pond and marsh, and Lynwood Basin ("ABSL Complex") be performed leveraging the City of Novato stormdrain model and the new Countywide LiDAR surface data. Below is a summary of elements that could be included in the ABSL Complex study based on feedback from the advisory board at the November 2020 meeting and the Old Town Novato Flood Group:

1) Summary of the universe of potential projects in Zone 1 to model (from watershed program and levee evaluation review, and new projects to be identified below).

2) Identify opportunities along Novato and lower Warner creeks and through the ABSL Complex for new flow gates, perimeter barriers, pump stations, and increased stormwater detention that improve flood mitigation in downtown Novato and Nave Gardens. This includes alternatives to existing systems (i.e. move pump station from Lynwood Basin to Scottsdale). This analysis is key because of the large potential costs for repairing the Lynwood Pump in its current location (estimated at \$3M) meant that the alternatives evaluation within this scope is important to decide on next steps for this pump station.

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3) In addition to considering alternatives to sediment removal, evaluate alternative footprints and triggers for sediment removal.

4) Evaluate potential project alternative benefits for smaller flood events (e.g. 10-year event) than the 50-year.

5) Apples to apples comparison of project alternative benefits and costs, project ranking (aim for 1-2 criteria), and determination of how to fund projects (grants and/or if loan is feasible). Review criteria with advisory board.

6) Comprehensive evaluation of the trade-offs between projects that benefit Nave Gardens/South Novato Blvd and their impacts elsewhere.

7) Review with City potential storm drain improvements that may be more effective in conjunction with potential Zone 1 projects in the study, and any opportunities for flow gates in City's road right of way.

In 2020 the District solicited Statements of Qualifications from firms interested in performing on-call work. One of many respondents included Wood Rodgers (WR), an engineering firm that has extensive experience in storm drain modeling and uses the proprietary software developed for the City of Novato's storm drain model. Staff issued Wood Rodgers the first task request, under their on-call contract, for the ABSL Complex study scope that includes elements 2, 4, 6, and 7 above. Note that there are some unknowns identified in the WR scope that may require additional scope and budget once their initial analysis is done. To this end, the budget includes an as-needed amount of \$54,425 in the event that additional work is required.

See link here for draft [scope](#) and cost for Wood Rodgers. Staff are issuing the requests a couple tasks at a time and will provide the advisory board with updates following each task and check in about whether to continue with the next tasks and/or modify the next tasks before proceeding.

Next Steps: After completion of the ABSL Complex study elements by Wood Rodgers, staff could work on assimilating the results into elements 1 and 5. Expenditures will be tracked in a new ABSL Complex project ledger so the advisory board can receive reports on actual costs at meetings.

Item 5. San Mateo County Flood and Sea Level Rise Resiliency District ("OneShoreline")

The advisory board subcommittee will report to the full board.

Item 6. Operations and Maintenance Update (Written Update Only)

Staff will be available for questions but are providing this written update only.

a. Programmatic Maintenance Permitting 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://www.marinwatersheds.org/resources/publications-reports/marin-county-stream-maintenance-manual>) and then applying for permits from

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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 a Routine Maintenance Agreement (see it here: <https://www.marinwatersheds.org/resources/publications-reports/dfw-saa-routine-maintenance-agreement-permit>) 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. The measures were not significantly different from procedures outlined in the SMP Manual. Conditions also included annual notifications, reports, and fees. Annual fees per site were originally \$112 but are now \$323, which for example in 2020 in Zone 1 added up to \$6,105. The 2012 RMA was set to expire at the end of 2016, but an extension was approved until the end of 2021. This year staff applied to renew the permit with a consolidated "site" definition in order to reduce annual fees. The District is awaiting permit approval.

Note: the District has a separate RMA for the quadrennial Novato Creek sediment removal project which expires this year before the next effort is due.

- ii. *San Francisco Bay Regional Water Quality Control Board (RWQCB) Order*
This permit took an additional 2-3 years to develop than the RMA on which it was built. 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: <https://www.marinwatersheds.org/resources/publications-reports/rwqcb-smp-permit>) 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:
 - 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.

