Date Posted: 8/10/2023

NORTH MARIN WATER DISTRICT

NORTH MARIN WATER DISTRICT
AGENDA - REGULAR MEETING
August 15, 2023 – 4:00 p.m.
Location: 100 Wood Hollow Dr. Suite 300
Novato, California

Information about and copies of supporting materials on agenda items are available for public review at the District Office, at the Reception Desk, by calling the District Secretary at (415) 897-4133 or on our website at nmwd.com. A fee may be charged for copies. District facilities and meetings comply with the Americans with Disabilities Act. If special accommodations are needed, please contact the District Secretary as soon as possible, but at least two days prior to the meeting.

Est. Time	Item	Subject
4:00 p.m.		***CALL TO ORDER***
	1.	***APPROVE MINUTES FROM REGULAR MEETING,*** July 18, 2023
	2.	***GENERAL MANAGER'S REPORT***
	3.	***OPEN TIME: (Please observe a three-minute time limit)***

This section of the agenda is provided so that the public may express comments on any issues not listed on the agenda that are of interest to the public and within the jurisdiction of the North Marin Water District. When comments are made about matters not on the agenda, Board members can ask questions for clarification, respond to statements or questions from members of the public, refer a matter to staff, or direct staff to place a matter of business on a future agenda. The public may also express comments on agenda items at the time of Board consideration.

4. ***STAFF/DIRECTORS REPORTS***

CONSENT CALENDAR

The General Manager has reviewed the following items. To his knowledge, there is no opposition to the action. The items can be acted on in one consolidated motion as recommended or may be removed from the Consent Calendar and separately considered at the request of any person.

5. ***Consent - Approve:*** NMWD Administration and Laboratory Upgrade Project – Architectural Services Contract Amendment

ACTION CALENDAR

6. **Approve:** Bid Advertisement and Delegate Authority to Award Construction Contract for Oceana Marin Treatment and Storage Pond Rehabilitation Project (Budgeted FY23/24)
7. **Approve:** Lynwood Pump Station Replacement Project – Presentation of Preliminary Engineering Assessment and Consulting Services Agreement
8. **Approve:** Response to Marin Civil Grand Jury Report – Dam and Reservoir Safety June 27, 2023
9. **Approve:** Memorandum of Understanding (MOU) between Sonoma County Water Agency and the Danish Consulate: Authorize the President to Sign the MOU
10. **Approve:** Authorize the General Manager to Vote for ACWA Region 1 Nominating Committee's Recommended Slate of Candidates

All times are approximate and for reference only.
The Board of Directors may consider an item at a different time than set forth herein.

Date Posted: 8/10/2023

Est. Time	Item	Subject
		INFORMATION ITEMS
	11.	Potter Valley Project Update
	12.	Administration & Laboratory Upgrade Project – Construction Update
	13.	WAC/TAC Draft Meeting Minutes – May 1, 2023
	14.	TAC Draft Meeting Minutes – July 10, 2023
	15.	NBWA Agenda – August 4, 2023
	16.	***MISCELLANEOUS*** Disbursements – Dated July 27, 2023 Disbursements – Dated August 3, 2023 Disbursements – August 10, 2023 Monthly Progress Report Auditor-Controller's Monthly Report of Investments for June 2023 FY23 4th Quarter Labor Cost Report Climate Prediction Center ENSO Diagnostic Discussion Potter Valley Project – Long Term Variance Letter: Sonoma Water Potter Valley Project – Long Term Variance Letter: PG&E <u>News Articles</u>: Marin IJ – Council appoints interim manager of public work – NOVATO Marin IJ – Marin needs to solve issue of confusing, varied ADU fees – DICK SPOTSWOOD Pt. Reyes Light – How 'poor' Inverness got its water system Pt. Reyes Light – Rodoni aide departs office Sonoma County Gazette – Sonoma County's water supply on the line: the implications of PG&E's spin-off proposal Press Democrat – Sonoma, Mendocino county water managers propose pathway for continued Eel River diversions <u>Social Media Posts:</u> NMWD Web and Social Media Report – July 2023
5:30 p.m.	17.	***ADJOURNMENT***

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DRAFT
NORTH MARIN WATER DISTRICT
MINUTES OF REGULAR MEETING
OF THE BOARD OF DIRECTORS
July 18, 2023

CALL TO ORDER

President Fraites called the regular meeting of the Board of Directors of North Marin Water District to order at 4:00 p.m. at the District Headquarters and the agenda was accepted as presented. Present were Directors Jack Baker, Ken Eichstaedt, Rick Fraites, Michael Joly, and Stephen Petterle. Also present were General Manager Tony Williams, District Secretary Eileen Mulliner, Auditor-Controller Julie Blue and AGM/Chief Engineer Eric Miller.

District employees Robert Clark (Operations and Maintenance Superintendent) Chris Kehoe (Construction Superintendent) were also in attendance. Carl Nelson, of Bold, Polisner, Maddow, Nelson and Judson, District legal counsel, attended via phone for an item on the agenda.

MINUTES

On motion of Director Joly, seconded by Director Baker, the Board approved the minutes from the June 20, 2023 meeting as presented by the following vote:

AYES: Director(s) Baker, Eichstaedt, Fraites, Joly and Petterle
NOES: None
ABSENT: None
ABSTAIN: None

GENERAL MANAGER'S REPORT

Tony Williams gave an update on the Potter Valley Project (PVP). He said that several meetings have occurred since the June 20, 2023 Board meeting, all related to the Russian River Water Forum which was formed to discuss the PVP's future. PG&E has established a deadline in November 2023 for any "entity" that may have interest in taking over the facilities. He said he will bring more details at a later Board meeting once the details are better known. Director Joly asked who controls PG&E's ability to decommission the dam, Mr. Williams responded that it is the Federal Energy Regulatory Commission (FERC).

Mr. Williams said that on June 27, 2023, Sonoma Water hosted the Danish consulate at a water innovation summit that focused on how Denmark deals with water which is very different from the U.S. The cost of potable water is much higher than in the U.S. He said that they are very astute to climate change. They do not use chemicals for treatment, it is all filtration of groundwater sources.

Mr. Williams said that the Marin Civil Grand Jury issued a second report on dam safety. He will bring back the District's response at the August 15 Board meeting.

Mr. Williams said that the Novato Fourth of July parade was successful. He acknowledged and thanked Ryan Grisso and the District parade committee and all the District employees that participated in the parade. The employees who were in the parade were Eric Miller, Eileen Mulliner, Lia Solar, Rebecca Sylvester, Haylee DeMartini and her daughter, Jeff Watkins, Brian Northen, Adam Breit, his wife, and their two children.

Mr. Williams said that labor negotiations with the Employee Association have begun. He said that Eric Miller and Karen Clyde, District HR Manager, are participating in the negotiations.

Mr. Williams mentioned that several District Regulations are in this meeting's agenda packet and that he, Ryan Grisso and Robert Clark are working on additional regulation updates that will be on a future agenda, most likely in September, 2023.

OPEN TIME

President Fraites asked if anyone in the audience wished to bring up an item not on the agenda and there was no response.

STAFF/DIRECTORS REPORTS

President Fraites asked if staff or Directors wished to bring up an item not on the agenda.

Robert Clark said that the GAC (granular activated carbon) had been replaced at the Stafford Treatment Plant. The cylinders had been purchased last fiscal year and replaced the week of July 17, 2023. They hadn't been replaced for 2 years prior due to the drought. We relied on the storage and aqueduct while the plant was down for 3 days for the replacement. Director Eichstaedt asked if the carbon was recycled. Mr. Clark said that it either goes to the dump or given to a sludge vendor who uses it for soil amendment.

Chris Kehoe informed the Board that no potable water was available at Stafford Park due to a water line break on July 2nd. The break is somewhere in the line that runs under the lake and not repairable due to the location. The water line was installed in 1979 with an agreement noting that any repairs needed when the lake has water is the responsibility of the County. The break affects the Park as well as the Dominic Grossi property. The Park has one residential unit for a park employee rental. Alternatives are being looked at and more information will come at a future meeting.

Director Fraites said that he will not be able attend the next North Bay Watershed Association meeting in August and that Director Baker will attend for him.

CONSENT CALENDAR

On the motion of Director Petterle, and seconded by Director Baker, the Board approved the following item on the consent calendar by the following vote:

AYES: Director(s) Baker, Eichstaedt, Fraites, Joly and Petterle

NOES: None

ABSENT: None

ABSTAIN: None

AUTHORIZE JOINT EXERCISE OF POWER AGREEMENT - MARIN GENERAL SERVICES AUTHORITY

The District is not currently a participating member of MarinMap, but following the transition to ArcGIS the process of integrating into the MarinMap program will be streamlined. Member agencies have contracted with each other to work together on the common goal of data sharing and efficiently providing a seamless and unified series of map-based datasets to the public.

Upon joining MarinMap, the District would become the 19th member agency and one of over 30 represented public agencies within the County including each of the cities and towns in Marin, the Transportation Authority of Marin, and other special districts including Marin Water.

Joining MarinMap would allow District staff an opportunity to view member-only GIS data from other agencies which will improve project delivery.

ACTION CALENDAR

NMWD ADMINISTRATION AND LABORATORY UPGRADE PROJECT – CONSTRUCTION MANAGEMENT SERVICES: AMEND CONTRACT WITH CONSOLIDATED CM

The Board approved the original agreement with CCM at the May 18, 2021 Board meeting for an amount of $179,000. The first amendment to the CCM agreement was approved at the April 19, 2022 Board meeting in the amount of $47,426 for CCM to support the District bridge the gap between final design and project bidding. The Board approved the second amendment with CCM at the June 7, 2022 Board meeting in the amount of $952,388 for full-time construction management and inspections, including building permit-required special testing and inspections for various materials and components planned for use in the project.

Staff is now proposing a third amendment with a not-to-exceed fee of $319,208 and a scope that includes continued construction management services through the current estimated project completion date of February 2024. Several factors have influenced extension of the completion date, including above-average rainfall during the months of January – March 2023, encountering unforeseen conditions, and staff inefficiencies from the contractor's team. In addition, a series of design changes were initiated by the District to incorporate recent changes to staffing levels.

Eric Miller said that a more comprehensive update of the Project will be brought to the Board later in the year.

On the motion of Director Petterle, and seconded by Director Eichstaedt, the Board approved by the following vote:

AYES: Director(s) Baker, Eichstaedt, Fraites, Joly and Petterle

NOES: None

ABSENT: None

ABSTAIN: None

CONSIDER AMENDING REGULATIONS 20-25 AND 27-29

Regulations 20-25 and 27-29 describe the requirements and procedures, including formal agreements necessary for extensions of, or modifications to, the District's water distribution system. These regulations generally apply to new development but can be applicable to a single property owner requiring new water service where an existing water distribution main is not present nearby. Many of these regulations have not been updated since the 1990's and some not since established in 1970. Regulation 26 was amended in 2019 and did not need any new updating.

Director Petterle commended staff that the regulations were being updated. Tony Williams said that Lia Solar, Engineering Services Representative, had brought up to management that some of these regulations needed to be re-worded so that she can better communicate with developers and future and existing customers seeking new service. Director Eichstaedt asked if they had been reviewed by legal counsel and Mr. Williams said that they had.

On the motion of Director Petterle, and seconded by Director Joly, the Board approved by the following vote:

AYES: Director(s) Baker, Eichstaedt, Fraites, Joly and Petterle
NOES: None
ABSENT: None
ABSTAIN: None

RESPONSE TO MARIN CIVIL GRAND JURY REPORT – BUILD MORE ADUs – AN Rx TO INCREASE MARIN'S HOUSING SUPPLY, JUNE 15, 2023

In June, 2023, the Marin County Civil Grand Jury issued a report entitled: "Build More ADUs – An RX to Increase Marin's Housing Supply, June 15, 2023." One the report's findings was directed to the District: "impact, connection, and capacity fees vary considerably throughout the County and such fees can be a disincentive to homeowners considering ADU development." The recommendation from the Grand Jury is "by December 1, 2023, begin a feasibility assessment of waiving or significantly lowering impact and connection fees for units smaller than 750 square feet."

Tony Williams told the Board that he had Carl Nelson, District legal counsel, on the phone should there be any legal-related questions from the Board. Mr. Williams went over the Grand Jury's report and the agenda item attachments that would be sent to the Grand Jury, i.e., cover letter, response form, and response continuation.

Director Joly asked about 'zero sum issue.' Mr. Williams said that we have no good source of non-ratepayer revenue and if we were to lower or waive capacity charges we would need to spread those costs to other rate payers. This could violate state law and therefore we have to charge an individual for an ADU, which does in fact have an impact on the water system's capacity.

Director Joly asked how Marin Water is offering a waiver for ADUs and if they have to follow Proposition 218. Carl Nelson answered that if Marin Water has Facilities Reserve Charges (FRCs), then they are subject to the same requirements. If the District goes beyond what is required by law, the costs associated with a new connection, the money has to come from somewhere if it isn't charged to the individual who is connecting. The District's charges are based on water usage, not square footage of the ADU which lowered the FRC. Mr. Nelson said that what the District is doing is legal. Mr. Williams said that we don't charge FRCs when an ADU is within the space of an structure, such as a garage.

On the motion of Director Joly, and seconded by Director Petterle, the Board approved by the following vote:

AYES: Director(s) Baker, Eichstaedt, Fraites, Joly and Petterle

NOES: None

ABSENT: None

ABSTAIN: None

INFORMATION ITEMS

REDWOOD LANDSLIDE NEAR OLOMPALI – PROGRESS UPDATE

Eric Miller gave a detailed progress update presentation of the Redwood Landslide near Olompali. He explained that the large amount of rainfall in a short period of time saturated the ground contributed to the cause of the landslide. He said there is a slight possibility of receiving a Federal Emergency Management Agency (FEMA) reimbursement since no actual pipeline replacement has occurred. The District is tracking costs per FEMA guidelines just in case. He said that Novato Fire Protection District took the lead to bring all affected agencies together at onset of the landslide. PG&E then took over the site to work on the gas mains that were potentially in danger of being broken by the moving ground.

Mr. Miller said that initially there was the emergency phase and now we are still in the recovery phase which is when Caltrans took over the site. Once Caltrans has completed their work of repairing the slide and the roadway, the District will be able to access the site. The District's response team initially met every day during the emergency stage. Once the situation went into recovery stage, the team has been meeting every other week. Based on investigations inside the pipe using remote camera equipment, a portion of the pipeline appears to have been distorted due to the slide. If it is determined that the pipe has gone back to its original shape using follow-up inspections, we will know if it needs replacing. The District is coordinating its schedule with Caltrans. The District has so far billed $206,000: $60,000 of that is materials, including 80 feet of new pipe; and $146,000 labor. Any FEMA eligible costs will be for broken and replaced infrastructure only. At this time, we do not know if any of our costs will be eligible. Director Joly

asked if there will be more expenses. Mr. Miller said that if we do have to replace the pipe, there could be approximately $10,000 more, but if the pipe does need replacing, there could be $60,000-$70,000 more in expenses. Director Baker advised not to give up on pursuing FEMA reimbursement.

TAC MEETING – JUNE 5, 2023

Tony Williams briefly went over the TAC meeting minutes from June 5, 2023. He noted that Item #3 and Item #7 were related to the Potter Valley Project.

MISCELLANEOUS

The Board received the following miscellaneous items: Disbursements Dated June 22, June 29, July 6 and July 13, 2023, Auditor-Controller's Monthly Report of Investments for May 2023, Monthly Progress Report.

The Board also received the following news articles: Marin IJ – Las Gallinas Valley Sanitary District – More Recycled Water for All Marin County – Advertisement, District adopts $306M budget – MMWD, Report: Supply of ADUs needed – MARIN CIVIL GRAND JURY, Clear hurdles for ADUs so they can help – EDITORIAL, Wet year busy time for new supplies – MARIN COUNTY, Report: Water utilities need improved dam safety plans – MARIN CIVIL GRAND JURY, Extreme rains pose hidden flood threat in Marin, U.S. – CLIMATE CHANGE, KQED – Record Lows to Near Brimming: North Bay Reservoirs Stage Remarkable Recovery, Sonoma Water E-News – July 2023.

The Board also received the NMWD Web and Social Media Report – June 2023.

ADJOURNMENT

President Fraites adjourned the meeting at 5:54 p.m.

Submitted by

Eileen Mulliner
District Secretary

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NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors Date: August 15, 2023

From: Eric Miller, Assistant GM/Chief Engineer

Subject: NMWD Administration and Laboratory Upgrade Project – Architectural Services Contract Amendment

R:\Folders by Job No\6000 jobs\6501.44 NMWD Office_Yard Bldg Renovation\BOD Memos\2023 0718 - NT CM amendments\6501.44 Amend Noll & Tam_CM BOD memo.doc

RECOMMENDED ACTION: Board authorize the General Manager to amend the Agreement with Noll & Tam Architects

FINANCIAL IMPACT: $178,700 (included in FY23/24 CIP Budget)

The purpose of this memo is to request a third amendment to the Consulting Services Agreement with Noll & Tam Architects (N&T) for continued design support services for the District's Administration and Laboratory Upgrade project (J-1.6501.44).

The Board approved the agreement with N&T at the November 17, 2020 Board meeting for an amount of $1,245,000. The Board approved the first amendment to the N&T agreement at the April 19, 2022 Board meeting in the amount $47,738. This first amendment was necessary for N&T to support the District bridge the gap between final design and project bidding.

The Board approved the second amendment with N&T at the June 7, 2022 Board meeting in the amount of $380,977. The second amendment included scope for architectural and engineering support services during construction, including, but not limited to, field observations, attending meetings, reviewing shop drawings and technical submittals, responding to requests for information, assistance with change orders, support to furniture procurement and installation, and project closeout. The scope and fee approved in the second amendment was related to the original project schedule with an initial completion date of September 2023.

Staff is now proposing a third amendment with a not-to-exceed fee of $178,700 and a scope that includes architectural and engineering services support through the current estimated project completion date of February 2024. Several factors have influenced extension of the completion date, including above-average rainfall during the months of January – March 2023, encountering unforeseen conditions, and staff inefficiencies from the contractor's team. In addition, a series of design changes were initiated by the District to incorporate recent changes to staffing levels.

Recommendation

Board authorize General Manager to amend the agreement with Noll & Tam Architects for the Administration and Laboratory Upgrade Project in the amount of $178,700.

Attachments

1. Noll & Tam Contract Amendment No. 3
2. Noll & Tam Scope

ATTACHMENT 1

NORTH MARIN WATER DISTRICT

CONTRACT AMENDMENT

PROJECT: NMWD Admin & Lab Upgrade

AMENDMENT NO.: 3

DATE: Aug 16, 2023

JOB NO.: 1 6501.44

TO CONSULTANT:

ORIGINAL CONTRACT DATE: June 2021

Noll & Tam Architects
729 Heinz Ave
Berkeley, CA 94710

CONTRACT FOR:
Architectural and Eng Services for the Admin & Lab Upgrade Project

The Contract is changed as follows:

Continued consulting services throughout construction phase	$178,700

Not Valid until signed by the District and Consultant

The original Contract Sum was	$1,132.070
Net change by previously authorized Amendments (1-2)	$428, 715
The Contract Sum prior to this Amendment was	$1,560,785
The Contract Sum will be increased by this Amendment in the maximum amount of	$178,700
The new Contract Sum including this Amendment will be	$1,739,485
The Contract Time will be changed by	181 days
The date of Substantial Completion as of the date of this Amendment therefore is	June 30, 2024

Consultant Signature	_____	District Signature	_____
	_____ Print Name		_____ Print Name
Date	_____	Date	_____

cc: Consultant
Job File

R:\Folders by Job No\6000 jobs\6501.44 NMWD Office_Yard Bldg Renovation\Consultants\Noll and Tam\Construction Phase\N&T Contract Amendment 3.doc

NOLL & TAM ARCHITECTS

North Marin Water District

ASR #3 – CONSTRUCTION SERVICE EXTENSION

July 18, 2023

Tony Williams, General Manager
North Marin Water District
999 Rush Creek Place
Novato, CA 94945

Re: Additional Service Request – Extended Construction Services

Dear Tony,
Additional Service Request for scope not included in our base contract. Our understanding of the work and proposed fees are summarized below, and are subject to revision as mutually agreed upon.

Scope Items:

1. Estimated extension of 6 Months (October 2023 to February 2024) to completion of the project. Addition of 24 Owner Architect Contractor (OAC) meetings. Estimated 16 virtual meetings and 8 onsite meetings.
2. Services for construction administration extension includes but is not exclusive of:

   A. Site Observation:

   Consultant shall perform periodic site visits to become generally familiar with the progress and quality of the Work and to determine and to advise the District in general if the Work is proceeding in accordance with the Contract Documents. This includes special site visits by Consultant on a timely basis appropriate for approvals required of Consultant as specified in the Construction Documents. However, Consultant shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work. See other meetings below for meeting allowance.

   C. Requests for Information:

   The Consultant shall respond to Contractor generated Requests For Information (RFIs) in a timely manner to avoid critical project delay.

   E. Submittals and Shop Drawings:

   Consultant shall receive submittals, including shop drawings, product data and samples from the Contractor and shall review and a take appropriate action, but only for conformance with the design concept of the Project and with the provisions and intent of the Contract Documents. Consultant's review and approval shall not relieve the Contractor of its obligation to comply with the Contract Documents. Consultant shall be entitled to additional services for the third and subsequent reviews of any submittal (typically back-charged to Contractor, at The District's option).

F. Substitutions:

Consultant shall review substitution requests as an additional service (typically back-charged to Contractor, at The District's option).

G. Change Order Entitlement and Cost Estimate Review:

The Consultant shall review the scope of work and costs in Contractor proposed change orders and provide written recommendations to The District. The District shall be responsible for negotiating the change with the Contractor and executing the change order. Extensive review and negotiation over specific change requests will be considered an additional service.

3. Services for PG&E switchgear relocation: Relocate main switch board, transformer and automatic transfer switch position to be at west side of vehicle service building. Drawing revision to include electrical changes, civil site changes and coordination of work with District and PG&E.
4. Service includes revisions to the plans to accommodate changes to miscellaneous office layouts, additional change for bottle filling stations.
5. Revisions and coordination of documentation for Sanitary district permit reviews requests and stormwater management changes to bio swales.

Deliverables:

See individual items above for proposed deliverables.

Exclusions:

Services or work products not noted above can be provided upon request as an additional service.

Compensation:

Our basic fee for this scope shall be time & materials fees as listed below, billed monthly. Services rendered beyond the agreed scope of work will be billed at our hourly rates.

Total ASR 3 Compensation:

CONSULTANT	PROPOSED COMPENSATION
Noll & Tam Architects	$145,200
EStructure	$12,500
O'Mahony & Myer	$9,500
CSW | ST2	$5,250
PG&E Rev – O'Mahony & Myer	$3,500
PG&E Rev – CSW | ST2	$2,750
TOTAL PROPOSED TIME & MATERIAL FEES	**$178,700**

Sincerely,

Scott Salge
Principal
Noll & Tam Architects

Approved:

Tony Williams **date**
North Marin Water District
General Manager

Estructure

1144 65th Street, Suite A
Oakland, CA 94608

510.235.3116
www.estruc.com

March 24, 2023

Scott Salge
Noll & Tam Architects
729 Heinz Avenue #7
Berkeley, CA 94710

Reference: **Proposal for Structural Engineering Services**
Request for Additional Services for Construction Administration
North Marin Water District Headquarters Project
[Estructure No. 20159.0]

Dear Scott:

Thank you for the opportunity to present this proposal for additional structural engineering services for the North Marin Water District (NMWD) Headquarters Project. This proposal is for additional services for the project construction administration.

The reason for our request is that the duration of the structural scope of work has been longer than anticipated due to the slow start of construction activity last summer and fall and weather-related delays over the winter.

Some specific activities that required additional services include:

- Delayed coordination by the contractor of the Lab Building foundation and underground utilities
- Additional wall framing in the Admin Building due to mistakenly demolished walls
- Delay in demolishing the Admin Building perimeter footings at new shear wall holdown locations

Activities that we have completed thus far include:

- Submittal reviews (Primarily wood framing, structural steel, concrete reinforcing)
- Responding to contractor RFIs (approximately 37 to date)
- Site visits for Admin Building foundations and framing
- Site visits for Lab Building foundations and slab

Activities remaining include the following:

- Framing of Lab Building walls, roof and penthouse, and erection of steel-framed entrance canopy
- Completion of Admin Building wood framing

If you have any questions, need additional information or desire an alternate scope of work, please contact us. Thank you.

Sincerely,

Tom W. Wismar

45 Leveroni Court
Novato, CA 94949
www.cswst2.com

415.883.9850
Fax: 415.883.9835

Berkeley
Novato
Petaluma
Pleasanton
Redwood City
Richmond
Sacramento

CSW | ST2

CSW/Stuber-Stroeh Engineering Group, Inc.

Engineers | Land Planners | Surveyors

Date: April 13, 2023
File: 4101038.01

Mr. Scott Salge, Principal
Noll & Tam Architecture
729 Heinz Avenue #7
Berkeley, CA 94710

sent via e-mail to: Alyson.Yarus@nollandtam.com

RE: *NMWD HEADQUARTERS*
CONFIRMATION OF ADDITIONAL SERVICES NO. 3

Dear Scott :

Enclosed is Confirmation of Additional Services No. 3 (CAS3) to cover the services we are performing in connection with the NMWD Headquarters project located in Novato, California. The additional services are to cover the added Construction Administration services based on sewer redesign per NSD Comments and Fire line redesign per NMWD request. See Attached CAS for description of scope and fee.

Please sign the enclosed Confirmation of Additional services and return to our office. We will return a counter-signed copy to you for your records.

If you have any questions, please call me.

Sincerely,

Kirk Bonitz

CSW/STUBER-STROEH ENGINEERING GROUP, INC.

Enclosures

O'MAHONY & MYER
ELECTRICAL ENGINEERING & LIGHTING DESIGN

San Rafael, California
Pacific Harbour, Fiji

Brian O'Mahony
Jan P. Myer
Paul Carey
Pieter Colenbrander

March 23, 2023

Noll & Tam Architects
729 Heinz Ave., #7
Berkeley, CA 94710

Attn: Scott Salge

Re: North Marin Water District Headquarters
Electrical Additional Scope of Work Fee Request

Dear Scott,

The NMWD project has included a number of additional services during the construction phase that we feel are outside the normal scope of work and expected construction administration services. The additional time associated with these items will impact our original scope of work and associated fees as noted below. As per our original proposal, this work represents an additional service to the contract.

The additional services include:

1. Additional (multiple) reviews of the main electric service switchgear submittals and transfer switch issues.
2. Additional meetings and site reviews related to the switchgear / ATS / Generator issues and site conduit routings and slab stub-up issues.

The work associated with these issues has already been completed, to help maintain the project schedule.

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NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors Date: August 15,2023

From: Eric Miller, Assistant General Manager/Chief Engineer
Tim Fuette, Senior Engineer

Subj: Approve Bid Advertisement and Delegate Authority to Award Construction Contract for Oceana Marin Treatment and Storage Pond Rehabilitation Project (Budgeted FY23/24)
R:\Folders by Job No\7000 jobs\7173 OM Pond Rehab-404 Grant\BOD Memos\7173 OM Pond Rehab Approve Advertise BOD Memo 8-15-23.doc

RECOMMENDED ACTION: That the Board authorize bid advertisement of the Oceana Marin Treatment and Storage Pond Rehabilitation Project and authorize the General Manager to award the construction contract to the lowest responsible bidder.

FINANCIAL IMPACT: $1,800,000 ($800,000 included in FY23/24 budget)

Background

Following the severe storm events that occurred during the winter 2016/17, the Board authorized District staff to contract with GHD, Inc. to assist the District in applying to the Federal Emergency Management Agency (FEMA) and the California Governor's Office of Emergency Services (Cal OES) requesting financial support through the Hazard Mitigation Grant Program to repair damage sustained to the District's Oceana Marin treatment and storage ponds. Cal OES notified the District in May 2019 that the storage pond project was eligible for possible grant award and on August 15, 2019, Cal OES /FEMA approved the design & permitting phase (Phase 1). Subsequently, on September 27, 2019 the Board authorized District staff to contract with GHD to execute an agreement with GHD to provide consulting services for Phase 1 including environmental clearance and design.

Project Status and Environmental Clearance

Cal OES/FEMA notified the District of Phase 2 (Final Design and Construction) approval on May 2, 2022, and GHD completed the 100% drawings and specifications in July 2022. Due to escalating construction costs, GHD obtained a sub-consultant to perform and independed cost analysis that resulted in an engineer's estimate of probable cost of $1,800,000, which exceeded the available grant amount by nearly $700,000. District staff submitted a Request for Additional Funds to Cal OES and was notified in May 2023 that the request had been granted. Since that time, staff has prepared the bid package and the project is currently ready to be publicly advertised for bidding.

The Project qualifies under a class of projects that has been determined in the California Environmental Quality Act (CEQA) guidelines as not to have a significant effect on the environment and which may be exempted. Therefore, as the Lead Agency, the Board approved

filing the Notice of Exemption (NOE) for this project on March 3, 2020 citing categorical exemption pursuant to Sections 15301(b) – Existing Facilities and 15302(c) – Replacement or Reconstruction of the CEQA guidelines.

FEMA was the Lead Agency ensuring compliance with the National Environmental Policy Act (NEPA) guidelines which are slightly different than guidelines under CEQA. FEMA certified a Finding of No Significant Impact (FONSI) pursuant to Category 2.4.4, Constructing a Water Detention, Retention, Storage, or Conveyance Facility of the Region IX PEA.

The grant funding has a current Period of Performance (POP) expiration date of January 8, 2024. District staff is coordinating with Cal OES to submit an extension request that would extend the Project's POP expiration date by one year to January 8, 2025. Cal OES staff has indicated that the District's justification for requesting an extension is valid and that the request will be processed without complication.

The project specifications include requirements for the contractor to implement Best Management Practices (BMPs) that are designed to avoid or minimize impacts to the environment, including water quality, air quality, and wildlife as a result of the construction activities.

Schedule

Complete All Design Reviews	July, 2022
Independent Construction Cost Estimate	October, 2022
CalOES Funding Adjustment Approval	May, 2023
Advertise Project	August, 2023
Bid Opening	September, 2023
General Manager Award Contract *	September, 2023
Contractor Notice to Proceed	October, 2023
Site Work to begin	February, 2024
Construction Complete	September, 2024

** contingent to Board delegated authority to the General Manager, see below*

The Project will be publicly advertised in the Marin Independent Journal and on the District's Online Plan Room (nmwdbids.com) with electronic plans and specifications available to the prospective bidders to view and purchase.

Financial Impact

The Project is partially funded (75%) by the Hazard Mitigation Grant Program sponsored by FEMA and partially funded (25%) by the required District local match. The engineer's estimate of probable cost is $1,800,000, but actual costs are unknown until the contractor bids are opened. Federal grant funds available for the construction phase total $1,350,000 and the District local match amount is $450,000. Should project costs exceed the estimated amount, additional local funding would be used to cover the shortfall.

The FY23/24 Capital Improvement budget includes a line item for the Project's construction phase in the amount of $800,000. Staff will include the balance of expenditures on the FY 24/25 budget, as construction is anticipated to take place during both fiscal years. Soft costs for the construction phase are estimated not-to-exceed $200,000, which include District staff time for FEMA hazard mitigation funding grant administration, project administration and closeout, and construction support services by GHD.

Delegated Authority

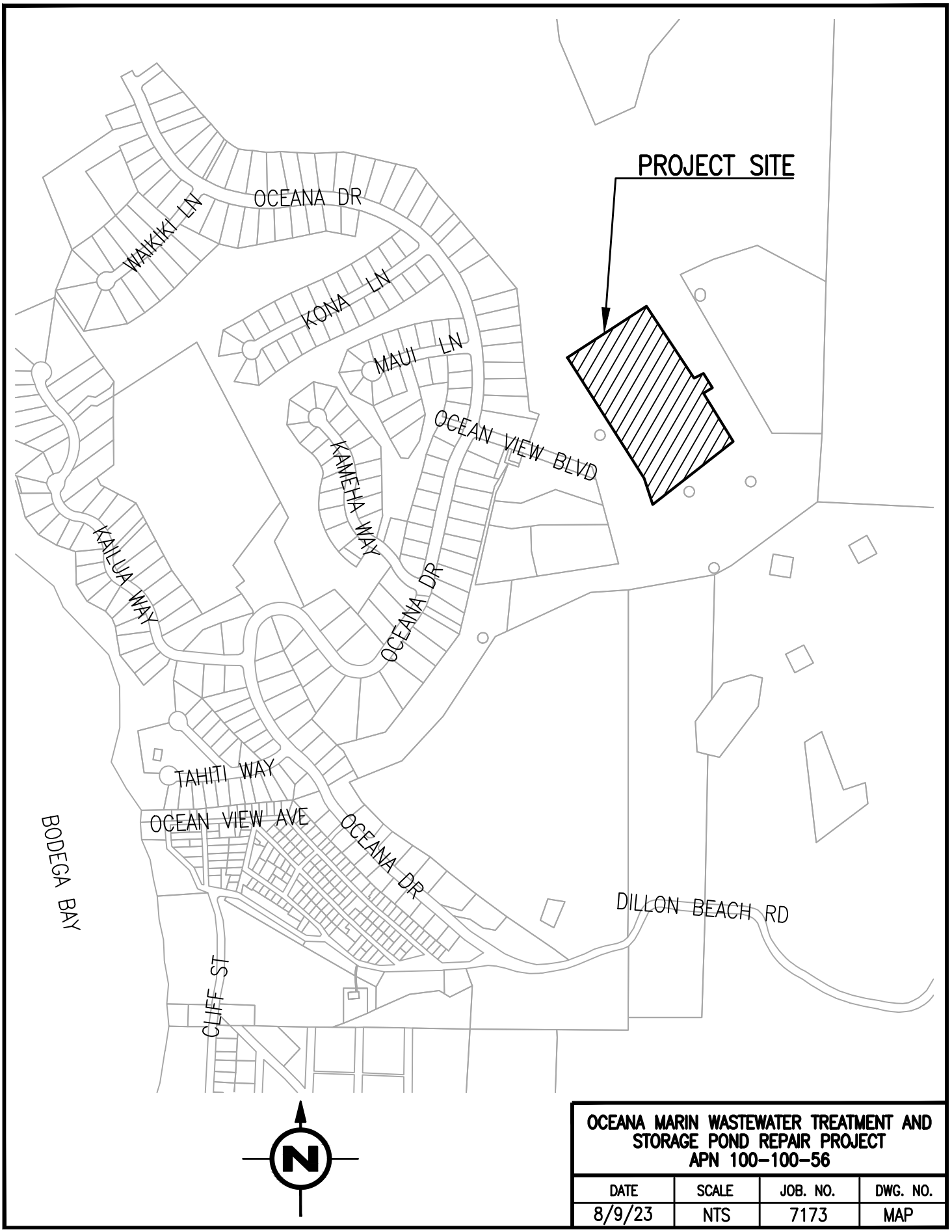
Staff is proposing that the Board authorize the General Manager to award the contract to the lowest responsive and responsible bidder, allowing the project to begin sooner and enabling ordering of long-lead-time materials. In the event that the lowest bid exceeds the engineer's estimate by more than 10 percent ($1,980,000), the General Manager will not award the contract but rather staff will return to the Board seeking guidance on how to proceed.

Recommendation

The Board authorize bid advertisement of the Oceana Marin Treatment and Storage Pond Rehabilitation Project and authorize the General Manager to award the construction contract to the lowest responsible bidder, unless the low bid exceeds 110 percent ($1,980,000) of the engineer's estimate ($1,800,000)

Attachments:

1. Oceana Marin Treatment and Storage Pond Site Map



OCEANA MARIN WASTEWATER TREATMENT AND STORAGE POND REPAIR PROJECT APN 100-100-56			
DATE	SCALE	JOB. NO.	DWG. NO.
8/9/23	NTS	7173	MAP

Aug 09, 2023 - 4:35pm W:\JOB\8_OCEANA\7173 OM Pond Rehab\3_ISSUED\A\7173_Vicinity Map.dwg User: SDOVE

7

NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors Date: August 15, 2023

From: Eric Miller, Assistant General Manager/Chief Engineer
Tim Fuette, Senior Engineer

Subject: Lynwood Pump Station Replacement Project – Presentation of Preliminary Engineering Assessment and Consulting Services Agreement Amendment
R:\Folders by Job No\6000 jobs\6112.26 Lynwood PS\1. BOD Memos\6112.26 CEQA Agmt BOD Memo Aug 2023.docx

RECOMMENDED ACTION:

1) Board receive a presentation related to the preliminary engineering assessment for replacement of the Lynwood Pump Station;
2) Board authorize the General Manager to amend the Agreement with Freyer & Laureta

FINANCIAL IMPACT: $200,000 (includes contingency)

Background

The Board approved an agreement with Freyer and Laureta, Inc. (F&L) in September 2022 to evaluate replacement of the Lynwood Pump Station (LPS). With the assistance of F&L, staff will present the study findings, which includes an overview of; a) existing conditions at the current LPS site; b) future water demand impact to the current LPS; c) conceptual design improvements; and d) alternative site locations versus reconstruction at the current LPS site. Evaluation of findings and a recommendation have been documented in a draft technical report and, once finalized, will serve as a basis for subsequent project phases including compliance with the California Environmental Quality Act (CEQA), final design, and construction.

$300,000 was allocated in the FY 2023/24 budget for consultant services related to environmental compliance for the Lynwood Pump Station Replacement project (Project). In order to comply with the requirements of CEQA, staff anticipates that an Initial Study must be prepared to examine potential impacts resulting from the project. It is assumed that the environmental analysis developed through the Initial Study process will result in a Mitigated Negative Declaration (IS/MND).

Consulting Agreement

The F&L Team has a successful history of preparing various CEQA documents for pump station projects in the Bay Area as well as other complex projects, and staff is recommending that the F&L Team provide consulting environmental services for the Project.

The F&L Team scope, provided as an Attachment, includes preparing an Administrative Draft, Draft, & Final Initial Study/Mitigated Negative Declaration (IS/MND) for the existing pump station site and the three alternative sites as well as a Mitigation Monitoring, and Reporting Program (MMRP). The F&L Team will conduct several technical studies, reports and assessments to support the IS/MND that include topics such as Cultural Resources, Air Quality, Health Risk, Noise and Vibration, and Biological Resources as well as an Arborist report. In addition, the F&L Team will provide additional conceptual engineering tasks to support the development of the IS/MND including: construction duration, haul trips and off-road construction activities; additional exhibits for use in coordination with the City of Novato; and the addition of siting a permanent emergency generator should the District consider installing one at a future date.

The total estimated cost for environmental services provided by the F&L Team is $180,900 and the work is planned for completion by the end of July 2024.

Financial Impact

The total amount of $200,000 includes the estimated fee for environmental compliance consulting services of $180,900 and a contingency of $19,100. The combined not-to-exceed amount will be funded by the approved line item in FY 2023/24 CIP funds budgeted for this project.

Recommendation

That the Board receive the presentation related to the preliminary engineering assessment for replacement of the Lynwood Pump Station, and that the Board authorize the General Manager to amend the agreement with F&L for the Lynwood Pump Station Replacement Project for a total not-to-exceed amount of $200,000.

Attachments

1. Presentation slides dated August 15, 2023
2. Freyer and Laureta, Consulting Services Agreement Amendment No. 1
3. Freyer and Laureta, Scope of Services

NORTH MARIN WATER DISTRICT

ATTACHMENT 1

Lynwood Pump Station Replacement

North Marin Water District

August 15, 2023 Board of Directors Meeting

FREYER & LAURETA, INC.

Presentation Outline

- Authorized Consultant Agreement
- Project Team
- Existing Pump Station Location & Site Constraints
- Project Objective
- Background Hydraulics
- Future Demands
- Alternative Site Locations
- Study Conclusion
- Next steps

Consultant Service Agreement

BOD Authorized Consultant Service Agreement, Sep 6, 2022:

1. Assess existing PS conditions
2. Assess Current PS Capacity to Meet Future Demands
3. Develop Conceptual Design Improvements
4. Evaluate Alternative PS Site Locations
5. Technical Report

- Subsequent Project Phases (CEQA and Final Design) to be authorized upon completing the above scope.

Project Team

NORTH MARIN WATER DISTRICT

FREYER & LAURETA, INC.

Lead Engineer

CE&G *Pragmatic Expertise™*

Geotechnical

Beecher Engineering, Inc.

Electrical/Instrumentation/Controls

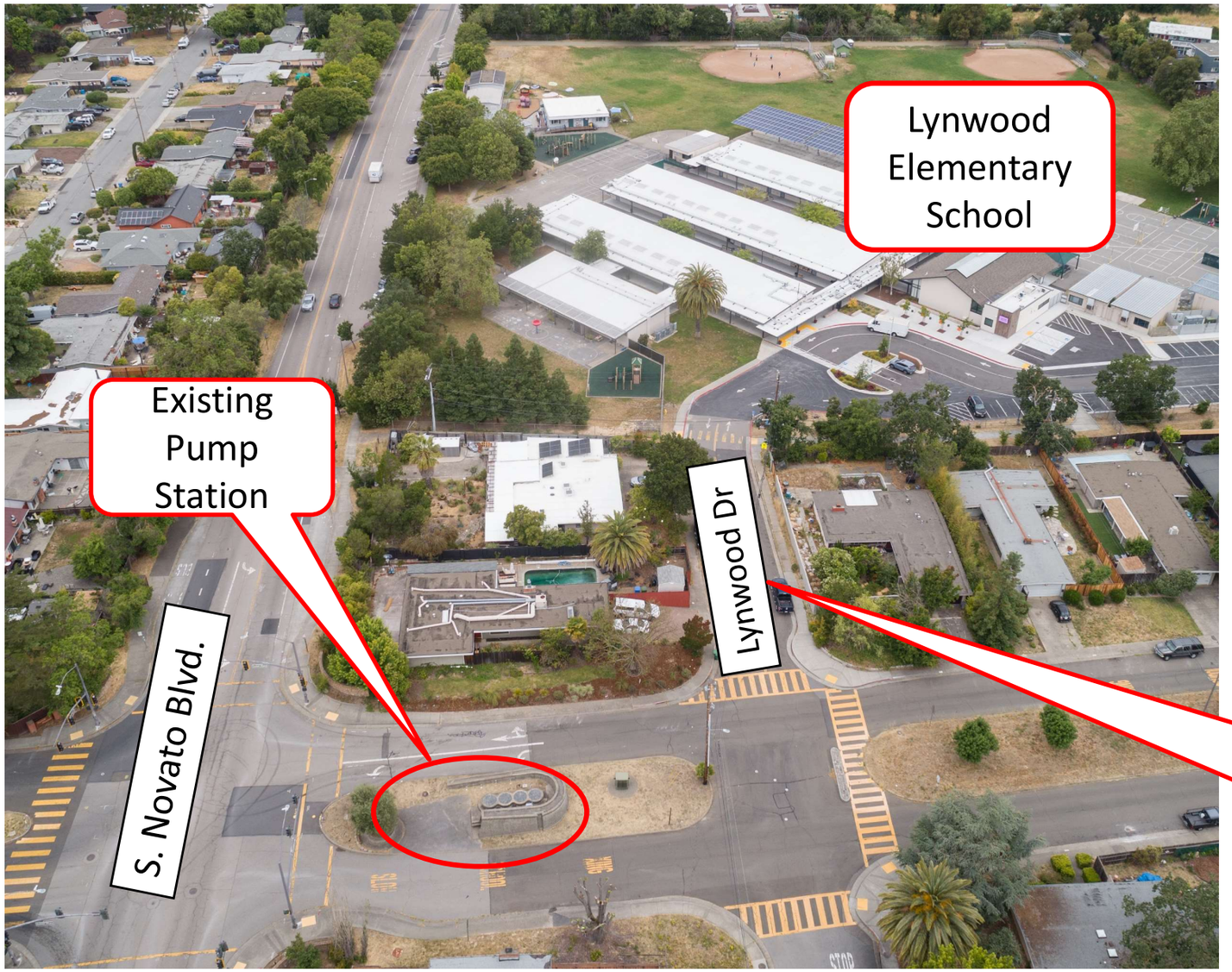
wra Environmental Consultants

CEQA and Permitting

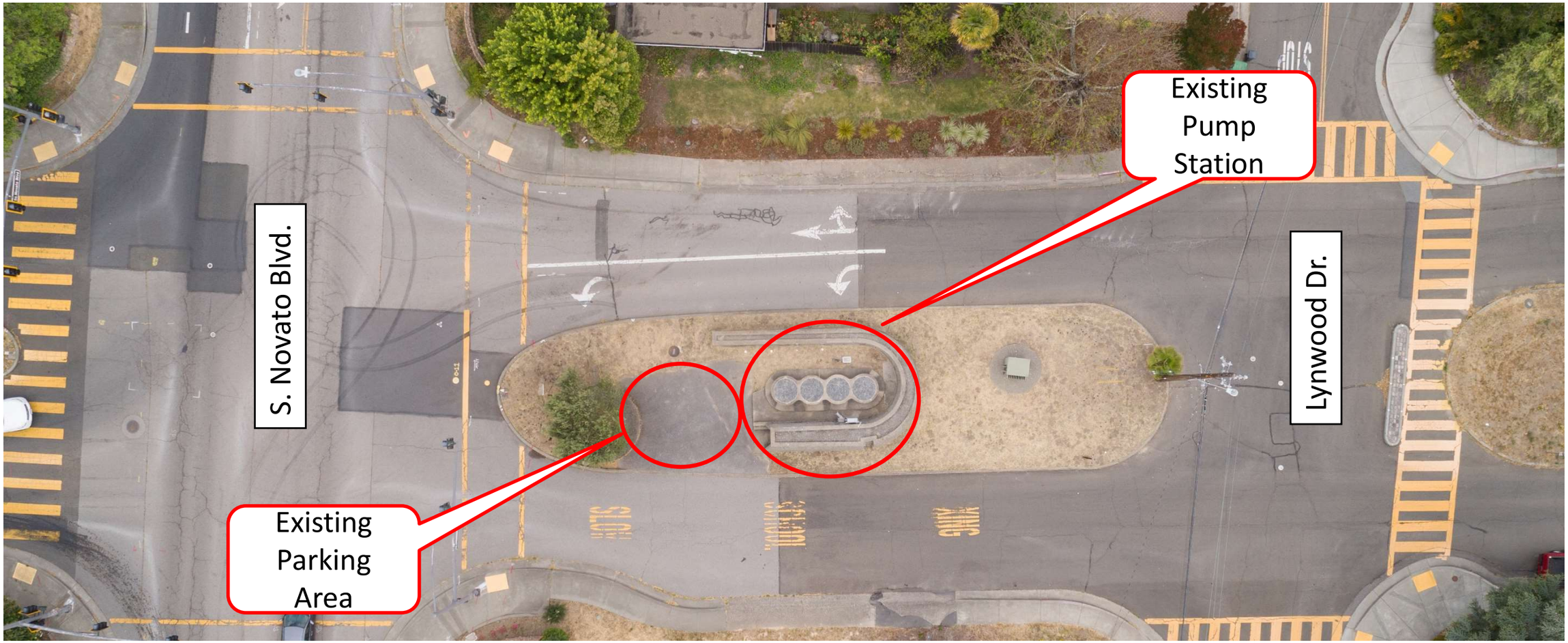
ADVANCED HYDRO ENGINEERING

Hydraulics

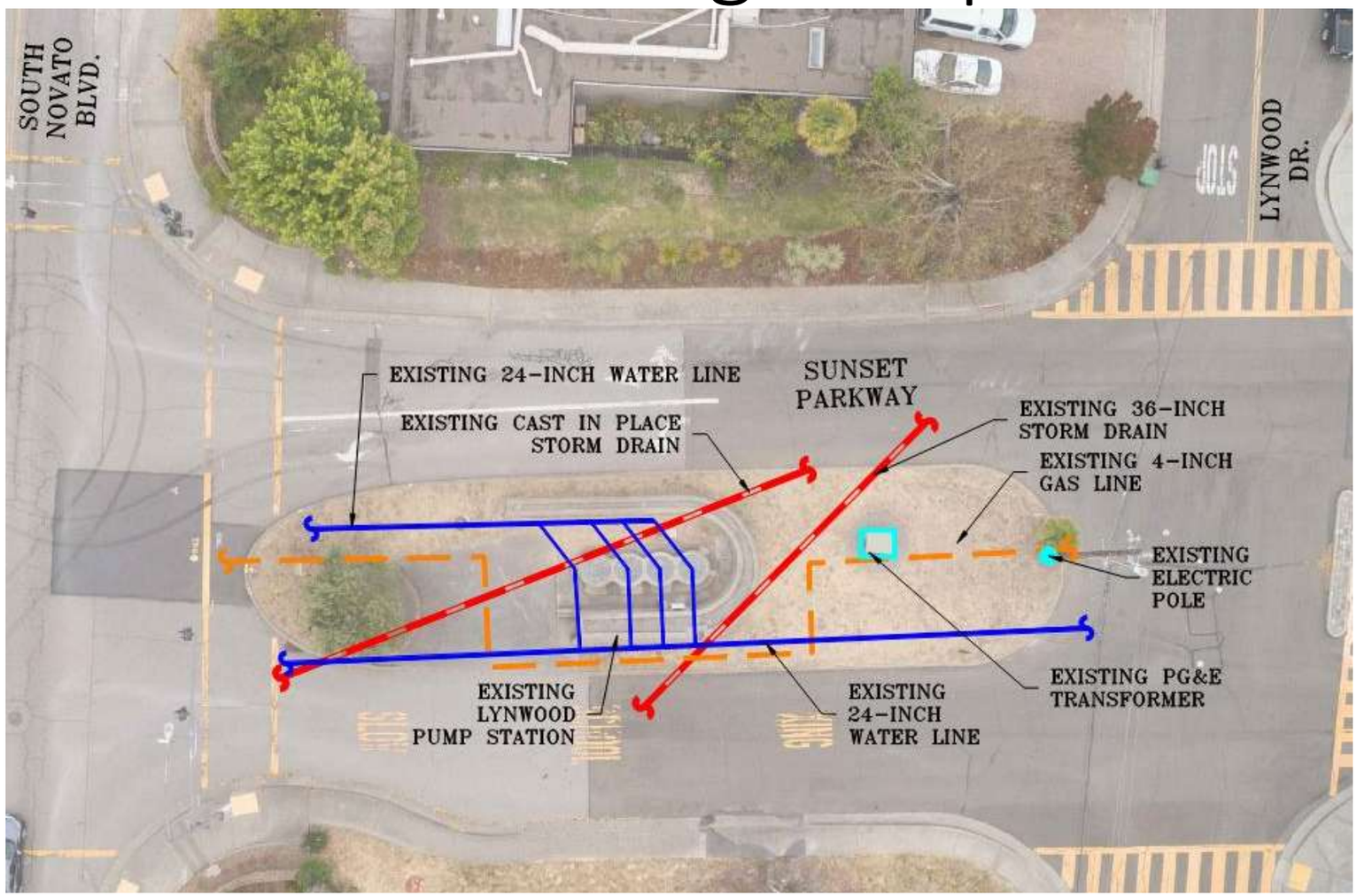
Existing Pump Station Facility Neighborhood