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- 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 request a 1-2 year extension. Subsequently, RWQCB is considering adding 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

b. Preventive Maintenance Program Status

i. Pump Station Maintenance

Individual pumps and motors are scheduled for major maintenance on a six-year interval. The Farmer's pump and motor and Lynwood #1 pump up for major preventative maintenance this year. The anticipated budget needs for this work is \$84,500 (part of line item 32 in the proposed baseline budget in Item 7). All of the pumps in the zone are run and checked monthly during the summer and more frequently during the winter season even if there is a dry period. Each year before the rainy season each pump station's electrical components are tested and the engines maintained.

Power interruptions to the Lynwood Pump station continue to be a frequent occurrence, largely due to large flying birds in the adjacent pond. In January 2021 PG&E met with District staff to review preliminary options to improve reliability of power at the pump station. This effort is complicated by close proximity to the Deer Island Basin Complex Restoration Project, but hopefully the ABSL Complex Study will illuminate alternatives to long-term power supply at this location.

ii. Vegetation Management

Vegetation maintenance within flood control owned properties and easements occurs July through October. Maintenance work includes trimming of vegetation in the channel and debris removal. Most of the work is performed under contract with the North Bay Conservation Corps (CCNB) – the portion of the contract for Zone 1 is \$400,000 and is budgeted under line item 32 in the proposed baseline budget in Item 7. Pre-inspections of the creeks and channels are conducted to determine maintenance needs and to prioritize work. Maintenance operations continue throughout the summer so that creeks and channels throughout the Zone ready for the winter season flows. The final step is cutting of cattails which occurs in October right before the rains. Additional tree, rodent control, and fence maintenance is typically needed outside the CCNB contract.

iii. Sediment Management

It's too early in the winter to identify anticipated sediment removal needs this summer, but notification to the regulatory agencies is required by May 1 under the District's permits so we will have a work plan ready by then.

Item 7. Zone 1 FY 2022-23 Proposed Baseline Budget

The County Administrator's Office requested that the zones recommend a baseline budget for the beginning of each fiscal year that does not include major project expenses. Baseline

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budgets are intended to be relatively consistent year to year. Major project expenditures will require separate actions from the AB and District BOS to adjust the budget as needed. As usual, the approved budget may always be adjusted as necessary as priorities and cost estimates for projects and studies planned for this coming fiscal year are more clearly identified. Staff will review the proposed Flood Zone 1 Baseline Budget for FY 2022-2023 at the meeting: <https://www.marinwatersheds.org/sites/default/files/2022-02/Z1%20FY23%20Proposed%20Baseline%20Budget.pdf>

Except for the Simmons Slough Pump Station that was just constructed, all Zone 1's pump stations are nearing or beyond their expected design life of 50 years. The District learned in applying for a FEMA HMGP grant to upgrade Lynwood pump station, then 49 years old, that Cal OES does not fund pump station projects for which the existing facility is nearly 50 years old because it is not considered a hazard mitigation effort if it is near the end of its expected design life. Staff previously recommend setting aside \$3 million in a pump station project designation in Zone 1 which could either be used to rehabilitate the three pump stations in the zone: Lynwood (built 1968), Farmers (1990), and Cheda (1971); and/or to be used as grant matching funds to construct new pump stations at Nave Gardens and/or Scottsdale Marsh to be evaluated in Item 4. At the December 2021 meeting, the advisory board asked that half of the \$3 million pump station designation be placed in a separate designation for the 2024 sediment removal project until/if an alternative project is identified. Approval of project designations only allows the District to save the funds not to spend them. Therefore, a recommendation by your board and approval by the District Board of Supervisors would be required in order to move these funds into a new project budget.

Recommended Action: *Recommend the District Board of Supervisors adopt the baseline budget along with \$3 million in project designations set aside for future pump station and sediment removal projects.*

Item 8. Schedule Next Meeting

The next regular meeting is tentatively scheduled for February 2023. Special meetings will be held for project updates.