Existing Pump Station Facility Site

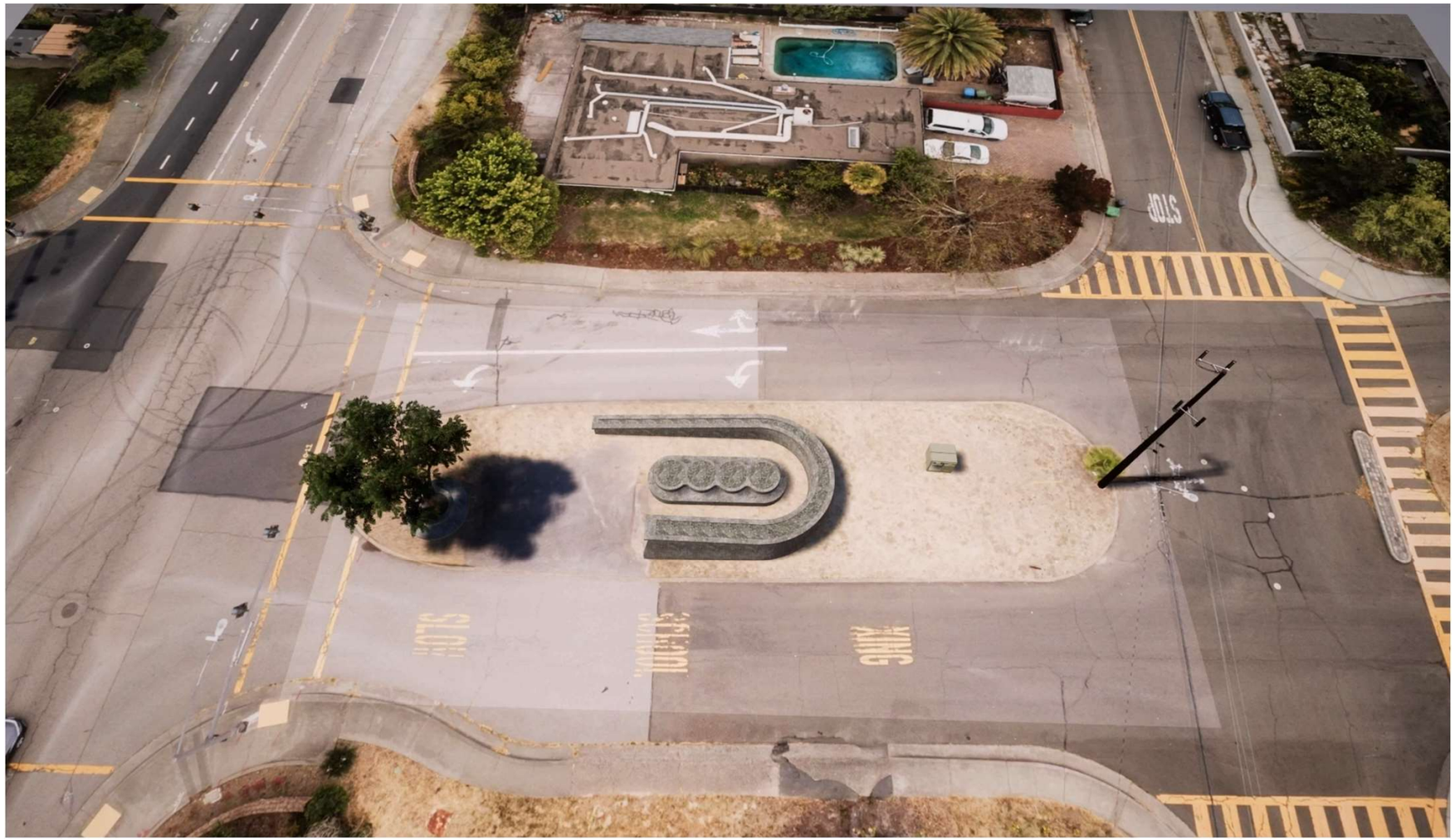


Buried Utilities at Existing Pump Station Site

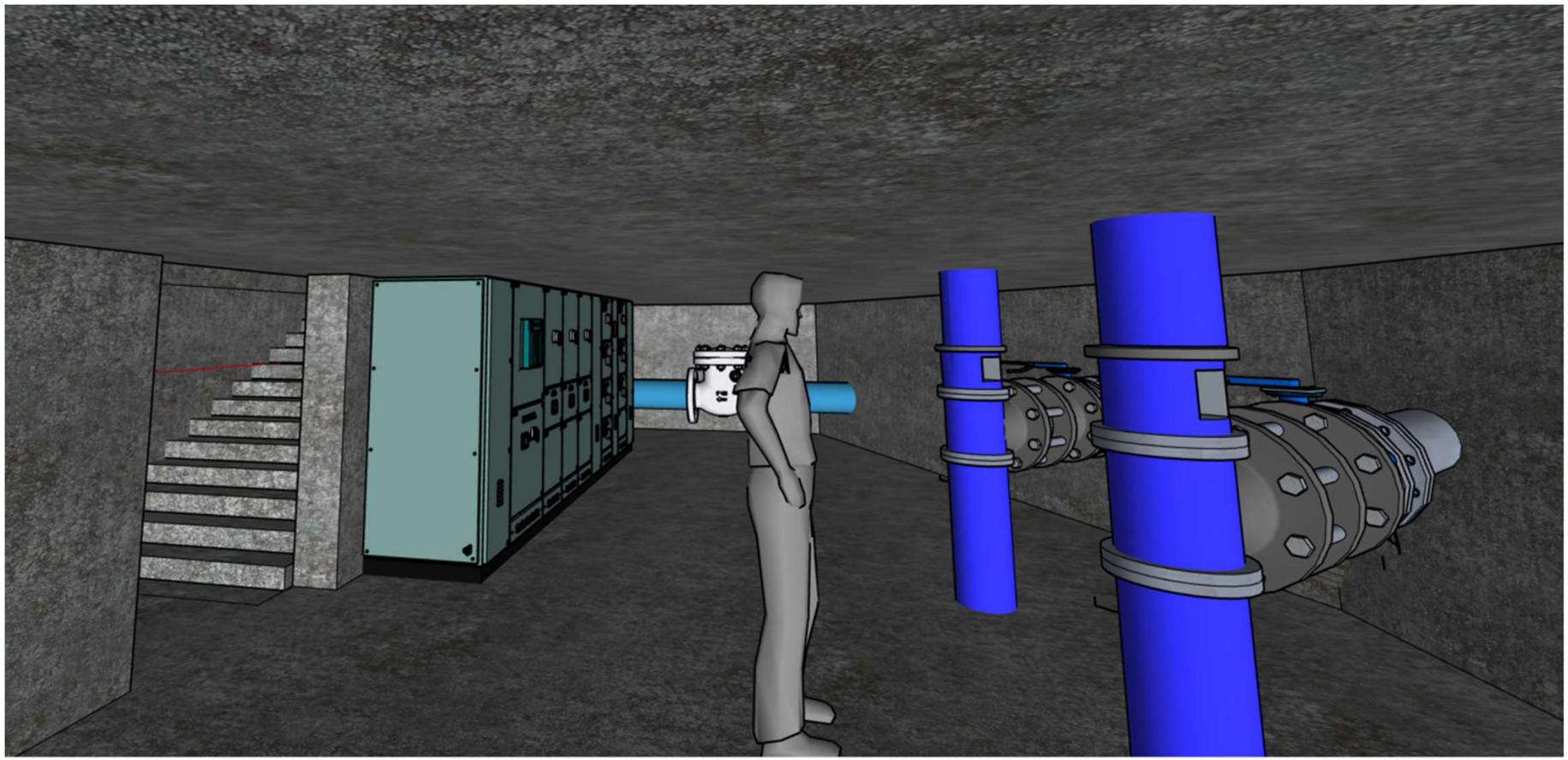


Please note that slide contains an animation that will be shown during the Board Meeting presentation.

Existing Pump Station Facility Rendering



Existing Pump Station Facility Rendering



Project Objectives

Improve Reliability

- Electrical Equipment
- Equipment & Pipe Age

Enhance Operability

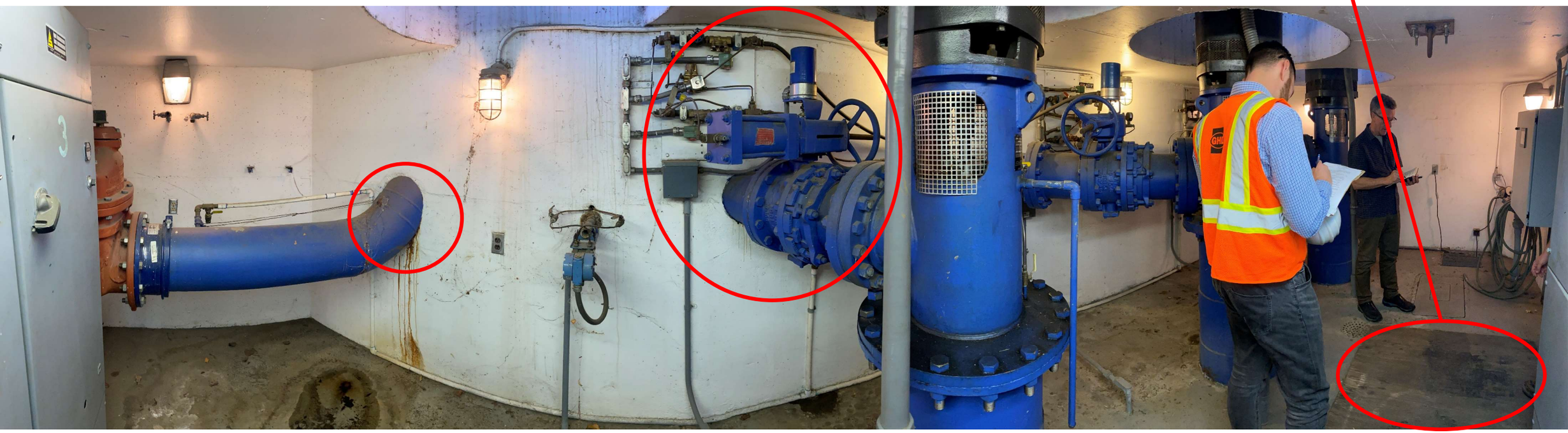
- Safety
- System Constraints

Meet Future Needs

- Growth
- Redundancy

Existing Pump Station Constraints

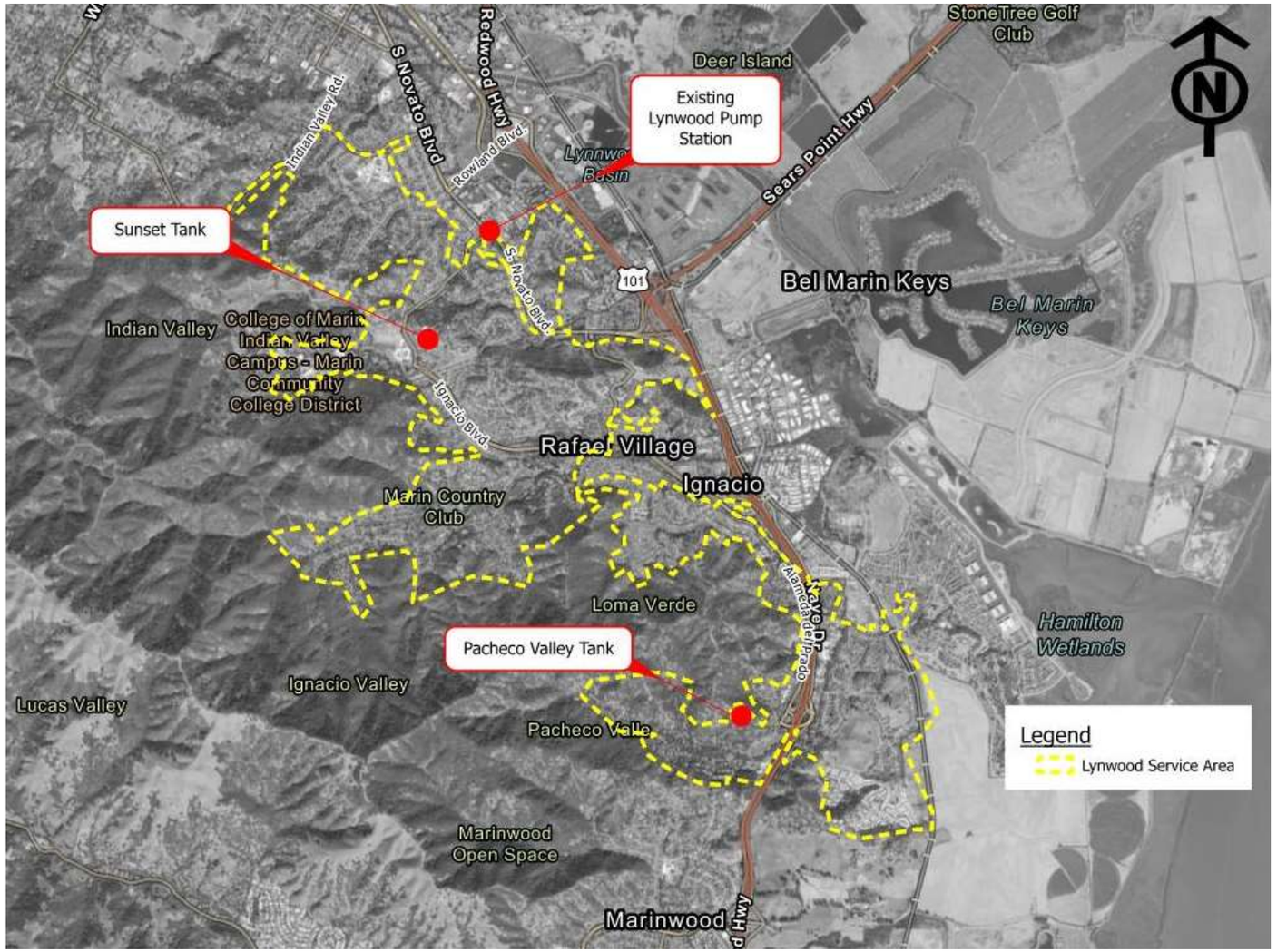
- Pump shaft vibration
- Constrained location and environment
- Piping condition
- Electrical equipment vulnerability



Lynwood Pump Station Risk Assessment

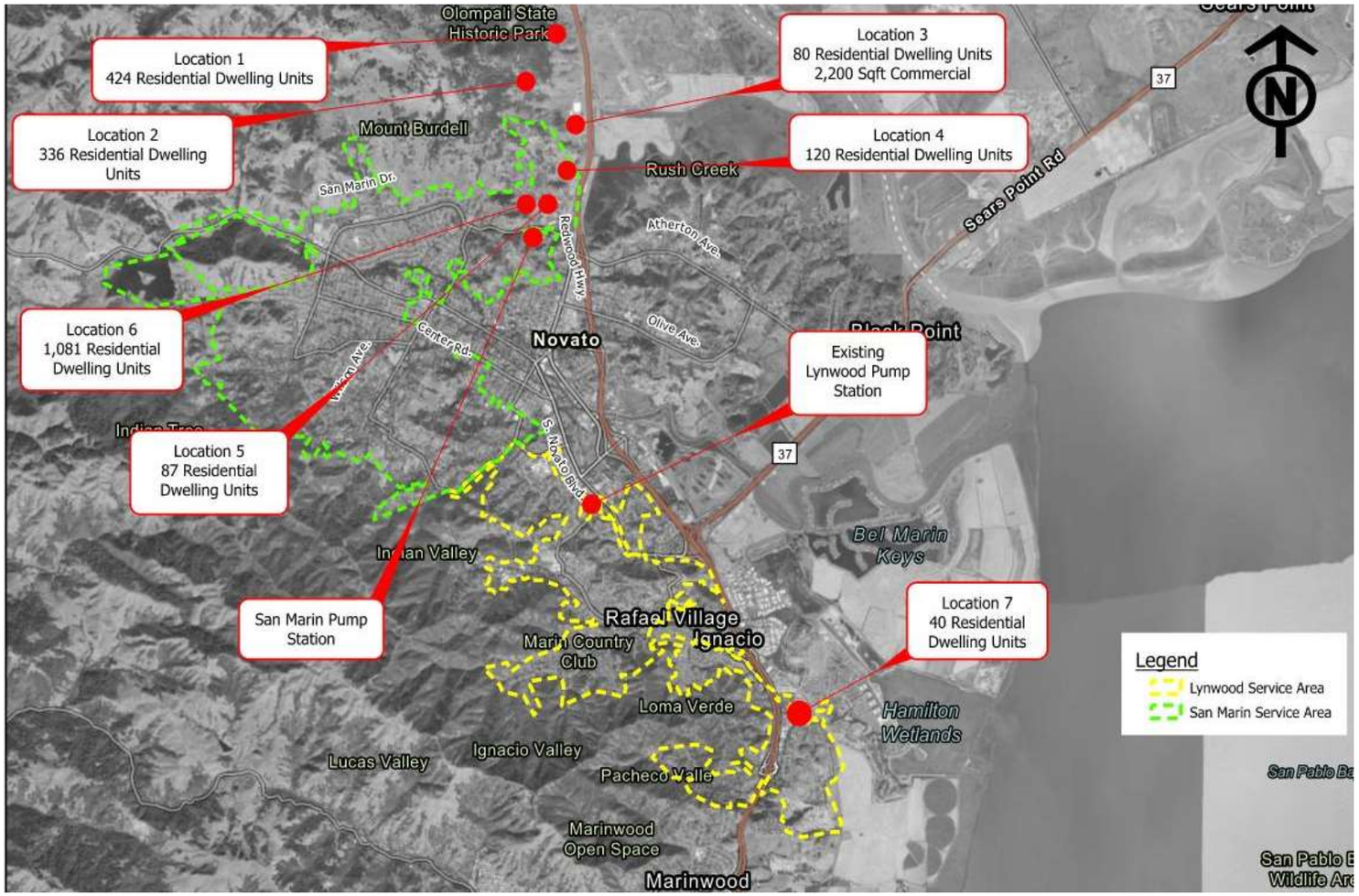
Evaluation Criteria	Risk Level	Consequence
Equipment Failure	High	Water delivery disruption
Meet Future Demand	Medium	Delay critical housing needs
Safety and Maintenance Access	High	Staff injured performing critical maintenance and repairs
Maintain Water Storage for Emergency Needs	Medium	Pacheco Valley Tank may not be full to meet demands during an emergency event
System Redundancy	Medium	If Lynwood Pump Station operation is interrupted, San Marin Pump Station may not be able to meet all primary Zone 2 demands

Background Hydraulics



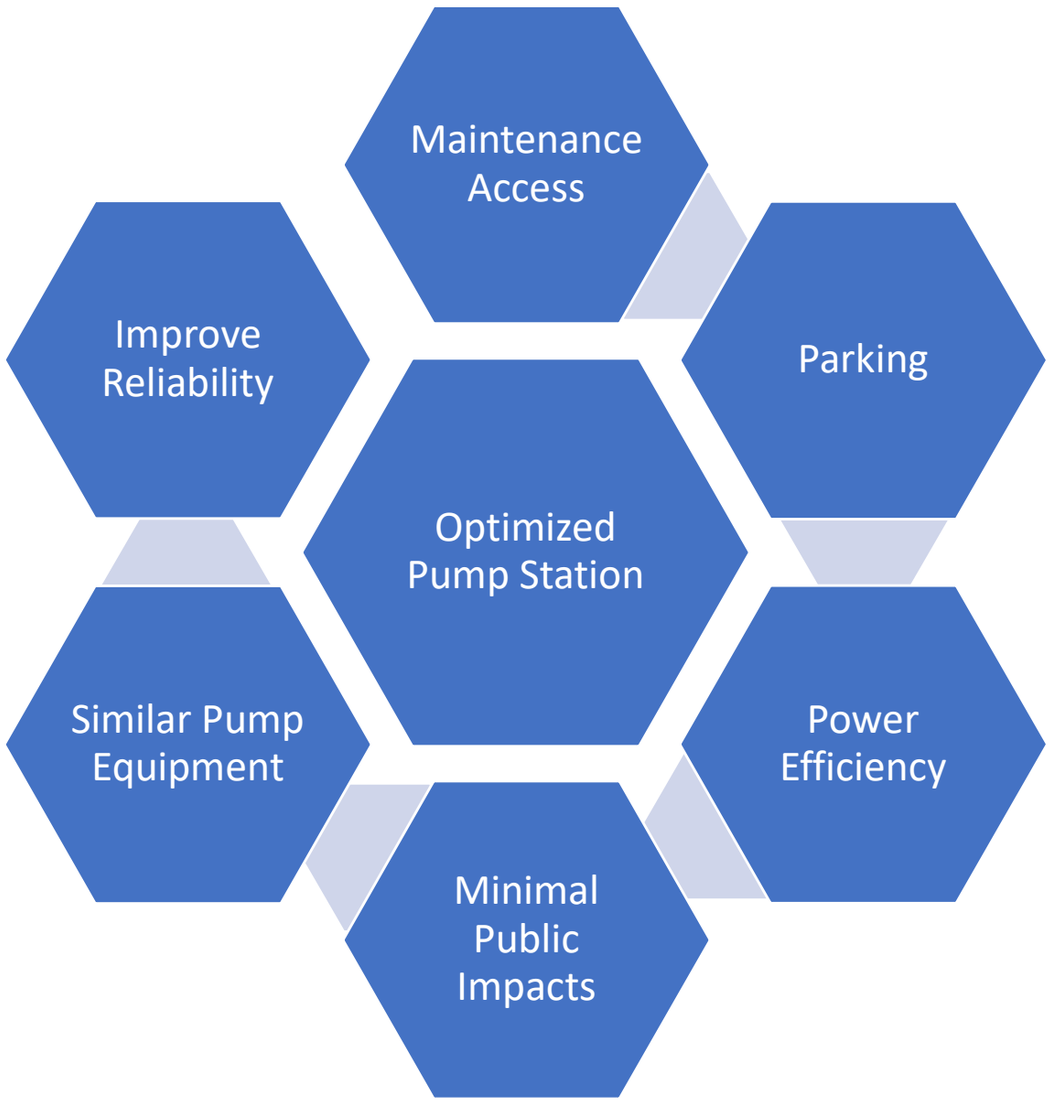
- Lynwood Pump Station service area has expanded from original design with addition of Hamilton
- Physical location is no longer centered within its service area and is limited by conveyance capacity
- Sunset Tank is filled first then Pacheco Valley Tank

Future Demands

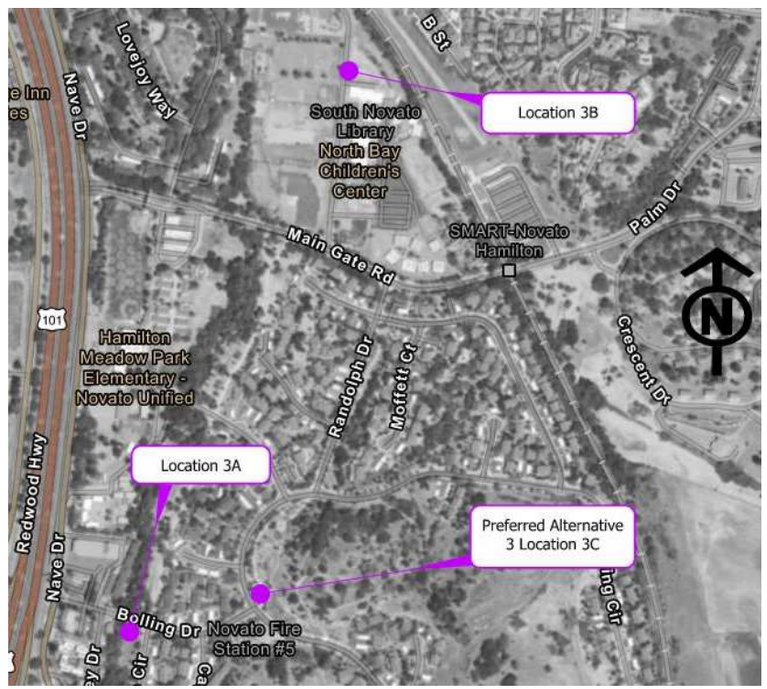


- Projected future Primary Zone 2 demands mostly in the northern area
- Total projected future average day demand is 0.66 million gallons per day (MGD)
- Lynwood Pump Station replacement provides the opportunity to plan for future increased demands without upgrading San Marin Pump Station

New Pump Station Key Components



Alternatives Siting Study



Alternative 1

Preferred Location 1C

Cambridge St. and Sunset Pkwy.

Alternative 2

Preferred Location 2C

Palmer Dr. and Ignacio Blvd.

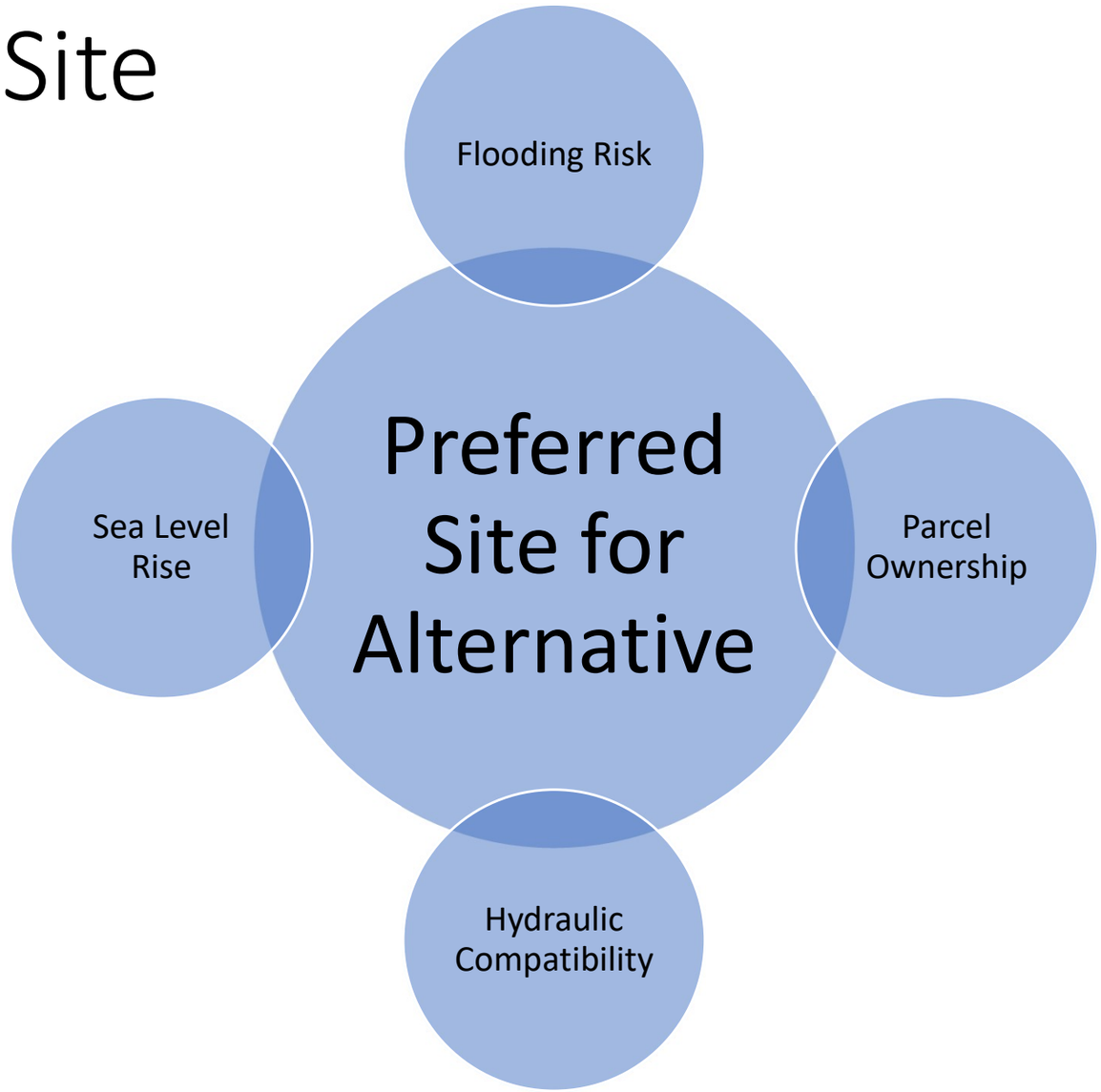
Alternative 3

Preferred Location 3C

Bolling Cir. and Bolling Dr.

Alternatives Preferred Site

- Alternative 1: Cambridge Street and Sunset Parkway
- Alternative 2: Ignacio Boulevard and Palmer Drive
- Alternative 3:
  - Pump Station 1: Same as Alternative 1
  - Pump Station 3: Bolling Circle and Bolling Drive

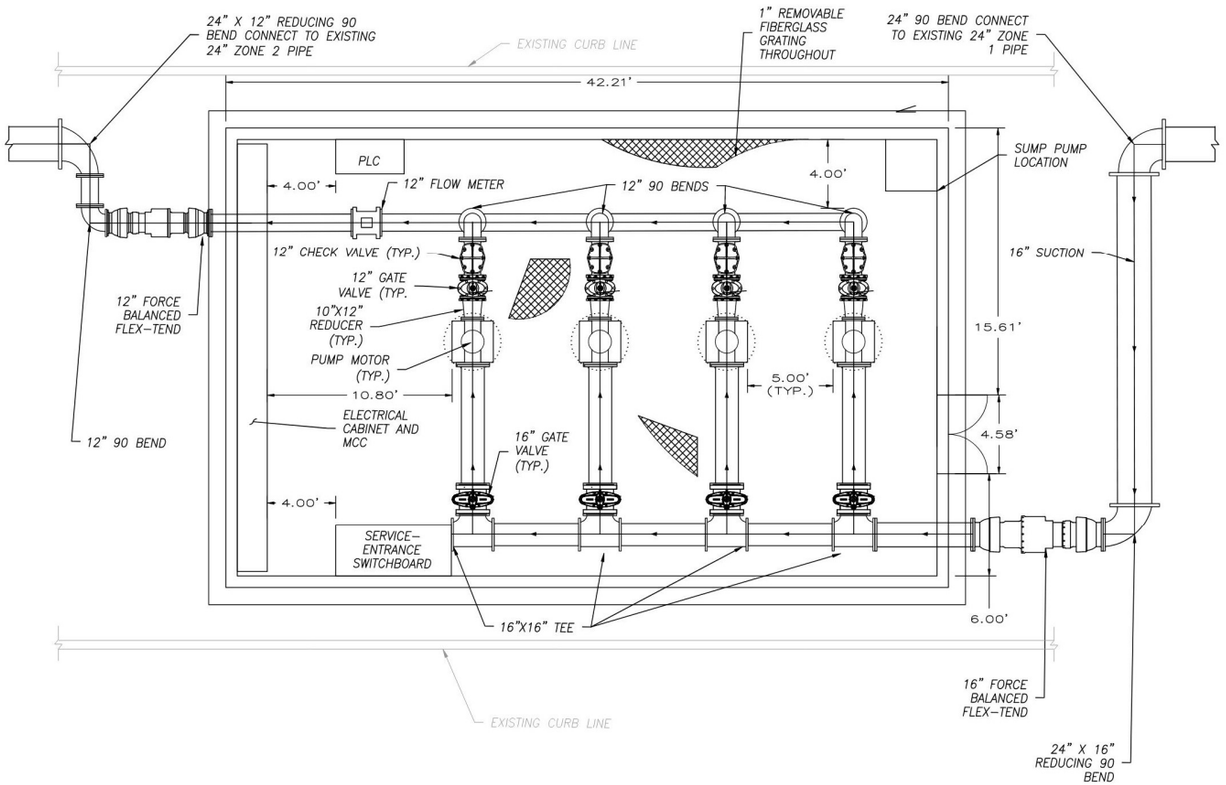


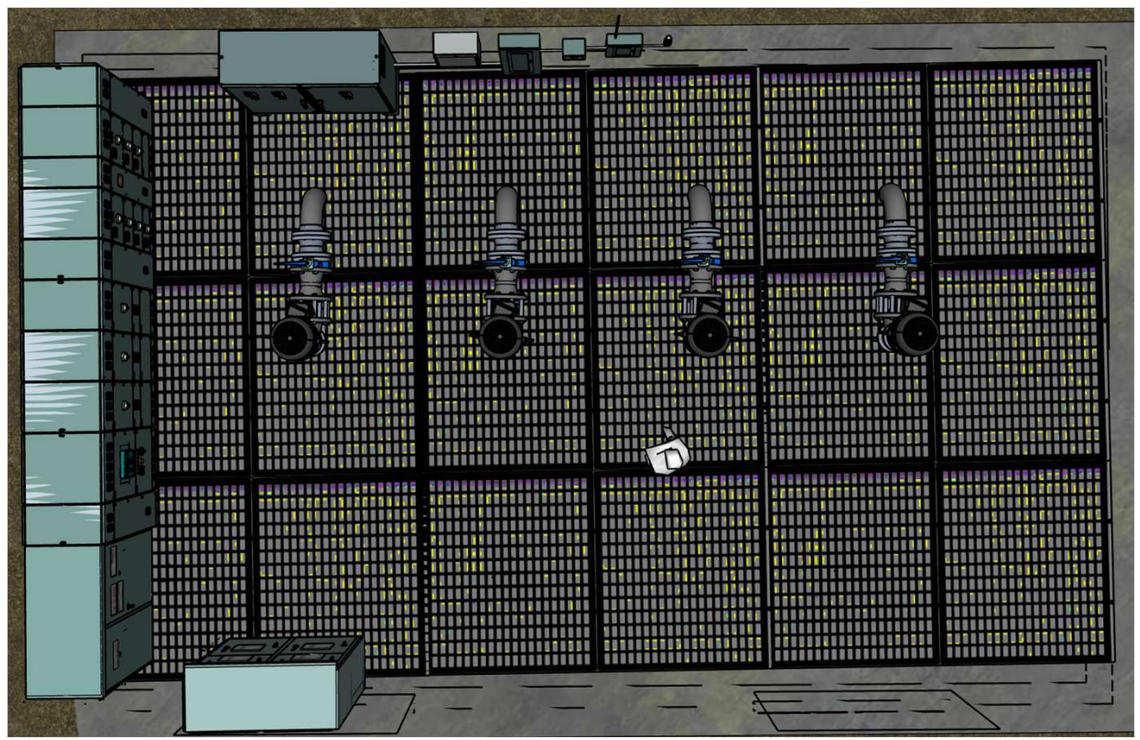
Alternatives Ability to Address Risks

Risk	Opportunity	Retrofit Existing	Alternative 1 (1)	Alternative 2 (2)	Alternative 3 (3)
Equipment Failure	Replace aging, critical pump station	X	X	X	X
Meet Future Demand	Meet future demand	X	X	X	X
Safety and Maintenance Access	Improve maintenance access		X	X	X
Maintain Water Storage for Emergency Needs	Simultaneous fill Sunset and Pacheco Valley Tanks			X	X
System Redundancy	Create additional redundancy				X

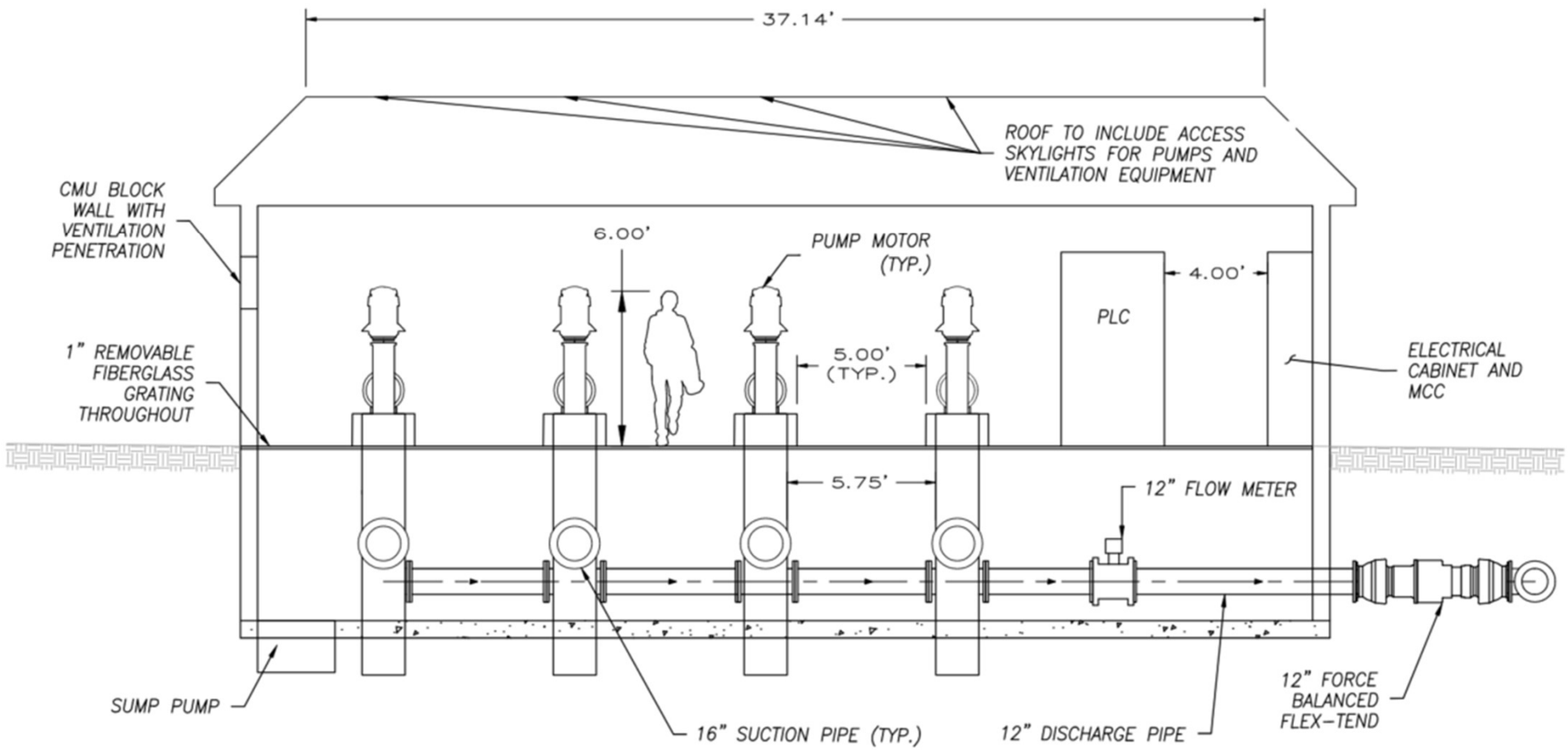
Notes:
(1) Alternative 1: Cambridge Street and Sunset Parkway
(2) Alternative 2: Ignacio Boulevard and Palmer Drive
(3) Alternative 3: Pump Station 1: Same as Alternative 1; Pump Station 3: Bolling Circle and Bolling Drive

Pump Station Layout Overview

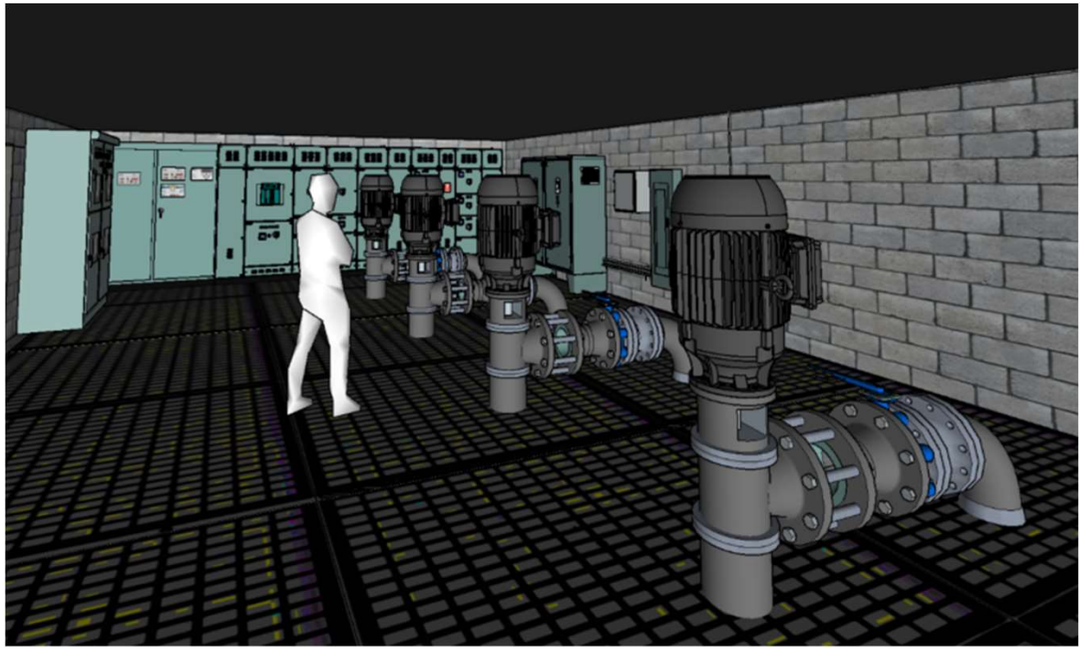


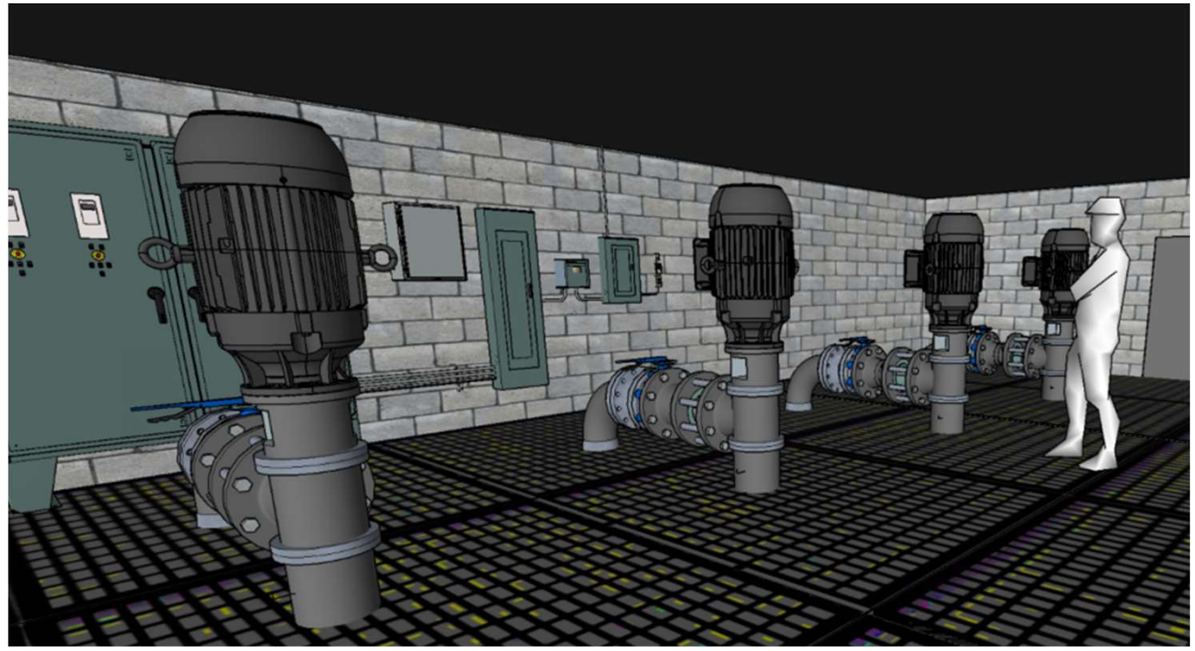


Pump Station Layout Overview



Pump Station Layout Overview





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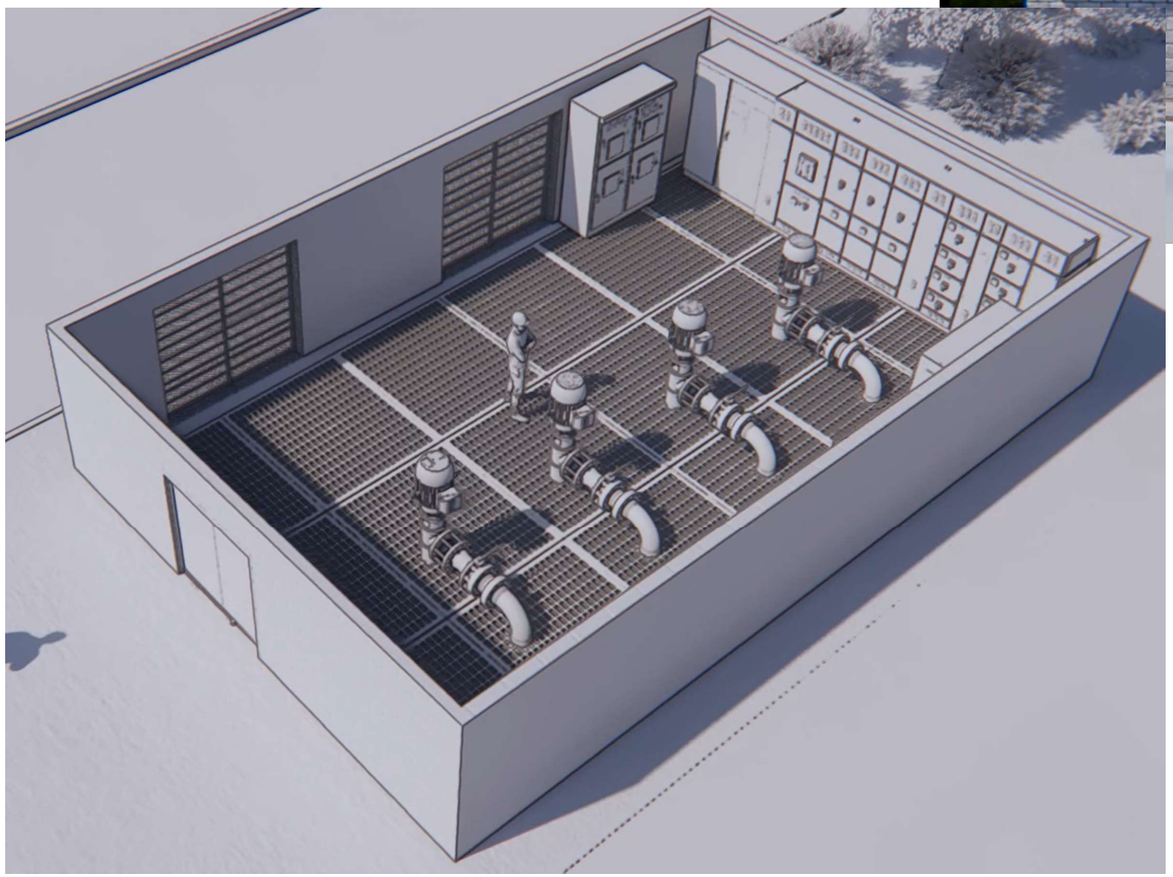
Alternative 1

Alternative 1

Alternative 1



- ✓ Replaces aging infrastructure
- ✓ Meets future demands
- ✓ Improves safety and maintenance access
- X Does not improve Pacheco Valley Tank fill operations
- X Does not provide redundancy

Please note that slide contains an animation that will be shown during the Board Meeting presentation.

Alternative 2

Alternative 2

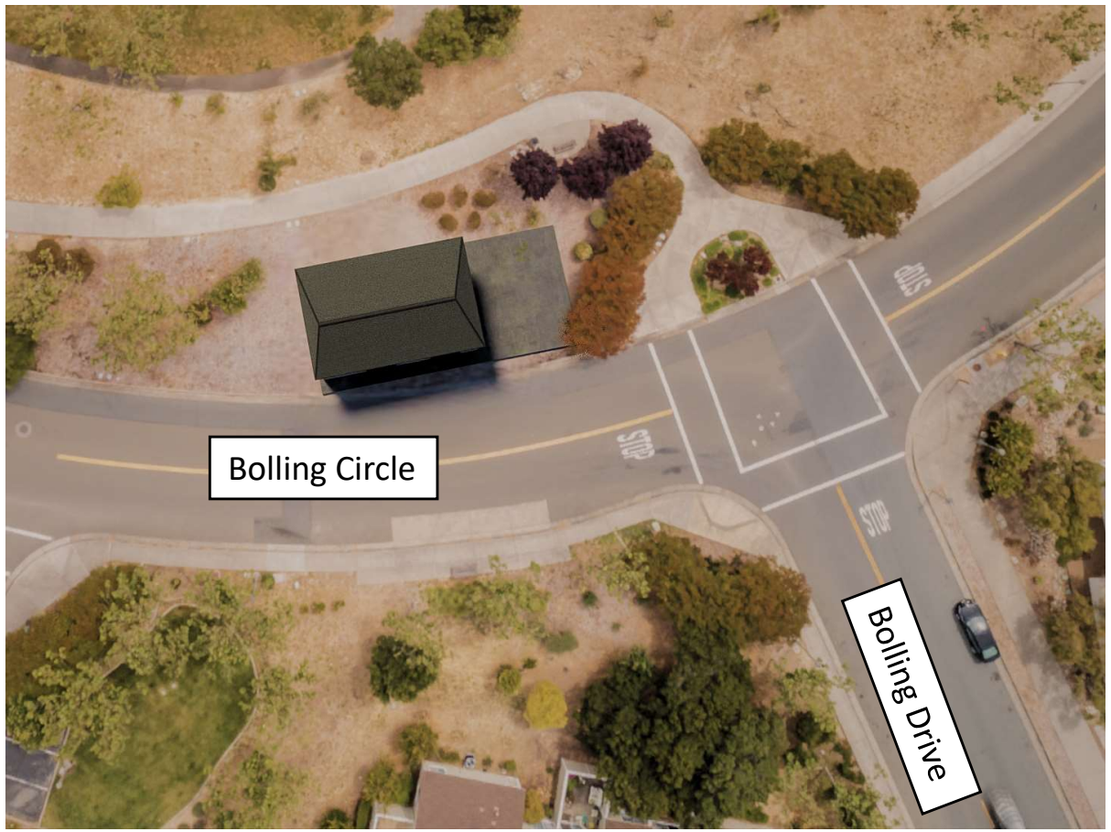
Alternative 2

- ✓ Replaces aging infrastructure
- ✓ Meets future demands
- ✓ Improves safety and maintenance access
- ✓ Improve Pacheco Valley Tank fill operations
- X Does not provide redundancy

Please note that slide contains an animation that will be shown during the Board Meeting presentation.

Alternative 3: Third Pump Station

Alternative 3



Alternative 3

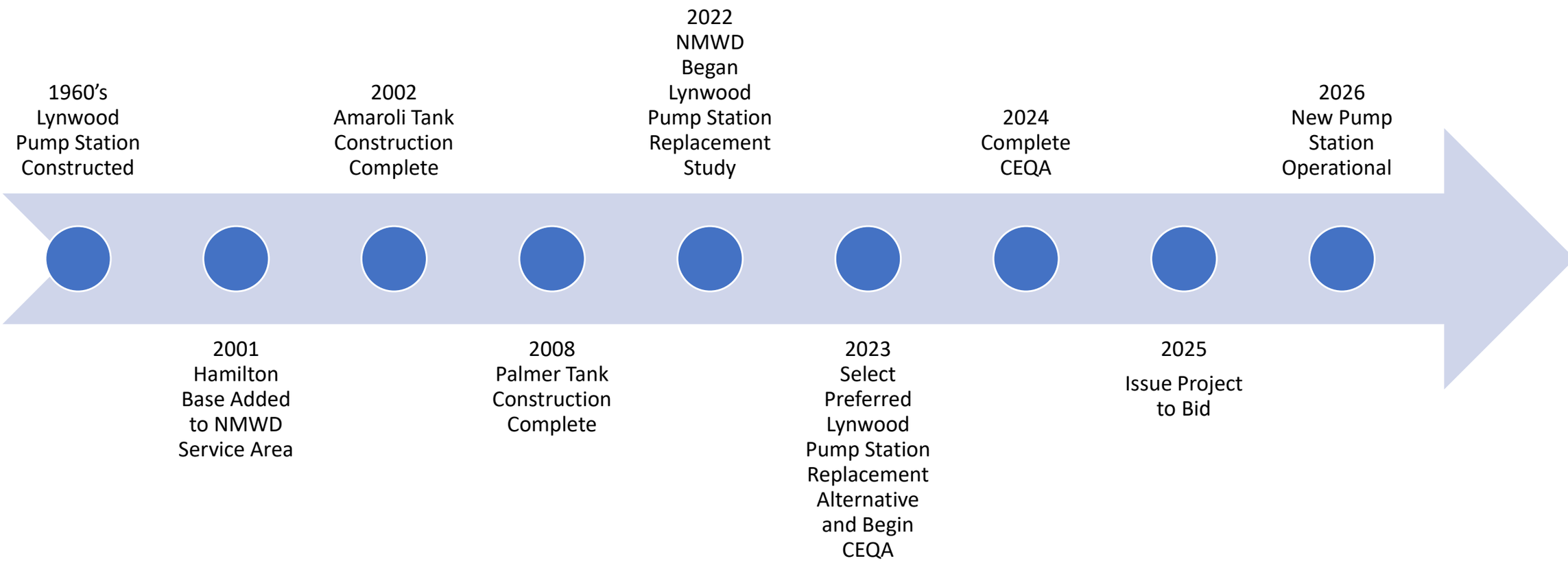
- ✓Replaces aging infrastructure
- ✓Meets future demands
- ✓Improves safety and maintenance access
- ✓Improve Pacheco Valley Tank fill operations
- ✓Provides redundancy

Alternatives Comparison Matrix

Evaluation Criteria	Alternative 1 (1)	Alternative 2 (2)	Alternative 3 (3)
Replaces aging infrastructure	X	X	X
Meet Future Demand	X	X	X
Improvements Safety and Maintenance Access	X	X	X
Improve Pacheco Valley Tank fill operations		X	X
Provides Redundancy			X
Relative Project Cost (4)	$	$$	$$$

Notes:
(1) Alternative 1: Cambridge Street and Sunset Parkway
(2) Alternative 2: Ignacio Boulevard and Palmer Drive
(3) Alternative 3: Pump Station 1: Same as Alternative 1; Pump Station 3: Bolling Circle and Bolling Drive
(4) Relative project cost for retrofitting the existing pump station is similar to Alternative 3.

Timeline and Next Steps



NORTH MARIN WATER DISTRICT

CONTRACT AMENDMENT

PROJECT: Lynwood Pump Station Upgrade

AMENDMENT NO.: 1

DATE: August 16, 2023

JOB NO.: 1 6112.26

TO CONSULTANT: (name and address)

ORIGINAL CONTRACT DATE: Sept. 2022

Jeffrey Tarantino
Freyer & Laureta, Inc.
150 Executive Park Blvd., Suite 4200
San Francisco, CA 94134

CONTRACT FOR:
Engineering and Design Services for
NMWD's Lynwood Pump Station Upgrade

The Contract is changed as follows:

To amend Fryer & Laureta's contract from $200,000 to $400,000 as approved by the Board of Directors at the August 15, 2023 meeting.

Not Valid until signed by the District and Consultant

The original Contract Sum was	$200,000
Net change by previously authorized Amendments	$0
The Contract Sum prior to this Amendment was	$200,000
The Contract Sum will be increased by this Amendment in the maximum amount of	$200,000
The new Contract Sum including this Amendment will be	$400,000
The Contract Time will be unchanged by	0 days
The date of Substantial Completion as of the date of this Amendment therefore is	June 30, 2024

Consultant Signature	_____	District Signature	_____
	_____		_____
	Print Name		Print Name
Date	_____	Date	_____

cc: Consultant
Job File

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FREYER & LAURETA, INC.
Civil Engineers – Surveyors – Construction Managers

REVISED - August 7, 2023

Tim Fuette, P.E.
Senior Engineer
North Marin Water District
100 Wood Hollow, Suite 300
Novato, CA 94945

RE: Proposal for Professional Engineering and Environmental Services for Compliance with the California Environmental Quality Act, Lynwood Pump Station
North Marin Water District, Novato, California

Dear Tim,

Freyer & Laureta, Inc. (F&L) is pleased to present to the North Marin Water District (NMWD) this proposal to provide engineering and environmental services for compliance with the California Environmental Quality Act (CEQA) for the anticipated replacement of the existing Lynwood Pump Station. The CEQA review will be based on the recently completed *Draft Lynwood Pump Station Replacement Engineering Assessment* prepared by F&L dated May 8, 2023. The three potential alternatives being considered include:

- Alternative 1: A new pump station to replace the Lynwood Pump Station would be installed within the Sunset Parkway median between Monte Maria Avenue and Cambridge Street.
- Alternative 2: A new pump station to replace the Lynwood Pump Station would be installed on Ignacio Boulevard at Palmer Drive within an open space area adjacent to an existing pedestrian trail.
- Alternative 3: Two new pump stations would be installed: one at the Alternative 1 location and one at a location on Bolling Circle at Bolling Drive.

F&L has included the following specialty subconsultants:

- WRA, Inc. (WRA) to provide CEQA services;
- Tom Origer & Associates, as a subconsultant to WRA, to provide Cultural Resources analysis, and;
- Baseline Environmental Consulting (Baseline), as a subconsultant to WRA, to provide Air Quality and Noise analyses.
- Advanced Hydro Engineering – hydraulic modeling support
- Beecher Engineering – electrical, instrumentation, and controls engineer support
- CAL Engineering & Geology, Inc. – geotechnical engineering support

F&L and its subconsultants, referred to herein as the F&L team, will provide the scope of services described in the following sections.

Base Scope of Work

TASK 1: PROJECT MANAGEMENT

F&L will provide overall project management for the team, including coordination with NMWD. We will coordinate review meetings to discuss the review comments and receive feedback on the deliverables. This

task includes preparing and submitting progress reports with each monthly invoice summarizing the work accomplished during the billing period, the work to be accomplished in the upcoming billing period, critical issues requiring resolution, and budget status.

We will continue to hold bi-weekly 30-minute conference calls to allow our project manager to provide real-time updates to NMWD's project manager. The goal of the bi-weekly call is to offer the opportunity to review in-progress deliverables, provide schedule updates, and identify potential supplemental information needs that may be identified during the course of the project.

Deliverables

1. Monthly progress reports
2. Monthly invoices, including a summary of work completed
3. Meeting agendas and minutes

Task 2: CEQA Documentation

The purpose of this Scope of Work is to prepare CEQA documentation for the Project. NMWD will serve as the CEQA Lead Agency.

Task 2.1: Kick-Off Meeting and Information Review

The F&L Team proposes to kick-off the environmental review process with the team by:

- collecting all relevant reports and drawings (or identify relevant documents for copying);
- discussing the proposed project;
- resolving issues regarding overall assumptions;
- identifying other key NMWD contacts; and
- discussing overall communication protocols.

Task 2.2: Prepare Project Description for CEQA Initial Study/Mitigated Negative Declaration

The F&L Team will prepare a draft Project Description for the Initial Study/Mitigated Negative Declaration (IS/MND), which will include discussions of the following:

- project area regional and local location;
- project objectives and goals;
- project characteristics; and
- a list of required approvals and regulatory permits.

Task 2.3: Prepare CEQA Administrative Draft IS/MND

The F&L Team will prepare an Administrative Draft IS/MND for the existing pump station site and the three alternative sites. The Administrative Draft IS/MND will include a completed environmental checklist form, including a Project description; an evaluation of potential Project impacts following the outline established in the checklist; and recommendation of mitigation measures for any potentially significant Project impacts identified. The F&L Team will tier from existing documents to the extent feasible, including the City of Novato General Plan, North Marin Water District Lynwood Pump Station - Alternative Site Analysis (WRA, 2023), and Lynwood Pump Station Replacement Engineering Assessment (Freyer & Laureta, 2023).

Task 2.3a: Cultural Resources

The F&L Team will prepare a Cultural Resources Study to support the IS/MND. This task includes the following:

- Archival research at the Northwest Information Center and the offices of Origer.
- Contact with the Native American Heritage Commission and local Native American tribes and individuals. This notification does not constitute formal consultation.
- Field survey of the three alternative locations and existing pump station site. Preliminary documentation on DPR 523 forms will be completed if cultural resources are found.
- Preparation of a written report of findings that summarizes the preceding tasks and offers recommendation for the treatment of cultural resources.
- Complete tribal consultation pursuant to AB 52 (Tribal Cultural Resources).

Task 2.3b: Air Quality Technical Study (Baseline)

In support for air quality analysis for the IS/MND of the proposed Project, the F&L Team will use the most current version of the California Emissions Estimator Model (CalEEMod) to estimate the emissions of criteria air pollutants from construction of each alternative. The F&L Team will prepare a summary table of the estimated criteria air pollutant emissions and provide a copy of the CalEEMod report to support the air quality analysis for the IS/MND.

T*ask 2.3c: Health Risk Assessment*

Because construction is anticipated to continue for more than two months, an air quality health risk assessment (HRA) will also be prepared to evaluate the health risks at existing nearby sensitive receptors associated with diesel particulate matter (DPM) emissions generated during Project construction, in accordance with the Bay Area Air Quality Management District's (BAAQMD's) CEQA Air Quality Guidelines. Baseline will also prepare a cumulative health risk assessment that includes emissions from nearby sources of toxic air contaminants (TACs), such as freeways, major roadways, and stationary sources within 1,000 feet of the existing sensitive receptors in accordance with the BAAQMD's CEQA Air Quality Guidelines. The health risks from the cumulative sources of TACs in the Project vicinity will be evaluated using the BAAQMD's online air quality analysis tools. The Project's estimated health risk impacts will be compared with the BAAQMD's recommended thresholds of significance. Baseline will prepare mitigation measures, as needed, to reduce any significant air quality impacts to less-than-significant levels.

Task 2.3d: Noise and Vibration Technical Study

The F&L Team will prepare a technical memorandum to evaluate the potential noise and vibration impacts associated with Project construction. Baseline will evaluate the Project's construction noise and vibration impacts for the existing pump station site and each alternative site based on the Project-specific construction information provided by the applicant. Baseline will prepare mitigation measures, as needed, to reduce any potentially significant impacts to less-than-significant levels. The existing noise levels in the Project area will be discussed based on the noise contour maps from the City of Novato's General Plan. No noise monitoring will be conducted to characterize the ambient noise conditions.

Task 2.3e: Biological Resources Technical Report

As part of the Engineering Assessment by the F&L Team, site visits were conducted at each of the alternative sites by a biologist to review sensitive habitats and assess conditions for potential presence of special-status plant and wildlife species protected under federal, state, and/or local laws and ordinances. Prior to these site visits, the F&L Team conducted a background review of relevant information in literature and databases to

ascertain if any sensitive biological resources have the potential to be present on-site based on previous occurrences reported in the area. Resources reviewed included the following:

- California Department of Fish and Wildlife (CDFW) Natural Diversity Database records (CNDDB; CDFW 2023),
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation Species Lists (USFWS 2023),
- California Native Plant Society (CNPS) Inventory records (CNPS 2023a),
- National Wetland Inventory (NWI; USFWS 2023)
- A Manual of California Vegetation Online (CNPS 2023b),
- Consortium of California Herbaria 2 (CCH2 2023),
- SoilWeb (CSRL 2023),
- Contemporary aerial photographs (Google Earth 2023), and
- Historical aerial photographs (NETR 2023).

This background review is sufficient for the existing pump station site as it is located approximately two blocks from Alternative 1 (Sunset Parkway); however, a brief site visit of the existing pump station will be conducted by the F&L Team as this location was not surveyed as a part of previously completed work. During the new site visit, the F&L Team will observe and note the condition of any sensitive habitat areas, such as riparian vegetation, wildlife corridors, and stream habitat that may be special-status species dependent. Any special-status species and/or sensitive natural communities that are observed will be recorded and mapped with a full description of location and qualities documented; however, this assessment is not considered a protocol-level survey for plant or wildlife species.

Following the field visit of the existing pump station, the F&L Team will prepare a Biological Resources Technical Report (BRTR) that provides information on the known or potential use of the alternative sites and existing pump station site by any special-status species. Potential use will be ranked as low, moderate, or high depending upon the suitability of the habitat or proximity of any known records uncovered in the database search. If any sensitive species are observed, they will be reported in the findings. Any wetlands, streams, or riparian areas observed will be discussed in the report and depicted on an accompanying map. The BRTR will include an analysis of potential impacts and provide minimization, mitigation, and avoidance measures to reduce impacts to less-than-significant levels.

Task 2.3f: Arborist Report

Chapter 17 of the Novato Code of Ordinances (“Tree and Shrub Ordinance”) specifies that it is unlawful to cut or trim a tree or shrub on or adjacent to public places, parks, and playgrounds within the City without approval and a written permit from the Community Development Director. The F&L Team’s ISA-Certified Arborist will conduct an inventory of trees with potential to be impacted by the proposed Project. Data describing species, size (diameter at breast height), and condition will be collected for all trees within each of the alternative sites and the existing pump station. During the survey, all surveyed trees will be given a unique numbered tree tag. The location of each tree will be captured using a handheld GPS unit with sub-meter accuracy. Following the survey, the arborist will prepare a written report describing the methods of the survey and including a table showing the pertinent information for all surveyed trees , as well as a map showing the location of all surveyed trees.

Task 2.4: Prepare CEQA Administrative Draft IS/MND

After providing the Administrative Draft Initial Study to NMWD for review, the F&L Team will address all of NMWD's comments. The F&L Team will prepare one copy of a Screencheck Draft Initial Study/MND that NMWD can review to confirm that all comments have been addressed.

Task 2.5: Publication of the Draft IS/MND

Upon approval of the Screencheck Draft IS/MND, the F&L Team will reproduce additional copies of the Draft IS/MND for NMWD's use during the 30-day public review period. Additionally, the F&L Team will coordinate with NMWD in providing web-ready documents for publication on NMWD's website. The F&L Team will also produce and circulate the Notice of Intent (NOI), as well as any other CEQA noticing requirements, including the Notice of Completion (NOC) and Notice of Determination (NOD) to the Marin County Clerk and/or the State Clearinghouse CEQANet portal as required. This proposal assumes NMWD will assist with a mailing list for the NOI and will pay for the NOI to be posted in the local newspaper.

Task 2.6: Prepare Final IS/MND and Response to Comments

Following completion of the 30-day public review period, the F&L Team will respond to agency and public comments submitted on the Draft IS/MND. The extent of work necessary to complete the Final IS/MND is contingent upon the number and nature of public comments received after the Draft IS/MND is circulated. The Final IS/MND will include the response to comments, any edits required to the Draft IS/MND, and a Mitigation Monitoring and Reporting Program (MMRP). This scope of work includes attendance at one public hearing. The F&L Team will file the CEQA NOD with the County Clerk within five working days of project approval; a copy of the NOD will also be submitted to the State Clearinghouse CEQANet portal.

Deliverables

1. Administrative Draft IS/MND
2. Draft IS/MND
3. Final IS/MND including written response to public comments
4. MMRP

Task 3: Conceptual Engineering

In support of the CEQA task, the F&L Team will prepare technical write-ups, additional exhibits, and update, if required, the engineering studies for Alternatives 1 through 3. The conceptual engineering support is intended to provide sufficient detail for development of the IS/MND but would not be considered preliminary engineering equivalent with a 30-percent level design completion.

For this task, the F&L Team anticipates providing the following tasks:

- Develop potential addition of permanent emergency generator for each of the three alternatives so that the CEQA analysis is based on the largest feasible project although the F&L Team understands that the final Project will likely not include permanent emergency generator consistent with the Engineering Assessment Report;
- Provide technical assistance to support the CEQA analysis including developing estimated construction duration, haul truck trips, and off-road construction equipment activity;
- Prepare additional exhibits and figures for both the CEQA effort and for NMWD use in coordination with the City of Novato (City);

- Assist with preparation for and attendance at up to three meetings with the City;
- Update renderings for the existing pump station and all three alternatives; and,
- Other technical assistance as determined by the F&L Team and NMWD staff.

The F&L Team will provide NMWD with regular updates on conceptual engineering tasks during the biweekly progress meetings described in Task 1.

Deliverables

1. Updates site plans for all three alternatives to include permanent emergency generators
2. Tables and figures to support various CEQA technical analysis
3. City Coordination meetings (assume up to three) meeting agendas and minutes

Assumptions/Exclusions

- Any previous environmental reports for the Project supplied to NMWD will be provided to the F&L Team.
- Any previous correspondence between NMWD and government agencies that relates to the F&L Team's proposed work will be provided to the F&L Team.
- Any biological survey, assessment, or other reconnaissance is dependent on current conditions, and the data obtained may not be accurate or applicable in subsequent years.
- The F&L Team cannot guarantee schedules or costs for actions taken by regulatory and other third-party entities, which are outside of the F&L Team's control.
- The budget for the Cultural Resources Study assumes one staff site visit and one round of minor report revisions will be requested. The cost allows for documentation of one cultural resource. The cost of documenting additional cultural resources, conducting additional site visits, meeting attendance, or extensive Project changes resulting in multiple report revisions would be completed upon separate, NMWD written authorization for additional budget.
- The Basis of Design (30% Design) and Construction Document preparation of the preferred alternative will be performed under a separate, future scope of work.
- NMWD will pay all fees.
- A topographic survey is not required.
- Geotechnical investigation and studies are not required for CEQA and will be performed under a separate, future scope of work following selection of the preferred alternative.

SCHEDULE

The F&L Team will complete the Base Scope of Work presented above on a mutually agreeable schedule.

COMPENSATION

The F&L Team proposes to provide the Base Scope of Work on a time and materials basis for a not-to-exceed fee of $182,900. Table 1 attached to this proposal provides a detailed summary of the level of effort by personnel classification.

Thank you for the opportunity to continue to support NMWD on this critical project. Please contact me by phone at (650) 619-3226 or email at tarantino@freyerlaureta.com with any questions or comments.

Very truly yours,

Jeffrey J. Tarantino, P.E., Executive VP/Project Manager
FREYER & LAURETA, INC.

cc: Joanne Yau (Freyer & Laureta, Inc.)
Camille Bandy, P.E. (Freyer & Laureta, Inc.)

Attachments:
1. Table 1 – Budget for Professional Engineering and Environmental Services

TABLE 1
BUDGET ESTIMATE FOR PROFESSIONAL ENGINEERING AND ENVIRONMENTAL SERVICES FOR THE
LYNWOOD PUMP STATION REPLACEMENT PROJECT
North Marin Water District, Novato, California

TASKS	ESTIMATED LABOR (Hours) (1)																				TOTAL LABOR COST ($)	OTHER DIRECT COSTS				ESTIMATED COST (2)	
	F&L						CEG					BE	AHE	WRA								UNIT	QNTY	UNIT COST ($)	10% MARKUP ($)	TOTAL COST PER ITEM ($)	SUB TOTALS ($)
	Clerical	Staff Engineer II	Staff Engineer IV	Project Manager	Senior Project Manager	Principal	Project Assistant	Senior GIS Specialist	Project Engineer	Senior Engineer	Principal Engineer	Principal	Principal	Clerical Support	GIS Professional	Senior Field Technician	Associate	Environmental Planner I	Environmental Planner II	Senior Environmental Planner	Principal Ecologist							
	100	150	170	210	225	250	121	171	198	237	330	231	231	100	193	193	231	193	210	292	309							
Task 1: Project Management																												
Prepare monthly invoices	12			12																		$3,720					$3,720	
Biweekly Check In Meetings (30 minutes each)						12																$3,000					$3,000	
Coordination with NMWD						8						4	4									$3,848					$3,848	
Subtotal Labor Hours - Task 1	**12**			**12**		**20**						**4**	**4**									**$10,568**	**Estimated Cost - Task 1**					**$10,600**
Task 2: CEQA and DWSRF Compliance																												
Kick-Off Meeting and Information Review				4		2												8	8	2		$5,144					$5,144	
Prepare Project Description			8	4			4	4	4			4	4		10			24	8	5		$15,689					$15,689	
Prepare CEQA Administrative Draft IS/MND															16			48	24	16	4	$23,263					$23,263	
Cultural Resources (TOA - No F&L markup)																							LS	1	$3,850	(3)	$3,847	
Tribal Consultation (TOA - No F&L markup)																							LS	1	$2,000	(3)	$1,997	
Air Quality Technical Study (Baseline - No F&L markup)																							LS	1	$2,750	(3)	$2,747	
Health Risk Assessment (Baseline - No F&L markup)																							LS	1	$3,850	(3)	$3,847	
Noise and Vibration Technical Study (Baseline - No F&L markup)																							LS	1	$4,670	(3)	$4,667	
Biological Resources Technical Report			4	2											12	32	16				3	$14,193					$14,193	
Arborist Report			4	2											12	8	24		1		1	$11,013					$11,013	
Prepare CEQA Administrative Draft IS/MND		16		4										2				16	4	4		$8,527					$8,527	
Publication of the Draft IS/MND														4				16	4	2		$4,904					$4,904	
Prepare Final IS/MND and Response to Comments		8		4														20	16	4		$10,418					$10,418	
Internal Review Allowance				40		16			4	4	2											$14,798					$14,798	
Subtotal Labor Hours - Task 2		**24**	**16**	**60**		**18**	**4**	**4**	**8**	**4**	**2**	**4**	**4**	**6**	**50**	**40**	**40**	**132**	**65**	**33**	**8**	**$107,948**	**Estimated Cost - Task 2**					**$125,100**
Task 3: Conceptual Engineering																												
Develop permanent emergency generator options		24		8	2							40										$14,970					$14,970	
Construction Impact Study		40		16	4								4									$11,184					$11,184	
Pump Station Rendering Updates		24		4	2																	$4,890	LS	1	$4,000	$400	$9,290	
City of Novato Coordination (including three, one hour meetings)		20		8		6							4									$7,104					$7,104	
Internal Review Allowance					8	8							4									$4,724					$4,724	
Subtotal Labor Hours - Task 3		**108**		**36**	**16**	**14**						**40**	**12**									**$42,872**	**Estimated Cost - Task 3**					**$47,300**
Total Labor Hours	**12**	**132**	**16**	**108**	**16**	**52**	**4**	**4**	**8**	**4**	**2**	**48**	**20**	**6**	**50**	**40**	**40**	**132**	**65**	**33**	**8**	**$161,388**	**Total Estimated Cost**					**$182,900**

Notes to Table:
(1) Billing rates for subconsultants includes 10% markup.
(2) Estimated costs are rounded to the nearest $100.
(3) F&L has not included markup on second tier subconsultants to avoid double markup.

FREYER & LAURETA, INC.

Effective January 1, 2023

CHARGE RATE SCHEDULE

Professional & Technical Services of Freyer & Laureta, Inc. staff are provided on a fixed fee or an hourly rate basis as follows:

Fixed Fee

Where a definitive scope of work can be established, many of our clients prefer that a specific fee be agreed upon in advance. Billings are submitted monthly based upon percent complete as of the last accounting day of the month.

Hourly Rate

Applicable to Plan Preparation, Design, and Report services where the scope of work must remain open, Freyer & Laureta, Inc. utilizes the following hourly charge rate basis for billing purposes.

Consulting Category	2023 Rate
Production Aide - Clerical	$100.00
Drafter I - Technical Typist - SurveyTech II	$105.00
Drafter II - Word Processor	$110.00
Engineering Tech I - Drafter III	$125.00
Staff Engineer I - Engineering Tech II - SurveyTech III	$145.00
Staff Engineer II - Engineering Tech III - SurveyTech IV	$150.00
Staff Engineer III - Senior Engineering Tech	$155.00
Staff Engineer IV - Survey Tech V - Construction Inspector	$170.00
Associate Engineer - Associate Surveyor (L.L.S.)	$185.00
Senior Engineer - Construction Manager	$195.00
Senior Construction Inspector	$195.00
Project Manager - PrincipalSurveyor (L.L.S.)	$210.00
Senior Project Manager - PrincipalSurveyor (L.L.S.)	$225.00
Associate Principal	$235.00
Principal	$250.00
Forensic Engineering	$340.00
Deposition & Court Appearance	$425.00
Subconsultant, Reproduction, Printing, Travel, Mailing & Delivery - Cost plus 10%	

Interest Charge - Billings are due and payable within 30 days. A monthly interest charge equal to the Federal Discount Rate plus 5% will be applied on the next billing beyond the 30-day payment period.

The foregoing Charge Rate Schedule is incorporated into the Agreement for the Services of Freyer & Laureta, Inc. and may be updated annually.

8

NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors August 15, 2023

From: Tony Williams, General Manager
Eric Miller, Assistant GM/Chief Engineer

Subj: Response to Marin County Civil Grand Jury Report: Dam and Reservoir Safety Water May Save Us – Water May Drown Us, June 27, 2023
t:\gm\bod misc 2023\8-15-23 meeting\dam safety report\8-15-23 bod memo mccgj response dam report.docx

RECOMMENDED ACTION: Approve Responses

FINANCIAL IMPACT: None at this time

On June 27, 2023, Marin County Civil Grand Jury (Grand Jury) issued the report entitled: *Dam and Reservoir Safety Water May Save Us – Water May Drown Us, June 27 2023* (Report) and is provided as Attachment 1. All of the five Findings (F) from the Report are directed to the North Marin Water District (District) for a response. The Findings appear on page 20 of the Report and are copied below:

Findings

F1. Climate change is increasing the atmospheric rivers' strength and frequency which impacts communities across Marin County. Failure to include and recognize these growing threats underestimates current dam safety risks and possible preventive strategies.

F2. MMWD and NMWD are in full compliance with both state DOSD, as well as all federal regulations. However, dam safety analysis and reporting would be enhanced by including current data on probable maximum precipitation (basis for risk analysis) numbers.

F3. MMWD and NMWD hazard mitigation plans fail to incorporate the latest scientific studies on climate change. They use DOSD and FEMA climate models that were last updated in 2012. This eleven-year gap may lead to an underestimation of current and future risks.

F4. FEMA and National Flood Insurance maps may not have entirely incorporated the most recent dam inundation maps and are not available on the MMWD and NMWD websites.

F5. The advancement of dam safety is greatly enhanced with the expertise of scientific institutions. They use a range of tools and practices such as FIRO, flyovers, weather balloons, radar along the coast, and collaborations between dam owners and scientific institutions. These practices, used by other water districts, serve as an example from which MMWD and NMWD can benefit.

The Report includes six Recommendations (R) related to the District which are included on page 21 of the Report and presented below:

Recommendations

R1. By March 15, 2024, MMWD and NMWD should establish a Climate Change and atmospheric rivers working group to consider, and begin to develop, new hazard mitigation actions. These should be based on the current scientific projections regarding atmospheric rivers and other extreme precipitation events.

R2. By December 31, 2023, the two water districts should begin work to expand their respective hazard mitigation plans, which should include a new section dedicated to climate change, and a discussion of atmospheric rivers and their accelerating potential threats to dam and reservoir safety.

R3. By January 1, 2026, the water districts (at the time of their next dam inspections, and when their hazard mitigation plans are revised) should provide the public with new information about the updated plans. This information needs to ensure that they effectively consider flood risks in light of the new science, thus ensuring that the public is aware of this.

R4. By September 30, 2023, both water districts should update their websites to include links to the inundation and FEMA maps. They should also provide links to the National Flood Insurance Program.

R5. By December 31, 2023, dam owners should provide the public with easily accessible information on flood risks, as FEMA and National Flood Insurance may not have entirely incorporated the most recent dam inundation maps.

R6. By December 2023, both water districts should begin to explore collaborations with scientific institutions to learn from, expand their toolkit of mitigation strategies, and thus augment the safety of their dams in light of growing risks posed by atmospheric rivers.

A Grand Jury response form with the District's proposed responses (Attachment 2) as well as supporting statements and explanations (Attachment 3) is provided for discussion at the Board meeting. In addition to key staff who reviewed the Report and drafted responses, staff periodically met with representatives of the Marin County Flood Control and Water Conservation District as well as Marin Municipal Water District since the release date of the Report. District Legal Counsel also reviewed the Report and draft responses.

A draft transmittal letter addressed to the Marin Superior Court and the Grand Jury provides explanations for the District's responses as well as additional comments that primarily address inaccuracies in the Report that staff felt were important to point out. (Attachment 4).

The following table provides a summary of the staff's draft responses to the five (5) Findings (FX) contained in the Report:

Finding	Draft Response	Statement
F1	Disagree partially with the findings	See Attachment 3
F2	Disagree partially with the findings	See Attachment 3

Finding	Draft Response	Statement
F3	Disagree partially with the findings	See Attachment 3
F4	Disagree wholly with the finding	See Attachment 3
F5	Agree with the finding	See Attachment 3

The Following table provides a summary of staff's draft responses to the six (6) Recommendations (RX) contained in the Report:

Recommendation	Draft Response	Explanation or Summary of Actions
R1	Will not be implemented – not warranted or reasonable	See Attachment 3
R2	Will be implemented in the future	See Attachment 3
R3	Will be implemented in the future	See Attachment 3
R4	Have been implemented	See Attachment 3
R5	Will be implemented in the future	See Attachment 3
R6	Will be implemented in the future	See Attachment 3

To illustrate one of the actions already taken to enhance the public's understanding of dam safety as addressed in Recommendation R5, a Stafford Dam Safety Factsheet has been developed and is posted on District's website along with an accompanying news story. A copy of the factsheet is provided as Attachment 5. The link to the website news story is: https://nmwd.com/stafford-dam-an-essential-water-source-and-recreation-site-with-carefully-monitored-risks/

RECOMMENDATION

Approve the proposed responses to Marin County Civil Grand Jury's Report entitled *Dam and Reservoir Safety Water May Save Us – Water May Drown us, June 27, 2023*.

ATTACHMENTS:

1. Report: Dam and Reservoir Safety Water May Save Us – Water May Drown us, June 27, 2023, 2023
2. Marin Civil Grand Jury Response Form (filled-in with draft responses)
3. Draft Response Supporting Statements and Explanations
4. Transmittal Letter with explanations
5. Stafford Dam Safety Factsheet.

Dam and Reservoir Safety
Water May Save Us - Water May Drown Us
June 27, 2023

SUMMARY

Atmospheric rivers are deluges. Such pronounced weather events may replenish dwindling water levels in dams and reservoirs (this report collectively refers to these as dams). In light of protracted droughts, *this water may save us*. However, scientists worry that future deluges may bring these structures to the brink of failure and potentially major downstream floods. *This water may drown us.*

Atmospheric rivers are long regions in the atmosphere that carry vast amounts of water vapor that eventually falls in the form of very large rainstorms. Scientists warn us that climate change is already causing increases in size and frequency of atmospheric rivers, which may contribute to dam and reservoir failures. From October 1, 2022 through March 31, 2023, there were over 30 atmospheric rivers across the West Coast. This exceeds the average for this period, which is nine.

Marin Municipal Water District (MMWD, also known as Marin Water) and North Marin Water District (NMWD) are the owners of the only eight dams in Marin requiring regulation by the California Division of Safety of Dams (DOSD). This report, completed on April 30, 2023, focuses on the fact that the latest science on changing climate's atmospheric weather events is not incorporated in these two districts' dam hazard mitigation plans.

The average age of dams in the U.S. is 50 years. The average age of dams in Marin County is 87 years, or 37 years older than the national average. In the event of dam failure, risks to life, property, and the economy increase because populations downstream have grown significantly since dams were built.

We ask readers of this report to carefully note a very important distinction: the Grand Jury does not question regulatory compliance by either water district, including having current risk mitigation plans in place, and evaluating their dams as prescribed by the law. *They do comply.*

However, regulatory agencies' requirements for dam safety do not incorporate the latest scientific information on climate change. These agencies do not require specific approaches or methodologies to define dam safety assessment and risk mitigation plans to be employed by dam owners. Further, they require that the *dam owners be solely responsible for their dams' safety*. Therefore, the two Marin water districts should include new, state-of-the-art hazard mitigation strategies. Additionally, access to dam failure inundation maps (maps showing areas likely to flood), and Federal Emergency Management Agency (FEMA) information regarding flood insurance (the only flood insurance available in the United States) must be easily accessible by the public.

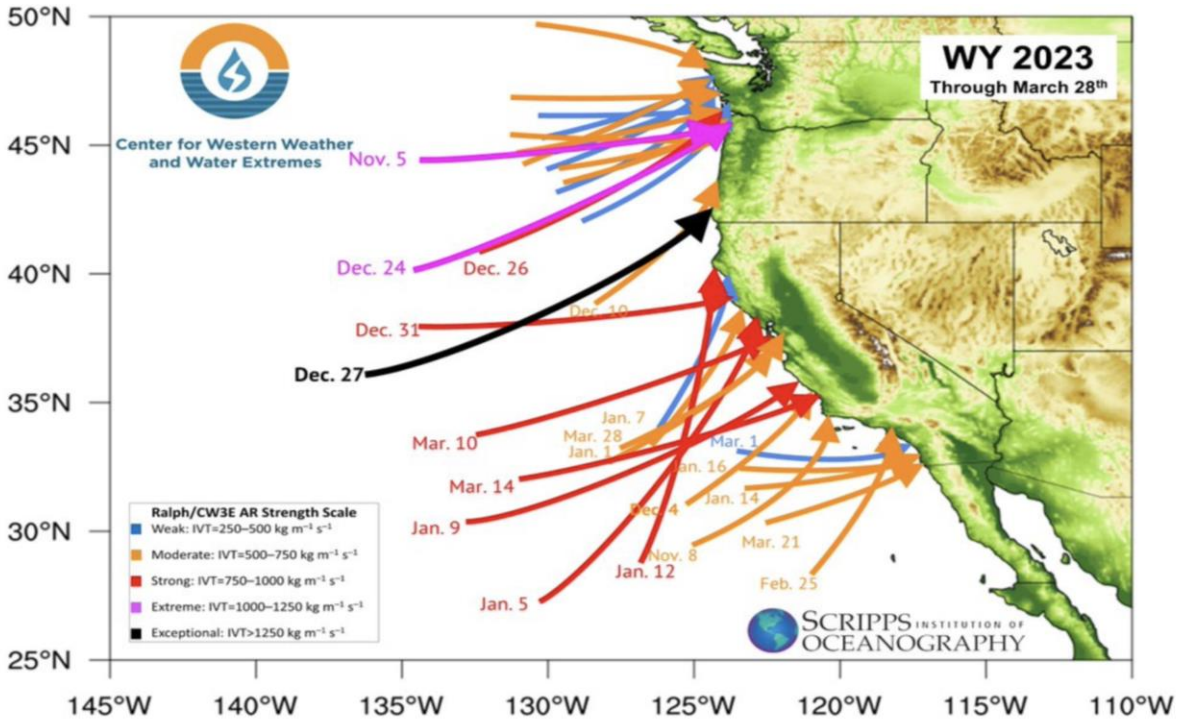
BACKGROUND

Why is this report relevant now?

Current climate change models show that storms will likely be bigger.[1] More specifically, scientists warn us about climate change, and how warming temperatures are causing significant increases in size, duration, and frequency of atmospheric rivers. These weather events are potentially catastrophic.[2]

Graphic 1 shows that the current weather year (WY), which runs from October 1st through September 30th, has already produced over 30 atmospheric rivers. An average year has less than nine. The potential for flooding remains high.

Graphic 1



Source: Atmospheric River Storm Tracks (Oct 1 - March 28th, 2023 (Center for Western Weather and Water Extremes, Scripps Institution of Oceanography at UC San Diego, https://cw3e.ucsd.edu/real-time-observations/

Columbia University scientists and other scientific experts argue that as rains increase, floods from failed dams could damage critical infrastructure, and pose threats to populations

[1] Climate change basics, (California Department of Water Resources), https://water.ca.gov/Water-Basics/Climate-Change-Basics, Accessed on February 1, 2023

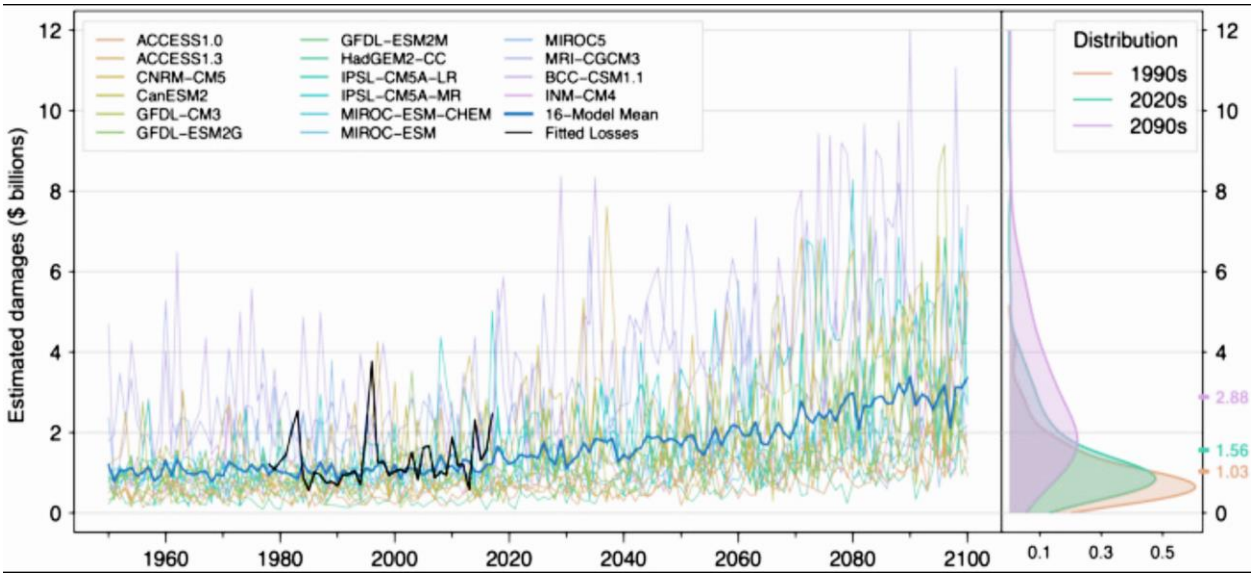
[2] Henry Fountain, "Expect more: climate change raises the risk of dam failure." (*The New York Times*, May 20, 2022), https://www.nytimes.com/2020/05/21/climate/dam-failure-michigan-climate-change.html Accessed on April 21, 2023

downstream.[3] Such circumstances could also negatively impact water availability and the economies of affected communities.

Future atmospheric rivers are predicted to have the catastrophic power of the megastorms impacting California 160 years ago. Then, vast portions of the state effectively drowned due to a forty-five day sequence of atmospheric storms from late December 1861 into January 1862.[4] Researchers at UCLA, among others, argue that such storms typically occur every 100 to 200 years.[5] Scientists are issuing warnings because such large floods could have much more catastrophic impacts today due to increases in population and infrastructure. These megastorms would produce rain levels never experienced by anyone alive today. Further, just one of these storms could result in one trillion dollars in damages.[6]

At the national level, Graphic 2 shows that estimated damages from atmospheric rivers are projected to reach $6 billion per year this decade, $8 billion by 2040, and will surpass $10 billion annually by the end of the 21st century.

Graphic 2



Graph showing various models of increasing Atmospheric River Damages ($B) projected out to 2100.
Source: https://pubmed.ncbi.nlm.nih.gov/35961991/

[3] *"Assessing the risk of dam failure in the United States,"* (Columbia Climate School, Water Center), https://water.columbia.edu/content/assessing-risks-dam-failure-united-states, Accessed on February 9, 2023

[4] "An incredible 45 day storm turned California into a 300 mile sea, and it could happen again," (Science Alert, February 17, 2016), https://www.sciencealert.com/an-incredible-45-day-storm-turned-california-into-a-300-mile-long-sea-and-it-could-happen-again

[5] "Scientists point to the great megaflood of 1862 in study about California megaflood possibilities," (Nature World News, August 16, 2022), https://www.natureworldnews.com/articles/52557/20220816/scientists-point-great-flood-1862-study-california-megaflood-possibilities.htm

[6] "Scientists point to the great megaflood of 1862 in study about California megaflood possibilities," (Nature World News, August 16, 2022).

Scientific investigations of climate change in general, and atmospheric rivers in particular, have accelerated over the past 20 years. In comparison, dam regulations are decades old and have been slow to be updated.

Dam failure is extremely rare, but when it happens it can have catastrophic consequences. In California, the 1928 failure of the newly constructed St. Francis Dam "...sent a 70-foot wall of water, mud, trees, and boulders crashing down the San Francisquito Canyon into the Santa Clara River Valley, and out to the Pacific Ocean near Oxnard. This cleared a two-mile-wide swath of land, 70 miles long. The 5½-hour event killed more than 450 people, left hundreds more homeless, destroyed 900 houses, many bridges and roads, and swept away 24,000 acres of farmland. This disaster was one of the deadliest in California history, second only to the 1906 San Francisco earthquake."[7] As a direct result of this event, the Division of Safety of Dams (DOSD) was created to regulate dam safety.

Table 1 - Dam Failures and Resulting Regulatory Actions

Dam Failure Dates	Dam's Name	Resulting Action
1928	St. Francis Dam	Creation of DOSD in 1929
1963	Baldwin Hills Reservoir	Included off-stream due to subsidence in 1965
1967	Lower San Fernando Dam Incident	Water level lowered due to the owner's inspection report, but the 1971 earthquake resulted in liquefaction and evacuations. Revised liquefaction and seismic regulations
2017	Oroville Spillway	Approximately 200,000 people evacuated. California was the only state without an emergency management plan. Resulted in new legislation providing for dam inspections, mitigation plans, and inundation maps delineating potential flooding under the Governor's Office of Emergency Services 2018

Source: Large Dam Failures and Subsequent Legislative Actions (created by the Grand Jury)

Table 1 above shows that historic actions to improve dam safety have been reactive to dam failures. That is, actions have not proactively addressed new issues or concerns to prevent crises such as recent information on climate change. Could the latest scientific progress made with the understanding of atmospheric rivers and climate change be the next catalyst for action?

The regulation of dams in the United States has a long history, and is now consolidated under the National Dam Safety Program, which is administered by FEMA.[8] The Interagency Committee on Dam Safety (ICODS) consolidates all of the regulations into a series of guidelines, which are

[7] History of Division of Dam Safety, https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams/History, Accessed on April 18, 2023
[8] FEMA National Dam Safety Program Outline, https://www.fema.gov/emergency-managers/risk-management/dam-safety, Accessed on April 18, 2023

published under FEMA.[9] California DOSD has adopted those guidelines for its dam safety program for regulated dams in California. Note that not all dams in California are regulated.[10]

However, DOSD does not require dam owners, or their engineering consultants, to apply any specific dam safety approach. "DOSD generally does not require specific approaches or methodologies to be employed by dam owners or their engineering consultants. …ultimately, the dam owner bears the legal responsibility and associated consequences related to the failure of a dam."[11]

The most significant update to California dam regulations in decades has been the issuance of the DOSD guideline, "Inspection and Revaluation of Protocols," dated September 18, 2018.[12] DOSD, in a 2016 peer review report conducted by the Association of State Dam Safety Officials, was named the "leading dam safety program in the Nation."[13] The subsequent failure of the Oroville spillway in February 2017 was due to atmospheric rivers and laid bare that California was the only state in the country that did *not* have an emergency dam management plan in place. Nearly 200,000 people were evacuated due to the Oroville event. Legislation was quickly enacted, designating the California Governor's Office of Emergency Services (CalOES) as a coordinating agency, along with DOSD, for new dam regulations that require additional inspections, mitigation plans, regular inspections, and inundation flood mapping, as well as additional inspections.

In Marin County, mitigation and inundation maps have recently been completed by both MMWD and NMWD (as well as all other regulated dam owners in California). The dam owners were required to complete a new dam inspection and detailed engineering reports as to the failure risks of each dam and inundation flood maps detailing the consequences should a dam fail.

Today, DOSD administers oversight of eight dams in Marin County, and each is assigned a hazard designation of failure. Six of the seven MMWD-owned structures are in the high risk hazard category. The NMWD Seegar Dam (Nicasio Reservoir) has a high hazard risk. Of the eight dams, the oldest was built in 1872, and the newest in 1979. Overall, the average age is 87, which is 37 years older than the national average. Age is a consideration when evaluating risks because of downstream population growth and infrastructure. Construction standards have

[9] FEMA, Dam Safety Federal Guidelines, https://www.fema.gov/emergency-managers/risk-management/dam-safety/federal-guidelines, Accessed on April 18, 2023

[10] DOSD Dam Jurisdictional Requirement, https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams/Jurisdictional-Sized-Dams, Accessed on April 18, 2023

[11] https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/DSOD-Inspection-and-Reevaluation-Protocols_a_y19.pdf, (California Natural Resources Agency, Department of Water Resources, 2018, page 1), Accessed on March 14, 2023.

[12] https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/DSOD-Inspection-and-Reevaluation-Protocols_a_y19.pdf, (California Natural Resources Agency, Department of Water Resources, 2018), Accessed on April 18, 2023.

[13] https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/DSOD-Inspection-and-Reevaluation-Protocols_a_y19.pdf, (California Natural Resources Agency, Department of Water Resources, 2018, page 1), Accessed on April 18, 2023.

changed considerably over the years and older dams usually do not have good construction records.

The Grand Jury finds the issue of dam safety is relevant in light of climate change and increasing strength and number of atmospheric rivers. This now requires a critical review to proactively mitigate future potential hazards.

APPROACH

The jurisdiction of the Marin County Civil Grand Jury encompasses government agencies in the county. It does not encompass private entities or agencies outside of the county. Thus, recommendations pertaining to dam and reservoir safety in relation to atmospheric rivers focus on those managed by MMWD and NMWD (the dam owners). This report excludes any other dams managed privately or federally in Marin.

Our investigative effort, which was concluded on April 30, 2023, included a multi-pronged approach that consisted of primary and secondary information gathering techniques and analysis. For primary information gathering, our research included in-person stakeholder interviews and follow-up correspondence and telephonic communication with interviewees. In addition, the Grand Jury reviewed the following categories of materials for secondary governmental, scientific, and journalistic information gathering:

- Federal and state dam and safety regulations (FEMA, DOSD, CalOES - Dam Safety and others)
- FEMA - National Flood Insurance Program
- Safety guidelines and risk classifications for Marin County’s dams and managed by the MMWD and NMWD
- The hazard mitigation plan of MMWD
- The multi-jurisdiction mitigation plan for Marin County, in which NMWD participates
- Demographic data (population totals) from the U.S. Census
- Newspaper articles and publications by climate change expert reporters, scientists and academic institutions

DISCUSSION

Atmospheric Rivers

California experienced nine nearly back-to-back atmospheric rivers between late December 2022 and early January 2023.[14] These heavy rains drenched the state with more than thirty-two trillion gallons of water and snow. In fact, for the San Francisco Bay Area, a deluge of this magnitude over the course of three consecutive weeks had not happened in the last 160 years.[15] Across the state, these rains took twenty one lives, caused catastrophic flooding, severely damaged property, and resulted in an estimated one billion dollars in losses in this two-month period.[16] Further, during the rainy season beginning October 2022, and until March 2023 there were 31 atmospheric rivers in California.[17] The average number of atmospheric rivers during this period was nine. This weather year has greatly exceeded the average. Of note, no failures took place thus far, in part because water levels in dams were low due to the prolonged drought. However, with stronger atmospheric rivers happening in greater numbers, and perhaps higher water levels in the dams, the situation could be different.

What are scientists saying about atmospheric rivers, dams and safety?

1. Scripps Institution of Oceanography: "We know that atmospheric rivers are already boosted by the changing climate."[18]

2. The president of the U.S. Society on Dams, who is an engineer, said: "All of a sudden you've got older dams with a lower design criterion that now can potentially cause loss of life if they fail."[19]

3. "Climate impacts are becoming increasingly common and increasingly complicated, piling on top of each other in both time and space — and disaster resilience, preparedness, and response need to adapt accordingly."[20]

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[14] *Atmospheric rivers hit west coast."* (National Environmental Satellite Data and Information Service), https://www.nesdis.noaa.gov/news/atmospheric-rivers-hit-west-coast, Accessed on February 23, 2023

[15] *Atmospheric rivers hit west coast."* (National Environmental Satellite Data and Information Service), https://www.nesdis.noaa.gov/news/atmospheric-rivers-hit-west-coast, Accessed on February 23, 202

[16] Bob Henson, "Taking stock of California's three week deluge." (Yale Climate Connections. January 19, 2023), https://yaleclimateconnections.org/2023/01/taking-stock-of-californias-three-week-deluge/ Accessed on April 21, 2023

[17] Grace Toohey, "Volcano? Climate Change? Bad luck? Why California was hit with 31 atmospheric river storms," (Los Angeles Times, April 11, 2023), https://www.latimes.com/california/story/2023-04-11/californias-wild-winter-of-atmospheric-rivers Accessed on April 21, 2023

[18] Climate change projected to increase atmospheric river flood damage in the United States, (Scripps Institution of Oceanography, August 22, 2022), https://scripps.ucsd.edu/news/climate-change-projected-increase-atmospheric-river-flood-damages-united-states Accessed on April 21, 2023

[19] David A. Lieb, Michael Casey, and Michelle Minkofff, "A whole lot of dams in the U.S. are at risk of failure," (*Huffington Post*, May 6, 2022), https://www.huffpost.com/entry/high-hazard-dams-united-states_n_627545cbe4b009a811c319fa Accessed on April 21, 2023

[20] Sarah Fetch, "Climate in California: What went wrong and what comes next," (Columbia Climate School, January 12, 2023), https://news.climate.columbia.edu/2023/01/12/flooding-in-california-what-went-wrong-and-what-comes-next/ Accessed on April 21, 2023

4. Data show that the intensity of precipitation will significantly increase as the atmosphere warms. NOAA's National Climate Center states "...given the potential catastrophic consequences of dam failure, these findings should be considered carefully."[21]

5. The recent spate of atmospheric river events is a shadow of what's possible — actually inevitable.[22]

6. "In just December and January, nine atmospheric rivers hammered western United States and Canada relentlessly, dumping record rain and snow across the region. Over 121 billion metric tons of water fell on California alone, according to the U.S. National Environmental Satellite Data and Information Service."[23]

7. In 2016, at the first Atmospheric Rivers Conference, held at the Scripps Institution of Oceanography, 100 experts in this field gathered to advance the science of these weather events. This signifies increased scientific interest and concern about atmospheric rivers, and related impacts.

8. A panel discussion of experts in hydrology, climate change, and atmospheric rivers, "...focused on how atmospheric river (AR) information is affecting decision-making in water management and flood risk mitigation. These included perspectives from local, state, and federal water management experts who described how the development of AR science, monitoring, and forecasting tools offer opportunities to refine decision-making strategies related to reservoir operations."[24]

Federal and state dam and reservoir guidelines

FEMA provides Federal Guidelines for Dam Safety Risk Management. The most recent version on FEMA's website dates back to 2015. The guidelines indicate that since the 1980s, many entities in the dam safety industry incorporated risk assessment to better inform their decisions.[25] "Risk analysis and risk estimation are qualitative or quantitative procedures that identify potential modes of failure and the conditions and events that must take place for failure to occur."[26]

[21] Selecting and accommodating inflow design floods for dams, (FEMA P-94, August 2013), https://www.fema.gov/sites/default/files/2020-08/fema_dam-safety_inflow-designs_P-94.pdf, Accessed on March 30, 2023
[22] Andrew Revkin, "California's atmospheric rivers warn of future climate calamity, (Columbia Climate School, January 9, 2023), https://news.climate.columbia.edu/2023/01/09/californias-atmospheric-rivers-warn-of-future-climatic-calamity/ Accessed on April 21, 2023
[23] Carolyn Gramling, "By flying over atmospheric rivers, scientists aim to improve forecasts (Science News, March 19, 2023), https://www.sciencenews.org/article/atmospheric-river-forecast-storm Accessed on April 21, 2023
[24] F. M. Ralph, M. Dettinger, D. Lavers, I. V. Gorodetskaya, A. Martin, M. Viale, A. B. White, N. Oakley, J. Rutz, J. R. Spackman, H. Wernli, and J. Cordeira, "Atmospheric rivers emerge as a global science and applications focus," (University of California San Diego), Accessed on April 18, 2023
[25] FEMA, Dam safety federal guidelines, 2015. https://www.fema.gov/emergency-managers/risk-management/dam-safety/federal-guidelines Accessed on April 18, 2023
[26] FEMA, Dam safety federal guidelines P-1025, 2015, page 5. https://www.fema.gov/sites/default/files/2020-08/fema_dam-safety_risk-management_P-1025.pdf Accessed on April 22, 2023

In California, DOSD operates under the California Department of Water Resources, which provides guidelines for dam owners and managers in the state. DOSD, as do nearly all regulatory dam agencies in the United States, adopted the FEMA standards as the base for dam safety regulations.

It is common at both the Federal and State levels (including DOSD) to not require specific approaches or methodologies in the regulation of dam safety. It is also common to require dam owners to be solely responsible for their dam safety and liability. The reason is that each dam is unique in age, construction, location, and potential risks and hazards. Instead, the regulations are broad-based engineering strategies, developed over decades, with the assistance of national entities such as the Corps of Engineers and ICODS. These regulations provide dam owners with guidance in "best practices" for dam construction, operations, maintenance and, most importantly, safety and identification of risk hazards.

In eight of the highest risk dams in Marin, the Grand Jury examined how recent advances in climate change science and the understanding and forecasting of atmospheric rivers could be incorporated to reduce risk.

Both DOSD and FEMA utilize similar, but not identical Safety and Risk Hazard models, which is why the numbers of dams and their risks vary. For example, the most recent Dam Safety Report from DOSD in 2022 shows that the National Inventory of Dams (FEMA) lists 1,526 dams, 832 of which are classified as High Hazard. Whereas DOSD lists its regulated dam count as 1,239 dams, 724 are classified as High Hazard dams.[27]

The basis for these classifications is the potential for dam failure, which can include earthquakes, faulty construction or operation, increases in water (flooding), etc. Dam owners do not self-classify either the safety category or the risk hazard categories that are reported by the State (DOSD) or the Federal (FEMA). The dam owners' responsibility rests in providing engineering reports, inspection reports; and now in California inundation maps and mitigation plans that identify their dams' specific potential for failure. For flooding, engineers use a set of calculations to determine how much water a dam will hold, and how quickly it will enter and exit the dam.

FEMA has been aware of the consequences of climate change for some time, noting in its most recent FEMA P-94 guideline, dated August 2013, that "Others have also concluded that due to likely changes to maximum moisture and maximum storm efficiency, PMP [Probable Maximum Precipitation], estimates would increase under a warming climate (Jakob et. al., 2009). This would lead directly to substantial increases in PMP values. Given the potential catastrophic consequences of dam failure, these findings should be considered carefully in future design activities."[28]

[27] DOSD, "Dam Safety Performance Report - 2022", https://damsafety-prod.s3.amazonaws.com/s3fs-public/files/California%20Dam%20Safety%20Performance%20Report%202022.pdf , Accessed on April 21, 2023
[28] FEMA Selecting and Accommodating Inflow Design Floods for Dams FEMA P-94 /August 2013, https://www.fema.gov/sites/default/files/2020-08/fema_dam-safety_inflow-designs_P-94.pdf, Accessed on April 18, 2023

PMP is used in the determination of dam failure analysis, as it is the key metric in calculating water flow into a dam. Climate change is recognized by the PMP number. However, the FEMA P-94 regulations still refer dam owners back to the National Oceanographic and Atmospheric Administration (NOAA) data from 1999. This was only updated through 2012, and it does not incorporate current climate science.[29]

The key point is that dam guidelines should be considered as minimum regulatory standards. Each dam and geographic location has unique characteristics which impact failure risk analysis.

This investigation has shown that climate change and atmospheric rivers have not been thoroughly incorporated in the risk assessment as noted in the current mitigation plans. Yet, dam owners have the ability to do so because they have the independence to conduct assessments and develop hazard mitigation plans on their own.

Dam and reservoir safety: MMWD and NMWD

MMWD serves the central and southern areas of the county, and it has its own hazard mitigation plan. NMWD participates in the Marin County Multi-Jurisdiction Local Hazard Mitigation Plan (MCM LHMP). This water district serves Novato and surrounding areas. Each of these entities is required to define and communicate potential risks of dam failure in their hazard mitigation plans. These plans are also submitted to the Marin County Office of Emergency Management (OES). FEMA specifies: "...hazard mitigation means any cost effective measure which will reduce the potential for damage to a facility from a disaster event."[30]

Table 2 below demonstrates the official dam failure risk hazard classification for Marin's publicly managed dams. This classification is based on FEMA. In Marin, the majority of publicly managed dams are in the high and significant risk hazard classification (this classification shown in Map 1 is made by DOSD ("The definitions for downstream hazard are borrowed from the Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures (FEMA P-946, July 2013). FEMA categorizes the downstream hazard potential into three categories in increasing severity: Low, Significant, and High. DSOD adds a fourth category of "Extremely High").[31]

[29] FEMA, National Flood Safety Publications P-94, https://www.fema.gov/media-collection/dam-safety-publications NOAA. (1999). Hydrometeorological Report No. 59 – Probable Maximum Precipitation for California. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, U.S. Department of the Army Corps of Engineers. NOAA. (2011). Current NWS Probable Maximum Precipitation (PMP) Documents and Related Studies. Retrieved May 5, 2011, from NOAA Hydrometeorological Design Studies Center: http://www.weather.gov/oh/hdsc/studies/pmp.html NOAA. (2012). NOAA Atlas 14: Precipitation-Frequency Atlas of the United States. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service.

[30] Title 44 of the Code of Federal Regulations (CFR), Section 206.401, https://www.ecfr.gov/current/title-44/chapter-I/subchapter-D/part-206, Accessed on March 30, 2023

[31] See https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/Division-of-Safety-of-Dams-Definitions-for-Downstream-Hazard-and-Condition-Assessment.pdf for definitions.

Table 2 - Dams and year built, classifications, and distance in miles to nearest towns (Includes MMWD and NMWD district-owned dams)

Name	Year built	Safety classification	Risk hazard classification	Miles to closest towns
Alpine	1917	Satisfactory	High	Point Reyes Station 9
Bon Tempe	1949	Satisfactory	High	Point Reyes Station 6
Kent/Peters	1954	Satisfactory	High	Point Reyes Station 9
Lagunitas	1872	Satisfactory	Significant	Point Reyes Station 7
Seeger (Nicasio Reservoir)	1961	Satisfactory	High	Point Reyes Station 4
Novato Creek	1951	Satisfactory	High	Novato 2
Phoenix	1907	Satisfactory	High	Ross 1
Soulajule	1979	Satisfactory	High	Tomales 15

Source: National Inventory of Dams and IndyStar, Marin County Dam Safety Inspection (table created by the Grand Jury) https://data.indystar.com/dam/california/marin-county/06041/

According to the DOSD, dam failure and downstream hazard potential is classified as high, significant, or low risk (Risk Hazard Classification). High risk may likely cause loss of human life. Significant risk can cause property damage, environmental, and economic loss, as well as disruption of lifeline facilities. Low risk dams pose no threat to life, and present low economic and environmental risks. Rather, losses in the low risk classification may mostly impact dam owners.[32] The DOSD also has a Safety Classification, according to a dams's current physical condition, as satisfactory, fair, poor, and unsatisfactory. *There is an important distinction between the two separate classifications; safety is the current condition, and the other is potential for risk.*

Of all eight structures shown above, seven are at high and one at significant risk hazard. Six of the seven MMWD-owned structures are in the high risk hazard category.

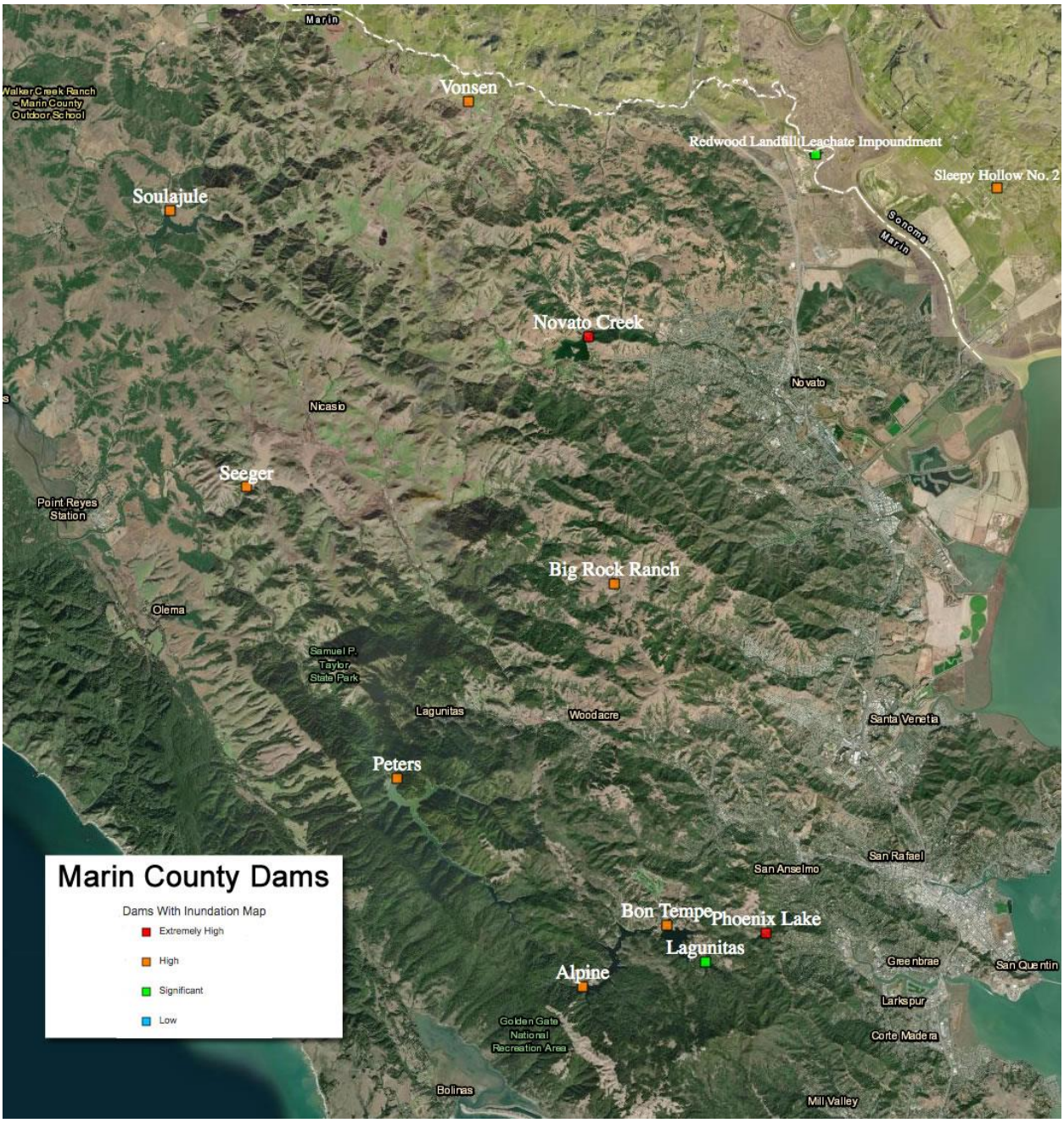
Due to the direction in which downstream floods would occur, Novato, Point Reyes Station, and Ross are at the greatest risk of flooding. Combined, these three towns represent nearly 20 percent of the total population of Marin County.

Dam failure risk reduction is of utmost importance. Atmospheric rivers should be front and center as a growing threat in the risk mitigation plans of MMWD and NMWD.

To illustrate, the Map 1 shows the dams mentioned in the table above: Alpine, Bon Tempe, Kent/Peters, Lagunitas, Seeger (Nicasio Reservoir), Novato Creek, Phoenix, and Soulajule.

[32] California dam safety, (National inventory of dams), https://damsafety-prod.s3.amazonaws.com/s3fs-public/files/California%20Dam%20Safety%20Performance%20Report%202022.pdf, Accessed on March 17, 2023

Map 1 - Satellite photo of the 8 regulated dams in Marin County



Screenshot from https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2 (title block by Grand Jury), Accessed on *March 14, 2023*

Inundation Maps

DOSD now requires dam owners to prepare Mitigation Plans based on new (and in the future, ongoing) dam inspections and engineering reports. These engineering reports must detail information that the state can use to determine the dams' safety classification as well as the dam risk hazard classification. In order to best show the risk classification, flood inundation maps are created for each dam showing the worst case scenario for flooding should the dam fail.

These flood inundation maps form the core of the Mitigation Plan, which is publicly available, and is used by both the Governor's OES and Marin County's Office of Emergency Services to create detailed plans of action should a catastrophic event occur.

FEMA maps are used by the National Flood Insurance program to predict and advise residents of their likelihood of potential flooding. The National Flood Insurance Program (NFIP) is the only one in the U.S. providing flood insurance to property owners, and it is usually required to be noted as part of any property listing. NFIP provides flood information and maps so that residents can assess whether they are in a flood zone and determine if pursuing FEMA flood insurance is a step for them to consider.

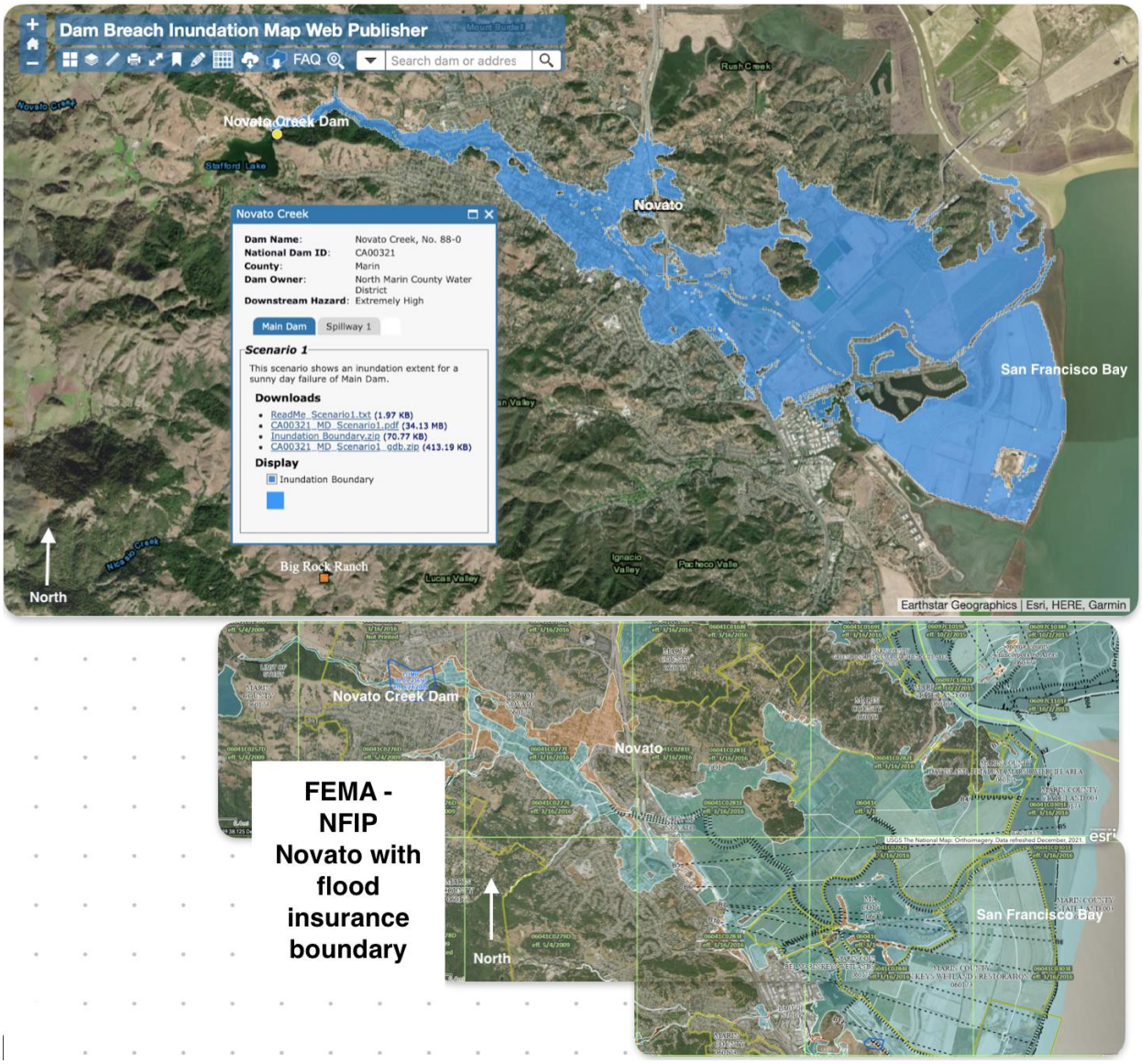
Unfortunately, these maps are not easily accessible on the internet. Even when located, the scales and information are difficult to compare and understand. The Grand Jury created the maps below from the available referenced sources. This is intended to provide examples of what publicly available information can look like and be accessed by communities at risk of floods. Readers who want more information about their specific area and risk are encouraged to utilize the links below and zoom into their respective neighborhood. We expect this will demonstrate the need for better access to this information.

The top part of Map 2 shows the Novato Creek Dam Inundation map which illustrates the predicted flood boundary of a catastrophic dam failure. The lower part of Map 2, is the FEMA National Flood Insurance flood map, which shows flooding from all occurrences, including dams, reservoirs, sea level rise, etc. These two maps are similar in scale and orientation. However, some differences between the two show that the FEMA Dam Inundation map may not demonstrate the entire scope of the dam flood area. When combined, they illustrate what the dam inundation zone (flooding) could be.

The Inundation Map is based on an engineering analysis as required by FEMA P-94 guidelines issued in 2013, which rely upon weather data generated prior to 1999 and updated through 2012. *The main point of this report is that these weather models are not reflective of current climate change patterns and should be updated*.

What does a failure of the Novato Creek mean downstream in terms of flood scale? A vast proportion of Novato's infrastructure, including housing, commerce, and facilities of vital importance for community safety and wellbeing, could be underwater if the Novato Creek dam were to fail.

Map 2 - Dam Flood Inundation Map (NMWD Novato Creek Dam) and FEMA National Flood Insurance Map for the town of Novato



Novato Creek Dam Flood Inundation Map, source: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2
FEMA National Flood Insurance Program (NFIP) Map, Novato, California source: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-122.71020728149391,38.038546733259224,-122.425592718506,38.17362176438635

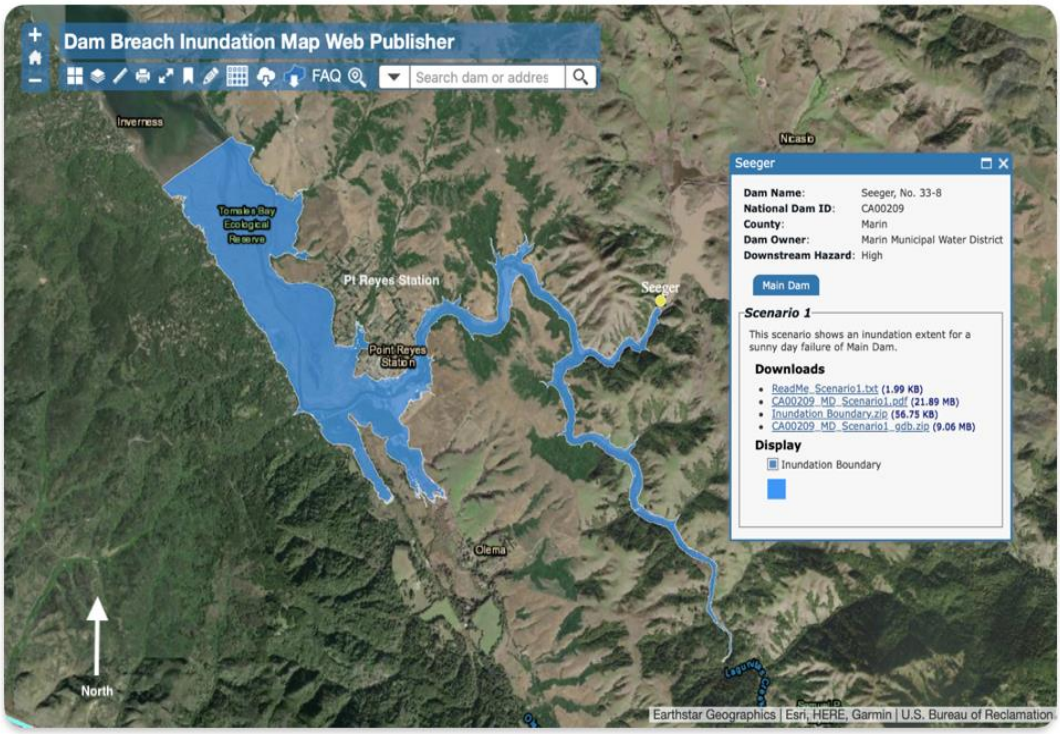
Focusing on West Marin, the top map in Map 3 shows the scale of the inundation that may occur should the Seeger Dam (Nicasio Reservoir, marked by a yellow dot) fail. Nicasio reservoir is in the high risk hazard classification category. The meandering blue lines represent the water inundation that would ensue, and thus flood downstream to Pt. Reyes Station, and then spread onto sensitive and protected wildlife property. This failure would impact Point Reyes Station, a popular tourist destination locale with a population just shy of 1,000, where tourists visit almost year-round, and shops are plentiful. Additionally, impacts would be felt at the 482 acre Tomales Bay Ecological Reserve. This popular site includes a salt marsh and tidal flats where pickleweed, arrow grass, and salt grass abound. Birds rely on this marshy area for habitat, nesting, and food

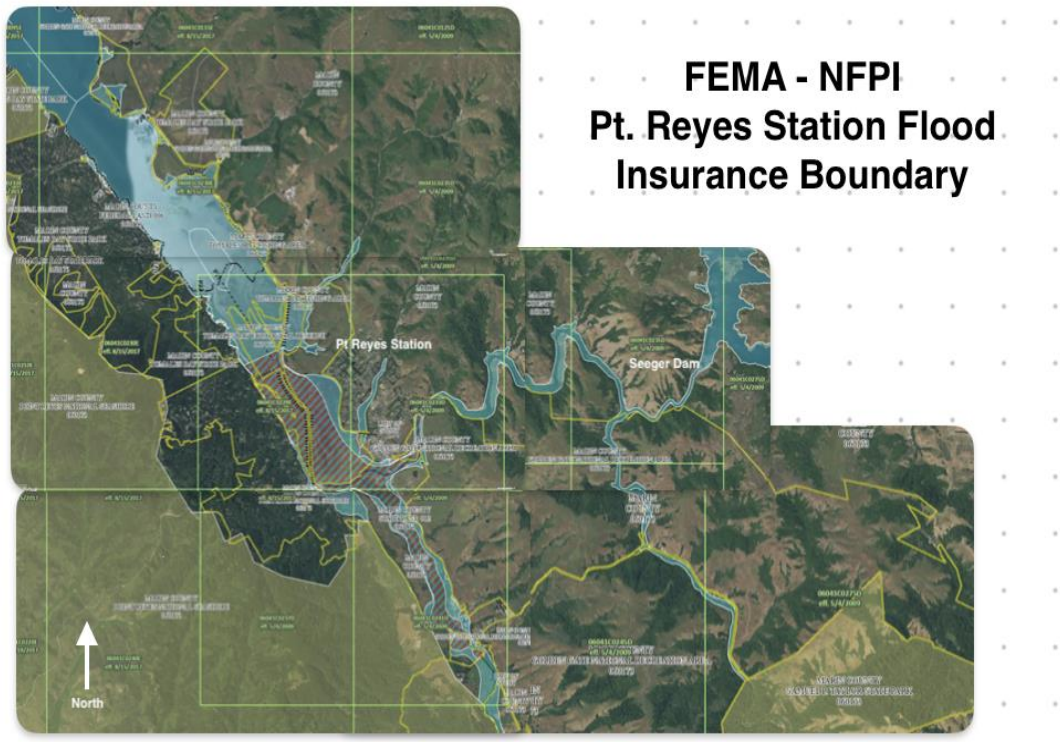
for waterfowl, shorebirds, brown pelican, California clapper, and black rail.[33] This is an example of how a local economy could be imperiled by a dam-caused flood.

At the bottom is the FEMA flood map, showing flooding from all possible occurrences (including the failure of Seeger Dam). While the two maps are similar, it appears that not all of the dam inundation mapping has been taken into account by FEMA. Between the two maps, however, residents can assess their flood risks and make decisions about flood insurance accordingly.

[33] California Department of Fish and Wildlife, Tomales Bay Ecological Reserve, https://wildlife.ca.gov/Lands/Places-to-Visit/Tomales-Bay-ER, Accessed on March 9, 2023

Map 3 - Dam Flood Inundation Map (MMWD Seeger Dam (Nicasio Reservoir)) and FEMA National Flood Insurance Map for the town of Pt. Reyes Station





Seeger Dam (Nicasio Reservoir) Flood Inundation Map, source: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2

FEMA National Flood Map, Novato, California, source: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-122.71020728149391,38.038546733259224,-122.425592718506,38.17362176438635

Marin Municipal Water District

The MMWD hazard mitigation plan offers actions related to climate change, such as changing chemical treatments in a couple of the plants for green purposes, and other actions that may mitigate dam failure, centering in detail on seismic issues. This plan was finalized in 2022. At that time, the scientific community (as noted above) was already elevating warnings about growing atmospheric river risks. In its plan, MMWD demonstrates great concern about earthquakes. Of course, these pose serious risks to dam and reservoir safety, and require mitigation strategies. But the district does not analyze the current science regarding atmospheric rivers, or incorporate associated hazard risk mitigation strategies, to the extent that it considers earthquakes in its plan.

The MMWD mitigation plan reflects the belief that most dam failure considerations by the federal government require a determination of the biggest floods that could occur (probable maximum flood). In the case of MMWD, this measure has been considered to "represent a worst-case-flood-scenario, and thought of as the event with the lowest probability of taking place."[34] Further, the MMWD plan considers that the less extreme probable flood cases are much more likely to occur.[35] Scientists, however, are now expressing significant concerns because they believe probable maximum floods are becoming more and more likely to occur than in the past. As a result, scientists argue that dam owners and managers have to seriously consider the probability of the worst floods happening. Thus, the practice of defaulting to the assumption that only the lowest flood levels should be considered is becoming outdated. Additionally, in its 2022 plan, MMWD indicates that this document will be reviewed every five years.

Again, as Table 2 above shows, six of the seven dams managed by MMWD have been classified as having a high risk hazard. Although the dams have been classified as having a satisfactory safety rating, a high risk classification means that loss of human life downstream from failing dams is likely to happen.

North Marin Water District

Turning to NMWD, the multi-jurisdictional plan, created in 2018, addresses risks of dam failure, with an emphasis on earthquakes. This hazard plan also states: "*A future hazard* that poses a threat to the County is climate change. Climate change is not considered as a separate hazard in this multi-jurisdiction plan. Climate change is expected to cause or contribute to numerous other hazards that are already addressed in this and related documents, including wildfires, flooding, severe winter storms, and coastal erosion."[36] The issue with this position is that threats due to climate change have grown significantly. Although wildfires, coastal erosion, etc. are partly due

[34] Hazard Mitigation Plan, (Marin Municipal Water District, March 2022), https://www.marinwater.org/sites/default/files/2022-04/2022-03-23_MMWD_Hazard_Mitigation_Plan_Final.pdf, Accessed on April 30, 2023
[35] Hazard Mitigation Plan, (Marin Municipal Water District, March 2022)
[36] Marin County Multi-Jurisdiction Local Hazard Mitigation Plan, (Marin County Flood Control District, 2018), https://marinflooddistrict.org/documents/marin-county-multi-jurisdiction-local-hazard-mitigation-plan-2018/ Accessed on March 25, 2023

to climate change, this report believes that the multi-jurisdiction plan should include a separate category specifically dedicated to climate change and the escalation of atmospheric rivers. This is exactly what is also pointed out about the MMWD plan.

The current multi-jurisdiction plan, (through which NMWD addresses its dam safety strategies), asserts that "hazard mitigation is any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards."[37] This plan further indicates: "It is a process in which hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions to reduce or eliminate hazard risk are developed."[38] In other words, the drafters of the multi-jurisdiction plan understand that hazards need to be identified and addressed. What this plan lacks is the recognition that high risks posed by current and growing climate change and atmospheric rivers already threaten the safety of its reservoir, and those downstream from it, just as earthquakes do.

Newest dam failure mitigation actions for now and the future

There are other jurisdictions whose mitigation plans align with today's knowledge regarding risks posed by atmospheric rivers. Sonoma County's Forecast Informed Reservoir Operations (FIRO) is a water management practice that offers flexibility by using data from watershed monitoring, coupled with enhanced weather forecasting. FIRO utilizes state-of-the-art airborne data collection approaches ranging from flights over the Pacific Ocean to detect warming temperatures and possible atmospheric rivers, to weather balloons launched during storms to assess their force and direction. FIRO enables water managers to keep or release water when floods or dam failure could occur due to megastorms. FIRO, of course, can help better manage droughts.[39] Yuba County has also been developing its own FIRO implementation in collaboration with the Scripps Center for Oceanography.[40]

Marin County does not have high resolution (C-Band) radar that is required to track atmospheric storm cells.[41] However, a new radar station in West Marin, spearheaded by Sonoma County, will provide more detailed weather predictions for mitigating flood damage risk.

[37] Marin County Multi-Jurisdiction Local Hazard Mitigation Plan, (Marin County Flood Control District, 2018)
[38] Marin County Multi-Jurisdiction Local Hazard Mitigation Plan, (Marin County Flood Control District, 2018)
[39] Forecast informed reservoir operations - A flexible and adaptive water management approach, (Sonoma Water), https://www.sonomawater.org/firo, Accessed on February 13, 2023
[40] John James, Adapting to California's 'Weather Whiplash" with Forecast-Informed Reservoir Operations (North California Water Association, November 22, 2022), https://norcalwater.org/2022/11/22/californias-weather-whiplash-with-forecast-informed-reservoir-operations/ Accessed on April 28, 2023
[41] "New Weather Radar to Sit on Barnabe", Pt Reyes Light, Sam Mondos, Feb 22, 2023, https://www.ptreyeslight.com/news/new-weather-radar-to-sit-on-barnabe Accessed on April 21, 2023

Marin Municipal Water District and North Marin Water District are not alone

The Grand Jury offers the following comparison with the goal of illustrating that MMWD and NMWD are not alone. The Grand Jury has chosen to look at a similar county in California in terms of population, as well as dam and reservoir risk hazard classification. Specifically, populations greater than 250,000 and lower than 300,000 were considered. We compared Marin and a County in Central California. Marin has a population of 265,294, and eight publicly run dams, all of which are in satisfactory condition, and seven of which pose high hazard risks. The comparable County, with a population of 286,216, has a total of thirteen dams. Five of these dams are operated by the local government and/or a public utility. All five dams have a satisfactory current condition, and all are classified as posing high hazard risks.[42] In essence, these two counties, similar in population numbers, have the vast majority of their publicly run dams classified at high hazard levels. This comparison shows that Marin County is not alone in dam and reservoir hazard risk classification.

At the state level, California-wide numbers show that more than half of all dams are categorized as having some risk of failure. Specifically: California has 1,239 dams. Of these, 58 percent are classified as high hazard risk.[43] It should be noted that this is not an apples-to-apples comparison because each dam is unique in terms of construction, susceptibility to atmospheric rivers, risk assessments, and ownership/operational status (private, public, local or federal). Nonetheless, this provides an illustration at the state level.

Many agencies are looking at dam safety in different ways, which is not necessarily inappropriate. Rather, this points out age and scope varying regulations and guidance documents can be somewhat arbitrary. This could be improved by incorporating a process to speed up review and updates that would incorporate the rapidly changing science of risk factors (the most important of which is PMP and flood risk to dam failure). This report focuses on this issue, as this has not been done yet.

[42] National Inventory of Dams and IndyStar, Marin County and San Luis Obispo County Dam Safety Inspection, Accessed on February 9, 2023 https://data.indystar.com/dam/california/marin-county/06041/ Accessed on April 28, 2023

[43] DOSD, "Dam Safety and Performance Report - 2022," https://damsafety-prod.s3.amazonaws.com/s3fs-public/files/California%20Dam%20Safety%20Performance%20Report%202022.pdf, Accessed on April 21, 2023

FINDINGS

F1. Climate change is increasing the atmospheric rivers' strength and frequency which impacts communities across Marin County. Failure to include and recognize these growing threats underestimates current dam safety risks and possible preventive strategies.

F2. MMWD and NMWD are in full compliance with both state DOSD, as well as all federal regulations. However, dam safety analysis and reporting would be enhanced by including current data on probable maximum precipitation (basis for risk analysis) numbers.

F3. MMWD and NMWD hazard mitigation plans fail to incorporate the latest scientific studies on climate change. They use DOSD and FEMA climate models that were last updated in 2012. This eleven-year gap may lead to an underestimation of current and future risks.

F4. FEMA and National Flood Insurance maps may not have entirely incorporated the most recent dam inundation maps and are not available on the MMWD and NMWD websites.

F5. The advancement of dam safety is greatly enhanced with the expertise of scientific institutions. They use a range of tools and practices such as FIRO, flyovers, weather balloons, radar along the coast, and collaborations between dam owners and scientific institutions. These practices, used by other water districts, serve as an example from which MMWD and NMWD can benefit.

RECOMMENDATIONS

R1. By March 15, 2024, MMWD and NMWD should establish a Climate Change and atmospheric rivers working group to consider, and begin to develop, new hazard mitigation actions. These should be based on the current scientific projections regarding atmospheric rivers and other extreme precipitation events.

R2. By December 31, 2023, the two water districts should begin work to expand their respective hazard mitigation plans, which should include a new section dedicated to climate change, and a discussion of atmospheric rivers and their accelerating potential threats to dam and reservoir safety.

R3. By January 1, 2026, the water districts (at the time of their next dam inspections, and when their hazard mitigation plans are revised) should provide the public with new information about the updated plans. This information needs to ensure that they effectively consider flood risks in light of the new science, thus ensuring that the public is aware of this.

R4. By September 30, 2023, both water districts should update their websites to include links to the inundation and FEMA maps. They should also provide links to the National Flood Insurance Program.

R5. By December 31, 2023, dam owners should provide the public with easily accessible information on flood risks, as FEMA and National Flood Insurance may not have entirely incorporated the most recent dam inundation maps.

R6. By December 2023, both water districts should begin to explore collaborations with scientific institutions to learn from, expand their toolkit of mitigation strategies, and thus augment the safety of their dams in light of growing risks posed by atmospheric rivers.

REQUIRED RESPONSES

The following responses are required pursuant to Penal Code Sections 933 and 933.05 from the following elected county officials within 90 days:

From the following governing bodies:

- Marin Municipal Water District (F1-F5, R1-R6)
- North Marin Water District (F1-F5, R1-R6)

The governing bodies indicated above should be aware that the comment or response of the governing body must be conducted in accordance with Penal Code section 933 (c) and subject to the notice, agenda and open meeting requirements of the Brown Act.

INVITED RESPONSES

The following responses are invited pursuant to Penal Code Sections 933 and 933.05 from the following within 90 days:

- Marin County Board of Supervisors

Emergency Services:

- Marin County Fire Department Office of Emergency Management

Communities at risk of damage to life and property:

- Town of Ross
- City of Novato

Note: At the time this report was prepared information was available at the websites listed.

Reports issued by the Civil Grand Jury do not identify individuals interviewed. Penal Code Section 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Civil Grand Jury. The California State Legislature has stated that it intends the provisions of Penal Code Section 929 prohibiting disclosure of witness identities to encourage full candor in testimony in Grand Jury investigations by protecting the privacy and confidentiality of those who participate in any Civil Grand Jury investigation.

RESPONSE FORM: 2022-2023 Marin Civil Grand Jury Report

Report Title: Dam and Reservoir Safety Water May Save Us - Water May Drown Us, 2023

Respondent/Agency Name: North Marin Water District

Submitter Name: Anthony Williams Title: General Manager

FINDINGS

- Agree with the findings numbered: F5
- Disagree *partially* with the findings numbered: F1, F2, F3
- Disagree *wholly* with the findings numbered: F4

  (Attach a **statement** specifying any portions of the findings that are disputed; include an explanation of the reasons therefor.)

RECOMMENDATIONS

- Recommendations numbered R4 have been implemented.

  (Attach a **summary** describing the implemented actions.)

- Recommendations numbered R2, R3, R5, R6 have not yet been implemented, but will be implemented in the future.

  (Attach a **timeframe** for the implementation.)

- Recommendations numbered _____ require further analysis.

  (Attach an **explanation** and the scope and parameters of an analysis or study, and a **timeframe** for the matter to be prepared for discussion by the officer or director of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This **timeframe shall not exceed six months** from the date of publication of the grand jury report.)

- Recommendations numbered R1 will not be implemented because they are not warranted or are not reasonable.

  (Attach an **explanation**.)

Date:_____ Signed:_____

Number of pages attached: 7

NORTH MARIN WATER DISTRICT

Response Form Continuation – Statements and Explanations
Marin Civil Grand Jury Report
Dam and Reservoir Safety: Water May Save Us - Water May Drown Us ("Report")

Report Findings

F1. Climate change is increasing the atmospheric rivers' strength and frequency which impacts communities across Marin County. Failure to include and recognize these growing threats underestimates current dam safety risks and possible preventive strategies.

Response = Disagree partially with the finding

Statement: We agree that climate change is having an effect on the strength and frequency of weather events, including larger storm events that are referred to as atmospheric rivers. NMWD staff have been actively participating in webinars and email updates from the Center for Western Weather and Water Extremes as well as the California-Nevada Drought Early Warning System for the last few years. In addition, as a member of the Sonoma County Water Agency's Technical Advisory Committee, NMWD is very familiar with atmospheric river forecasting and Forecast Informed Reservoir Operations (FIRO). However, to our knowledge, there is no published guidance on how to incorporate the current and evolving science on atmospheric rivers (or other weather events impacted by climate change) into the appropriate engineering analysis of the dam performance and safety or hazard mitigation actions. The responsibility to develop engineering criteria or guidance lies with state and federal agencies tasked with dam safety and water resources planning and engineering, and these agencies have the expertise and funding for those efforts. See response to F2 regarding what NMWD is currently doing regarding dam safety.

F2. MMWD and NMWD are in full compliance with both state DOSD (sic.)*, as well as all federal regulations. However, dam safety analysis and reporting would be enhanced by including current data on probable maximum precipitation (basis for risk analysis) numbers.*

Response = Disagree partially with the finding

Statement: It is not clear what "current data" in general or specific to the Novato Creek watershed above Stafford Dam is available and would be included in a probable maximum precipitation (PMP) analysis. Stafford Dam was raised and modified in 1985 based on a probable maximum flood (PMF) developed from a PMP calculated from data in the Hydrometeorological Report No. 36 (HMR 36) as well as HMR 49. NMWD acknowledges that these HMR reports were updated in 1999 and superseded with reports HMR 58 and HMR 59, however they would also not have "current data" as the Report suggests, especially atmospheric river data from current scientific research.

As part of an ongoing project development for the Stafford Dam Adjustable Spillway Gate (ASG) project[1] consideration of a new PMP analysis is being evaluating by NMWD engineering staff in

[1] See approved CIP, page 28 of the FY23-24 Budget: https://nmwd.com/wp-content/uploads/2023/06/Budget-Final-FY-23.24.pdf

coordination with NMWD's dam consultant and ongoing coordination with the Marin County Flood Control & Water Conservation District, including how best to modify or adjust available hydrometeorological data. One concern NMWD has is if the methodology chosen to evaluate extreme rainfall events (with climate change impacts) and subsequent runoff is later superseded by or not in compliance with forthcoming official guidelines or regulations from the state then the costly effort has to be repeated.

There is currently no scientific consensus on how to best incorporate climate change into PMP values[2]. It is a topic of active research at the federal and state levels, and to reinforce an earlier point made above (see F1 statement) regarding which entities are best equipped to integrate scientific research into engineering practice, the National Academies of Sciences, Engineering and Medicine's ad hoc committee project "Modernizing Probable Maximum Precipitation Estimation" and subsequent studies planned by the National Oceanic and Atmospheric Administration (NOAA) illustrate the more appropriate efforts to address the concern addressed in this finding. At the state level the California Extreme Precipitation Symposium (CEPSYM) (https://cepsym.org/) is an annual meeting of scientific and technical presentations meant to increase our knowledge and understanding of extreme precipitation events. The goals of CEPSYM are to improve flood risk management planning and increase warning time for large floods, including impacts from atmospheric rivers. The website "CalAdapt" (https://cal-adapt.org/about/) compiles Climate Change projections for California, however, their "Extreme Precipitation" projections are limited to 100-year storms and smaller, which are too small for dam design.

F3. MMWD and NMWD hazard mitigation plans fail to incorporate the latest scientific studies on climate change. They use DOSD and FEMA climate models that were last updated in 2012. This eleven-year gap may lead to an underestimation of current and future risks.

Response = Disagree partially with the finding

Statement: NMWD is a participant in the Marin County Multi-jurisdictional Hazard Mitigation Plan (MCMHMP). Marin County is currently leading the effort to update the adopted 2018 MCMHMP for 2023. Based on NMWD's participation in the 2023 update, it is anticipated that climate change impacts will be addressed in that updated plan. See explanation to R2 below for more information on this topic.

F4. FEMA and National Flood Insurance maps may not have entirely incorporated the most recent dam inundation maps and are not available on the MMWD and NMWD websites.

Response = Disagree wholly with the finding

Statement: The FEMA Flood Insurance Rate Maps (FIRM) and the companion Flood Insurance Study (FIS) for Marin County don't include dam inundation mapping. These flood risk products are instead based on flooding from various hydrologic scenarios and used for flood insurance

[2] US Army Corps of Engineers ECB 2018-14 *Guidance for Incorporating Climate Change Impacts to Inland Hydrology in Civil Works Studies, Designs, and Projects,* Rev 2 August 19, 2022.

purposes. The Grand Jury needs to inquire with FEMA directly about the mapping criteria and subsequent information included in those products.

The NMWD website does provide information on the dam and spillway inundation maps: https://nmwd.com/your-water/novato-water/ (see "dam Inundation Mapping" link). The website links directly to the Department of Water Resources (DWR) Division of Safety of Dams' (DSOD) inundation mapping portal. NMWD feels this is the most appropriate public user interface for dam inundation mapping and is the repository of the most current "approved" mapping for Stafford Dam.

The website also provides a link to the County of Marin's Marin Map website which hosts the latest FEMA flood insurance rate maps (FIRMs): https://nmwd.com/your-water/novato-water/ (see "FEMA Flood Maps" link).

NMWD doesn't have a local or regional flood control mission or purpose and Stafford Dam only provides a minor flood control function. In 1985, NMWD and the Marin County Flood Control & Water Conservation District (MCFC&WCD) entered into an agreement as part of joint project to modify the Stafford Dam spillway to delay the passage of flows downstream. The project, however, doesn't provide any flood control storage in the lake. Stafford Dam's primary function is water storage for domestic water supply.

F5. The advancement of dam safety is greatly enhanced with the expertise of scientific institutions. They use a range of tools and practices such as FIRO, flyovers, weather balloons, radar along the coast, and collaborations between dam owners and scientific institutions. These practices, used by other water districts, serve as an example from which MMWD and NMWD can benefit.

Response = Agree with the finding

Statement: NMWD agrees that the expertise of scientific institutions and the tools and practices they develop have proved useful for a select group of dam owners in California. Many of the largest dams in California are owned and operated by either a federal agency or the California Department of Water Resources, a state agency[3]. It is important to note that Forecast Informed Reservoir Operations (FIRO) is only fully practiced at one dam in California: Lake Mendocino[4]. It is still considered a pilot program and being studied at only three other locations in the state: Lake Oroville, New Bullards Bar, and the Prado Reservoir. Lake Mendocino is a dual-purpose reservoir, providing both water supply storage and flood control storage (the former is the responsibility of Sonoma Water and the latter, the US Army Corps of Engineers (USACE); overall dam safety is a USACE responsibility). FIRO practices at this dam provides better storage management within these two distinct volumes within the reservoir. Stafford Lake doesn't have a flood control pool, only an available volume for water supply storage.

NMWD has been monitoring the progress of the Advanced Quantitative Precipitation Information (AQPI)[5] system development in the region through our partnerships with Sonoma Water as well

[3] Top 3 largest dams and owners: Shasta Dam – US Bureau of Reclamation; Oroville Dam - CA Department of Water Resources; Trinity Dam – US Bureau of Reclamation.
[4] Overall dam safety and the flood control operation of this dam is the responsibility of the US Army Corps of Engineers, not Sonoma Water.
[5] https://www.sonomawater.org/aqpi/

as Marin County. As part of that project, a series of new X-band radars have been installed in the Bay Area and a new C-band radar is planned for a site in Marin County. As the project progresses NMWD will continue to evaluate its role and level of future. It is anticipated, but not fully understood, that AQPI will have a benefit for NMWD in regards to dam safety.

The responsibility to develop engineering criteria or guidance and associated regulations lies with state and federal agencies tasked with dam safety. These agencies have the expertise and funding for those efforts as well as existing partnerships with other state and federal agencies with a scientific mission that allows vetted and verified scientific research to be applied to engineering criteria. The science-based agencies utilize the tools and practices noted in the Report's findings.

The Center for Western Weather and Water Extremes (CW3E) is the preeminent organization involved with the science of atmospheric rivers. NMWD staff have been actively participating in webinars and email updates, including AR forecast products from the CW3E as well as the California-Nevada Drought Early Warning System for the last several years. There are currently only 14 water providers in California that are active members of CW3E's Water Affiliates Group (WAG). See explanations for R1 and R6 below for more information on this topic.

Report Recommendations

R1. By March 15, 2024, MMWD and NMWD should establish a Climate Change and atmospheric rivers working group to consider, and begin to develop, new hazard mitigation actions. These should be based on the current scientific projections regarding atmospheric rivers and other extreme precipitation events.

Response = will not be implemented

Explanation: It is not clear what the benefit of forming such a working group is compared to participating in other existing groups engaged in the same issues. Examples of existing groups include the California Extreme Precipitation Symposium, the CW3E Water Affiliates Group, and the Association of State Dam Safety Officials[6]. In addition, climate change is not only impacting the two main water suppliers in Marin County but also the local cities, the County, other special districts, as well as private or publicly held utility providers. Therefore, if forming a local group is prudent, one with broader participation would likely make more sense and have a better overall benefit to the community. See explanation to R6 below for more information on this topic.

R2. By December 31, 2023, the two water districts should begin work to expand their respective hazard mitigation plans, which should include a new section dedicated to climate change, and a discussion of atmospheric rivers and their accelerating potential threats to dam and reservoir safety.

Response = Recommendation will be implemented in the future

[6] The NMWD Chief Engineer/Asst GM and the General Manager are both members of the Association of State Dam Safety Officials

Explanation: As noted in F3, NMWD is a participant in the Marin County Multi-jurisdictional Hazard Mitigation Plan (MCMHMP). Marin County is currently leading the effort to update the adopted 2018 MCMHMP for 2023. Based on NMWD's participation in the 2023 update, it is anticipated that climate change impacts will be addressed in that updated plan. In the arena of dam safety, NMWD doesn't believe that a stand-alone climate change category is required for the MCMHMP. Climate change is having an effect on existing natural hazards such as severe weather (which includes atmospheric rivers), therefore recognizing and understanding what the impacts are on those hazards, including recurrence intervals and severity, and how to mitigate their effects, is more critical. The 2023 MCMHMP is likely to have a risk hazard vulnerability assessment that includes a "climate change influence" factor that increases the overall "risk score" for a given hazard.

Independent of the MCMHMP, NMWD engineering staff in coordination with NMWD's dam consultant and ongoing coordination with the Marin County Flood Control & Water Conservation District, is evaluating hydrologic and hydraulic modeling efforts including how best to modify or adjust available hydrometeorological data using downscaled climate model data for California[7]. There is uncertainty in the climate models and developing the appropriate PMP or resulting PMF is challenging.

Timeframe: NMWD anticipates the release of the 2023 MCMHMP will occur prior to December 31, 2023. There is no current firm completion date for new hydrologic and hydraulic modeling and evaluations efforts but the target is fall of 2024.

R3. By January 1, 2026, the water districts (at the time of their next dam inspections, and when their hazard mitigation plans are revised) should provide the public with new information about the updated plans. This information needs to ensure that they effectively consider flood risks in light of the new science, thus ensuring that the public is aware of this.

Response = Recommendation will be implemented in the future

Explanation: When a final draft of the 2023 updated MCMHMP is ready later this year, it will be presented to the NMWD Board of Directors at a public meeting for consideration and discussion. NMWD plans to do other forms of public outreach regarding dam safety in parallel with this plan update. A dam safety factsheet has been developed that provides details on the dam's physical characteristics, the benefits and risks of the dams; useful links about emergency preparedness, as well as flood insurance. This factsheet is included on the NMWD website: https://nmwd.com/wp-content/uploads/2023/07/NMWD_StaffordDam_Safety-FactSheet_7-20-23.pdf

Timeframe: NMWD anticipates the release of the 2023 MCMHMP Update will occur prior to January 1, 2026.

R4. By September 30, 2023, both water districts should update their websites to include links to the inundation and FEMA maps. They should also provide links to the National Flood Insurance Program.

[7] The dataset is referred to as LOCA version 2 and was developed to inform California's fifth state-wide climate assessment.

Response = Recommendation has been implemented

Summary of Actions: The NMWD website does provide information on the dam and spillway inundation maps: https://nmwd.com/your-water/novato-water/ (see "dam Inundation Mapping" link). The website links directly to the Department of Water Resources (DWR) Division of Safety of Dams' (DSOD) inundation mapping portal. NMWD feels this is the most appropriate public user interface for dam inundation mapping and is the repository of the most current "approved" mapping for Stafford Dam.

The website also provides a link to the County of Marin's Marin Map website which hosts the latest FEMA flood insurance rate maps (FIRMs): https://nmwd.com/your-water/novato-water/ (see "FEMA Flood Maps" link). NMWD doesn't have a local or regional flood control mission or purpose and the Stafford Dam only provides a minor flood control purpose. In 1985, NMWD and the Marin County Flood Control & Water Conservation District (MCFC&WCD) entered into an agreement as part of joint project to modify the Stafford Dam spillway to delay the passage of flows downstream[8]. The project, however, doesn't provide any flood control storage in the lake, which is primarily for water supply.

NMWD has continued to work collaboratively with MCFC&WCD since 1985 including supporting the Marin One Rain stream and rain gage network, and is currently collaborating on hydrologic and hydraulic modeling efforts in Novato Creek. NMWD also participates and coordinates with the City of Novato and the County of Marin emergency response planning and mitigation efforts, including those related to dam inundation[9].

The FEMA FIRMs don't integrate dam inundation mapping nor do FIRMs include levee failure inundation mapping. These maps are solely based on creek and overland flooding resulting from hydrologic events and any changes to that approach should be addressed to FEMA directly. NMWD has provided a link to the National Flood Insurance Program (NFIP) on its website: https://nmwd.com/your-water/novato-water/ (see "Flood Risk Below Dams" link).

R5. By December 31, 2023, dam owners should provide the public with easily accessible information on flood risks, as FEMA and National Flood Insurance may not have entirely incorporated the most recent dam inundation maps.

Response = Recommendation will be implemented

Explanation*:* See explanation to R4 above regarding inundation mapping and FEMA flood mapping. NMWD plans to do other forms of public outreach regarding dam safety including a dam factsheet with additional information on inundation and flood insurance. NMWD has developed a dam safety factsheet that provides details on the dam's physical characteristics, the benefits and risks of the dams, as well as useful links about emergency preparedness and flood insurance. The factsheet is modeled after an example provided in the Federal Energy Regulator Commission's Risk Informed Decision Making (RIDM) Risk Guidelines for Dam Safety Interim Guidance Policy (2016)[10]. The NMWD Stafford Dam factsheet is provided on the NMWD website:

[8] Flood Insurance Study, Marin County, California and Incorporated Areas, Volume 1 of 3, FEMA, August 15, 2017
[9] Novato EOC Table Top Exercise – Dam Emergency Action Plan Public Safety Workshop, City of Novato, Novato Fire Protection District, North Marin Water District, October 6, 2022.
[10] https://www.ferc.gov/dam-safety-and-inspections/risk-informed-decision-making-ridm (see Chapter 4)

https://nmwd.com/wp-content/uploads/2023/07/NMWD_StaffordDam_Safety-FactSheet_7-20-23.pdf

R6. By December 2023, both water districts should begin to explore collaborations with scientific institutions to learn from, expand their toolkit of mitigation strategies, and thus augment the safety of their dams in light of growing risks posed by atmospheric rivers.

Response = Recommendation will be implemented

Explanation: The Center for Western Weather and Water Extremes (CW3E) is the preeminent organization involved with the science of atmospheric rivers. As stated above, NMWD staff have been actively participating in webinars and email updates from the CW3E as well as the California-Nevada Drought Early Warning System for the last few years. There are only 14 water providers in California that are active members of CW3E's Water Affiliates Group (WAG). However, NMWD will explore a future collaboration with CW3E's WAG, likely in a joint effort with other Marin County organizations including MMWD.

As a water contractor with Sonoma Water, NMWD closely follows various programs and legislative efforts led by Sonoma Water that relate to extreme weather forecasting and response including; at the state level, AB 30 (Atmospheric Rivers: Research: and Reservoir Operations, as amended)[11] and AB 277 Extreme Weather Forecast and Threat Intelligence Integration Center; as well as the federal level with Sub-seasonal to Seasonal (S2S) Forecasting funding for NOAA's US Weather Research Program.

Timeframe: NMWD anticipates that exploring collaborations with scientific institutions, in partnership with other Marin agencies, will occur by December 31, 2023.

[11] NMWD provided formal support for this legislation: https://nmwd.com/wp-content/uploads/2023/03/030723.pdf (see item #7)

August 16, 2023

The Honorable Judge James Chou
Marin County Superior Court
P.O. Box 4988
San Rafael, CA 94913-4988
Emailed to: departmentb@marin.courts.ca.gov

Pat Shepherd, Foreperson
Marin County Civil Grand Jury
3501 Civic Center Drive, Room #275
San Rafael, CA 94903
emailed to: grandjury@marincounty.org

Re: Response to Marin County Civil Grand Jury Report: *Dam and Reservoir Safety Water May Save Us – Water May Drown Us, June 27, 2023*

Dear Honorable Judge Chou and Foreperson Shepherd:

Per your request, North Marin Water District (NMWD) is providing responses to the five (5) Findings and the six (6) Recommendations in the Marin Civil Grand Jury Report entitled: *Dam and Reservoir Safety Water May Save Us – Water May Drown Us, June 27, 2023*. The responses by NMWD were reviewed and approved by the NMWD Board of Directors at the August 15, 2023 Regular Meeting. The responses are presented in the required form ("Response Form: 2022-2023 Marin Civil Grand Jury Report"), provided as Attachment 1. Associated supporting statements and explanations to our responses, including any summary of actions taken, are provided as Attachment 2 (7 pages).

We also have some comments on various portions of the Report as indicated in the table below. Following the table are NMWD's comments on the content highlighted in the table.

NMWD General Comments on Report Content

#	Report Section	Page	Report Content
1	SUMMARY	1	*Further, they require that the dam owners be solely responsible for their dams' safety.*
2	SUMMARY	1	*…MMWD and NMWD are the owners of the only eight dams in Marin requiring regulation by DSOD…*
3	BACKGROUND	4	*…the Division of Dam Safety (DOSD)…*
4	BACKGROUND	5	*The subsequent failure of the Oroville spillway in February 2017 was due to atmospheric rivers …*
5	DISCUSSION	5	*The NMWD Seeger Dam…*
6	DISCUSSION	7	*…water levels were low due to prolonged drought.*
7	Federal and state dam and reservoir guidelines	9	*The basis of these classifications is the potential for dam failure,...*

NMWD General Comments on Report Content

#	Report Section	Page	Report Content
8	Dam and reservoir safety: MMWD and NMWD	11	*Table 2; The DOSD also has a Safety Classification,…*
9	Inundation Maps	12	*DOSD now requires dam owners to prepare Mitigation Plans…*
10	North Marin Water District	18	*believes that the multi-jurisdiction plan should include a separate category specifically dedicated to climate change*
11	[MMWD] and [NMWD] are not alone	19	*California-wide numbers show that more than half of all dams are categorized as having some risk of failure.*

Comment #1: NMWD feels that this statement is being interpreted by the MCGJ to mean that a dam owner is obligated to develop its own engineering criteria related to dam safety, especially if DSOD or another responsible agency hasn't kept up with the latest science. NMWD feels that the intent of the statement is that DSOD has the responsibility and authority to regulate dams but the dam owner ultimately has legal duties, obligations, or liabilities incident to the ownership or operation of the dam or reservoir[1].

Comment #2: According to the DSOD listing of dams with DSOD jurisdiction (September 2022) there are four (4) other jurisdictional dams (for water impoundment) in Marin County.[2]

Comment #3: The wrong title is used: it should by Division of Safety of Dams (DSOD).

Comment #4: This statement is not supported by the findings in the *Independent Forensic Team Report Oroville Dam Spillway Incident* (January 2018)[3] which notes that "[T]there was no single root cause of the Oroville Dam spillway incident, nor was there a simple chain of events that led to the failure of the service spillway chute slab, the subsequent overtopping of the emergency spillway crest structure, and the necessity of the evacuation order. Rather, the incident was caused by a complex interaction of relatively common physical, human, organizational, and industry factors, starting with the design of the project and continuing until the incident".

Comment #5: Seeger dam is owned and operated by MMWD not NMWD.

Comment #6: This statement doesn't accurately describe the Stafford Lake level prior to the recent winter nor generally at the beginning of any given year before the annual rainy season. Looking at data for the period between the period of 2013 to 2022, which included drought years, the Stafford Lake levels on October 15th averaged 180.82 feet, with a minimum level of 176.83 in 2021 and a maximum level of 185 in 2019. In dry, normal or wet years, NMWD's lake level operational target is between 178 and 180 feet. At these elevations, there is approximately 1.166 and 1.239 billion gallons of available storage in the reservoir before water flows over the emergency spillway at an elevation of 199 feet.

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[1] See CA Water Code Section 6029

[2] https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/Dams-Within-Jurisdiction-of-the-State-of-California-Listed-Alphabetically-by-County-September-2022.pdf page 44 of 118

[3] https://damsafety.org/sites/default/files/files/Independent%20Forensic%20Team%20Report%20Final%2001-05-18.pdf See page S-1

Comment #7: This statement is not factually correct. The DSOD uses a "Downstream Hazard"[4] classification that is *based solely on potential downstream impacts to life and property should the dam fail when operating with a full reservoir*. This hazard classification **is not related to the potential for the dam to fail due to natural hazards such as earthquakes** as stated in the Report. NMWD feels this is a really important clarification that needs to be clear for the public. DSOD also adds a fourth category of downstream hazard: "Extremely High."

Comment #8: The DSOD uses a "condition assessment rating[5] not a "Safety Classification" as noted in the Report.

Comment #9: The DSOD requires certain dam owners to prepare (or update) an Emergency Action Plan (EAP)[6] not "Mitigation Plans" as stated in the Report. The inundation maps form a core of the EAP not Mitigation Plans as stated on the following page. NMWD's EAP was completed and approved in 2021 and an exercise was held in 2022 with the City and County emergency managers to test and practice communications and various emergency response actions under a simulated dam failure event.

Comment #10: In the arena of dam safety, NMWD doesn't believe that a stand-alone climate change category is required for the multi-jurisdictional plan. Climate change is having an effect on existing natural hazards such as severe weather (which includes atmospheric rivers) and recognizing and understanding what those impacts are on those hazards and how to mitigate their effects is more critical.

Comment #11: As noted in comment #7 above, the hazard classification that the state uses is *based solely on potential downstream impacts to life and property should the dam fail when operating with a full reservoir*. The Report incorrectly states that the majority of dams in California (58 percent for state-regulated dams) "are categorized as having some risk of failure." The cited external report (Dam Safety Performance Report -2022 by ASDSO) actually indicates that of the 1,239 state regulated dams in California, 724 have a High-Hazard classification (58%). These dams have the potential for downstream impacts to life and property "[e]Expected to cause considerable loss of human life or would result in an inundation area with a population of 1,000 or more", should the dam fail when operating a full reservoir and **not based on the condition of the dam or its potential for failure** as stated in the Report**.** As stated previously, NMWD feels this is a really important clarification that needs to be clear for the public.

The comments above are not intended to criticize or critique the MCGJ's efforts in developing the Report. The comments above are provided to clarify particular technical content in the Report that likely has a different response or reaction from public as it is written compared to what NMWD feels is more factually accurate as supported by the external references cited. NMWD is proud of its dam safety program for Stafford Dam and doesn't take the potential for downstream impacts lightly. NMWD is also fortunate to have strong partnerships with local and regional emergency management agencies and actively participates in periodic emergency exercises.

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[4] See definition: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/Division-of-Safety-of-Dams-Definitions-for-Downstream-Hazard-and-Condition-Assessment.pdf

[5] https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/Division-of-Safety-of-Dams-Definitions-for-Downstream-Hazard-and-Condition-Assessment.pdf

[6] https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Inundation-Maps/California-Inundation-Map-Resources/Inundation-Map-and-Emergency-Action-Plan-Fact-Sheet.pdf

Sincerely,

Anthony Williams, P.E.
General Manager

Attachments:

1. Response Form: 2022-2023 Marin Civil Grand Jury Report
2. Response Form Continuation – Statements and Explanations

c: Robert Maddow and Craig Judson, Bold Polisner, Maddow, Nelson & Judson
Dennis Rodoni, Supervisor, Marin County Board of Supervisors
Eric Lucan, Supervisor, Marin County Board of Supervisors
Adam McGill, Novato City Manager
Bill Tyler, Fire Chief, Novato Fire Protection District

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ATTACHMENT 5

Stafford Dam Factsheet

NORTH MARIN WATER DISTRICT

Stafford Dam was designed and built by the North Marin Water District (NMWD) and completed in 1951. The dam is listed as the “Novato Creek Dam” under the California Department of Water Resources Division of Safety of Dams (DSOD) inventory as Dam No. 88-0; and in the National Inventory of Dams as National ID No. CA00321.

The primary function of Stafford Dam is impoundment of run-off water for treatment and distribution of potable water to NMWD customers in the Novato Service Area. It collects runoff from approximately 8.3 square miles of Novato Creek’s upper tributary watershed to create Stafford Lake Reservoir. Stafford Lake supplies surface water to the 6 million gallon per day (MGD) Stafford Water Treatment Plant, located just below the dam, that annually provides approximately 750 million gallons (MG) (or ~20%) of Novato’s potable water supply. Fish releases via the primary outlet (a 30-inch pipe) occur between May and October totaling on average 49 MG per year.

Physical characteristics

The dam is an earthen embankment with a reinforced concrete spillway, measuring 71 feet high, measured from upstream toe, and has a crest length of 650 feet. In 1954 the dam’s spillway was raised to increase the storage volume of the reservoir.

In 1985 as part of a joint project with the Marin County Flood Control & Water Conservation District, the dam was enlarged and the crest was raised 8 feet to its current height and a new spillway was constructed downstream of the original one.

The purpose of the alterations was to improve the spillway hydraulics to pass a probable maximum flood (PMF) and to improve the initial release of floodwater into Novato Creek downstream of the dam by reducing and delaying the peak discharge flow rate through the spillway. As a result, a new spillway was constructed which is known as a modified ogee weir with a control crest (or notch). The 1954 upstream spillway is still in place and has the same elevation as the newer spillway. The dam crest elevation 213 feet (NGVD-29), and spillway control crest is at elevation 196 feet and the main crest is at an elevation of 199 feet.

Benefits associated with Stafford Dam

The dam creates Stafford Lake which provides a local water supply for the NMWD’s Novato customers. Approximately 20% of the annual water demand is met by Stafford Lake storage. The 1985 dam enlargement and spillway modifications resulted in a flood control benefit by reducing and delaying the passage of floodwaters downstream in Novato Creek. Stafford Lake shoreline and portions of the watershed provide recreational benefits via the Indian Valley Golf Course and the County of Marin’s Stafford Lake Park.

Risks associated with dams in general

Although dam failures are infrequent, the impacts can be major, often far exceeding the typical stream flood events. Some dams reduce the risk of damages and loss of life from inundation due to major floods but do not eliminate this risk. A fully functioning dam could be overtopped when a very rare or infrequent, large flood comes along. A dam could breach because of a design or construction deficiency, or from a massive earthquake, which raises the risk of property damage and life loss even further.

Similarly, a dam’s spillway may not perform properly under extreme conditions or because of latent design or construction deficiencies.

Brief History & Timeline

The original dam's construction was completed in 1951 (three years after formation of the District) with a reservoir capacity of 1,720 AF (560 MG). Subsequently the following major projects have occurred:

1954
Spillway crest raised to provide new capacity of 4,450 AF (1,450 MG).

1984
The original dam toe sub-drain was modified/replaced.

1985
The crest embankment was enlarged and raised a total of 8-feet to its present height and the spillway was reconfigured[1].

2005
Rehabilitation of the dam outlet structure (tower).

2014 – 2019
Various projects including dam upstream face and spillway repairs.

2016
Upgrades to the 16 seepage monitoring piezometers.

Risk associated with Stafford Dam

DSOD has classified Stafford Dam as an Extremely High Hazard Dam[2]; the federal classification is a High Hazard Dam. This classification is based on the impacts to life and property if the dam were to fail catastrophically when the lake is completely full. NMWD manages this risk through a robust dam safety program that includes:

Daily and weekly visual observations (including use of 24-hour surveillance cameras); **monthly** groundwater water levels via 16 piezometers and 3 seepage drain outlets and associated engineering analysis of groundwater levels/trends; **semi-annual** vegetation and rodent control; **annual** engineering inspections of the dam, dam upstream apron, and spillway, including photo documentation and CIP project development, a water level monitoring and analysis report sent to DSOD and annual inspection by DSOD engineers; **periodic** special engineering inspections based on visual observations engineering analysis by outside specialists for various purposes; and **every 5-years** a survey of dam crest to monitor settlement and movement.

A summary of periodic special investigations and engineering analysis is provided below:

1978 Dam Seismic Safety Study conducted (Lee & Praszker).

1981 Special inspection by DSOD and Us Army Corps of Engineers (USACE).

1986 Dam Seismic Study Update (Lee & Praszker).

1992 Dam Seismic Stability Analysis (Woodward-Clyde).

2007 Dam Seepage and Stability Analysis (R.C. Harlan).

2015 Dam Emergency Action Plan (Michael Baker).

2016 Dam Piezometer and Upstream Slope Protection Study (Genterra).

2021 Dam and Spillway Emergency Action Plan Update (Michael Baker).

[1] The purpose of the alterations was to improve the spillway hydraulics to pass a probable maximum flood (PMF) and to improve the flood control of Novato Creek downstream of the dam by reducing and delaying the peak discharge flow rate through the spillway.

[2] Unique classification for California: based on size and the potential for loss of life and property if failure were to occur.

What residents should know

It is important that residents downstream from the dam are aware of the potential consequences in the unlikely event the dam breaches or fails. Inundation mapping was developed in 2021 for a dam failure as well as a spillway failure. The inundation mapping is different and separate from FEMA Flood Insurance Rate Maps which are based on rainfall and subsequent flooding in the various creeks and streams in Marin County.

The Stafford Dam inundation mapping is available from DSOD and can be viewed online by scanning this QR code.

Our partners

NMWD partners with local emergency managers from the City of Novato, the Novato Fire Protection District and the County of Marin Office of Emergency Management and conducts exercises related to dam failures scenarios and responses. Dam Failure is one of many potential emergencies covered in the County's Emergency Operations Plan (EOP) as well as the City of Novato's EOP.

CITY OF NOVATO CALIFORNIA

NOVATO FIRE DISTRICT CA

MARIN COUNTY FIRE DEPARTS

OFFICE OF EMERGENCY MANAGEMENT

Sign-up for emergency notifications

Alert Marin and Nixle:
emergency.marincounty.org

ALERT MARIN

everbridge NIXLE

NATIONAL FLOOD INSURANCE PROGRAM®

Flood insurance

Consider purchasing flood insurance if your property is within or near the inundation zone. For more information regarding flood insurance, please visit: floodsmart.gov

More information about dams and living downstream is available from the Association of State Dam Safety Officials by visiting damsafety.org or scanning this QR code.

Stafford Dam
Dam Failure Analysis
Maximum Depth and Extents

Exhibit 1

Stafford Dam
Dam Number 88.000
National ID Number CA00321
Marin County, CA
Vertical Elevation Datum: NAVD88
Map Preparation Date: July 10, 2019
Model Simulation Date: July 9, 2019

The information shown is approximate and should be used as a guideline for emergency preparation and response. Security-sensitive infrastructure may not be shown on this map.

The inundation map meets all applicable state and federal standards and has been prepared in consideration of all potential downstream hazards by a licensed civil engineer.

DSOD Inundation Maps dated April 15, 2022 were formally approved on July 31, 2020. This map does not reflect changes or revisions to the previous inundation map.

REGISTERED PROFESSIONAL ENGINEER
MICHAEL B. CAMPION
No. 76833
Exp. 12/31/20
CIVIL
STATE OF CALIFORNIA

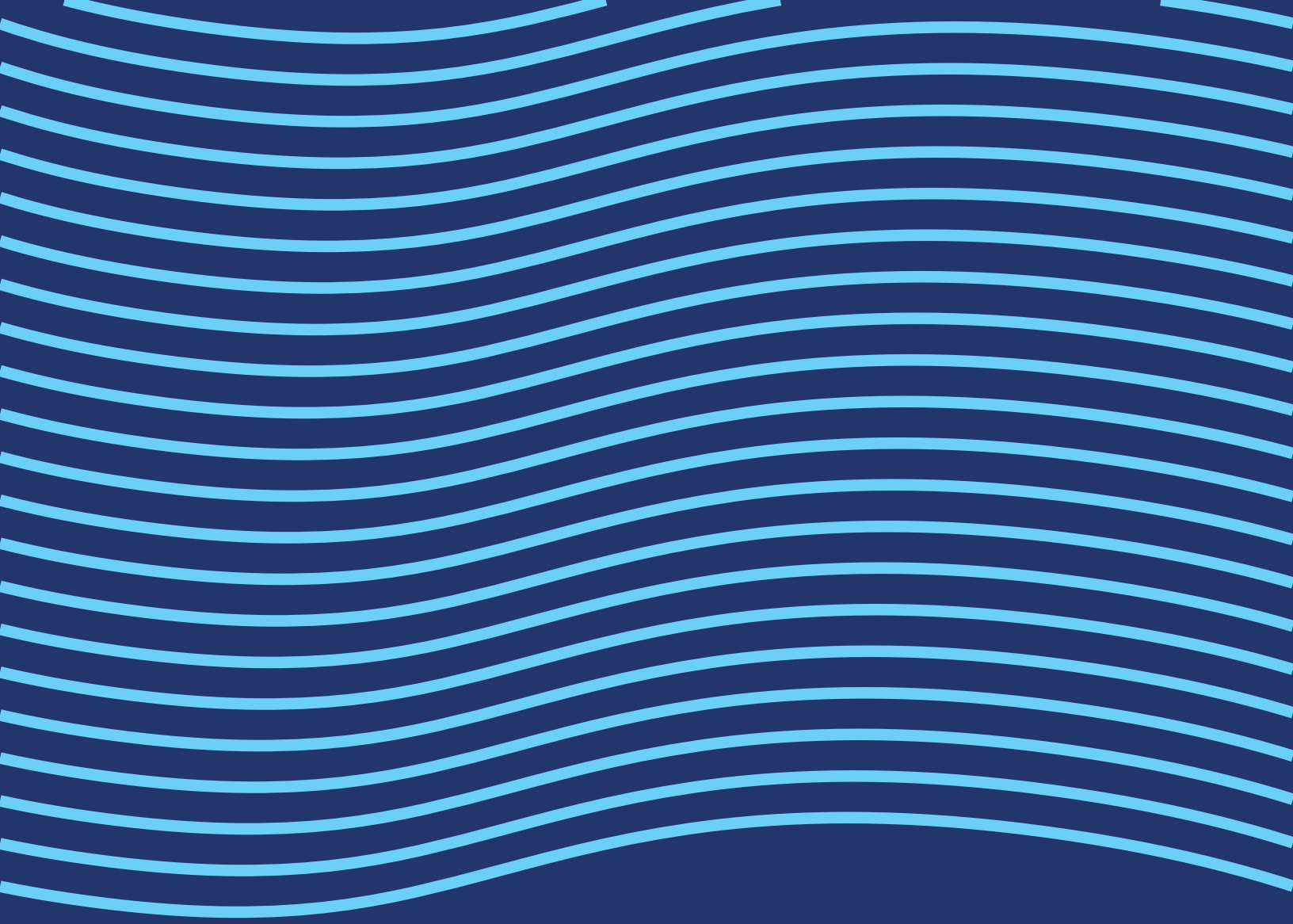
Legend

- Fire Departments
- Hospitals
- Churches
- Schools
- Stafford Dam
- City Boundaries
- Arrival Time

Maximum Depth (ft)

- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- > 10

Michael Baker INTERNATIONAL



nmwd.com

Phone: 415-897-4133 (Weekdays 8am – 5pm)
Email: info@nmwd.com
Mailing Address: PO Box 146, Novato, CA 94948-0146

9

ITEM #9

NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors August 15, 2023

From: Tony Williams, General Manager

Subj: Draft Memorandum of Understanding (MOU) between Sonoma County Water Agency and the Danish Consulate in Silicon Valley
t:\gm\bod misc 2023\8-15-23 meeting\denmark mou\8-15-23 bod memo scwa danish mou.docx

RECOMMENDED ACTION: Add North Marin Water District as a signatory to the MOU, and Authorize the Board President to sign the Final MOU

FINANCIAL IMPACT: None at this time

The Sonoma County Water Agency (Sonoma Water) has invited its water contractors, which North Marin Water District (District) is one, to consider signing onto an MOU with the Danish Consulate in Silicon Valley (Attachment 1). The Purpose of the MOU is aspirational and encompasses cooperation and knowledge sharing on topics such as climate resilience, water management, environmental protection and governance practices. The MOU has no costs associated with it and may result in cost savings over time, as a result of knowledge-sharing efforts. A draft version of the MOU is provided as Attachment 2.

If the Board authorizes the Board President to sign on the District's behalf, staff will ask Sonoma Water to provide a final version of the MOU for the District to sign.

RECOMMENDATION

Authorize the Board President to sign a final MOU with Sonoma Water and the Danish Consulate.

ATTACHMENTS:

1. Email from Brad Sherwood (SCWA) dated June 28, 2023
2. Draft Memorandum of Understanding between the Sonoma County Water Agency and the Consulate General of Denmark (with mark-ups)

From: Brad Sherwood <Brad.Sherwood@scwa.ca.gov>
Sent: Wednesday, June 28, 2023 12:04 PM
To: Cristina Goulart; Craig Scott; Dan Herrera; gperez@srcity.org; Grant Davis; Jennifer Burke (jburke@srcity.org); Manis, Dina; Matt Fullner; Matt.wargula@ghd.com; mielmorini@cityofpetaluma.org; Mike Berger; Pawson; psellier@marinwater.org; Tony Williams
Subject: Denmark MOU
Attachments: MoU Denmark FINAL.docx

Good Morning TAC Members:

Attached is the MOU Sonoma Water intends to sign with Denmark. As we discussed at the Denmark workshop yesterday, Denmark would like to invite all of our water contractors to sign onto the MOU as well. Our goal is to take the MOU to our Board in early August. Please review the attached MOU with your team and let me know if you have any questions. There is no financial commitment to signing the MOU. Of course, every organization signing on would be added wherever Sonoma Water is mentioned in the MOU, along with any particular programs you want called out within the objective section of the MOU. Each of our chairs of our boards would sign.

Deadline: Would it be possible to set a deadline of July 22 to get a thumbs up from your organization if you want to sign on?

Appreciate your time and consideration.

Brad Sherwood
Assistant General Manager
Sonoma Water
Cell: (707) 322-8192

MEMORANDUM OF UNDERSTANDING

BETWEEN

SONOMA COUNTY WATER AGENCY (SONOMA WATER), CITY OF SANTA ROSA WATER DEPARTMENT (SANTA ROSA WATER), NORTH MARIN WATER DISTRICT, AND VALLEY OF THE MOON WATER DISTRICT, CALIFORNIA

UNITED STATES OF AMERICA

AND

THE CONSULATE GENERAL OF DENMARK IN SILICON VALLEY

TO STRENGTHEN COOPERATION & KNOWLEDGE SHARING RELATED TO CLIMATE RESILIENCE, WATER MANAGEMENT, AND ENVIRONMENTAL POLICY

The Consulate General of Denmark in Silicon Valley, represented by Deputy Head of Mission, Helena Mølgaard Hansen, and the Sonoma County Water Agency (Sonoma Water), USA, represented by Sonoma Water Board Chair Chris Coursey, ~~as well as~~ City of Santa Rosa Water Department (Santa Rosa Water) USA, represented by Santa Rosa Water Board of Public Utilities Chair Dan Galvin, North Marin Water District, USA, represented by _____ and Valley of the Moon Water District, USA, represented by _____, as well as any other relevant participants agreed upon by both parties;

Considering the role water plays in current global, national, regional, and local challenges as well as the influence of climate change on that role; and

Desiring to develop and promote efficient water and wastewater management, effective and streamlined environmental administration, and climate and environmental strategies, given the pressing need to mitigate and adapt to the adverse effects of climate change. This includes reducing emissions and mitigating the effects of extreme weather events by reducing emissions from water and wastewater management and developing solutions to live with intense atmospheric rivers, drought, and drier and hotter environmental conditions; and

Wishing to promote mutually beneficial cooperation in a broad range of fields, including but not limited to the areas of mitigation of climate change and climate change resilience, including climate-mitigating public and private infrastructure, and environmental protection and restoration, and the development of related strategies; and

Bearing in mind that this Memorandum of Understanding ("MOU") is intended to provide a general framework for cooperation on issues of common interest to ~~both~~ Sonoma Water, Santa Rosa Water, North Marin Water District, Valley of the Moon Water District and The Consulate General of Denmark in Silicon Valley.

Having reached the following understandings:

Section 1 – Objective

The objective of this MOU is to promote the continued and mutually beneficial relationship between The Consulate General of Denmark in Silicon Valley, ~~and~~ Sonoma Water, Santa Rosa Water, North Marin Water District and Valley of the Moon Water District with a focus on sharing knowledge, data, best

practices, business cases and developing solutions to further both parties' efforts to develop knowledge and water management solutions related to climate mitigation and resilience, environmental protection and restoration, and efficient water, and wastewater management. The MOU will help ~~both~~ all parties advance the goals and objectives of Sonoma Water's Climate Adaptation Plan and implementation of Sonoma Water's Energy and Climate Resiliency Policy and the Government of Denmark's Climate Act and related strategies to reach 70% greenhouse gas reductions by 2030 and climate neutrality by 2050.

Section 2 – Priorities of Cooperation

The following topics have been identified as priority areas for continued collaboration between The Consulate General of Denmark in Silicon Valley, ~~and~~ Sonoma Water, Santa Rosa Water, North Marin Water District and Valley of the Moon Water District under this MOU:

Sustainable and Efficient Water Supply

- Identifying challenges and finding effective solutions associated with climate friendly, environmentally sound, and efficient water supply.
- Sharing best practices, policies, and research for water supply that contribute to decreasing water loss; increasing water conservation; increasing water and energy efficiency; optimizing process control, performance, and asset management; reducing greenhouse gas emissions; ensuring efficient pressure management; addressing water pollution (especially emerging pollutants); utilizing new digital and intelligent technologies more efficiently; and enabling a higher level of resilience and production security in light of local and global challenges such as pandemics, extreme weather, and natural disasters.
- Sharing ideas and approaches for data collection, auditing, and benchmarking in the water supply sector in order to enhance programs and projects as well as promote learning across audiences.

Sustainable, Resilient, and Efficient Wastewater Treatment, Resource Recovery, and Energy Production

- Identifying challenges and finding effective solutions associated with climate friendly, environmentally sound and efficient wastewater treatment and sewer systems.
- Sharing best practices, policies, and research for ~~management and~~ wastewater treatment that contribute to increasing water and energy efficiency; optimizing process control, performance, and assert management; lowering the climate and environmental impact of production and discharge; enabling efficient production of energy and resource recovery of valuable nutrients from waste streams; utilizing new digital and intelligent technologies more efficiently; and enabling a higher level of resilience and production security in light of local and global challenges such as pandemics, extreme weather, and natural disasters.
- Sharing ideas and approaches for data collection, auditing and benchmarking in the wastewater treatment sector in order to enhance programs and projects as well as promote learning across audiences.

Efficient and streamlined digital governance of water processes

- Exchanging knowledge on efficient and streamlined digital governance of water inspections, permits, and public financial assistance mechanisms that further sustainable water administration.

Section 3 – Cooperative Mechanisms

Cooperative mechanisms to accomplish the goals established by this MOU may include, but are not limited to, the following:

1. Joint activities such as organization of - and participation in - seminars, workshops, and meetings to share information and practices, educate key stakeholders, and promote ties between our two communities.
2. Facilitation of knowledge sharing with other American counties.
3. Exploration of possible development of joint innovation projects and/or other pilot- or similar projects.
4. Exchange of information relating to policies and regulations, digital administration and documentation.
5. Intergovernmental and international visits involving businesses.

The Consulate General of Denmark in Silicon Valley, ~~and~~ Sonoma Water, Santa Rosa Water, North Marin Water District and Valley of the Moon Water District plan to designate individuals within their organization as their organization's "Coordinator" to oversee and coordinate the planning, performance, evaluation, and approval of cooperative activities carried out under this MOU. An action plan may be created, and on an annual basis status updates may be developed on the collaboration. The Consulate General of Denmark in Silicon Valley is expected to be the focal point for the contribution of Danish knowledge and experiences related to this MOU, including knowledge sharing in connection with bilateral visits between The Consulate General of Denmark in Silicon and the U.S. Sonoma Water's General Manager will coordinate activities throughout the Sonoma Water organization as well as with Santa Rosa Water, North Marin Water District and Valley of the Moon Water District.

Section 4 – Term

This MOU is intended to be effective upon signature and to remain in effect for three years from the date of final execution. ~~Either~~ Any Participant may discontinue this MOU by means of a written notice to the other Participants at any time, and this MOU should not be viewed in any way as a binding legal agreement. Discontinuation should take effect three months following the date of notification to wind down any existing programs and collaboration and should not affect activities already underway.

Signed in Santa Rosa, California on ~~June 28th)~~ _____, 2023, in duplicate, in English.

_____

Helena Mølgaard Hansen
Deputy Head of Mission
Consulate General of Denmark in Silicon Valley
United States of America

_____

Chris Coursey
Chair, Board of Directors
Sonoma County Water Agency
United States of America

Dan Galvin

Chair, Board of Public Utilities

Santa Rosa Water

United States of America

Rick Fraites
President, Board of Directors
North Marin Water District
United States of America

Name,
President, Board of Directors
Valley of the Moon Water District
United States of America

10

ITEM #10

NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors August 15, 2023

From: Tony Williams, General Manager

Subj: ACWA Region 1 Board Election
t:\gm\bod misc 2023\8-15-23 meeting\acwa election\8-15-23 bod memo acwa election.docx

RECOMMENDED ACTION: Authorize the General Manager to Vote for ACWA Region 1 Nominating Committee's Recommended Slate of Candidates

FINANCIAL IMPACT: None at this time

The North Marin Water District (District) is an active member of the Association of California Water Agencies (ACWA) and staff participates in various ACWA committees; follows legislative or regulatory issues, and attends ACWA hosted conferences. ACWA divides the state of California into 10 regions as shown on the attached map (Attachment 1). The District falls within Region 1. Attached is the ACWA Region 1 Board Ballot (Attachment 2) with the recommended slate of officers for the upcoming two-year term (2024-2025). The ballot contains two familiar names: David Rabbitt, a Director for Sonoma Water (and County Supervisor); and Jennifer Burke, the Director of Water at the City of Santa Rosa (current Sonoma Water TAC Chair). Also attached are the election rules and regulations for ACWA Region 1 (Attachment 3). I served on the Region 1 Nominating Committee along with three other Region 1 agency representatives, which unanimously supported the slate of candidates. The Region 1 voting closes on September 15, 2023.

RECOMMENDATION

Board authorize General Manger to vote for ACWA Region 1 Nominating Committee's recommended slate of candidates by signing and submitting the Ballot.

ATTACHMENTS:

1. ACWA Regions Map
2. ACWA Region 1 Ballot
3. ACWA Region 1 Rules and Regulations

ATTACHMENT 1

www.acwa.com

REGION **MAP**

REGIONS **1, 3, 5**

Jennifer Rotz
Regional Affairs Representative II
jenniferr@acwa.com

REGIONS **2, 6, 7**

Michael Cervantes
Senior Regional Affairs Representative
michaelc@acwa.com

REGION **4**

Ana Javaid
Region & Member Engagement Specialist II
anaj@acwa.com

REGIONS **8, 9, 10**

Sarah Hodge
Regional Affairs Representative I
sarahh@acwa.com

ACWA
Association of California Water Agencies

Rev. 01/12/22

ATTACHMENT 2

OFFICIAL REGION 1 **Board Ballot**

2024-2025 TERM

ACWA
Association of California Water Agencies

Please return completed ballot by Sept. 15, 2023

E-mail: regionelections@acwa.com
Mail: ACWA
980 9th Street, Suite 1000
Sacramento, CA 95814

General Voting Instructions:

1. You may either vote for the slate recommended by the Region 1 Nominating Committee or vote for individual region board members. Please mark the appropriate box to indicate your decision.

2. Please complete your agency information. The authorized representative is determined by your agency in accordance with your agency's policies and procedures.

Submitted board candidate bios and headshots are available on **www.acwa.com/elections/2023-region-elections/**.

CLEAR FORM

1

Nominating Committee's Recommended Slate

○ I concur with the Region 1 Nominating Committee's recommended slate below.

CHAIR:
- **Elizabeth Salomone**, General Manager, Mendocino County Russian River Flood Control and Water Conservation Improvement District

VICE CHAIR:
- **Jennifer Burke**, Water Director, Santa Rosa Water

BOARD MEMBERS:
- **Tamara Alaniz**, General Manager, Brooktrails Township Community Services District
- **Dennis Mayo**, Board Director, McKinleyville Community Services District
- **David Rabbitt**, Director, Sonoma Water
- **J. Bruce Rupp**, Director, Humboldt Bay Municipal Water District

OR

Individual Board Candidate Nominations

○ I do not concur with the Region 1 Nominating Committee's recommended slate. I will vote for individual candidates below as indicated.

CANDIDATES FOR CHAIR: (CHOOSE ONE)
- ○ **Elizabeth Salomone**, General Manager, Mendocino County Russian River Flood Control and Water Conservation Improvement District

CANDIDATES FOR VICE CHAIR: (CHOOSE ONE)
- ○ **Jennifer Burke**, Water Director, Santa Rosa Water
- ○ **Elizabeth Salomone**, General Manager, Mendocino County Russian River Flood Control and Water Conservation Improvement District

CANDIDATES FOR BOARD MEMBERS: (MAX OF 5 CHOICES)
- ☐ **Tamara Alaniz**, General Manager, Brooktrails Township Community Services District
- ☐ **Dennis Mayo**, Board Director, McKinleyville Community Services District
- ☐ **David Rabbitt**, Director, Sonoma Water
- ☐ **J. Bruce Rupp**, Director, Humboldt Bay Municipal Water District
- ☐ **Elizabeth Salomone**, General Manager, Mendocino County Russian River Flood Control & Water Conservation Improvement District

2

AGENCY NAME

AUTHORIZED REPRESENTATIVE DATE

REGION 1 RULES AND REGULATIONS

Each region shall organize and adopt rules and regulations for the conduct of its meetings and affairs not inconsistent with the Articles of Incorporation or bylaws of the Association (ACWA Bylaw V, 6.).

OFFICERS

The chair shall appoint a secretary to the Board if one is deemed necessary.

MEETINGS

Region 1 will meet quarterly, subject to call of the chair, with two of those meetings to be held at ACWA spring and fall conferences.

ATTENDANCE

If a region chair or vice chair is no longer allowed to serve on the Board of Directors due to his / her attendance, the region board shall appoint from the existing region board a new region officer. (ACWA Policy & Guideline Q, 1.)

If a region chair or vice chair misses three consecutive region board / membership meetings, the same process shall be used to backfill the region officer position. (ACWA Policy & Guideline Q, 1.)

If a region board member has three consecutive unexcused absences from a region board meeting or general membership business meeting, the region board will convene to discuss options for removal of the inactive board member. If the vacancy causes the board to fail to meet the minimum requirement of five board members, the region must fill the vacancy according to its rules and regulations. (ACWA Policy & Guideline Q, 3.)

VACANCY

If the chair's position becomes vacant, the vice chair will fill the chair's position.

If the vice chair's position becomes vacant, the alternate chair will fill the vice chair's

position

ELECTIONS

All nominations received for the region chair, vice chair and board positions must be accompanied by a resolution of support from each sponsoring member agency, signed by an authorized representative of the Board of Directors. Only one individual may be nominated from a given agency to run for election to a region board. Agencies with representatives serving on the nominating committees should strive not to submit nominations for the region board from their agency. (ACWA Policy & Guideline P, 2.)

Election ballots will be e-mailed to ACWA member agency general managers and presidents.

The nominating committee shall consist of three to five members.

The nominating committee should pursue qualified members within the region to run for the region board, and should consider geographic diversity, agency size and focus in selecting a slate.

See the current region election timeline for specific dates.

ENDORSEMENTS

ACWA, as a statewide organization, may endorse potential nominees and nominees for appointment to local, regional, and statewide commissions and boards. ACWA's regions may submit a recommendation for consideration and action to the ACWA Board of Directors to endorse a potential nominee or nominee for appointment to a local, regional or statewide commission or board. (ACWA Policy & Guideline P, 3.)

COMMITTEE RECOMMENDATIONS & REPRESENTATION

All regions are given equal opportunity to recommend representatives of the region for appointment to a standing or regular committee of the Association. If a region fails to provide full representation on all ACWA committees, those committee slots will be left open for the remainder of the term or until such time as the region designates a representative to complete the remainder of the term. (ACWA Policy & Guideline P, 4. A.)

At the first region board / membership meeting of the term, regions shall designate a

representative serving on each of the standing and regular committees to serve as the official reporter to and from the committee on behalf of the region to facilitate input and communication. (ACWA Policy & Guideline P, 4. B.)

TOURS

ACWA may develop and conduct various tours for the regions. All tour attendees must sign a “release and waiver” to attend any and all region tours. Attendees agree to follow environmental guidelines and regulations in accordance with direction from ACWA staff; and will respect the rights and privacy of other attendees. (ACWA Policy & Guideline P, 6.)

FINANCES

See “Financial Guidelines for ACWA Region Events” document.

AMENDING THE REGION RULES & REGULATIONS

ACWA policies and guidelines can be amended by approval of the ACWA Board of Directors.

The Region 1 Rules & Regulations can be amended by a majority vote of those present at any Region 1 meeting as long as a quorum is present.

11

NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors August 15, 2023

From: Tony Williams, General Manager

Subj: Potter Valley Project Update
t:\gm\bod misc 2023\8-15-23 meeting\pvp update\8-15-23 bod memo pvp update.docx

RECOMMENDED ACTION: Information Only

FINANCIAL IMPACT: None at this time

At the February 7, 2023 Board Meeting, staff provided an update on the Pacific Gas & Electric (PG&E) Potter Valley Hydroelectric Project (PVP). Since that time, the General Manager has provided periodic updates on the PVP at regular Board meetings as part of the General Manager's Report. Regular updates on PVP matters are provided at the Water Advisory Committee and Technical Advisory Committee meetings by key Sonoma County Water Agency (Sonoma Water) staff. Sonoma Water formed the Russian River Water Forum (RRWF) that includes a Planning Group, Working Groups, and Caucus Groups with a large range of interested parties from both the Eel River and Russian River Watersheds. The goal of the RRWF is to support solution-making around the future of PVP and to maintain ongoing water diversions to the Russian River.

The following provides a high-level overview and status of the PVP; the various RRWF meetings held to date; as well as recent significant actions by Sonoma Water and other regional partners that are of interest to the North Marin Water District (NMWD).

PVP Overview and Status

The PVP, owned and operated by PG&E, is located along the Eel River and diverts some water into the East Fork of the Russian River which flows into Lake Mendocino. The PVP facilities include Lake Pillsbury, a 76,876 acre-feet storage reservoir impounded by Scott Dam; Van Arsdale Reservoir, a 700-acre feet storage reservoir impounded by the Cape Horn Diversion Dam which includes a fish ladder; and a tunnel and penstocks that divert Eel River water to the powerhouse located in Potter Valley. Releases from Lake Mendocino flow into the Upper Russian River and are highly regulated by the state. Although historically diversions were much higher, since 2004 the PVP has diverted, on average, approximately 60,000 acre-feet of Eel River water into the Russian River per year. In the last three years, the diversion rates have fluctuated and generally diminished due to the recent drought conditions as well as operational issues at the

powerhouse. A map showing the PVP components and the Russian River watershed is provided as Attachment 1.

The PVP is licensed by the Federal Energy Regulatory Commission (FERC) and was originally built in 1908 and purchased by PG&E in 1930. In 2019, PG&E notified FERC that it would not seek to relicense the PVP due to several factors, mostly economic. In February 2022, PG&E announced its plans to surrender the FERC license and decommission the Project. In July 2022, FERC accepted PG&E's proposed 30-month schedule to submit a license surrender application and decommissioning plan. The schedule has a January 2025 completion date at which point a final surrender application and decommissioning plan will be submitted to FERC. It is anticipated that a "surrender order" from FERC will be issued in 2028 after the required environmental reviews are completed and approved.

In early April 2023, as part of PG&E's FERC-mandated dam safety program, a revised seismic risk vulnerability was identified at Scott Dam, and with concurrence with federal and state officials, operation of spillway gates has ceased indefinitely resulting in a loss of water storage of approximately 20,000 acre-feet in Lake Pillsbury. In late April 2023 PG&E announced that it was preparing a draft surrender and decommissioning plan for stakeholder input by November of 2023, and they requested proposals from any "responsible entity" that had interest in all or part of the existing PVP facilities. In late July, PG&E submitted a request to FERC to recognize a long-term water diversion plan beginning in January 2024 and lasting until decommissioning is completed. This plan includes revised diversion flow rates and diversion triggers in the summer and fall in light of the conditions at Scott Dam and the powerhouse as well as environmental requirements. These revised diversions will likely mimic the reduced overall diversion volumes that have occurred in the last 3 years due primarily to dry conditions.

Russian River Water Forum

Sonoma Water has retained the services of Kearns & West to establish and facilitate the Russian River Water Forum (RRWF) and officially kicked off a series of meetings beginning on May 17, 2023 with the first Planning Group meeting held in Ukiah. NMWD holds a member seat on the Planning Group along with two other Water Contractors (Windsor and Santa Rosa), Sonoma Water and other water suppliers (Camp Meeker and Healdsburg) representing "Sonoma County Water Suppliers". A complete group roster is provided as Attachment 2. Subsequent Planning Group meetings were held on June 12, July 13 and one is scheduled for August 17, 2023. Supporting the RRWF Planning Group, Sonoma Water has facilitated several Caucus Group meetings: one for the all various Russian River water suppliers (including NMWD); and

one for a broader group of interested parties throughout the Russian River watershed. In addition, several Working Groups were identified under the RRWF that will focus on specific areas including water rights, water supply, fisheries, governance and economics. To date, there have been 2 meetings of the Water Supply & Fisheries Working Group; and a technical briefing and one meeting of the Water Rights & Water Management Working Group.

Proposal from Sonoma Water and Partners

Sonoma Water is not only responsible for providing water to several retail water suppliers under contract, but also to manage the water supply pools in Lake Mendocino and Lake Sonoma and associated dam releases to maintain required flows in the upper and lower portions of the river system. Therefore, the PVP diversions are an important input into this system. Given the timeline of PG&E's planned surrender and decommissioning process and the overall reliance of the PVP diversions on the Russian River system, the Mendocino County Inland Water and Power Commission (MCIWPC), the Round Valley Indian Tribes (RVIT), and Sonoma Water submitted a proposal to PG&E on July 31, 2023 (updated on August 3, 2023) to express interest in certain PVP facilities for preserving diversion to and flows in the Russian River and improving Eel River fisheries. The proposal was submitted to PG&E in response to its requirement to receive a proposal by the end of July 2023. Without such a proposal, PG&E's decommissioning plan would likely include complete removal of all PVP facilities including those that allow for water diversions to the Russian River. The "New Eel-Russian Facility" proposal submitted to PG&E would provide for the creation of a regional entity that has the legal and financial capacity to own, construct and operate a new water diversion facility near PG&E's existing Cape Horn Dam on the Eel River. A copy of the proposal, which includes two concept level layouts for a future diversion facility, is provided as Attachment 3. The conceptual water diversion layouts are "run-of-the-river" type diversions as opposed to impoundment type diversions (via dams) which currently exists.

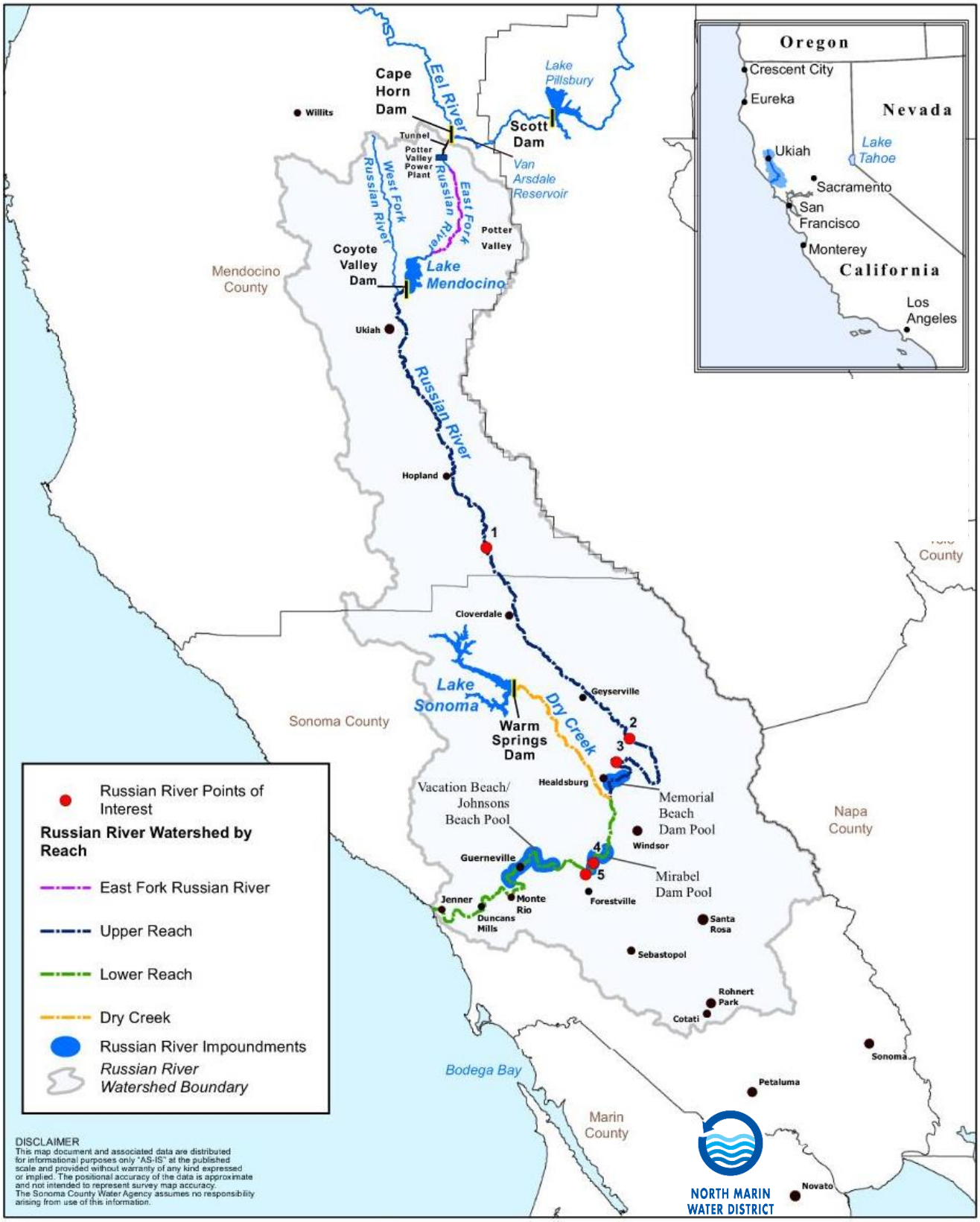
There are many details that still need to be determined, including the final design of a facility that would allow for ongoing water diversions through the PVP's tunnel between the Eel River and Russian River. PG&E's schedule for filing a license surrender application and decommissioning plan calls for the utility company to complete an initial draft surrender application by November 2023, and a final draft surrender application by May 2024 in order to receive feedback from stakeholders and environmental resource agencies. The final license surrender application and decommissioning plan is required to be filed with FERC by January 31, 2025.

Overall, the Water Contractors are supportive of future diversions as recognized in the Water Advisory Committee "Statement of Interests" document which was approved by the WAC members at the August 7, 2023 meeting, following a recommendation of the Technical Advisory Committee (TAC) members at the same meeting. A copy of the WAC Interest Statement is provided as Attachment 4. The critical element for the Water Contractors moving forward is that any future costs associated with the New Eel-Russian Facility be proportionate to the benefits received from the water transfers, especially in light of fisheries interests and other water users in Mendocino and Sonoma Counties that don't currently contribute financially to the overall Russian River management and environmental stewardship efforts by Sonoma Water but otherwise rely on Russian River.

ATTACHMENTS:

1. PVP and Russian River Watershed Map
2. RRWF Planning Group Roster
3. Proposal for PG&E Draft License Surrender Application, Potter Valley Project (P-77)
4. WAC Statement of Interests (Agenda Item 11a, WAC Meeting 8-7-23)

Russian River Watershed and Potter Valley Project



ATTACHMENT 1

Russian River Water Forum
Planning Group Roster (last updated 6/13)

Please note that this is the latest roster for the Planning Group and is subject to change.
Please also note that each tribe may nominate a member and alternate to the Planning Group; there is no limit to tribal seats.

Category	Geography	Member	Member Affiliation(s)	Alternate	Alternate Affiliation(s)
Agriculture NGO/RCD	Mendocino County	Brandon Axell	Mendocino County Farm Bureau	Guinness McFadden	Potter Valley Irrigation District, Inland Water and Power Commission
Agriculture NGO/RCD	Mendocino County	Cathy Monroe	Mendocino County RCD	Denise Woods	Mendocino County RCD
Agriculture NGO/RCD	Sonoma County	John Nagle	Sonoma RCD	Adriane Garayalde	Agriculture Landowner, Russian River Confluence Coordinator
Agriculture NGO/RCD	Sonoma County	Denny Murphy	Agriculture Landowner, Sonoma RCD	Bill Ricioli	Agriculture Landowner
Agriculture NGO/RCD	Sonoma County	Allan Nelson	Agriculture Landowner	Pam Bacigalupi	Agriculture Landowner
Commercial Fisheries	Russian and Eel River Basins	Vivian Helliwell	Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources	Glen Spain Andy Colonna	Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources
County Representative	Humboldt County	Hank Seeman	Humboldt County	Craig Tucker	Humboldt County, Suits & Signs
County Representative	Lake County	Eddie Crandell	Lake County	Bruno Sabatier	Lake County
County Representative	Mendocino County	Glenn McGourty	Mendocino County	Maureen Mulheren	Mendocino County
County Representative	Sonoma County	John Mack	Permit Sonoma	Mike Makdisi	Sonoma County Admistrator's Office
Environmental NGO	Eel River Basin	Charlie Schneider	CalTrout	Meghan Quinn	American Rivers
Environmental NGO	Eel River Basin	Alicia Hamann	Friends of the Eel River	Redgie Collins	CalTrout
Environmental NGO	Russian River Basin	Jaime Neary	Russian Riverkeeper	Don McEnhill	Russian Riverkeeper
Environmental NGO	Russian River Basin	Matt Clifford	Trout Unlimited	Chris Shutes	California Sportfishing Protection Alliance
Recreation	Eel River Basin				
Recreation	Upper Eel River Basin	Carol Cinquini	Lake Pillsbury Alliance	Frank Lynch	Lake Pillsbury Alliance
Recreation	Russian River Basin	Bert Whitaker	Sonoma County Parks		
Tribal Government	Eel River Basin	Lewis Whipple	Round Valley Indian Tribes	Wyatt Smith	Round Valley Indian Tribes
Tribal Government	Eel River Basin	Brian Mead	Wiyot Tribe	Ted Hernandez	Wiyot Tribe
Tribal Government	Upper Eel River Basin	Luis Santana	Robinson Rancheria		
Tribal Government	Russian River Basin	Brenda L. Tomaras	Lytton Band of Pomo Indians		
Tribal Government	Russian River Basin	Terri McCartney	Pinoleville Pomo Nation		
Tribal Government	Russian River Basin	Gregg Young	Potter Valley Tribe	Mike Shaver	Potter Valley Tribe
Tribal Government	Russian River Basin	Tyrone Mitchell	Yokayo Tribe of Indians	Javier Silva	Yokayo Tribe of Indians
Tribal NGO	Eel River Basin	Nikcole Whipple	Save California Salmon		
Water Supplier	Mendocino County	Janet Pauli	Potter Valley Irrigation District, Inland Water and Power Commission	Tyler Rodrique	Russian River Flood Control and Water Conservation Improvement District
Water Supplier	Mendocino County	Elizabeth Salomone	Russian River Flood Control and Water Conservation Improvement District	Chris Watt	Russian River Flood Control and Water Conservation Improvement District
Water Supplier	Mendocino County	Sean White	City of Ukiah	Mari Rodin	City of Ukiah
Water Supplier	Mendocino County	Bree Klotter	Redwood Valley County Water District	Adam Gaska	Redwood Valley County Water District
Water Supplier	Sonoma County	Mike Thompson	Sonoma Water	Don Seymour David Manning	Sonoma Water
Water Supplier	Sonoma County	Tony Williams	North Marin Water District	Paul Sellier	Marin Municipal Water District
Water Supplier	Sonoma County	Shannon Cotulla	Town of Windsor	Dan Herrera	City of Petaluma
Water Supplier	Sonoma County	Jennifer Burke	City of Santa Rosa	Mary Grace Pawson	City of Rohnert Park
Water Supplier	Sonoma County	Gary Helfrich	Camp Meeker	Eric Schanz	Sweetwater Springs Water District
Water Supplier	Sonoma County	Terry Crowley	City of Healdsburg	David Kelley	City of Cloverdale

ATTACHMENT 2

PROPOSAL FOR PACIFIC GAS & ELECTRIC COMPANY,
DRAFT LICENSE SURRENDER APPLICATION, POTTER VALLEY PROJECT (P-77)

Sonoma County Water Agency, Mendocino County Inland Water and Power Commission, and Round Valley Indian Tribes

July 31, 2023, updated August 3, 2023

PG&E is considering a proposal for Cape Horn Dam and Van Arsdale Diversion advanced by Sonoma County Water Agency, Mendocino County Inland Water and Power Commission, and Round Valley Indian Tribes. This proposal is called the New Eel-Russian Facility.

PG&E will include the proposal in the final license surrender application if, consistent with the schedule attached as Attachment 1, a Regional Entity has:

(1) been formed and has the legal, and is developing the financial, capacity to be responsible for ownership, construction, and operation of the Facility;

(2) selected a design that, as documented in a design report, fully implements co-equal objectives of fish migration and water diversions. The Facility will be designed for upstream and downstream fish migration with a goal of achieving naturally reproducing, self-sustaining and harvestable native anadromous fish populations. The Facility will include the physical capacity for material and continued water diversion through the existing tunnel from the Eel River into the Russian River. Fish migration and Eel River diversions in the selected design will be on conditions, mutually agreeable to the Proponents, that protect the fishing rights and water rights of the Round Valley Indian Tribes;

(3) agreed with PG&E on terms for a Purchase and Sale Agreement for the project works listed in Attachment 2, which agreement: (a) assures that this entity will bear the additional costs, risks, and liabilities of this proposal relative to what would otherwise be PG&E's decommissioning plan, (b) provides appropriate consideration for the purchase of the project works, and (c) provides for closing and transfer of fee title to the project works listed in Attachment 2, concurrent with partial transfer of P-77 license; and

(4) received support for the proposal from National Marine Fisheries Service and California Department of Fish and Wildlife, and from representative governmental and non-governmental entities from the Russian and Eel River basins.

The final license surrender application will request that FERC create a nonpower license for the project works listed in Attachment 2, to be held by the Regional Entity. The nonpower license will authorize construction of the Facility. This nonpower license will be effective once FERC issues the license surrender order for the remaining P-77 project works and further, PG&E and the proponents confirm that the license surrender order and nonpower license are consistent with the relevant terms of the Purchase and Sale Agreement.

Attachment 1.
Schedule for Coordination with PG&E in Further Development of Proposal Leading to Filing of License Surrender Application

Date	Event
August 15, 2023	Sonoma County Water Agency, Mendocino County Inland Water and Power Commission, and Round Valley Indian Tribes (Proponents) and PG&E begin discussions on a Purchase and Sale Agreement (PSA). Proponents are proxy for the Regional Entity.
October 31, 2023	Proponents report to PG&E on outcome of preliminary consultation with NMFS, CDFW, and stakeholders in the Russian and Eel River Basins to support incorporation of proposal in draft license surrender application. Proponents consult on the options described in Attachment 3. By this time, Proponents also convene a table to negotiate a settlement with respect to the approach to the Eel-Russian Facility in the license surrender application.
November 30, 2023	PG&E releases draft license surrender application for its own stakeholder consultation.
December 31, 2023	Proponents form a JPA as Regional Entity. This entity and original Proponents coordinate with respect to subsequent steps. This entity becomes PG&E's counter-party in the PSA negotiations.
March 31, 2024	Per Proposal paragraph (2), Proponents tentatively select a design option, for the purpose of continuing consultation with agencies and stakeholders.
May 31, 2024	PG&E releases revised draft license surrender application. Before this date, Proponents submit to PG&E a draft of the license surrender application that deals with Eel-Russian Facility, proposing a nonpower license. This application reflects progress on Proposal paragraphs (1) – (4) as needed for a complete draft application.
November 30, 2024	PG&E and Regional Entity reach agreement on the PSA terms (binding Term Sheet).
November 30, 2024	Proponents reach agreement (Term Sheet or Agreement in Principle) with agencies and representative stakeholders on key terms related to the license surrender application dealing with the Eel-Russian Facility.
January 31, 2025	PG&E files the license surrender application with FERC. Regional Entity is co-applicant for that part of the application dealing with Eel-Russian Facility.

Attachment 2.
Project Facilities Proposed to be Transferred to Regional Entity

Project Facility/Feature
River Gages
E2 - Eel R BL Scott Dam NR Potter Valley CA (11470500)
Project Facility Access Roads
Gage E2 Access Rd
Penstock, Pipeline and Butterfly Valve House Access Rd
Powerhouse Main Access Rd
Intake Structures
Van Arsdale Diversion Intake
Tunnels and Adits
Tunnel No. 1
Tunnel No. 2
Tunnel No. 1 Slide Gate and Adit
Tunnel No. 1 Gage Shaft
Conduits, Penstocks, Control and Valve Houses
Conduit No. 1 (Upper Wood Stave, Steel Pipe and Components)
Conduit No. 2 (Lower Wood Stave, Steel Pipe and Components)
Conduit No. 1, 72-inch Butterfly Valve House
Conduit No. 1 Standpipe and Surge Chamber Vent
Penstock No. 1
Penstock No. 2
Penstock Nos. 1 and 2, 60-inch Gate Valves (2)
Penstock Bypass Channel
Powerhouse Bypass System
Powerhouse, Switchyard, and Tailrace
Potter Valley Powerhouse
Potter Valley Powerhouse Tailrace, Radial Gate, and Venturi Flume
Potter Valley Powerhouse Discharge Canal
Diversion Gages
E5 - Potter Valley Irrig CN E5 NR Potter Valley CA (11471105)
E6 - Potter Valley Irrig CN E6 NR Potter Valley CA (11471106)
E16 - Potter Valley PH Intake near Potter Valley CA (11471000)
River Gages
E11 - Eel River at Van Arsdale Dam near Potter Valley CA (11471500)
Leakage Weirs and Piezometers
Cape Horn Dam Leakage Weirs

Project Facility/Feature
Cape Horn Dam Piezometers
Fish Screen and Associated Facilities
Van Arsdale Fish Screen Facility
Van Arsdale Fish Screen Facility Back-up Generator Building
Van Arsdale Fish Screen Facility Motor Control Building
Van Arsdale Fish Return Channel
Storage Building
Project Communication/Power Lines
Conduit No. 1, 72-inch Butterfly Valve House Communication
Cape Horn Dam Control Building Communication/Power Line
Fish Screen Facility Communication/Power Line
Tunnel No. 1 Slide Gate and Adit Communication/Power Line
Penstock Nos. 1 and 2, 60-inch Stop Valves Communication/Power Line
Helicopter Landing Sites
Potter Valley Powerhouse Helicopter Landing Site
Ancillary and Support Facilities
Potter Valley Powerhouse Operators Office
Potter Valley Powerhouse Maintenance Office
Potter Valley Powerhouse Operators Restrooms
Potter Valley Powerhouse Weather Station (USACE owns a station, discuss fate outside process)
Project Facility Access Roads
Cape Horn Dam East Access Rd
Intake Access Rd
Penstock, Pipeline and Butterfly Valve House Access Rd (Access for private landowner)
Powerhouse Main Access Rd
Project Facility Access Trails
Gage E11 Access Trail
Project Water Rights
The 1905 water right owned by PG&E that authorizes diversions from the Eel River
Project Communication Line
Scott Dam Block Building Communication Line* - *only if needed for E2 gage*

Potter Valley Project Facilities and Features Partial Transfer – Open to Discussion
Dam and Associated Facility/Features
Cape Horn Dam - *condition of transfer requires more discussion. Either PG&E or Diverters will remove CHD pending discussions and PSA. The preliminary removal parameters are outlined in Attachment 3.*
Cape Horn Dam Instream Flow Release - *condition of transfer requires more discussion. Either PG&E or Diverters will remove CHD pending discussions and PSA. The preliminary removal parameters are outlined in Attachment 3.*
Reservoir
Van Arsdale Reservoir - *condition of transfer requires more discussion. Either PG&E or Diverters will remove CHD pending discussions and PSA. The preliminary removal parameters are outlined in Attachment 3.*
Powerhouse, Switchyard, and Tailrace
Potter Valley Powerhouse Switchyard - *distribution switchyard to be partitioned and retained by PG&E, Diverters would like to retain station service transformers and access to south side of powerhouse. Balance of switchyard can remain with PG&E or be transferred to Diverters, with easements granting access as needed to the other party.*
Fish Ladder and Associated Facilities
Fish Attraction Facility - *condition of transfer requires more discussion. Either PG&E or Diverters will remove CHD pending discussions and PSA. The preliminary removal parameters are outlined in Attachment 3.*

Attachment 3.
Design Options for Eel-Russian Facility

Cape Horn Dam and Van Arsdale Reservoir will be substantially removed, although parts of foundations and the right abutment will be retained to provide the anchorage for diversion or passage elements. The details and extent of the removal will be further developed along with the design for the new diversion and fish screening facilities. Two alternatives are currently under consideration for CHD removal, and the current preliminary descriptions, are below. Preliminary drawings follow at the end of this attachment.

Alternative C1 – Control Section with Pump Station

Alternative C1 would include lowering a section of the concrete gravity portion of Cape Horn Dam from elevation 1,490.4 feet down to about 1,452.0 feet to create a control section, then fitting a pump station adjacent to the control section. The final height and dimensions of the control section, and the potential need for a bladder dam, are currently the subject of hydraulic modeling.

The portion removed would begin at the concrete retaining wall and would be relatively flat and would extend toward river left approximately 70 feet. At that point, the crest would slope downward at 3H:1V for 15 feet to reach an elevation of 1447.0. From there the remainder of the control section would continue at elevation 1,447.0 feet for another 15 feet. This latter portion of the control section would help ensure adequate flow depths at low flow, while the upper portion would provide adequate flow area for high flows. In total, the control section would be approximately 100 feet long and would pass all Eel River flows, except for those diverted. At the end of the control section a vertical section of the dam would remain up to elevation 1,477.0, beyond which the dam would slope at about a 3H:1V slope to match the existing crest elevation of 1,490.4 feet.

The section of dam lowered to elevation 1,477.0 feet would marry up with a new reinforced concrete pump station.

Due to the existing top elevation of the retaining wall at 1,519.0 feet and the proposed lowered dam crest elevation between 1,447.0 and 1,452.0 feet, the retaining wall would be 67 feet tall. Due to this excessive height and the concern for stability, the maximum elevation of the retaining wall is proposed to be lowered to elevation 1,472.0 feet, leaving a retaining wall that is approximately 20 feet tall. Lowering the retaining wall would require excavating out the earth fill portion of the dam down to an approximate elevation of 1,467.0 feet. This excavation will include partial demolition of the mass concrete core wall and possibly some of the reinforced concrete core wall. Rock riprap removed during earth fill excavation would then be re-placed and augmented with armor material to convert the earth fill portion of the dam to an auxiliary spillway. The auxiliary spillway would be activated at elevation 1,467.0 feet and would flow approximately 10 feet deep before overtopping the new lowered section of the dam and the intake pump station.

Alternative C1 includes lowering a 100-foot section of Cape Horn Dam by 38.4 and 43.4 feet. The new control section will include a 10-foot-wide low flow section set to elevation 1,447.0 feet that slopes up at 3H:1V to a 70-foot-long section set to elevation 1,452.0 feet. Downstream of the low flow section approximately 100 feet, the existing fish hotel and exclusion barrier would be removed down to elevation 1,446.0, with the area between the two vertical controls occupied by a deep pool. And downstream of the lower fish hotel and exclusion barrier approximately 100 to 125 feet, an existing bedrock control maintains a riffle at an approximate elevation of 1,445.0 feet. From a fish passage perspective, upstream migrants would first encounter the existing plunge pool, followed by a maximum vertical drop of 1 foot at the former exclusion barrier. Just upstream, migrants would encounter another deep pool, followed by another maximum drop of 1 foot at the control section.

Alternative C2 – Roughened Channel with Gravity Supply

Alternative C2 considers the complete removal of the concrete gravity portion of Cape Horn Dam and construction of a roughened channel and new diversion weir near the intake to the Van Arsdale Diversion facility. The length and dimensions of the roughened channel are currently the subject of hydraulic modeling.

Alternative C2 would include lowering the entire concrete gravity portion of Cape Horn Dam from elevation 1,490.4 feet down to about 1,457.5 feet. Roughly 100 feet downstream of the dam, the fish hotel and exclusion barrier would also be lowered, from a variable elevation down to about elevation 1,453.7 feet. The remainder of the concrete dam and fish hotel/exclusion barrier would maintain vertical control at those locations. Approximately 280 feet downstream of the exclusion barrier, vertical control is maintained at about 1,445.0 feet by an existing bedrock control. Between the downstream bedrock control and the fish hotel/exclusion barrier a roughened channel is proposed. The roughened channel would resemble a boulder cascade, with very large rock material providing hydraulic complexity and channel stability sufficient to withstand extreme high flow events. A similar roughened channel would extend upstream of the dam approximately 420 feet, terminating at a sheet pile control weir with a maximum crest elevation set to 1,473.0 feet. The upstream sheet pile control weir would include a low flow section approximately 20 feet wide with a crest elevation of 1,470.0 feet.

The entire roughened channel would be approximately 800 feet long and would be about 10 to 15 feet deep on average. Areas on river left near the existing dam would likely not require hardening due to the presence of significant bedrock. The roughened channel would include a low flow corridor that matches the existing channel at the downstream terminus and matches the low flow section at the upstream control weir. The overall planform of the channel includes a single valley-wide bend with a radius of curvature of about 400 to 500 feet. The low flow corridor would include two smaller bends with a radius of curvature of approximately 80 to 100 feet. The slope of the roughened channel thalweg would be roughly 3.1 percent.

The upstream control weir would span the channel, connecting on river left to the existing diversion facility and on river right to a reinforced concrete extension of the existing dam wingwall. The wall extension would be approximately 150 feet long. The upstream control weir would serve as a backwater control for a modified diversion structure.

Dewatering and Construction Sequencing

Cape Horn Dam removal can take place either before or after Scott Dam removal. Hydraulic modeling currently underway will help to determine if removal before or after Scott Dam is preferred or advantageous. If Cape Horn Dam is removed prior to Scott Dam removal, the new diversion and conveyance facility to Potter Valley would be up and running when demolition begins on Scott Dam. Also, delivery of water to Potter Valley could take place in the summer months, as under existing conditions, or in the winter and spring months, provided that infrastructure and operations are in place on the Russian River to accommodate the additional stored volume of water. However, there would be no way to control the short- and mid-term impacts due to sediment releases from Scott Dam. By comparison, constructing the new diversion and conveyance at Cape Horn Dam at some point after removal of Scott Dam would allow the Eel River to potentially reach a new equilibrium bed profile, or perhaps close, potentially mitigating some of the greater risks associated with sediment

transport after Scott Dam removal. For this reason, it is assumed here that Cape Horn Dam removal activities and construction of a new diversion and conveyance system would take place after Scott Dam removal.

SHEET KEY NOTES:

A REMOVE FISH HOTEL AND FISH EXCLUSION BARRIER DOWN TO ELEVATION INDICATED. PERMANENTLY PLUG ENTRANCE OPENINGS WITH CONTROLLED LOW STRENGTH MATERIAL OR SIMILAR.

B REMOVE 100-FOOT WIDE SECTION OF CAPE HORN DAM DOWN TO ELEVATION INDICATED. STEP UP ON RIVER LEFT TO MATCH TOP OF PUMP STATION STRUCTURE. SLOPE UPWARD FROM STRUCTURE TO MATCH EXISTING DAM CREST AT 3H:1V. SLOPE 100-FOOT SECTION DOWN FROM RIGHT TO LEFT (LOOKING DOWNSTREAM) TO CONCENTRATE FLOW NEAR INTAKE SCREENS.

C CONSTRUCT NEW REINFORCED CONCRETE PUMP STATION WITH ROOF ELEVATION SET TO ELEVATION 1477.0. ELEVATION TO BE VERIFIED DURING LATER DESIGN PHASES. PUMP STATION TO INCLUDE BETWEEN 2 AND 4 VERTICAL TURBINE PUMPS ON DUTY, WITH ONE ON STANDBY (3 AND 5 PUMPS TOTAL), AND SET OVER WET WELL RECEIVING WATER FROM SCREEN INTAKES. NUMBER AND SIZE OF PUMPS TO BE DETERMINED DURING LATER DESIGN PHASES.

D INSTALL 7- TO 8-FT DIAMETER EPOXY-COATED STEEL PIPE, OR BUTT-FUSION WELDED HDPE PIPE OR PRECAST REINFORCED CONCRETE BOX SECTIONS AND CONNECTED TO THE INTAKE PUMPS VIA A MANIFOLD. VALVING AND FITTINGS NOT SHOWN. BURY PIPE IN OVERBANK AREA ON APPROPRIATE BEDDING AND SUFFICIENT BACKFILL FOR LONG-TERM PROTECTION. CONNECT PIPE TO NEW BULKHEAD WALL AT RENOVATED VAN ARSDALE DIVERSION FACILITY.

E INSTALL 7 VERTICAL CYLINDER SCREENS MOUNTED TO EXTERIOR FACE OF NEW PUMP STATION . SET PLATFORM ELEVATION OF SCREENS TO 1447.0. ELEVATION TO BE VERIFIED DURING LATER DESIGN PHASES. ENCLOSE MANIFOLD IN STEEL DEBRIS CAGE STRUCTURE WITH MAX SPACING BETWEEN MEMBERS BETWEEN 2 AND 4 FEET.

F RENOVATE EXISTING VAN ARSDALE DIVERSION TO RECEIVE WATER FROM THE NEW PUMP STATION. REQUIRES DEMOLITION OF INCLINED SCREENS. WORK EFFORT MAY ALSO INCLUDE DEMOLITION OR DECOMMISSSIONING OF ARCHIMEDES SCREW PUMP, FISH BYPASS, AND OTHER INFRASTRUCTURE SUPPORTING THE EXISTING SCREENS AND FISH BYPASS.

ALTERNATIVE C-1 PLAN
SCALE: 1" = 70'

0" 70' 140'

N

REV	DATE	BY	DESCRIPTION
A	07/14/21	KRJ	DRAFT FEASIBILITY STUDY

WARNING

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

McMILLEN JACOBS ASSOCIATES

CALTROUT

POTTER VALLEY PROJECT FEASIBILITY STUDY

CAPE HORN DAM REMOVAL
ALTERNATIVE C-1 PLAN

DESIGNED K. JENSEN
DRAWN R. GUERRERO
CHECKED V. AUTIER
PROJECT DATE 07/14/21

DRAWING

C-1-1

JOB NO: 000000

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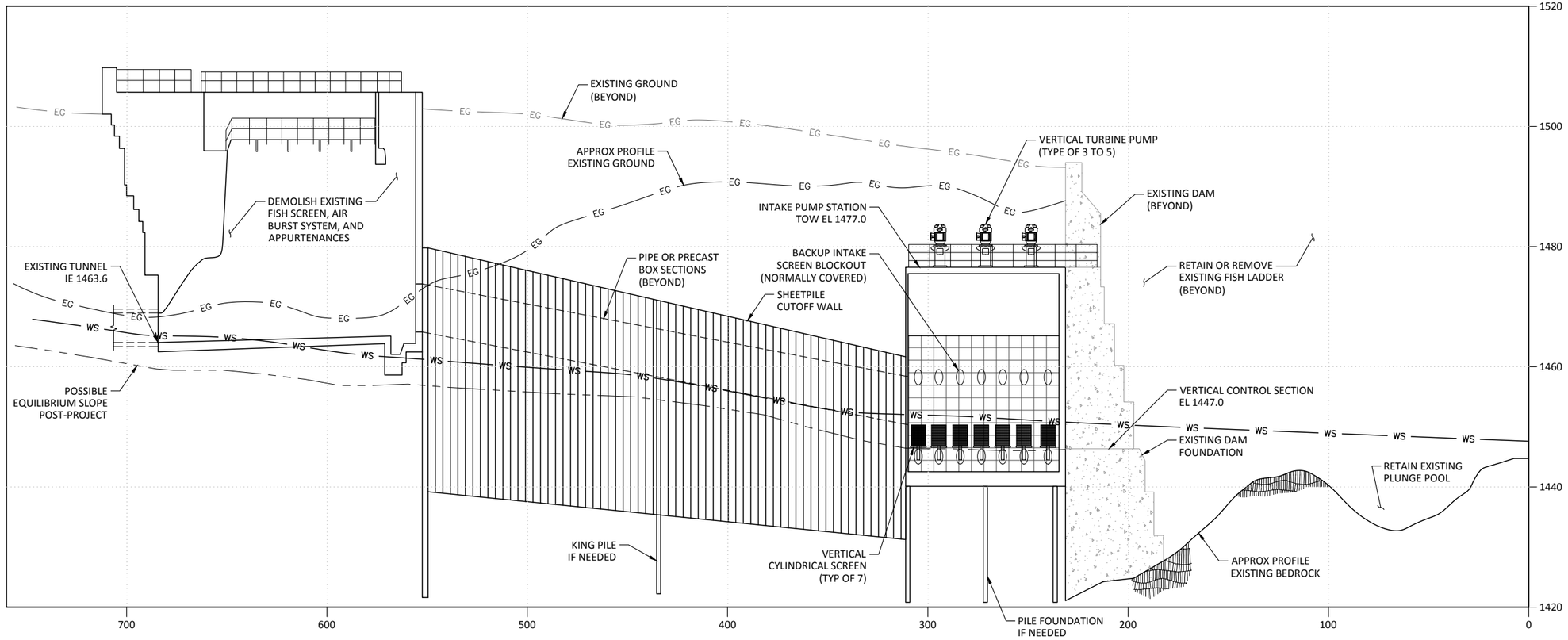

SECTION

SCALE: HORIZ 1"= 30'
VERT 1"= 10'

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C-1-1

REV	DATE	BY	DESCRIPTION
A	07/14/21	KRJ	DRAFT FEASIBILITY STUDY

WARNING

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

McMILLEN JACOBS ASSOCIATES

CALTROUT

POTTER VALLEY PROJECT FEASIBILITY STUDY

CAPE HORN DAM REMOVAL
ALTERNATIVE C-1 SECTION

DESIGNED K. JENSEN
DRAWN R. GUERRERO
CHECKED V. AUTIER
PROJECT DATE 07/14/21

DRAWING

C-1-2

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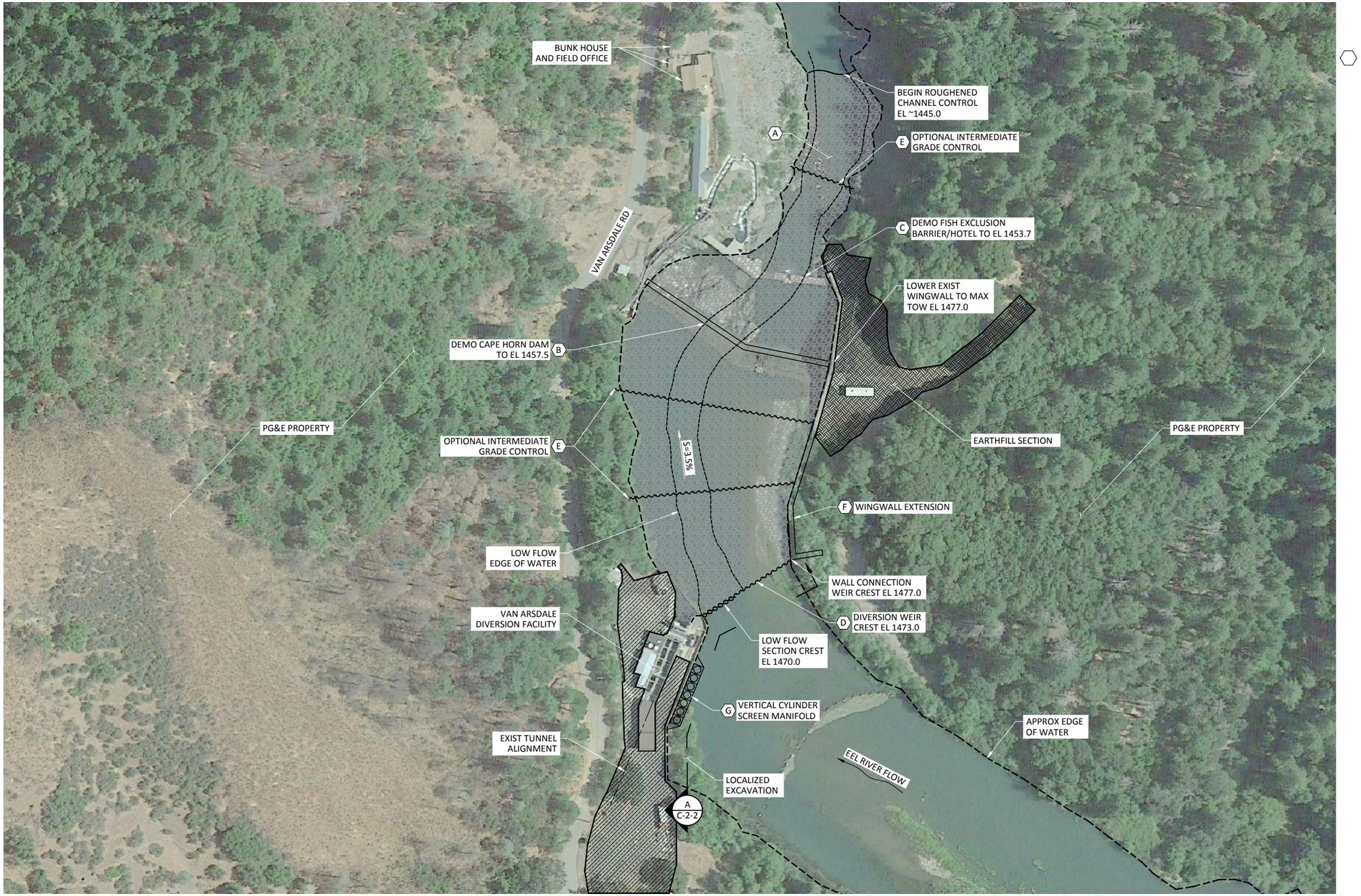

ALTERNATIVE C-2 PLAN
SCALE: 1" = 70'

0" 70' 140'

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SHEET KEY NOTES:

A INSTALL ROUGHENED CHANNEL USING LARGE DIAMETER BOULDER EMBEDDED IN SHOTCRETE AND FOUNDED ON APPROPRIATELY SIZED AGGREGATE FILTER LAYER. BACKFILL BOULDER BED WITH COBBLE AND GRAVEL TO FILL INTERSTICES. DRILL AND/OR BLAST AND BREAK UP EXPOSED BEDROCK AS NECESSARY TO CREATE UNIFORM SLOPE TO NEW CHANNEL. REUSE BEDROCK SPOILS AS ROUGHENED CHANNEL MATERIAL. ROUGHENED CHANNEL AREA APPROX 100,000 SQUARE FEET AND BETWEEN 10 AND 15 FEET DEEP.

B REMOVE CAPE HORN DAM DOWN TO ELEVATION INDICATED. REMAINDER OF DAM BELOW NEW CREST ELEVATION TO SERVE AS VERTICAL GRADE CONTROL. REUSE LARGE CONCRETE SPOILS AS BOTTOM LAYER OF ROUGHENED CHANNEL.

C REMOVE FISH HOTEL AND FISH EXCLUSION BARRIER DOWN TO ELEVATION INDICATED. PERMANENTLY PLUG ENTRANCE OPENINGS WITH CONTROLLED LOW STRENGTH MATERIAL OR SIMILAR.

D INSTALL UPSTREAM DIVERSION WEIR WITH CREST ELEVATION AT 1473.0 AND LOW-FLOW SECTION CREST ELEVATION AT 1470.0. TAPER WEIR DOWN FROM WINGWALL EXTENSION AT 1477.0 TO 1473.0. ELEVATIONS TO BE VERIFIED DURING LATER DESIGN PHASES. SHEETPILE TO BE DRIVEN USING VIBRATORY METHODS AND SECURED TO BEDROCK USING KINGPILES. CAP DIVERSION WEIR WITH SHOTCRETE-EMBEDDED BOULDER.

E INSTALL INTERMEDIATE SHEETPILING AS VERTICAL GRADE CONTROL TO ENSURE UNIFORM GRADE ACROSS ROUGHENED CHANNEL. REQUIREMENTS FOR NUMBER AND SPACING OF INTERMEDIATE SHEETPILE TO BE DETERMINED DURING LATER DESIGN PHASES.

F LOWER EXIST CONCRETE WINGWALL TO ELEVATION 1477.0. ELEVATION TO BE VERIFIED DURING LATER DESIGN PHASES. EXTEND WINGWALL SOUTH TO PROVIDE CONNECTION WITH DIVERSION WEIR.

G INSTALL 7 STANDBY VERTICAL CYLINDER SCREENS MOUNTED TO EXTERIOR FACE OF EXIST DIVERSION FACILITY GUIDEWALL. SET PLATFORM ELEVATION OF SCREENS TO 1465.0. ELEVATION TO BE VERIFIED DURING LATER DESIGN PHASES. ENCLOSE MANIFOLD IN STEEL DEBRIS CAGE STRUCTURE WITH MAX SPACING BETWEEN MEMBERS BETWEEN 2 AND 4 FEET.

REV	DATE	BY	DESCRIPTION
A	07/14/21	KRJ	DRAFT FEASIBILITY STUDY

WARNING
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

McMILLEN JACOBS ASSOCIATES

CALTROUT
POTTER VALLEY PROJECT FEASIBILITY STUDY
CAPE HORN DAM REMOVAL
ALTERNATIVE C-2 PLAN

DESIGNED K. JENSEN
DRAWN R. GUERRERO
CHECKED V. AUTIER
PROJECT DATE 07/14/21

DRAWING
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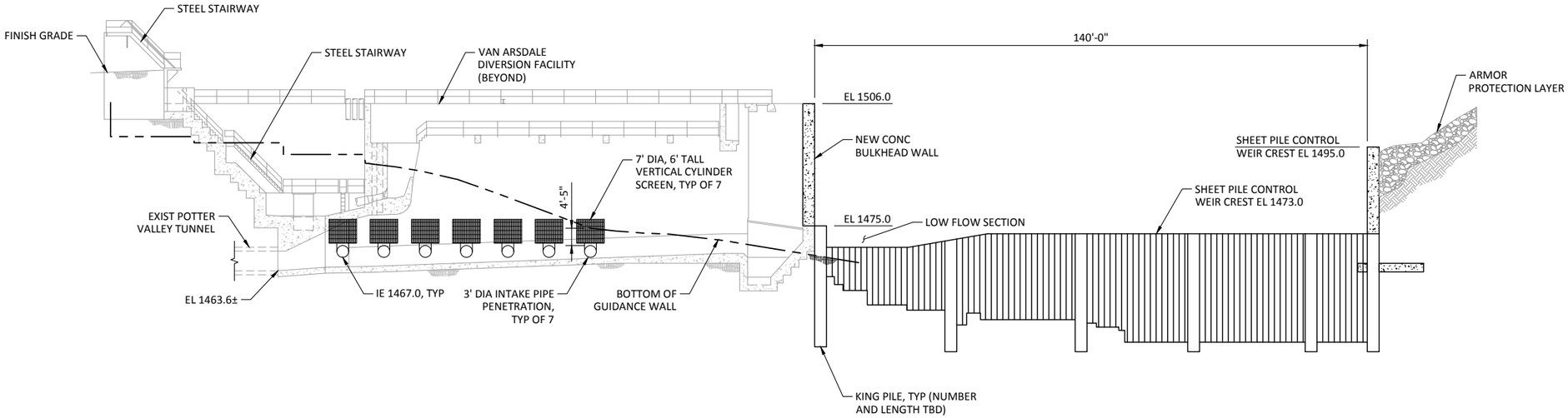

SECTION
SCALE: 1/16"= 1'-0"

0' 16' 32'

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C-2-1

REV	DATE	BY	DESCRIPTION
A	07/14/21	KRJ	DRAFT FEASIBILITY STUDY

WARNING

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

McMILLEN JACOBS ASSOCIATES

CALTROUT

POTTER VALLEY PROJECT FEASIBILITY STUDY

CAPE HORN DAM REMOVAL
ALTERNATIVE C-2 SECTION

DESIGNED K. JENSEN
DRAWN R. GUERRERO
CHECKED V. AUTIER
PROJECT DATE 07/14/21

DRAWING

C-2-2

JOB NO: 000000

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Water Advisory Committee (WAC) to Sonoma County Water Agency
Draft Statement of Interests on
the Russian River Water Forum

The Water Advisory Committee (WAC) and Technical Advisory Committee (TAC) represent the municipal water suppliers (Water Contractors) located in central and southern Sonoma County and Marin County that receive wholesale water supply from Sonoma Water's Russian River System. The WAC and TAC are committed to participating in the Russian River Water Forum (RRWF), a grant funded collaborative effort to identify water supply resiliency solutions in response to the planned Federal Energy Regulatory Commission (FERC) license surrender and decommissioning of PG&E's Potter Valley Hydroelectric Project (PVP). At the request of the RRWF, the WAC has adopted the following Statement of Interests, which will guide the participation of WAC and TAC representatives to the RRWF.

1. Recognize the continued diversion of water from the PVP into the Russian River watershed supports overall Russian River water supply reliability and fisheries.
2. Recognize the diversion of water from the PVP provides benefits, particularly during dry periods, by providing water volume to supplement releases from Lake Sonoma thereby preserving storage. Recognize that Russian River water supply is significantly different north and south of the Russian River confluence with Dry Creek (Confluence). Water supplies north of the Confluence are almost entirely reliant on the PVP diversion and Lake Mendocino storage, while supplies south of the Confluence principally rely on Lake Sonoma storage,
3. Recognize that the Water Contractors have significant, state-mandated obligations to continuously provide safe and reliable water supplies for the communities that they serve.
4. Recognize that the California Constitution places limits on what can be included in each Water Contractor's retail water rates, and thereby ensures that any costs to the Water Contractors related to the continued diversion of water from the PVP will be proportionate to the benefit received by their customers.
5. Support the modification of water rights orders that more clearly align water rights with supply sources.
6. Ensure any outcomes or recommendations from the RRWF maintain water supply reliability of the Russian River and support the significant investments made by Sonoma Water and the Water Contractors in Russian River ecosystem and fishery restoration initiatives.
7. Ensure any decisions regarding the PVP are consistent with the Restructured Agreement for Water Supply between Sonoma Water and the Water Contractors, including, but not limited to, Section 2.4, Potter Valley Project.
8. While recognizing the importance of monitoring and adaptive management, ensure any outcomes or recommendations from the RRWF result in pragmatic, implementable actions that support the shared interests of the RRWF participants

9. Ensure the RRWF continues to explore funding options, from local, state, and federal sources to reduce the overall cost of implementing recommendations.
10. Recommend establishment of a Regional Entity to negotiate potential acquisition, operation, and maintenance of PVP facilities and water rights, as needed, to ensure long-term water supply reliability.
11. Continue to have opportunities for meaningful input and representation in any forum that realistically evaluates water supply resiliency solutions for the Russian River.

12

NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors Date: August 15, 2023

From: Eric Miller, Assistant General Manager / Chief Engineer

Subject: Administration & Laboratory Upgrade Project – Construction Update

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RECOMMENDED ACTION: Information Only

FINANCIAL IMPACT: None at this time

On April 29, 2022, your Board approved award of a contract to D.L. Falk Construction Inc. for the construction phase of the Administration and Laboratory Upgrade Project. The project consists of a renovation of the District's existing nearly 60-year old office building and a new one-story addition to provide a new water quality laboratory, new staff lunchroom, and lobby area.

The construction phase began with a pre-construction meeting on June 21, 2022. Since that meeting, District staff has been deeply involved in coordination with the design team, construction administrator and the contractor. The most recent schedule indicates project completion in February 2024.

District staff provided a project update at the May 16, 2023 Board meeting and plans to continue providing quarterly informational presentations to the Board with details regarding schedule updates, progress photos, unforeseen issues, and budget status.

ATTACHMENTS: 1. Presentation slides dated August 15, 2023

NORTH MARIN
WATER DISTRICT

Administration & Laboratory
Upgrade Project
Construction Update

August 15, 2023

Progress Photos

07/31/23

1	Progress Photos
2	Unforeseen Issues
3	Schedule Update
4	Budget Status

Progress Photos

08/04/23

08/08/23

Boardroom Northern Wall and Entrance

Progress Photos

Aerial Drone Footage

07/31/23

Progress Photos

Public Entrance

08/08/23

08/04/23

Front Lobby

Progress Photos

06/15/23

06/15/23

Lunch Room Slab Polishing

Progress Photos

Lunch Room – Facing West

08/03/23

Progress Photos

Lab Interior

08/04/23

Lab Exterior

08/04/23

Progress Photos

Overhead View – Both Buildings

07/31/23

Progress Photos

Soffit Sheathing

08/03/23

08/04/23

Employee Lunchroom

Progress Photos

Northern Exterior

08/04/23

Eastern Exterior

08/04/23

Progress Photos

Eastside Offices

08/04/23

08/04/23

GM Office

Progress Photos

Roof of New Lab

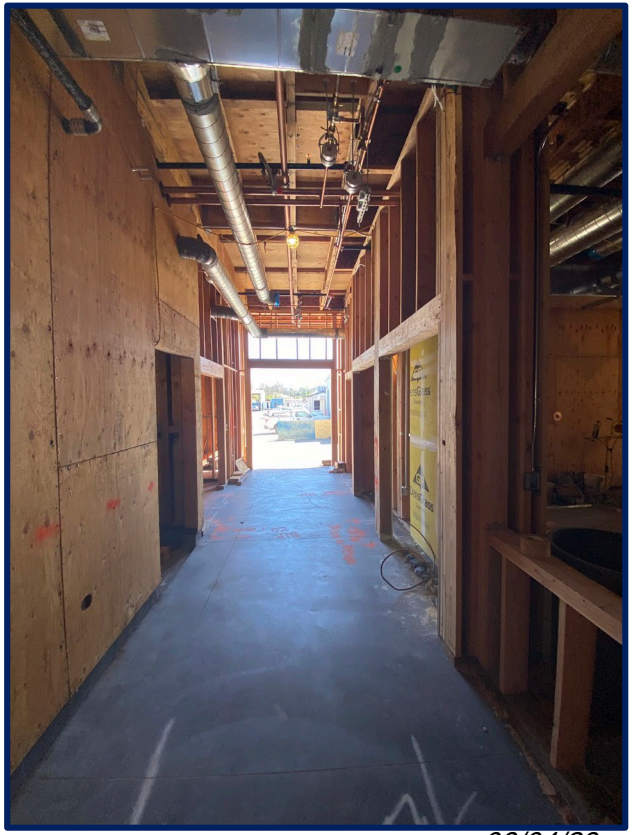
08/03/23

Roof of Staff Lunchroom

07/27/23

Unforeseen Issues

Supply Chain Delays



08/04/23

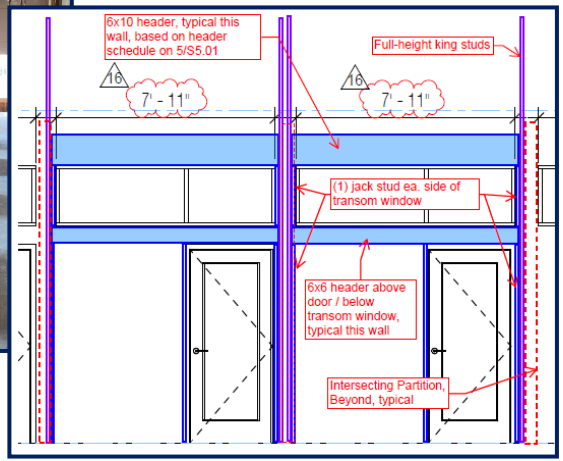
Material procurement continues to be an issue of discussion and uncertainty

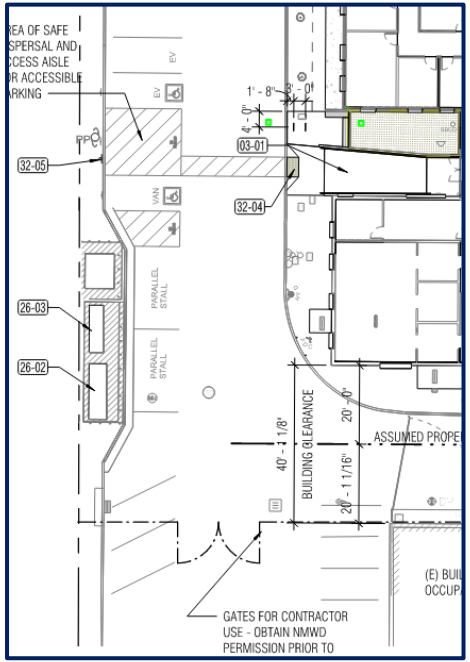
Electrical equipment and exterior metal paneling are the two major unknowns.

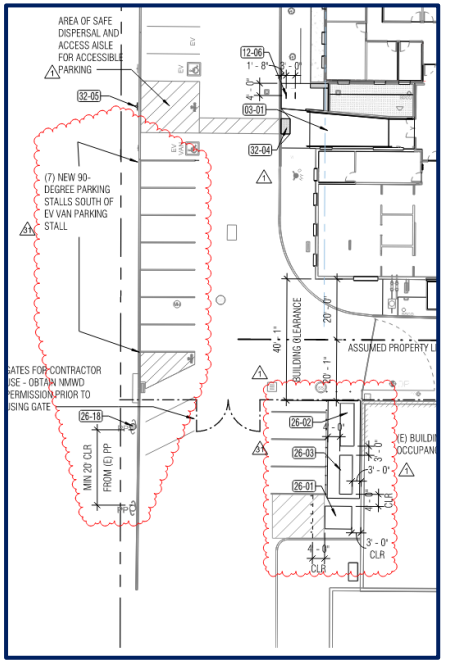
Materials Impacted	
Electrical Equipment	Delivery unknown
Mechanical Equipment	On-site
Glass / Storefronts	Delivery pending
Exterior Paneling [1]	Fabrication pending
Lab Equipment	Fabrication in-progress

[1] fabrication of 80% of exterior paneling has not yet begun

Design Change Delays







Framing in the admin building required add'l detailing

PG&E required full relocation of the building's electrical service

Project Schedule

Project Schedule

08/03/23

1st Day of Work	July 11, 2022
Original Project Duration	420 calendar days
Time Elapsed as of 6/30/23	354 calendar days (84.3%)
Original Project Completion	September 4, 2023

Weather Days Added	31 working days [1]
Days Added via Change Order	63 working days [2]
Adjusted Project Completion	January 10, 2024

Contractor's Scheduled Completion	February 13, 2024
Difference in Completion Dates	35 calendar days

[1] base contract included 15 assumed weather days. (46-15=31)
[2] includes 33 working days negotiated due to owner-caused delays

3-Month Look Ahead Schedule

Item of Work	August				September				October			
Administration Building												
Prime & paint interior walls	x	x	x	x	x	x						
Exterior site work, ramps, decks, etc.	x	x	x	x	x	x	x	x				
Windows and metal wall panels (E/W)			x	x	x	x	x	x	x	x	x	x
Above ceiling utility finish work					x	x	x	x	x	x	x	x

Lab Building												
Finish utility rough-in	x	x	x	x								
Install roofing				x	x	x	x	x				
Gypsum, place, finish, paint					x	x	x	x	x	x		
Above ceiling utility finish work									x	x	x	x

Budget Status

Budget Status

[1] through June 2023

06/27/23

DL Falk Contract	$	11,614,000	
Billings to Date [1]	$	6,028,000	52%

Contingency	$	1,252,000	
CO Forecast [2]	$	298,000	23.8% [3]

Project Start	July 11, 2022	
Time Elapsed	354 days	
Orig. End Date	Sept. 4, 2023	84.3%
Adj. End Date	Jan. 10, 2024	64.1%

[2] includes bid add. for landscape - $96k (7.7%)

[3] represents change orders 1-10, add'l change orders pending

Questions?

13

DRAFT Minutes of Water Advisory Committee and Technical Advisory Committee
Utilities Field Operations (UFO) Training Center
35 Stony Point Road
May 1, 2023

ITEM #13

Attendees:
Natalie Rogers, City of Santa Rosa
Jack Baker, North Marin Water District
Laura Sparks, City of Cotati
David Rabbitt, Sonoma County Water Agency (SCWA or Sonoma Water)
Grant Davis, SCWA
Sam Salmon, Town of Windsor
Jon Foreman, Valley of The Moon Water District
Jed Smith, Marin Municipal Water District
Craig Scott, City of Cotati
Dan Herrera, City of Petaluma
Mark Stapp, City of Santa Rosa
Jennifer Burke, City of Santa Rosa
Matt Wargula, City of Sonoma
Ron Wellander, City of Sonoma
Tony Williams, North Marin Water District
Cristina Goulart, Town of Windsor
Matt Fullner, Valley of The Moon Water District
Paul Sellier, Marin Municipal Water District
Michelle Montoya, City of Santa Rosa

Staff/Alternates:
Sylvia Lemus, City of Cotati
Lynne Rosselli, SCWA
Paul Piazza, SCWA
Pam Jeane, SCWA
Robert Rogers, SCWA
Kent Gylfe, SCWA
Andrea Rodriguez, SCWA
Jake Spaulding, SCWA
Parastou Hooshialsadet, SCWA
Shannon Cotulla, Town of Windsor
John Shribbs, City of Petaluma
Peter Martin, City of Santa Rosa
Colin Close, City of Santa Rosa
Eric Miller, North Marin Water District
Tony Lopes, Forestville Water District

Public:
Margaret DiGenova, California American Water
Brenda Adelman, Russian River Watershed Protection

1. Check In

Jon Foreman, Acting WAC Chair, called the meeting to order at 9:01 a.m.

2. Public Comment

No public comments.

3. Recap from the April 3, 2023 WAC/TAC Meeting and Approval of Minutes

   Moved by Jack Baker, North Marin Water District, seconded by Laura Sparks, City of Cotati.

   No public comments. Unanimously approved with City of Petaluma and Rohnert Park absent, and Mark Stapp, City of Santa Rosa, abstaining.

4. Water Supply Coordination Council – April 17, 2023

   Jon Foreman, Acting WAC Chair, presented. The Water Supply Coordination Council met on April 17, 2023 and created the agenda for today's WAC/TAC meeting.

   No public comments.

5. Water Supply Conditions and Temporary Urgency Change Order

   Pam Jeane, SCWA, presented.

   Potter Valley Project is currently importing about 90 cubic feet per second (cfs) into the upper Russian River Watershed. This will increase to 130 cfs on May 15, 2023 in accordance with PG&Es FERC (Federal Energy Regulatory Commission) operating license. The minimum release will increase at that time to 75 cubic ft per second. Lake Mendocino storage is close to 100,00-acre ft. Lake Sonoma is close to 264,000-acre ft. Storage remains in the flood control pool, with the Army Corp. managing releases. The current State Water Board Temporary Urgency Change Order (Order) expires in June of this year, however, another Temporary Urgency Change Petition (Petition) was filed with the State Division of Water Rights. These are being filed because of the requirement in the Russian River Biological Opinion to reduce stream flows in normal water supply conditions. If approved, this will lower the minimum instream flow requirement from 185cfs to 125cfs in the upper Russian River, and from 125cfs to 70cfs in the lower Russian River. Anticipate that the Petition will be approved soon. When the new Order does come out, it will supersede the December Order.

   No public comments.

6. Sonoma Marin Saving Water Partnership **(TAC)**

   a. 2023 Water Production Relative to 2013 Benchmark

      Jennifer Burke, Santa Rosa Water, presented. *(Refer to handouts.)*

      There has been a 32% reduction for all members of the partnership in March 2023 compared to the 2013 benchmark. In the year-to-date table, there is a 25% reduction for all members of the partnership compared to the 2013 benchmark. In chart two,

the partnership's gallons per capita per day showing that we have a significant reduction in water use, even with the growth of population.

No public comment.

b. Water Use Efficiency Outreach Messaging

Andrea Rodriguez, SCWA, presented. *(Refer to handouts.)*

Last month's campaign was "Thank You", which went through April in digital, media, and print. The summer campaign will focus on sprinkler spruce up, irrigation scheduling, water smart gardens, and the water smart plant label and will have a big push through streaming.

Jennifer Burke, Santa Rosa Water, asked about when and where people can sign up for the upcoming Ecofriendly Garden Tour.

Andrea Rodriguez, SCWA, answered that is back in person starting Saturday, May 13. Paul Piazza, SCWA, confirmed that the tour is free and that you need to sign-up at savingwaterpartnership.com.

Grant Davis, SCWA, added that the partnership has been growing more including the addition of more cities north. Adding in Healdsburg and Cloverdale helps to strengthen the region. Strong public communication from DWR (Department of Water Resources) and the state about our leadership and water use efficiency.

No public comment.

7. Regional Water Supply Resiliency Study Update

Due to Don Seymour, SCWA, being absent due to illness, this item is postponed to later date.

8. SCWA Local Hazard Mitigation Plan Update

Parastou Hooshialsadat, SCWA, presented. *(Refer to handouts.)*

The update to SCWA's Local Hazard Mitigation Plan (LHMP) was first brought to WAC/TAC in November 2022 and it was requested that this come back once the draft was available. This update was done in house at SCWA, without the assistance of consultants. There have been four public meetings held since November, providing the public and stakeholders a way to be involved in the planning process. The goal of the LHMP is to maintain and enhance a disaster-resistant region by reducing the potential for loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters. In order to achieve the goals, there was a two tier ranking methodology. Tier 1 included actions that provide a high qualitative cost/benefit ratio and will result in substantial improvements. Tier 2 is

broken into Priority A and Priority B. Priority A are actions that have potential to be completed within the 5-year timeframe of the LHMP. Priority B are actions where the availability of resources and opportunities are not likely to be completed within the 5-year life of the LHMP. It was noted that there was a misprint in the table, as there is no LHMP work being done at Warm Springs Dam. Members of the public can submit comments on the draft starting on May 15. SCWA anticipates submitting the final draft LHMP to CalOES in June, and then in October they are projecting the LHMP will be approved by the Board of Directors and FEMA.

Brenda Alderman shared concerns, that over 15 to 20 years, there was raw sewage leaking into the river and is happy to see mitigation being planned for that.

Parastou Hooshialsadat, SCWA, gave a reminder that there will be a virtual meeting on May 10th for Russian River Sanitation district.

9. Russian River Water Forum Update *(Refer to handouts.)*

Mike Thompson, SCWA, presented.
PG&E is preparing a FERC license surrender and decommissioning of the Potter Valley Project. To fill the ownership void, there are steps that the Russian River interests need to take. The four big areas to tackle: long term diversion operations ownership and governance, water supply and fisheries, financial, and water rights. SCWA has received funding from the California Department of Water Resources Urban and Multi-benefit Drought Relief Grant Program to help support water supply resiliency planning. With this funding, the Russian River Water Forum (RRWF) has been established. The RRWF will include both Russian River and Eel River basin interests. To start the Planning Group will include representatives from counties, water suppliers, agricultural interests, environmental interests, recreation, and tribes. The first meeting will be May 17th where they will decide on the Statements of Interests and working group descriptions. The Leadership Council is planning to start meeting in the late summer or early fall. For the Water Supplier Caucus, they will be working to identify interests, principles, and working team participation. The Leadership Council will be comprised of elected officials and legislative staff and will be a non-decision-making body. Next steps include the Planning group's first meeting on May 17th in Ukiah from 10 a.m. to 3 p.m, the Working Groups will meet in June, and the Leadership Council will meet mid to late summer.

Jon Scribbs, City of Petaluma, asked about the change in water rights for Russian River and ask how this is different from a watershed coalition group.

Mike Thompson, SCWA, clarified that there are many water rights on the Russian River. There were rights to summer flow from Potter Valley Project, which is the primary change. Explained that this includes multiple counties and includes the Eel River as well.

Jennifer Burke, Santa Rosa Water, added that the seats for the water contractors on the planning group will be Windsor, with Petaluma as their alternate, Santa Rosa with Rohnert Park as their alternate, and North Marin Water District with Marin Water as their alternate. For the Leadership Council seats are not limited, however, the Leadership Council will be rsubject to the Brown Act, and every town or Council will only have one elected official.

a. Recommendation for WAC Representation on Leadership Council
   Jennifer Burke, Santa Rosa Water, suggested that the WAC Chair and WAC Vice Chair be elected to the Leadership Council.

No public comment. Moved by Sam Salmon, Town of Windsor, seconded by Mark Stapp, City of Santa Rosa. Unanimously approved with City of Rohnert Park absent.

10. Biological Opinion Status Update

Pam Jeane, SCWA, presented. *(Refer to handouts.)*

Fish Flow Project – No changes, however, they are working on long term change petitions.

Dry Creek Habitat Enhancement Project – Currently working on the second portion of Phase IV. Overall, still working on Phases IV, V, and VI. Phase IV is being constructed in 2022 and 2023, Phase V is beginning construction in 2023, and Phase VI is tentatively planned for construction in 2024. Sonoma Water's right-of-way staff and project manager continue to work with the Phase VI property owners to finalize the access routes and staging areas for these projects, obtain appraisals for the value of the right-of-way compensation amounts, and prepare right-of-way compensation offers. The Army Corps advertised Phase V of the Project in March in order to issue a notice to proceed in May and have construction start in June.

Habitat Monitoring Maintenance – Sonoma Water environmental staff continue to evaluate and monitor previously constructed and maintained sites to quantify the habitat areas and identify changes or maintenance needs. The Army Corps began releasing water from Warm Springs Dam to evacuate water from the flood control pool in Lake Sonoma. The flood control release reached a maximum flow of 4,000 cfs, declined to 1,000 cfs on March 23, and has been sustained at 1,000 cfs since that date.

Fish Monitoring – Spawning fish is dismal, with less than 1000 fish returning to the two facilities. In most years the total return of hatchery fish to both facilities exceed 4,000 fish and can be as high as 10,000 fish.
Russian River Estuary Management Project – The mouth of the Russian River is open and SCWA is not anticipating many changes for the 2023 draft Adaptive Management Plan.
Biological Assessment – Continuing work on the Biological Assessment as it expires in September of this year. This will be discussed further at a Public Policy Facilitating Committee meeting later in May.
No public comment.

11. Potter Valley Project Update

Pam Jeane, SCWA, presented.
There is no change in surrender process. PG&E is set to publish a draft application in November and will be soliciting comments. Gates at Scott Dam will not be raised for seismic stability reasons and dam safety. PG&E did notify FERC that they will not be raising the gates. PG&E will be filing a one-year variance for this year. Normally, they would convene a drought working group, but since this is not drought related, no working group was formed. PG&E does plan to file a long-term variance, or license amendment, for operations assuming no longer raising the gates. PG&E will also not be fixing the transformer bank or produce power. Hoping to get consultant out to Potter Valley to do some ground mapping and to speak to residents.

Jennifer Burke, Santa Rosa Water, asked if SCWA had heard where FERC is on regarding requiring PG&E to reopen their license for including the interim measures from NMFS (National Marine Fisheries Service).
Pam Jeane, SCWA, responded they have not heard anything, but that there was a communication from FERC to the resource agencies asking for concurrence with the plan that has been filed for operation of the facilities.
No public comment.

12. SCWA Government Affairs Update

Grant Davis, SCWA, and Robert Rogers, SCWA, presented. *(Refer to handouts.)*
Aquatic Ecosystem Restoration Program proposal's deadline is June 1. Funding will support the study, design, and construction of collaboratively developed ecosystem restoration projects that provide widespread regional benefits and improve the health of fisheries, wildlife and aquatic habitat through restoration and improved fish passage. Our focus as a region is to determine how to meet the two basin goals of providing better fish

passage without harming the Eel River and supporting diversion from Potter Valley into Lake Mendocino. Robert Rogers, SCWA, AB 30, which is implementing FIRO (Forecast Informed Reservoir Operations) into the DWR budget, was heard in the Assembly Appropriations Committee and was moved to the Suspense File. Sonoma Water has also submitted letters of Support for AB 557, AB1572, SB 23, and SB 867. On the Federal side, they had some community funding requests, with two of them being chosen by Senator Feinstein's appropriations request. One being for the Russian River County Sanitation District and the other is for the 12kV Wohler-Mirabel overhead electrical distribution system. There were also two that were chosen for Senator Padilla's appropriations request. Those two were for the Russian River County Sanitation District and the Penngrove Lift Station. Last year SCWA was able to receive $1,000,000 appropriation for the Sub-seasonal to Seasonal Precipitation Forecasting, and now $15 million is being requested for fiscal year 2024. Also, they are requesting additional funding for the Advanced Quantitative Precipitation Information (AQPI) program building on the success of the $900,000 appropriation.

John Shribbs, City of Petaluma, asked if the Petaluma Watershed would be included in the representation, or if they need to do separate requests for state and federal.

Robert Rogers, SCWA, confirmed that the Petaluma Watershed is included in these asks.

No public comment.

13. Integrated Regional Water Management Plan(s) Update

Grant Davis, SCWA, there are two plans to cover. First, the North Coast Resource Partnership has an upcoming strategic planning process in July. This process is the number one ranked regional planning process in the state because of the way they include tribal and cultural support and involvement. Second, the Bay Area Integrated Regional Water Management Plan is having their 20-year anniversary which will be held in Sacramento by DWR. The main project left is the Advanced Quantitative Precipitation Information (AQPI) program, which includes the radars that provide more precise precipitation. Last year SCWA received $900,000 to help complete the program and begin operations.

No public comment.

14. Items for Next Agenda (next combined WAC/TAC meeting is August 7, 2023)

None.

No public comment.

15. Check Out

Jon Foreman, Acting WAC Chair, adjourned the meeting at 10:26 a.m.

14

DRAFT* MINUTES OF TECHNICAL ADVISORY COMMITTEE

ITEM #14

Utilities Field Operations Training Center
35 Stony Point Road, Santa Rosa, Ca
JULY 10, 2023

Attendees:
Craig Scott, City of Cotati
Mike Ielmorini, City of Petaluma
Peter Martin, City of Santa Rosa
Jennifer Burke, City of Santa Rosa
Matt Wargula, City of Sonoma
Tony Williams, North Marin Water District
Matt Fullner, Valley of The Moon Water District
Shannon Cotulla, Town of Windsor
Christina Goulart, Town of Windsor
Mary Grace Pawson, City of Rohnert Park
Lucy Croy, Marin Municipal Water District
Michelle Montoya, City of Santa Rosa

Staff/Alternates:
Pam Jeane, Sonoma County Water Agency (SCWA)
Colin Close, City of Santa Rosa
Andrea Rodriguez, SCWA
Don Seymour, SCWA
Paul Piazza, SCWA
Kent Gylfe, SCWA
Lynne Rosselli, SCWA
Brad Sherwood, SCWA
Jake Spaulding, SCWA
Dannielle Farela, City of Petaluma
Stuart Tiffen, SCWA
Mike Berger, City of Sonoma

Public:
Brenda Adelman, Russian River Watershed Protection
Dick Dowd

1. Check In
   Jennifer Burke, TAC Chair, called the meeting to order at 9:01 am.

2. Public Comment
   None.

3. Recap from the June 5, 2023 TAC Meeting and Approval of Minutes
   Moved by Matt Fullner, Valley of the Moon Water District, seconded by Tony Williams, North Marin Water District.
   No public comment.
   Minutes approved as submitted with all Committee members voting yes, with the exception of Jennifer Burke, Santa Rosa Water, who abstained.

4. Water Supply Conditions and Temporary Urgency Change Order
   Don Seymour, SCWA, presented.

The reservoirs at both Lake Mendocino and Lake Sonoma are still extraordinarily full. Lake Mendocino is still currently over 96,000 acre-feet (AF) and is losing slightly less than 140 AF per day. Even if FERC approves PG&E's flow variance request later this summer, it is projected Lake Mendocino will stay at, or above, 75,000 AF going into the new water year. Lake Sonoma is at, 252,000 AF, which is still 7,000 AF into the flood control pool. Lake Sonoma storage is currently losing about 200 AF per day. Projections are that, come October 1, Lake Sonoma storage will be over 235,000 AF. Temporary urgency change order forminimum stream flow in the upper Russian River and lower Russian River remains in effect until Oct 15.

Last week FERC noticed PG&E's flow variance request, and August 4th is the deadline to file any type of motion to intervene or comments to the flow variance request. Anticipating that, as of August 4th, FERC will move quickly, and we can anticipate the minimum stream flow of the East Branch Russian River (EBRR) will reduce from 75 cubic feet per second (CFS) down to 25 CFS. There is potential that if temperature approaches 16 degrees Celsius at Lake Pillsbury, there will need to be consultation with the National Fish and Wildlife Service and California Fish and Wildlife to determine if they should reduce the release of the EBRR from 25 CFS down to the minimum 5 CFS.
No public comment.

5. Sonoma Marin Saving Water Partnership
    a. 2023 Water Production Relative to 2013 Benchmark
    Jennifer Burke presented. *(Refer to handouts.)*
    In comparison to May 2013, thanks to weather and conservation efforts, there is a 33% water use reduction. With an overall year to date reduction of 30%. Also, seeing good reductions of gallons per capita per day throughout the partnership.
    Brenda Adelman asked what percentage of new apartment buildings have been inhabited and how that effects the water numbers that were cited. Concerned that there will be an increase in water use as those apartments begin to be filled.
    Jennifer Burke, Santa Rosa Water, stated this is the actual water usage data for the month, so any usage at recently filled apartments would be captured. New development is part of projections, and they are also required to be significantly more water efficient than existing usage. Colin Close, Santa Rosa Water, also added that the population has decreased about 4,000 people over the last few years, according to the census.

    b. Water Use Efficiency Outreach Messaging
    Andrea Rodriguez presented. *(Refer to handouts.)*
    Currently working on the July outreach campaign which is focused on the Irrigation scheduling tool. Also, working on streaming and social media. There will be a Zero Waste event in Healdsburg taking place at the end of July. Also, looking ahead to the fair, the Partnership is working with the Master Gardeners to do a low water use efficiency exhibit in the courtyard outside of the Hall of Flowers.

Jennifer Burke, Santa Rosa Water, asked if the fair booth would be staffed and asked if there would be rebate information available for individual agencies. Andrea Rodriguez, SCWA, confirmed that the exhibit will be run by the Master Gardeners. However, SCWA will be there to help assemble and tear down. Rebate information will be available by QR code.

No public comment.

6. Biological Opinion Status Update

   Pam Jeane, SCWA, presented. *(Refer to handouts.)*

   Fish Flow Project - Continue to work on revisions in anticipation of recirculating an updated draft of the Environmental Impact Report.

   Dry Creek Habitat Enhancement Project – Focusing on Phase IV and V construction. Part of Phase IV has been constructed and should be out of the stream by October 15. The exception to that is one of the reaches is being redesigned due to the impact of the high flow in the creek over this last winter. They also went to bid on the Phase V work.

   Habitat Monitoring and Maintenance – After the high flows this year in Dry Creek, there was a substantial amount of rehabilitation work required. Just wrapped up the down stream monitoring.

   Fish Monitoring – The traps are out of the rivers at creeks, and they did not see great numbers of steelhead, however, they did find the highest on record number of natural origin Coho. The estuary is open currently, and the management season ends October 15.

   Biological Assessment for New Biological Opinion – Expires in September of this year and the draft was submitted. Working on responses to address all the comments that have been received.

   Craig Scott, City of Cotati, asked if the annual repairs from the storms is anticipated in the cost or, if not, how will that be paid for. Pam Jeane, SCWA, was not sure but believes they are out of Warm Springs Dam fund.

   Jennifer Burke, Santa Rosa Water, asked about what the schedule for biological opinion looks like, and if a new one is not issued by September, will they still be under the old order until a new one is issued. Pam Jeane, SCWA, does not believe they would be, however, since they are working on a new one with it in consultation, they would have coverage under that.

   No public comment.

7. Potter Valley Project Update

   Pam Jeane, SCWA, presented.

   FERC noticed PG&E's flow variance last week. PG&E is still on their approved schedule, which means they should be releasing a draft license surrender application for public comment on schedule. Three projects that are being worked on under the Department of Water Resources grant. This includes the Russian River Water Forum, Potter Valley water resiliency work, and the facilities assessment

which is underway now. The facilities assessment work is under contract with McMillian. They have looked at how to repurpose existing facilities and have also looked at different ways to reconfigure the outlet for the EBRR. They are currently working on three options for reconfiguring the diversion itself, building on the prior feasibility study. Hoping to get three options to 30% design. A technical advisory committee of primarily engineering staff from the fisheries agencies has been convened to work with McMillian, with the intent to have our technical advisory group chose one of the options to take to 60% design.
No public comment.

8. Russian River Water Forum Update
Jennifer Burke, Santa Rosa Water, presented. The Planning group has been put together representing all different interest categories including Mendocino County, water suppliers, Lake County, Humboldt County, environmental interests, fishery interests, recreation interests, as well as Mendocino and Sonoma Counties agricultural interests, and tribal interests. For Sonoma County, the three members from the TAC that are part of the Planning group are Tony Williams, Shannon Cotulla, and Jennifer Burke, with the alternates being Mary Grace Pawson, Paul Sellier, and Mike Thompson. Two meeting have been held so far and have been focused on identifying interests and finding consensus on potential recommendation. However, they are not a decision-making group. A steering committee was formed, and met last Friday, with the intent to put together an agenda for the next meeting and to make decisions on the Technical working groups which will include Water Supply and Fisheries, Finance, Governance, and a Water Rights group. Fisheries and Water Rights have had initial meetings, providing some technical briefings. Finance and Governance are planning to meet later this summer. The next meeting is scheduled for this Thursday in Ukiah. The focus will be Russian River supply resiliency work that has been completed.

   Shannon Cotulla, Town of Windsor, asked if we have ever received an analysis of what PG&E's obligations are in the decommissioning process.

   Pam Jeane, SCWA, answered that she is not sure they have done analysis in the way he is describing, however, they are operating under a FERC license and have an agreement with Sonoma Water, and have a contract with Potter Valley Irrigation District. Under the FERC license, they will need to continue to stay in compliance. Once they go through the decommissioning process, PG&E will no longer have an obligation to this process.

   Brenda Adelman asked how the interrelationship will work between the water agency and the City of Santa Rosa will be integrated into the Russian River Water Forum.

   Jennifer Burke, Santa Rosa Water, answered that, as water contractors we are working with SCWA on a resiliency study and how it integrates with all of the individual systems. There has been and will continue to be collaborative and will continue to share information.

9. Recap of Sonoma / Santa Rosa and Water Technology Alliance of Denmark Workshop on Resilience and Next Steps

Brad Sherwood, SCWA, presented. *(Refer to handouts.)*
Two weeks ago, Sonoma Water and Santa Rosa Water, met with the group from Denmark's Water Efficiency and Innovation Council. Also, hosted representatives from various Demark companies in the water industry. The presentation from that workshop is available online for review. Want to continue collaboration, so Sonoma Water is creating a Memoranda of Understanding between them and Denmark and is extending the invitation to Sonoma County Water contractors to join.

Jennifer Burke, Santa Rosa Water, asked what the timeline is for review and suggested edits.

Brad Sherwood, SCWA, asked that edits be submitted by end of July, and would like signatures on MOU by September. It was notated, that this would be the first MOU between a country and group of utilities. Also, if you cannot sign on to the MOU now, you will still be able to join at a later date.
No public comment.

10. SCWA Government Affairs Update
Brad Sherwood, SCWA, presented. *(Refer to handouts.)*
August 10 is the ACWA Region 1 membership tour and meeting. This will include tour of the CalPine side of the geysers. There are 50 slots open for ACWA members. State lobby team focused on Climate Bond, with two different pieces of legislation moving forward. The main focus is on the integrated regional water management funding which they have been able to get up to $350M on the Assembly side, while trying to get the same amount on the Senate side. Governor did make some big cuts in climate resiliency in the water world, making this bond critical. Also, support for their forecast informed reservoir operations, AB 30, continues. This would essentially put into code the DWR, the funding program for FIRO, and this would solidify $10M of research efforts. Which is not only critical for our FIRO efforts at Lake Sonoma, but for eight other reservoirs throughout California. On the Federal side, some of our earmark requests successfully made it through thanks to Senator Padilla's office. However, we are not exactly sure where the earmarks are, or if they will be implemented in the next budget, so we waiting to see how the process unfolds over next month. Subseasonal to Seasonal Forecasting with DWRs is making good progress on the hill. The next opportunity to go to Sacramento will be September or October. They are also considering starting a new chapter of California Special Districts and wanted to gauge interest in joining if that moves through.
Matt Fullner, Valley of the Moon Water District, added that they had planned to join the California Special Districts but decided to hold off on joining for one year due to budget.
No public comment.

11. Items for Next Agenda
Next meeting is August 7 and will be a combined WAC TAC. There will be item for the WAC interest statement for the Russian River Water Forum.
No public comment.

12. Check Out
Chair Burke adjourned the meeting at 9:55 a.m.

15

North Bay Watershed Association
Board Meeting - Agenda

August 4, 2023| 9:30 – 11:30 a.m.

MEETING WILL BE HELD AT THE
Napa Sanitation District
1515 Soscal Ferry Road, Napa, CA

For those wishing to attend virtually
Join Zoom Meeting:
https://us02web.zoom.us/j/81630673971?pwd=dm94TXJCRWMyWFBLc3U5V2pTSmNRZz09
Webinar ID: 816 3067 3971 **Password**: 216460

Agenda and materials will be available the day of the meeting at: www.nbwatershed.org

AGENDA

Time	Agenda Item	Proposed Action
9:30	**Welcome and Call to Order – Roll Call and Introductions** *Jean Mariani, Chair*	*N/A*
9:35	**General Public Comments** This time is reserved for the public to address the Committee about matters NOT on the agenda and within the jurisdiction of the Committee.	*N/A*
9:40	**Agenda and Past Meeting Minutes Review** *Jean Mariani, Chair* **Treasurer's Reports** *Jean Mariani, Chair*	*Approve/ Review*
9:45	**Guest Presentation: Regional Workforce Development for the Water Industry: Attracting and Retaining the Workforce of the Future** *Jordan Damerel, Assistant General Manager/District Engineer, Fairfield-Suisun Sewer District; Director, BAYWORK; Chair, Bay Area Consortium for Water/Wastewater Education* Jordan will present an overview of several workforce development activities and organizations currently active in the Bay Area. These include BAYWORK, a collaboration of 45 water/wastewater utilities ensuring a qualified job candidates pool and continuing education for employees; and the Bay Area Consortium for Water/Wastewater Education, a set of water/wastewater agencies that are collectively funding technical education for operators, mechanics, electricians, and instrument technicians.	*Presentation slides*

10:20	**Guest Presentation: Ecological Workforce Development Overview** *Sally Bolger, Director, Ecological Workforce Initiative* Sally will describe how standardized environmental compliance training for laborers, equipment operators, and other crew members who implement environmental restoration projects creates pathways to living wage jobs and a skilled workforce.	*Presentation slides* *(Handout)*
10:55	**Executive Director Report** *Andy Rodgers, Executive Director* Andy will facilitate a brief Board discussion to identify any next steps supporting workforce development initiatives in the region. Andy will provide updates and solicit board input on activities since the June 2 Board meeting, including reviewing a timely opportunity to submit a grant application for regional project funding, and summarizing other active and developing projects, meetings, regional programs and initiatives, communications, and committees. Andy will outline ideas for next and future Board meeting topics and solicit feedback.	*ED updates, Board questions, and input*
11:10	**Board Information Exchange and Updates** *Members* Members will highlight issues and share items of interest.	*N/A*
11:30	**Announcements/Adjourn** **Next Board Meeting: September 1**	*N/A*

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DISBURSEMENTS - DATED JULY 27, 2023

Date Prepared 7/24/23

The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

Seq	Payable To	For	Amount
P/R*	Employees	Net Payroll PPE 7/15/23	$176,068.49
90609*	Internal Revenue Service	Federal & FICA Taxes PPE 7/15/23	79,092.18
90610*	State of California	State Taxes & SDI PPE 7/15/23	17,130.74
90611*	CalPERS	Pension Contribution PPE 7/15/23	48,657.01
90607-90608*	CalPERS	Annual Unfunded Liability FY 23/24 (Classic $1,206,600 & Pepra $3,642)	1,210,242.00
EFT*	US Bank	June Bank Analysis Charge (Lockbox $912 & Other $431 Less Interest $114)	1,229.37
90612*	Amazon	Office Supplies, Supplies for Staff Event, Computer Supplies & Miter Saw Protractor	363.90
1	100 Wood Hollow Drive Owner	August Rent for Wood Hollow	29,735.21
2	All Star Rents	Propane (STP)	89.64
3	Alpha Analytical Labs	Lab Testing (W.M. & Novato)	1,130.00
4	American Family Life Ins	July Employee Paid Benefit	3,591.50
5	Athens Administrators	June Indemnity Review Fee	105.00
6	Bank of Marin	Bank of Marin Loan Principal & Interest (Pymt#141 of 240) Aqueduct Energy Efficiency Project	46,066.67
7	Bearings & Hydraulics	Couplings & Adaptor	154.50
8	Blue, Eileen	Exp Reimb: Decor & Supplies for Staff Event	122.57
9	Calcon Systems	SCADA Service Call (4 hours)	840.00
10	Calgon Carbon Corporation	Granular Activated Carbon (150,000 lbs) (STP)	276,219.50
11	California Water Service	July Water Service	31.40

Seq	Payable To	For	Amount
12	Consolidated CM	Prog Pymt#26: Provide Construction Management Services for NMWD Admin Building Renovation (Balance Remaining on Contract $495,529)	75,491.14
13	CT Promotions	NMWD Pint Glasses w/District's 75th Anniversary Logo (500)	2,213.50
14	Diesel Direct West	Diesel (424 gal) ($1,995) & Gasoline (784 gal) ($3,641)	5,636.42
15	E & M	Custom Adaptor Plates for Operator Interface Controllers (STP)	1,113.68
16	Environmental Collaborative	Prog Pymt#4: Biological Monitoring for San Mateo Tank Project ($1,318) (Balance Remaining on Contract $25,087) & Prog Pymt# 5: Biological Resource Assessment at Stafford Dam Adjustable Slide Gate Project ($4,675) (Balance Remaining on Contract $20,412)	5,993.00
17	Environmental Science Assoc	Prog Pymt#16: San Mateo Tank Permitting Assistance (Balance Remaining on Contract $23,843)	240.00
18	Fiserv/Bastogne Inc.	Return Payment-Unable to Locate Account	167.04
19	Genterra Consultants	Prog Pymt#24: Dam Safety Consulting Services for STP (Balance Remaining on Contract $71,644)	3,085.00
20	GHD Inc.	Prog Pymt#3: GIS Conversion to ESRI Mapping Support (Balance Remaining on Contract $12,761)	12,858.50
21	Grady, Ken	Electrolytes (2) & Membranes (2) (STP)	138.17
22	Grainger	Hydraulic Oil (10 gal) ($694) (STP) & Miscellaneous Maintenance Tools & Supplies	1,190.87
23	HERC Rentals Inc.	Mini Excavator Rental (George Street-Main Replacement) (6/26/23-7/7/23)	3,172.68
24	Idexx Laboratories	Comparator (Lab)	43.36
25	Industrial Scientific Corp	Dock Station Repair (STP)	328.76
26	Kehoe, Chris	Exp Reimb: Drinks for Crew Repairing a Leak in Hot Weather	23.09

Seq	Payable To	For	Amount
27	Kiosk Creative LLC	Marketing Communication & Outreach Services (Balance Remaining on Contract $66,892)	10,232.65
28	LeBrun, Kent	Exp Reimb: Drinks for Crew During GAC Replacement	78.21
29	Lincoln Life Employer Serv	Deferred Compensation 7/15/23 PPE	9,750.12
30	Mains, Nancy	Refund Over Payment on Closed Account	47.18
31	Marin Independent Journal	Classified Ad: Gallagher Well #1 Rehab Invitation to Bidders on 6/12/23	50.00
32	McLellan Co, WK	Compaction Testing (35 Corte Alta, Novato)	415.35
33	Fast Care, Inc	Quantitative Fit Test (6)	1,250.00
34	Mutual of Omaha	August Group Life Insurance Premium	1,272.50
35	Nationwide Retirement Solution	Deferred Compensation 7/15/23 PPE	2,985.00
36	Nerviani's Backflow	Backflow Testing (50)	3,500.00
37	Novato Chamber of Commerce	Leadership Class (Miller)	1,200.00
38	ODP Business Solutions, LLC	Miscellaneous Office Supplies	154.73
39	Pace Supply	12" Tapping Sleeve	1,365.08
40	Pacific Coast Cutters	Saw Cutting for Blacktop Pipe Install (George Street Main Replacement)	660.00
41	Point Reyes Prop Mgmt Assn	July HOA Fees (25 Giacomini Rd)	75.05
42		Vision Reimbursement	368.00
43	RS Home Improvement, LLC	Refund Excess Advance Over Actual Construction Job Costs (Station House Café)	139.76
44	Scott Technology Group	July Monthly Maintenance on Engineering & Admin Copiers & Contract Overage Charge	527.80
45	SCS Engineers	Prog Pymt#2: Perform Audit of Chlorine Gas System @ STP (Balance Remaining on Contract $1,512)	1,440.50
46	Sigma-Aldrich Inc.	Calibration Set (Lab)	131.98
47	SPG Solar Facility XII, LLC	June Energy Delivered Under Solar Services Agreement	15,355.91

Seq	Payable To	For	Amount
48	Univar	Potassium Permanganate for PRTP (110 lbs)	1,087.90
49	VWR International LLC	Medium & Filters (101) (Lab)	753.88
50	Wine Country Balance	Annual Scale Calibration (Lab)	575.00
51	ZORO	Vinyl Tubing (100') & Nipple	293.16
		TOTAL DISBURSEMENTS	**$2,056,274.65**

The foregoing payroll and accounts payable vouchers totaling $2,056,274.65 are hereby approved and authorized for payment.

Julie Blue 07/25/23

Auditor-Controller Date

07/25/23

General Manager Date

DISBURSEMENTS - DATED AUGUST 3, 2023

Date Prepared 7/31/22

The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

Seq	Payable To	For	Amount
90613*	US Bank Card	Microsoft Subscriptions (6/10-8/8/23), Wine Country Water Works Registration Fee (5 Employees), Excel Training Class (4 Employees), AT&T (Internet for PRTP & Gallagher Well #2), Monthly Electric Vehicle Charge, Zoom for Board Meetings, Vehicle Detection Loop, Office Supplies, Computer Supplies, Decor for 4th of July Parade, Costco-Supplies for Staff Event & Physical Inventory Count, Natl. Fire Protection Assoc. Membership, Assoc of Dam Safety Membership Fees (2 Employees) & SMART Cert for Construction Employees	$3,920.89
1	Aftertec Inc.	Aerial Photography for Lynwood Pump Station Site Alternatives (4)	1,036.00
2	Alpha Analytical Labs	Lab Testing	290.00
3	AT&T	Telephone, Fax, Leased Lines & Data	509.48
4	Backflow Distributors	Hydrant Backflow Meters (3)	12,875.61
5	Bold & Polisner	Legal Fees-General ($2,850) & NMWD Portion Potter Valley FERC ($653)	3,502.50
6	Boucher Law, PC	May Labor & Law Matters	1,960.00
7	Buck Institute for Research on Aging	Lease of Additional Lab Space (6/16/23-8/15/23) ($7,142) & Quarterly Lease for Lab Department @ Buck Institute ($39,180) (8/16/23-11/15/23)	46,322.16
8	Core & Main	Flanges (63) ($22,326), Corp Stops Adapters (129) ($4,059) & 4" Check Valve (2) ($1,476)	27,860.62
9	Dell Computers	Replacement PC (Sylvester)	988.98
10	Fisher Scientific	Endo Broth & Petri Dish (Lab)	269.16

Seq	Payable To	For	Amount
11	Forevergreen Landscape and Maintenance	Replacement Check-Original Lost in Mail (Landscaping Services: Trumbull, Lynwood Tank Sites & STP)	9,495.00
12	Grainger	Battery Packs (8) & Miscellaneous Maintenance Tools & Supplies	1,541.73
13	HERC Rentals Inc.	Dump Truck Rental (1 Month)	3,219.53
14	Industrial Vacuum Equipment Co	Vac Trailer Rental (1 week)	6,060.00
15	Kemira Water Solutions	Ferric Chloride (10 tons) (STP)	15,745.59
16	LGVSD	Recycled Water Deliveries (4/1/23-6/30/23)	17,256.55
17	Mallory Safety and Supply LLC	Oxygen Sensor (STP)	291.77
18	Marin County Tax Collector	LAFCO Expense Allocation FY 23/24 (Budget $14,000)	12,972.33
19	Nerviani's Backflow	Backflow Test (1)	70.00
20	ODP Business Solutions, LLC	Miscellaneous Office Supplies	374.51
21	Pace Supply	Brass Ells (8), Angle Meter Stops (8) ($3,998), Caps (4), 4" Pipe (400) ($3,722), Tapping Sleeve ($1,563) & 12" Tapped Cap (Hamilton Homeward Bound RW Project)	10,018.07
22	Quadient, Inc.	August Postal Meter Rental	143.09
23	Red Wing Business Advantage	Safety Boots (Reed)	200.00
24	RoadSafe Traffic Systems, Inc.	24" x 36" Sign "Maximum Load Limit 8,000 lbs on Roof of Reservoir"	234.22
25	Sheehan, Vince or Joan	Novato "Pool Cover" Rebate Program	75.00
26	Soiland Co., Inc.	Asphalt Recycling (12 yds) & Rock (16 yds)	917.77
27	Sonoma County Water Agency	Reconciliation of North Marin Water District Revenue Bond Charge (FY22-23)	152,865.95
28	Stott, Joanna	Novato "Cash for Grass" Rebate Program	800.00
29	Takahashi, Valmer	Novato "Pool Cover" Rebate Program	75.00
30	Tamagno Green Products	Sludge Removal from STP (135 yds)	6,075.00

Seq	Payable To	For	Amount
31	Underground Service Alert	California State Fee for Regulatory Cost (7/1/23-6/30/24) (Budget $1,600)	1,817.63
32	Vulcan Materials Company	Easy Street (5 yds), Pea & Sand (31 yds) ($1,987)	2,961.37
33	VWR International LLC	Hardness Solution, Solution Buffers (4), Nitric Acid, Wide Neck Flask & Optical Lens Cleaner Spray (2) (Lab)	346.64
34	West Yost Associates	Prog Pymt#25: Recycled Water Reg 18 Update (Balance Remaining on Contract $69,206)	359.75
35	ZORO	Painters Masking Tape (6), Blacktop Filler (6) & Pressure Washer Hose (50')	280.60
		TOTAL DISBURSEMENTS	**$343,732.50**

The foregoing payroll and accounts payable vouchers totaling $343,732.50 are hereby approved and authorized for payment.

Julie Blue 08/01/23

Auditor-Controller Date

Anthony Williams 8/1/2023

General Manager Date

DISBURSEMENTS - DATED AUGUST 10, 2023

Date Prepared 8/7/23

The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

Seq	Payable To	For	Amount
P/R*	Employees	Net Payroll PPE 7/31/23	$186,956.93
90615*	Internal Revenue Service	Federal & FICA Taxes PPE 7/31/23	84,568.04
90616*	State of California	State Taxes & SDI PPE 7/31/23	18,537.40
90617*	CalPERS	Pension Contribution PPE 7/31/23	48,748.00
90614*	CalPERS	August Insurance Premium (Employer $50,016, Retirees $12,209 & Employees $8,196)	70,421.21
1	Able Tire & Brake	Tires (8) & Alignment ('16 Nissan Frontier & '20 F250 4WD - $1,827)	2,813.71
2	Accurate Forklift	4" X 63" Fork Extensions (2)	402.29
3	Ahtna	Refund Security Deposit on Hydrant Meter Less Final Bill	650.16
4	All Star Rents	Propane (32 gal) & Reversable Tamper	344.64
5	Badger Meter	O-Rings (30)	246.60
6	Coast Counties Peterbilt	Service Parts & Turn Signal Switch ('09 Peterbilt 335)	397.24
7	Comcast	August Internet (100 Wood Hollow & 1250 Lynwood Dr)	566.10
8	Comcast	August Phone Services (Wood Hollow, Buck Inst., Yard & STP)	1,504.87
9	Comcast	August Internet Services (999 Rush Creek Place)	1,562.93
10	Core & Main	Copper Pipe (2,340') ($20,184), Coupling Adaptors (2) ($1,862), Elbows (2), Couplings (60) ($1,523) & Flange Reducer	24,613.24
11	Cummings Trucking	Rock (259 yds) ($1,960) & Sand Deliveries (16 yds)	2,310.00

*Prepaid

Seq	Payable To	For	Amount
12	DataTree	July Subscription to Parcel Data Info	100.00
13	Diesel Direct West	Diesel (413 gals) ($2,028) & Gasoline (802 gals) ($3,690)	5,718.70
14	Direct Line Inc	July Telephone Answering Services	412.96
15	Ditch Witch West	Deflector, U-Bolt & Locknuts (2)	148.97
16	Fisher Scientific	Safety Gloves (300), Dipicolinic Acid & Broth	390.62
17	Friedman's Home Improvement	Miscellaneous Hardware	411.63
18	Gallagher, Arthur J.	FY24 Cyber Liability Insurance (7/1/23-6/30/24)	8,611.40
19	Grainger	Blowers (2), Miscellaneous Maintenance Tools & Supplies	1,864.80
20	Home Depot	Adaptor Fittings (12) ($450), Push to Connect Tool & Adaptors (9)	508.85
21	Lincoln Life Employer Serv	Deferred Compensation PPE 7/31/23	9,524.60
22	Marin Landscape Materials	Quik Mix (42 bags)	389.62
23	Marin County Ford	Service Parts ('17 Ford Escape, '20 F250 4X4 & '22 Ford Rangers)	344.43
24	County of Marin	Encroachment Permits (45 Bridge Rd & 463 Alameda De La Loma-Novato)	1,280.62
25	McMaster-Carr Supply Co	Suction Water Hose (15') ($500), Black Foam Trim, Conductive Plastic Trim (50') & Instant-Bond Adhesive	796.35
26	Nationwide Retirement Solution	Deferred Compensation 7/31/23 PPE	2,985.00
27	North Bay Gas	Nitrogen & Breathing Air (STP)	142.54
28	Novato Builders Supply	Yellow Jacket Power Block & Lock Adaptor	53.13
29	Pace Supply	Elbows (66) ($2,303), Couplings (6) ($1,713), Spacers (9), End Seals (2), Tapping Sleeve ($1,116), Bushings (5), Accessory Sets (27) ($2,329), Bolts (154) ($928), Hydrants (4) ($15,737), Nipples (24), PVC Pipe (1,100') ($30,623), Plugs (35), Corp Stop, Meter Stops (17) ($994), Tees (4) ($1,861), Brass Unions (8), Double Check Detector Assemblies (3) ($10,527), Valves (36) ($11,783) & Tracer Wire (500')	81,843.68

*Prepaid

Seq	Payable To	For	Amount
30	Pini Hardware	Miscellaneous Maintenance Tools & Supplies	308.75
31	Recology	July Trash Removal	618.51
32	RH & Sons Water Services	Backflow Testing Services for Customer & District Owned Assemblies (85)	5,525.00
33	Roy's Sewer Service	Maintenance at Oceana Marin Pump Station	2,725.00
34	Soiland Co., Inc.	Rock (16 yds) ($540) & Asphalt Recycling (3 yds)	645.16
35	Staples Business Credit	Copy Paper (80 Reams)	452.14
36	State Water Resources Control	T4 Exam Fee (Foster)	130.00
37	Team Ghilotti Inc.	Prog Pymt#5: Repave Corp Yard (Balance Remaining on Contract $77,334)	175,944.96
38	Thatcher Company of California	Chlorine (4,000 lbs) (STP)	5,180.00
39	Univar	Sodium Hydroxide (12 tons) (STP)	9,222.29
40	USA BlueBook	Tube Assembly & Caustic Neutralizing Absorbent (6) (STP)	312.52
41	Verizon Wireless	Cellular Charges: Data ($1,343), Airtime & iPads for Asset Management	1,588.64
42	Verizon Wireless	SCADA & AMI Collectors ($650) and Overages ($446)	1,456.92
43	Vulcan Materials Company	Pea & Sand (31 yds)	2,016.87
		TOTAL DISBURSEMENTS	**$766,298.02**

The foregoing payroll and accounts payable vouchers totaling $766,298.02 are hereby approved and authorized for payment.

Julie Blue 08/08/23

Auditor-Controller Date

8/8/23

General Manager Date

*Prepaid

NORTH MARIN WATER DISTRICT
MONTHLY PROGRESS REPORT FOR JULY 2023
August 15, 2023

1.

Novato Potable Water Prod - RR & STP Combined - in Million Gallons - FYTD

Month	*FY23/24*	*FY22/23*	*FY21/22*	*FY20/21*	*FY19/20*	*24 vs 23 %*
July	218.6	224.52	282.9	341.7	317.7	-3%

West Marin Potable Water Production - in Million Gallons - FY to Date

Month	*FY23/24*	*FY22/23*	*FY21/22*	*FY20/21*	*FY19/20*	*24 vs 23 %*
July	7.1	6.3	6.0	8.2	8.9	13%

Stafford Treatment Plant Production - in Million Gallons - FY to Date

Month	*FY23/24*	*FY22/23*	*FY21/22*	*FY20/21*	*FY19/20*	*24 vs 23 %*
July	67.0	56.3	67.0	105.8	68.2	19%

Recycled Water Production* - in Million Gallons - FY to Date

Month	*FY23/24*	*FY22/23*	*FY21/22*	*FY20/21*	*FY19/20*	*24 vs 23 %*
July	31.0	43.1	42.9	39.0	36.5	-28%

*Excludes potable water input to the RW system: FY24 =0.5MG, FY23= 10.8 MG FY22=10 MG; FY21=24.7 MG; FY20=16.7

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2. Regional and Local Water Supply

Lake Sonoma

	Current	2022
Lake Storage*	78,204 MG	40,552 MG
Supply Capacity	93 %	50.8 %

*Normal capacity =-245,000 AF (79,833.5 MG); deviation storage pool of 264,000 AF *86,025 MG)

Lake Mendocino

	Current	2022
Lake Storage *	29,327 MG	16,217 MG
Supply Capacity	81 %	62.9 %

*Normal capacity = 70,000-110,000 AF (22,800-35,840MG); flood control pool at 80,000 AF (26,000 MG)

3. Stafford Lake Data

	July Average	July 2023	July 2022
Rainfall this month	0.01 Inches	0.0 Inches	0.00 Inches
Rainfall this FY to date	0.0 Inches	0.0 Inches	0.00 Inches
Lake elevation*	187.6 Feet	191.5 Feet	188.3 Feet
Lake storage**	840 MG	1,077 MG	880 MG
Supply Capacity	60 %	77 %	63 %

* Spillway elevation is 196.0 feet
** Lake storage less 390 MG = quantity available for normal delivery

Temperature (in degrees)

	Minimum	Maximum	Average
July 2023 (Novato)	48	97	68
July 2022 (Novato)	47	95	68

4. Number of Services

July 31	Novato Water			Recycled Water			West Marin Water			Oceana Marin Swr		
	FY24	FY23	Incr %	FY24	FY23	Incr %	FY24	FY23	Incr %	FY24	FY23	Incr %
Total meters installed	20,982	20,876	0.5%	102	101	1.0%	800	800	0.0%	-	-	-
Total meters active	20,831	20,720	0.5%	100	97	3.1%	792	790	0.3%	-	-	-
Active dwelling units	24,096	24,099	0.0%	-	-	-	837	838	-0.1%	235	235	0.0%

5. Oceana Marin Monthly Status Report (July)

Description	July 2023	July 2022
Effluent Flow Volume (MG)	0.561	0.551
Irrigation Field Discharge (MG)	0.159	0.000
Treatment Pond Freeboard (ft)	5.4	8.28
Storage Pond Freeboard (ft)	12.0	6.89

6. Safety/Liability

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	Industrial Injury with Lost Time				Liability Claims Paid	
	Lost Days	OH Cost of Lost Days ($)	No. of Emp. Involved	No. of Incidents	Incurred (FYTD)	Paid (FYTD) ($)
FY 24 through July	1	$368	1	1	0	$0
FY 23 through July	26	$15,808	2	2	0	$0

Days since lost time accident through July 31, 2023 **13** **Days**

7. Energy Cost

FYE	July kWh	July ¢/kWh	July Cost/Day	Fiscal Year-to-Date thru July kWh	Fiscal Year-to-Date thru July ¢/kWh	Fiscal Year-to-Date thru July Cost/Day
2024 Stafford TP	74,877	22.9¢	$553	74,877	22.9¢	$553
Pumping	158,572	34.3¢	$1,700	158,572	34.3¢	$1,700
Other[1]	35,783	40.7¢	$455	35,783	40.7¢	$455
	269,232	32.0¢	$2,707	269,232	32.0¢	$2,707
2023 Stafford TP	72,163	22.2¢	$517	72,163	22.2¢	$517
Pumping	155,064	29.0¢	$1,405	155,064	29.0¢	$1,405
Other[1]	44,251	34.1¢	$471	44,251	34.1¢	$471
	271,478	28.0¢	$2,393	271,478	28.0¢	$2,393
2022 Stafford TP	41,766	21.6¢	$291	41,766	21.6¢	$291
Pumping	155,206	27.5¢	$1,332	155,206	27.5¢	$1,332
Other[1]	42,308	31.1¢	$411	42,308	31.1¢	$411
	239,280	27.1¢	$2,034	239,280	27.1¢	$2,034

[1]Other includes West Marin Facilities

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8. Water Conservation Update

	Month of July 2023	Fiscal Year to Date	Program Total to Date
High Efficiency Toilet (HET) Rebates	4	4	4,485
Retrofit Certificates Filed	7	7	6,804
Cash for Grass Rebates	1	1	1,064
Washing Machine Rebates	2	2	6,895
Water Smart Home Survey	3	3	3,924

9. Utility Performance Metric

SERVICE DISRUPTIONS (No. of Customers Impacted)	**July 2023**	**July 2022**	**Fiscal Year to Date 2024**	**Fiscal Year to Date 2023**
PLANNED				
Duration Between 0.5 and 4 hours	18	7	18	7
Duration Between 4 and 12 hours	0	0	0	0
Duration Greater than 12 hours	0	0	0	0
UNPLANNED				
Duration Between 0.5 and 4 hours	5	63	5	63
Duration Between 4 and 12 hours	78	0	78	0
Duration Greater than 12 hours	0	0	0	0
SERVICE LINES REPLACED				
Polybutylene	14	3	14	3
Copper Replaced or Repaired)	4	0	4	0

July 2023 Service Disruptions

Planned:

For the month of July, we had 18 planned service disruptions.

Plastic: We replaced 14 plastic service lines on Deer island, Greenwood Dr, Monte Maria Ave. Cielo Ln, and Cambridge St.

Copper: We replaced 4 copper service lines on Kristy Ct, Fieldstone Dr, and Bridge Rd.

Unplanned:

We had 3 main breaks for the month of July which affected 83 customers.

Mains: 4” AC on Laguna Vista, 8” AC on Arthur St, and another 8” AC on Montego Key.

10. Summary of Complaints and Service Orders

Summary of Complaints & Service Orders July 2023				
Tag Breakdown:				
Total: 193	**Consumer:** 95	Office: 98		
Type	**Jul-23**	**Jul-22**	**Added Notes**	
Billing				
High Bill	3	0		
Total	**3**	**0**		
Meter Replacement	17	11		
Total	**17**	**11**		
Need Read	7	0		
Total	**7**	**0**		
No-Water	3	6		
Total	**3**	**6**		
Leak				
Consumer	87	183		
District	19	4		
Total	**106**	**187**		
Water Quality				
Taste/ Odor	7	1		
Other	1	0		
Color	1	0		
Total	**9**	**1**		
Noisy Pipes	1	0		
Total	**1**	**0**		
Check Pressure	5	1		
Total	**5**	**1**		
Turn Off / On	24	28		
Total	**24**	**28**		
Other	18	16		
Total	**18**	**16**		
TOTAL FOR MONTH:	**193**	**250**		**-23%**
Bill Adjustments Under Board Policy:				
July 23 vs. July 22				
Jul-23	9	$1,553		
Jul-22	15	$2,325		

NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors August 15, 2023

From: Julie Blue, Auditor-Controller JB
Nancy Williamson, Accounting Supervisor NW

Subj: Auditor-Controller's Monthly Report of Investments for June 2023
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RECOMMENDED ACTION: Information

FINANCIAL IMPACT: None

At month end the District's Investment Portfolio had an amortized cost value (i.e., cash balance) of $37,767,662 and a market value of $37,382,709. During June the cash balance decreased by $219,171. The market value of securities held decreased $317,557 during the month. The total unrestricted cash balance at month end was $6,004,429 and 106.3% of the Designated Cash Reserves are funded.

At June 30, 2023, 54% of the District's Portfolio was invested in California's Local Agency Investment Fund (LAIF), 19% in Time Certificates of Deposit, 21% in a Treasury Note, 3% in the Marin County Treasury, and 3% retained locally for operating purposes. The weighted average maturity of the portfolio was 98 days, compared to 104 days at the end of May. The LAIF interest rate for the month was 3.17%, compared to 2.99% the previous month. The weighted average Portfolio rate was 4.29%, compared to 4.49% for the prior month.

Investment Transactions for the month of June are listed below:

6/8/2023	LAIF	US Bank	$250,000.00	Trsf from LAIF account
6/22/2023	LAIF	US Bank	$900,000.00	Trsf from LAIF account
6/29/2023	US Bank	Hughes Fed CU Tuscon AZ	$248,000.00	Purchase 5.25% TCD due 6/30/25

NORTH MARIN WATER DISTRICT
AUDITOR-CONTROLLER'S MONTHLY REPORT OF INVESTMENTS
June 30, 2023

Type	Description	S&P Rating	Purchase Date	Maturity Date	Cost Basis[1]	6/30/2023 Market Value	Yield[2]	% of Portfolio
LAIF	State of CA Treasury	AA-	Various	Open	$20,254,456	$19,947,166	3.17% [3]	**54%**
Time Certificate of Deposit								
TCD	Enerbank	n/a	9/25/20	9/25/24	249,000	234,098	0.45%	1%
TCD	Sallie Mae Bank	n/a	8/18/21	8/18/23	249,000	247,317	0.35%	1%
TCD	UBS Bank	n/a	9/9/21	9/11/23	249,000	246,564	0.35%	1%
TCD	BMW Bank	n/a	8/20/21	2/20/24	249,000	241,376	0.45%	1%
TCD	Goldman Sachs Bank	n/a	1/19/22	1/19/24	249,000	242,853	0.75%	1%
TCD	Ally Bank	n/a	2/24/22	2/23/24	248,000	241,531	1.30%	1%
TCD	Greenstate Credit Union	n/a	3/15/22	3/15/24	249,000	242,472	1.60%	1%
TCD	Capital One Bank	n/a	4/7/22	4/8/24	247,000	241,048	2.20%	1%
TCD	Capital One Bank, N.A.	n/a	4/20/22	4/22/24	247,000	241,023	2.35%	1%
TCD	American Express Natl Bank	n/a	5/4/22	5/6/24	246,000	240,233	2.60%	1%
TCD	BMO Harris Bank	n/a	6/10/22	6/10/24	246,000	239,993	2.80%	1%
TCD	GE Credit Union	n/a	6/29/22	6/28/24	249,000	243,638	3.25%	1%
TCD	Beal Bank	n/a	7/13/22	7/10/24	246,000	240,072	3.05%	1%
TCD	Synchrony Bank	n/a	8/5/22	8/5/24	245,000	239,382	3.30%	1%
TCD	Discover Bank	n/a	9/13/22	9/13/24	245,000	239,149	3.40%	1%
TCD	Sharonview Credit Union	n/a	10/17/22	10/17/24	249,000	245,562	4.35%	1%
TCD	Popular Bank	n/a	11/9/22	11/7/24	247,000	244,743	4.75%	1%
TCD	Dannemora Fed Credit Union	n/a	11/10/22	11/10/23	249,000	248,464	4.70%	1%
TCD	Greenwood Credit Union	n/a	11/21/22	11/21/23	248,000	247,567	4.85%	1%
TCD	Alabama Credit Union	n/a	11/22/22	11/22/24	248,000	246,185	4.90%	1%
TCD	Community West Credit Union	n/a	12/19/22	12/19/24	249,000	246,751	4.78%	1%
TCD	Connexus Credit Union	n/a	12/20/22	12/20/23	248,000	247,655	5.00%	1%
TCD	Austin Telco Fed Credit Union	n/a	1/27/23	1/27/25	248,000	246,011	4.90%	1%
TCD	First Tech Fed Credit Union	n/a	2/17/23	2/18/25	249,000	246,755	4.85%	1%
TCD	Keybank National Assoc	n/a	3/15/23	3/17/25	243,000	241,317	5.00%	1%
TCD	Morgan Stanley Bnk NA	n/a	4/6/23	4/7/25	244,000	241,868	4.90%	1%
TCD	Morgan Stanley Private Bnk	n/a	4/6/23	4/7/25	244,000	241,868	4.90%	1%
TCD	Raiz Federal Credit Union	n/a	5/11/23	5/12/25	248,000	245,536	4.85%	1%
TCD	Hughes Federal Credit Union	n/a	6/29/23	6/30/25	248,000	247,295	5.25%	1%
					$7,175,000	**$7,058,326**	**3.13%**	**19%**
US Treasury Notes								
Treas	Treasury Note	n/a	5/23/23	10/19/23	**$8,041,143**	**$8,080,154**	**5.23%**	**21%**
Other								
Agency	Marin Co Treasury	AAA	Various	Open	$1,049,998	$1,049,998	0.67%	3%
Other	Various	n/a	Various	Open	1,247,066	1,247,066	0.12%	3%
			TOTAL IN PORTFOLIO		**$37,767,662**	**$37,382,709**	**4.29%**	**100%**

Weighted Average Maturity = **98 Days**

LAIF: State of California Local Agency Investment Fund.

TCD: Time Certificate of Deposit.

Treas: US Treasury Notes with maturity of 5 years or less.

Agency: STP State Revolving Fund Loan Reserve.

Other: Comprised of 5 accounts used for operating purposes. US Bank Operating Account, US Bank STP SRF Loan Account, US Bank FSA Payments Account, Bank of Marin AEEP Checking Account & NMWD Petty Cash Fund.

1 Original cost less repayment of principal and amortization of premium or discount.

2 Yield defined to be annualized interest earnings to maturity as a percentage of invested funds.

3 Earnings are calculated daily - this represents the average yield for the month ending June 30, 2023.

Interest Bearing Loans	Loan Date	Maturity Date	Original Loan Amount	Principal Outstanding	Interest Rate
Marin Country Club Loan	1/1/18	11/1/47	$1,265,295	$1,060,789	1.00%
Marin Municipal Water - AEEP	7/1/14	7/1/32	$3,600,000	$1,777,295	2.71%
Employee Housing Loan (1)	3/30/15	3/30/30	250,000	250,000	Contingent
TOTAL INTEREST BEARING LOANS			**$5,115,295**	**$3,088,084**	

The District has the ability to meet the next six months of cash flow requirements.

8/15/23

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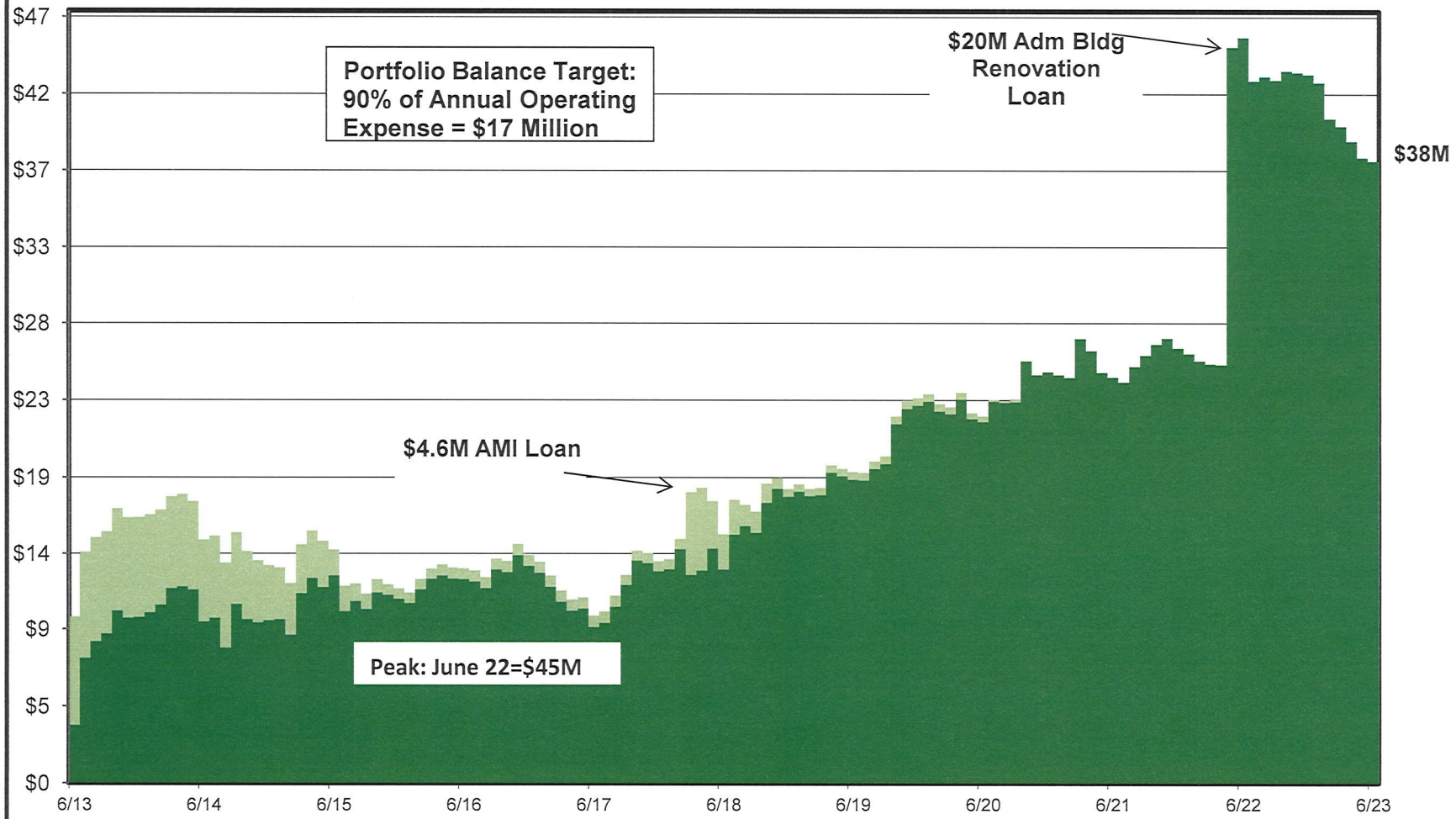
NMWD Portfolio Balance

10-Year History



8/15/23

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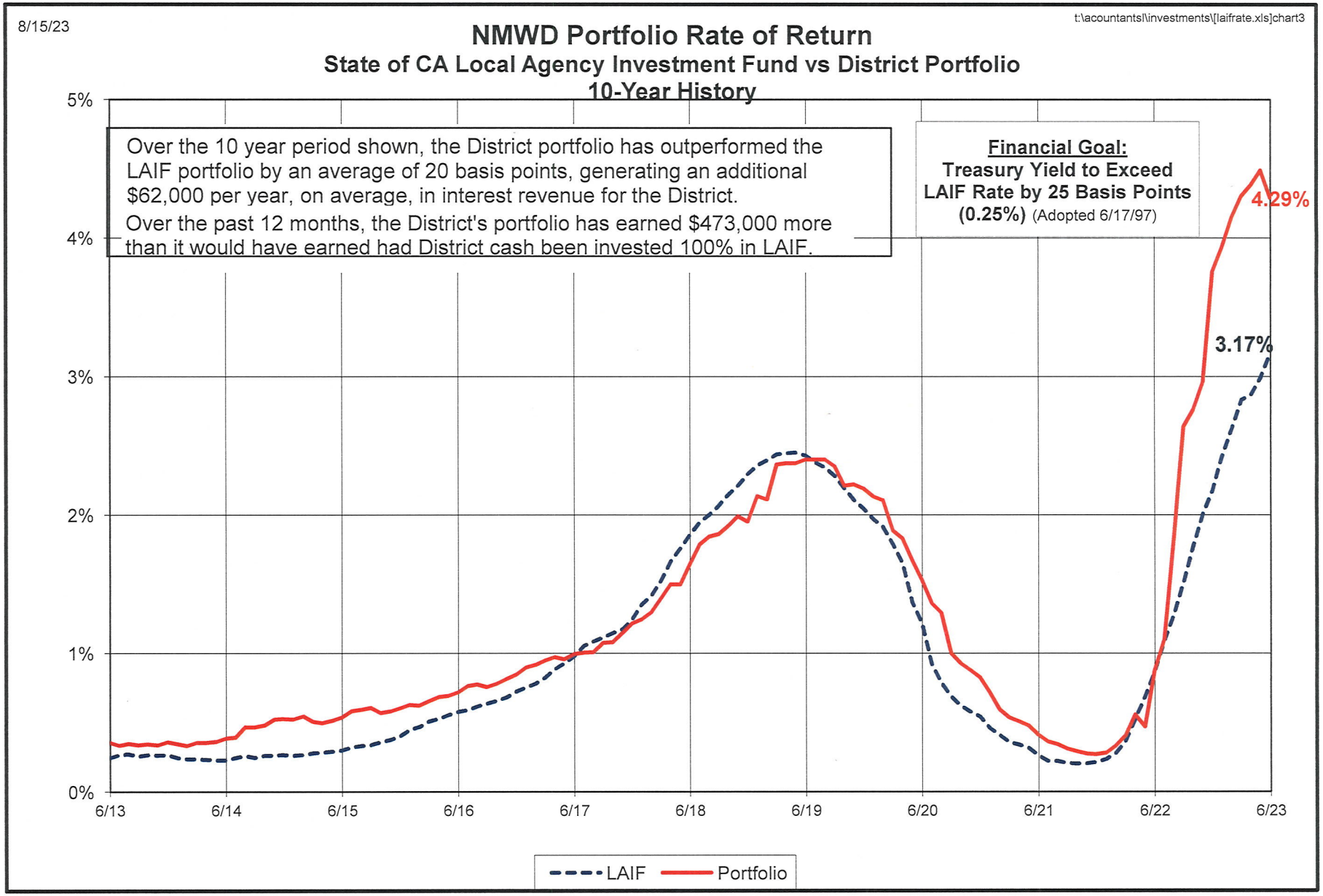
NMWD Portfolio Rate of Return

State of CA Local Agency Investment Fund vs District Portfolio

10-Year History



NORTH MARIN WATER DISTRICT

MEMORANDUM

To: Board of Directors August 15, 2023

From: Nancy Williamson, Accounting Supervisor

Subj: Information – FY23 4th Quarter Labor Cost Report NW
t:\ac\word\memo\23\3rd qtr labor cost rpt.doc

RECOMMENDED ACTION: Information Only

FINANCIAL IMPACT: None

Total labor cost increased $621,756 (7.0%) from the prior fiscal year and is $1,068,359 (10.1%) below the FY23 budget at year-end. The number of FTE's increased from the prior year, due to vacant positions being filled in Engineering and Water Quality. Attached in graphical format is a five-year comparative summary of total labor cost (Attachment A), overtime cost (Attachment B) and temporary employee cost (Attachment C) expended during each fiscal year. Also attached is a summary of total labor cost vs. budget (Attachment D) through the end of the third quarter of the fiscal year.

Department	Increase / (Decrease) in Labor Cost vs prior FY	% Change
Administration	$114,885	5.1%
Engineering	$155,691	9.3%
Operations/Maint	$383,973	11.9%
Construction/Maint	($32,793)	(1.9%)
Net Increase/(Decrease)	$621,756	7.0%

Comment on Change from Prior Year

Administration: Labor Cost increased $114,885, or 5.1%. The increase was due to six 5% step increases, more overtime hours worked and to the 4.0% cost of living adjustment (COLA) effective October 1, of 2022.

Engineering: Labor Cost increased $155,691, or 9.3%. The increase was due to the addition of a Junior Engineer on September 26, 2022, seven 5% step increases and to the October 2022 COLA.

Operations/Maintenance: Labor Cost increased $383,973, or 11.9%. The increase was due the addition of a Lab Tech on July 1, 2022, to thirteen 5% step increases, more overtime hours worked and to the October 2022 COLA.

Construction/Maintenance: Labor Cost decreased $32,793, or 1.9%. The decrease was due to less On-Call and overtime pay this year compared to last year. The decrease was offset by ten 5% step-increases and the October 2022 COLA.

8/15/23

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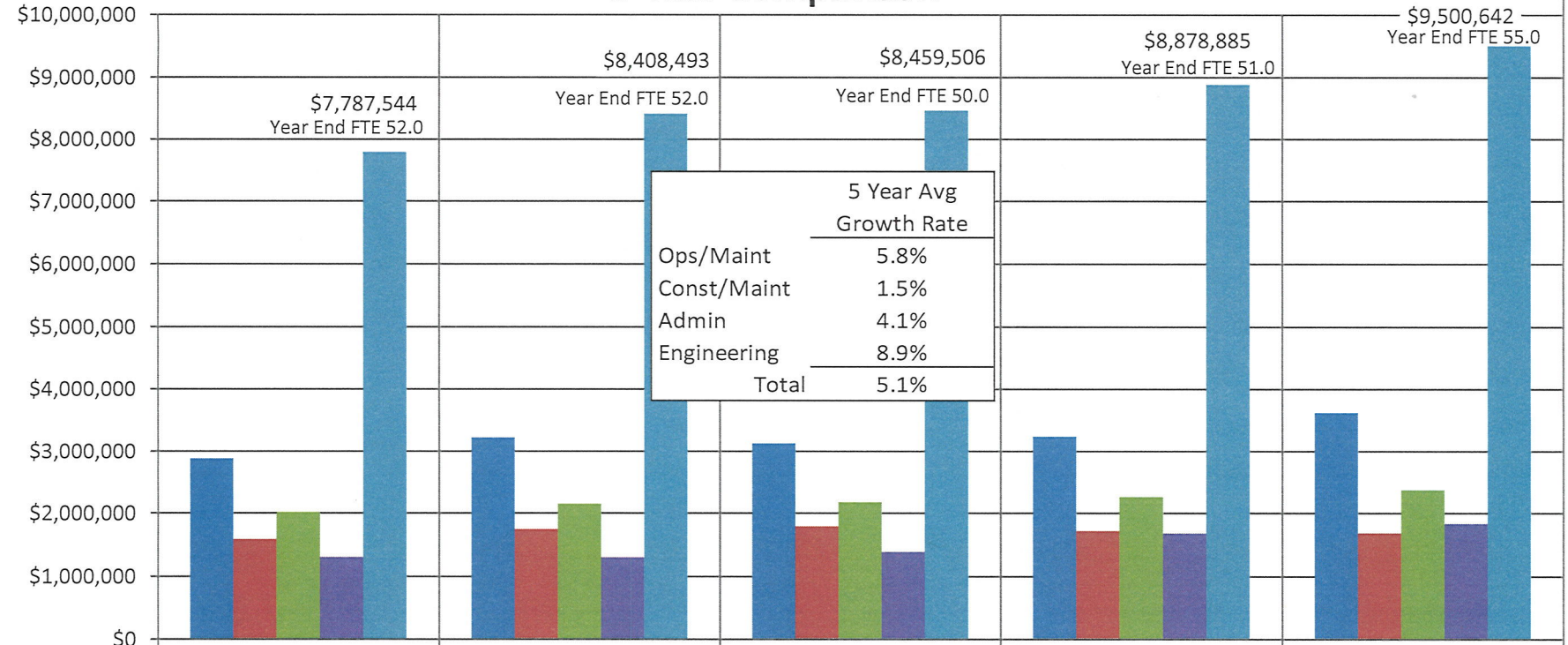
Total Labor Cost
NMWD Fiscal Year through June
5-Year Comparison



	Jul 18 - June 19	Jul 19 - June 20	Jul 20 - June 21	Jul 21 - June 22	Jul 22 - June 23
Ops/Maint	$2,882,130	$3,220,562	$3,121,644	$3,233,242	$3,617,216
Const/Maint	$1,586,759	$1,743,053	$1,786,030	$1,715,869	$1,683,075
Admin	$2,013,966	$2,143,949	$2,166,077	$2,251,961	$2,366,846
Eng	$1,304,690	$1,300,930	$1,385,754	$1,677,813	$1,833,504
Total	$7,787,544	$8,408,493	$8,459,506	$8,878,885	$9,500,642

ATTACHMENT A

8/15/23

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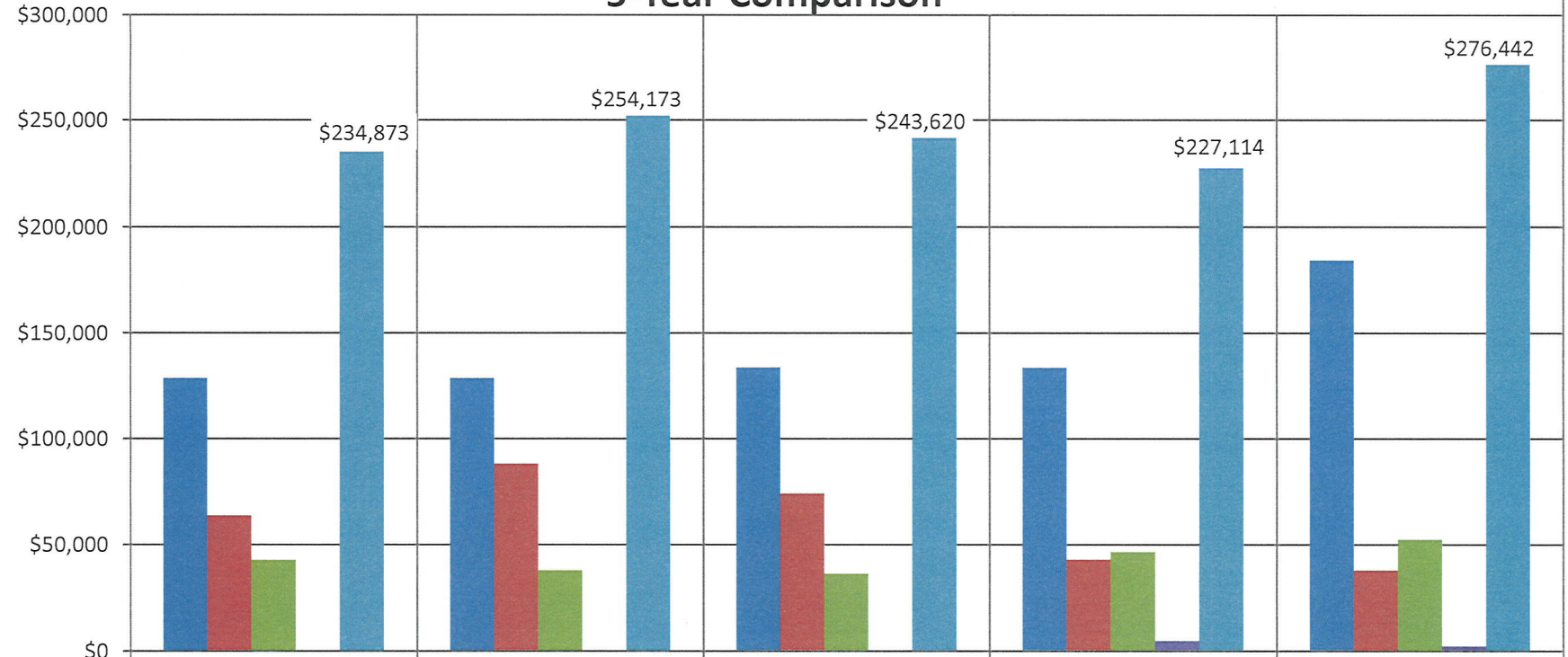
Overtime Cost
NMWD Fiscal Year through June
5-Year Comparison



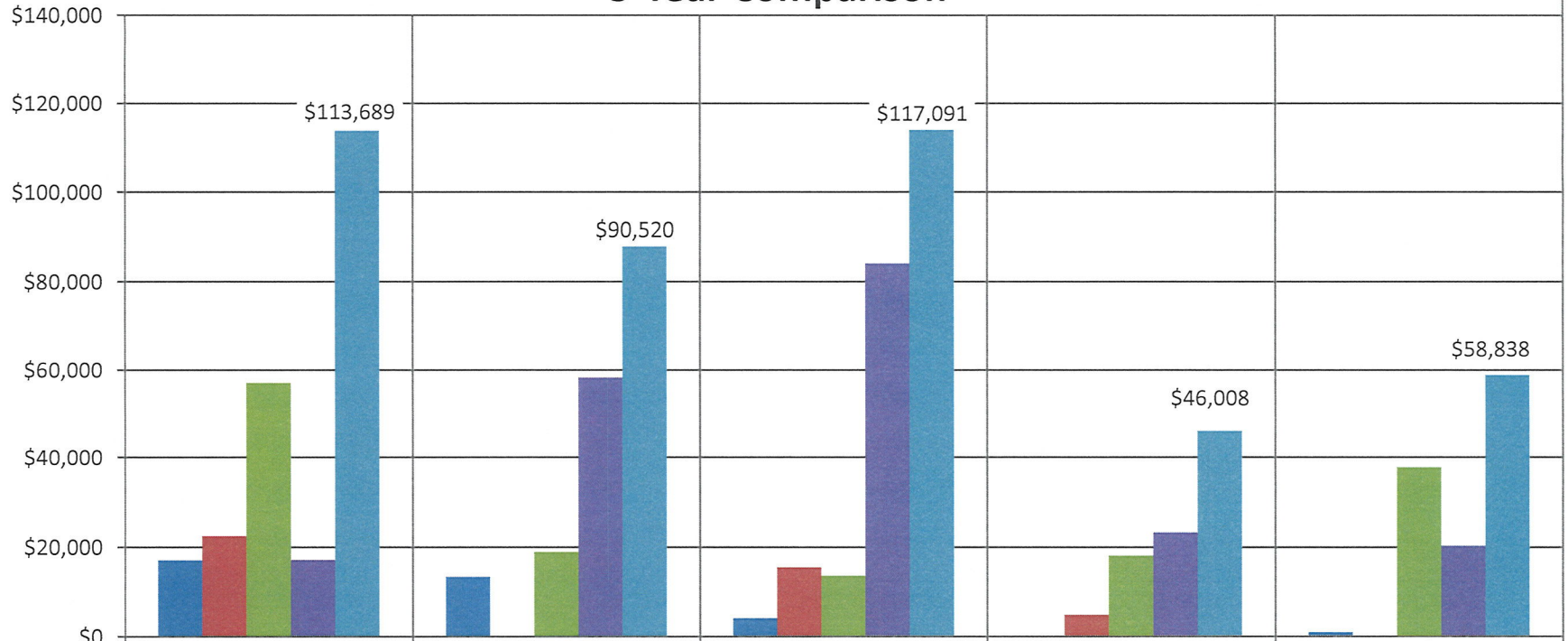
	Jul 18 - June 19	Jul 19 - June 20	Jul 20 - June 21	Jul 21 - June 22	Jul 22 - June 23
Ops/Maint	$128,477	$128,558	$133,551	$133,328	$184,112
Const/Maint	$63,673	$87,871	$73,948	$42,797	$37,861
Admin	$42,723	$37,744	$36,122	$46,312	$52,262
Eng				$4,678	$2,208
Total	$234,873	$254,173	$243,620	$227,114	$276,442

ATTACHMENT B

8/15/23

t:\finance\hrsrpt\FY23 4th qtrlabor cost report\temp $ chart.xls

Temporary Employee Cost
NMWD Fiscal Year through June
5-Year Comparison



	Jul 18 - June 19	Jul 19 - June 20	Jul 20 - June 21	Jul 21 - June 22	Jul 22 - June 23
Ops/Maint	$17,053	$13,380	$4,038		$900
Const/Maint	$22,418		$15,456	$4,760	
Admin	$57,077	$18,883	$13,546	$18,033	$37,664
Eng	$17,142	$58,257	$84,051	$23,215	$20,274
Total	$113,689	$90,520	$117,091	$46,008	$58,838

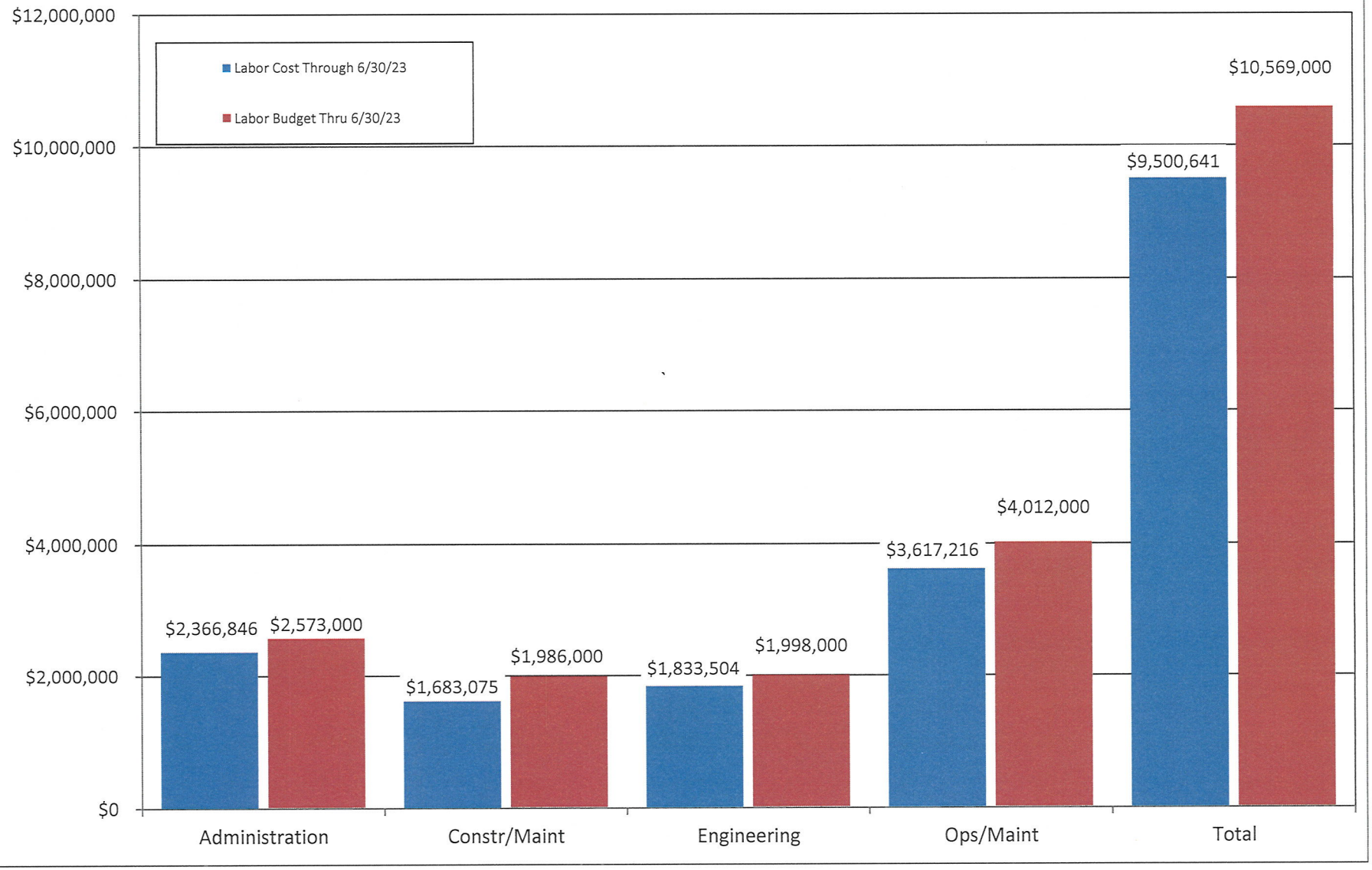
Ops/Maint Const/Maint Admin Eng Total

ATTACHMENT C

8/15/23

\finance\hrsrpt\labor cost compared to budget fy23\salary chart.xls

Total Labor Cost vs. Budget
NMWD Fiscal Year through June



ATTACHMENT D

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EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION

issued by
CLIMATE PREDICTION CENTER/NCEP/NWS

13 July 2023

ENSO Alert System Status: El Niño Advisory

Synopsis: **There is a greater than 90% chance that El Niño will continue through the Northern Hemisphere winter.**

In June, a weak El Niño was associated with above-average sea surface temperatures (SSTs) across the equatorial Pacific Ocean [Fig. 1]. Nearly all of the weekly Niño indices were at or in excess of +1.0°C: Niño-3.4 was +1.0°C, Niño-3 was +1.5°C, and Niño1+2 was +3.3°C [Fig. 2]. Area-averaged subsurface temperatures anomalies increased compared to May [Fig. 3], with positive anomalies below the surface of the equatorial Pacific Ocean [Fig. 4]. In contrast, the tropical atmospheric anomalies were weaker compared to the oceanic anomalies. For the June monthly average, low-level winds were near average over most of the equatorial Pacific. Upper-level wind anomalies were easterly over the western Pacific and westerly over the eastern Pacific. Convection and rainfall were enhanced around the International Date Line and were weakly suppressed in the vicinity of Indonesia [Fig. 5]. The equatorial Southern Oscillation Index (SOI) remained negative (0.5 standard deviations below average), while the traditional, station-based SOI was near zero. Collectively, the coupled ocean-atmosphere system reflected a weak El Niño.

The most recent IRI plume indicates El Niño will persist through the Northern Hemisphere winter 2023-24 [Fig. 6]. Forecasters favor continued growth of El Niño through the fall, peaking this winter with moderate-to-strong intensity (81% chance of November-January Niño-3.4 ≥ 1.0°C). An event that becomes "historically strong" (seasonally averaged Niño-3.4 ≥ 2.0°C), rivaling the winters of 1997-98 or 2015-16, has an approximately 1 in 5 chance. In summary, there is a greater than 90% chance that El Niño will continue through the Northern Hemisphere winter [Fig. 7].

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site (El Niño/La Niña Current Conditions and Expert Discussions). Additional perspectives and analysis are also available in an ENSO blog. A probabilistic strength forecast is available here. The next ENSO Diagnostics Discussion is scheduled for 10 August 2023.

To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: ncep.list.enso-update@noaa.gov.

Sonoma Water

Via Electronic Filing

August 3, 2023

Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Pacific Gas and Electric Company, Potter Valley Hydroelectric Project No. 77-313; Application for Temporary Variance of Flow Requirements

Dear Secretary Bose:

Pursuant to the Federal Energy Regulatory Commission's ("Commission" or "FERC") July 5, 2023 Notice of Application Accepted for Filing and Soliciting Comments, Motions to Intervene, and Protests, Sonoma County Water Agency ("Sonoma Water") provides the following comments in response to Pacific Gas and Electric Company's ("PG&E") May 22, 2023 flow variance request.

PG&E seeks a variance from the minimum flow requirements of Article 52 of the Potter Valley Project ("Project") license due to limited storage in Lake Pillsbury resulting from PG&E's drawdown of the reservoir for dam safety. Because of the limited storage, PG&E expects water availability for downstream releases to be similar to dry year conditions. PG&E also is concerned that if Lake Pillsbury storage drops too low it could result in bank sloughing. To preserve Lake Pillsbury storage and maintain cooler water release temperature for federal Endangered Species Act-listed fish in the Eel River, PG&E would reduce summertime releases in the East Branch Russian River at Gaging Station E-16 to between 25 cubic feet per second ("cfs") and 5 cfs. Releases would be adjusted based on Lake Pillsbury storage and temperature monitoring. Minimum summertime releases into the East Branch Russian River in a normal water year would be 75 cfs. The drought variance would end when Lake Pillsbury storage exceeds 36,000 acre-feet after October 1, 2023.

Sonoma Water is a special district created by an act of the California State Legislature.[1] Among other powers, this act authorizes Sonoma Water to produce and furnish surface water and groundwater for beneficial uses and to maintain recreation in connection with flood control and water conservation works. Sonoma Water historically has been the water manager in the Russian River watershed. Sonoma Water provides wholesale water supplies for over 600,000 people in Sonoma and Marin Counties, and also provides flood control and sanitation services. Sonoma Water holds appropriative water rights to divert and use water from the Russian River and to store water in Lake Mendocino and Lake Sonoma for beneficial uses. Sonoma Water operates the water-supply pools in these reservoirs and a water transmission system that diverts water from the Russian River and delivers it to several retail water purveyors in Sonoma and Marin Counties.

[1] *See* Cal. Water Code App. §§ 53-1 through 53-37 (West 1999 & 2017 Supp.) (1949 Cal. Stat., p. 1793, ch. 994, as amended).

Sonoma Water actively participated in the proceedings before the Commission that resulted in the 2004 amendment to PG&E's license for the Project.[2] Sonoma Water also has participated in previous Commission proceedings relating to PG&E's requests to reduce Project flows into the Russian River, and is a member of the Potter Valley Drought Working Group originally formed by PG&E to monitor summer reservoir levels in Lake Pillsbury during California's multi-year drought.

Sonoma Water is subject to a Biological Opinion issued by the National Marine Fisheries Service in September 2008 (the "Russian River Biological Opinion"). The Russian River Biological Opinion requires Sonoma Water to implement numerous measures to improve habitat for three salmonid species listed as threatened or endangered under the federal and state Endangered Species Acts (Chinook salmon, coho salmon, and steelhead).[3] Water storage levels in Lake Mendocino are critically necessary to maintain adequate flows and water temperatures in the upper Russian River[4] for migration, spawning and rearing of Chinook salmon and steelhead. All three listed salmonid species could suffer significant harm if Lake Mendocino water levels were to drop to very low levels. The amounts of water the Project imports from the Eel River into the Russian River watershed significantly affect the amounts of inflow and storage levels in Lake Mendocino.

Sonoma Water agrees with PG&E's proposal to maintain an initial target flow of 25 cfs into the East Branch Russian River, adjusting downward only if necessary to maintain sufficient storage in Lake Pillsbury to ensure cold water releases for Eel River fisheries and to prevent bank sloughing. Maintaining adequate flows into the East Branch Russian River will benefit both water supply and listed fish species in the Russian River.

If you have any questions, please contact Grant Davis at Grant.Davis@scwa.ca.gov or (707) 547-1911.

Sincerely,

Grant Davis
General Manager

---

2 *See* FERC docket for Project No. 77-110.

3 Pursuant to California Water Code Section 2080.1, the Director of the California Department of Fish and Wildlife has determined that authorizations in the Russian River Biological Opinion are consistent with the California Endangered Species Act, California Water Code Sections 2050-2115.1.

4 The "upper Russian River" is the Russian River from the confluence of the East and West Forks, which is located approximately one mile below Lake Mendocino, to the river's confluence with Dry Creek.

Pacific Gas and Electric Company

Power Generation

300 Lakeside Drive
Oakland, CA 94612
Mailing Address:
Mail Code N11D
P.O. Box 770000
San Francisco, CA 94177

July 31, 2023

Via Electronic Submittal (E-File)

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Office of Energy Projects
888 First Street, N.E.
Washington, DC 20426

RE: Potter Valley Hydroelectric Project, FERC No. 77-CA
2023 Long-Term Flow Regime Request Due to Restricted Storage Capacity

Dear Secretary Bose:

This letter presents Pacific Gas and Electric Company's (PG&E) request for a long-term flow regime for PG&E's Potter Valley Project (Project), Federal Energy Regulatory Commission (FERC) No. 77. PG&E is evaluating the seismic risk at Scott Dam as part of its Dam Safety Program. Recently, PG&E dam safety engineers determined that the seismic risk may be more significant than previously understood. To reduce the potential seismic risk, PG&E has determined the radial gates at Scott Dam will remain open indefinitely, reducing the water storage capacity in Lake Pillsbury by approximately 20,000 acre-feet (af).

In a letter to PG&E dated April 12, 2023, the California Department of Water Resources, Division of Safety of Dams (DSOD), concurred with PG&E's finding and instituted a year-round operation restriction of the reservoir of Scott Dam to an elevation of 1,900 feet (PG&E datum). In a letter to PG&E dated April 28, 2023, FERC concurred with PG&E's findings of potential for seismic instability. With the dam's radial gates remaining open, water availability will be similar to drought conditions experienced in 2020 and 2021, when Lake Pillsbury's spring inflow did not reach the spillway crest elevation and the Project operated under FERC-approved flow variances.

On July 8, 2022, PG&E submitted a proposed plan and schedule for preparing and filing the surrender application and decommissioning plan for the Project. PG&E anticipates filing the surrender application and decommissioning plan by January 2025.

Given that the Project is not expected to return to historical normal operations that were the underlying basis for the license-required flows, PG&E is requesting a departure from the current license requirements from 2024 until Project Decommissioning is completed. Specifically, the proposed flow regime until Project Decommissioning would reduce East Branch Russian River (EBRR) flows in the summer and fall to proactively manage reservoir storage in a manner that protects Project facilities and minimizes potential

impacts to aquatic species in the Eel River, including salmonid species that are protected under the federal Endangered Species Act (ESA). In addition, per FERC's letters dated March 28, 2023, and April 28, 2023, PG&E has been engaged in discussions with agencies to develop this proposal to ensure license-required flows (as may be modified by FERC) can be satisfied while the spillway gates remain open indefinitely.

Current License Requirement

Article 52 of the Project license, which was added to the license through an amendment issued January 28, 2004, requires PG&E to implement the National Marine Fisheries Service (NMFS) Reasonable and Prudent Alternative (RPA). The RPA (license-prescribed flows) includes requirements for the minimum instream flows of the Project. It should be noted that PG&E has requested flow variances in 7 out of the last 10 years when the spillway gates were in operation, and the need for flow variances demonstrates that current license-prescribed flows will be unobtainable in nearly all years with the gates permanently inoperable and the reservoir storage restriction in place.

Long-Term Flow Regime Request Conditions

An outline of the longer-term variance (long-term flow regime) is proposed below and has been developed in coordination with the U.S. Fish and Wildlife Service (USFWS), NMFS, California Department of Fish and Wildlife (CDFW), and the Round Valley Indian Tribes (RVIT) (hereafter Agencies).

First, the need for the proposed Long-Term Flow Regime is expected to begin in January 2024 and extend until Project Decommissioning is completed, and the “variance period” for each year is defined as the period from May 16 until Lake Pillsbury storage exceeds 36,000-acre feet (af) after October 1 of each year.

Second, the following conditions will serve as the foundation of the long-term flow regime and encompasses NMFS recommended Interim Protective Measures (IPMs):

- Gaging Station E-2 will be reclassified as a Critical Water Year Type (WYT). In practice, the E-2 flows will be the combined releases for E-11, E-16, and Potter Valley Irrigation District, with a floor set by the minimum opening of the low-level outlet (approximately 35 cubic feet per second [cfs]).
- Gaging Station E-16 flows will initially be reclassified as a Dry WYT (25 cfs). Based on storage and water temperature projections, with PG&E and Agency coordination, flows at E-16 may be adjusted between 5 (Critical WYT – 5 cfs) and 25 cfs (Dry WYT _25 cfs) when mean daily water temperatures at E-2 exceed 16 degrees Celsius to maintain cooler water temperatures for ESA-listed salmonid species downstream of Scott Dam. Additionally, E-16 flows can also be adjusted if the Lake Pillsbury storage forecast shows a reduction is needed to preserve adequate storage through the end of the year (or prolonged dry period).

Gaging Stations E-11 and E-16 will be used to measure a target flow, rather than a minimum flow. Flows will be calculated as a 24-hour average, measured at E-11 and E-16, rather than instantaneous. This will allow for a tighter compliance buffer on minimum instream flows to conserve water.

- Gaging Station E-11 license-prescribed minimum instream flows will remain unchanged, unless modified upon mutual agreement between PG&E and the Agencies.
- Each year, the Drought Working Group (DWG) will meet once monthly beginning in May to discuss storage levels, release flow rates, water temperature profiles, release temperatures, and estimated temperature projections at E-2. Monthly meetings will continue until the reservoir exceeds 36,000 af after October 1.
- PG&E will submit monthly storage reports to FERC during the variance period.
- During the variance period, PG&E will submit monthly flow and storage reports to FERC.

Third, additional diversions may be allowed to EBRR when Lake Pillsbury is spilling, and all targeted environmental conditions (as determined by the Agencies) are satisfied in the Eel River. Diversions are limited by the bypass pipe capacity of approximately 135 cfs and using appropriate ramping rates and diversion thresholds (exemption from Section E.5 of the RPA). The Agencies will develop initial guidelines to submit to FERC by November 30, 2023, for minimum E-11 flow thresholds for spill diversions to E-16 to commence and end, as well as diversion ramping rates. PG&E may then develop an alternative E.5 diversion prescription based on Agency guidelines, which may be implemented upon Agency review and approval. These guidelines may be refined in subsequent years based on the mitigation monitoring efforts described below. PG&E will inform stakeholders of possible discretionary diversions, details of which will be included in the guidelines submitted by November 30, 2023.

Fourth, to allow for flexible management in the event of severe Lake Pillsbury storage depletions that could pose future risk to dam infrastructure stability, minimum instream flows at compliance points (including E-11 flows to the Eel River) may be further modified annually upon mutual written agreement between PG&E and the Agencies. If proposed flow regimes are agreed upon, PG&E will notify FERC within 30 days of reaching an agreement with the Agencies, or no later than May 1 of every year. If no adjustments are needed, the flows will automatically conform to the conditions outlined above. If FERC does not respond with objections within 15 days of PG&E's submittal, the proposed flow regime developed by PG&E and reviewed by the Agencies will go into effect on May 16 of each year.

Flows downstream of Scott Dam will return to the license-prescribed flows when Lake Pillsbury storage exceeds 36,000 af following October 1 of each year (i.e., end of variance period). This 36,000 af storage threshold would allow the reservoir to meet minimum flow obligations, including a possible block water release, through January of the following year in the event of extremely low inflow in early winter.

Impacts, Interim Protective Measures, and Agency Consultation

This long-term flow-regime request details anticipated environmental effects of the proposal related to flow modifications that may be necessary to leave the spillway gates open indefinitely, avoidance and minimization measures that will be implemented, and documentation of consultation with the Agencies.

Anticipated Biological Impacts

PG&E biologists have reviewed this long-term flow regime proposal and believe that the proposed long-term flow regime is necessary to conserve water in Lake Pillsbury to provide adequate flow releases and suitable water quality conditions for the long-term protection of Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*O. mykiss*), and coho salmon (Oncorhynchus *kisutch*) in the watershed.

Eel River below Lake Pillsbury and Van Arsdale Reservoir

The primary ESA-listed fish species impacted by the Potter Valley Project are Chinook salmon and steelhead trout. Life stages of these species that could potentially be in the river and whose habitat conditions are influenced by project operations during the flow variance period are adult steelhead trout (pre- and post-spawn) and juvenile Chinook salmon and steelhead trout. If the variance extends beyond October, adult Chinook salmon will also be present in the mainstem Eel River. Coho are primarily found in the South Fork Eel River although a small population persists in Outlet Creek, a tributary stream to the mainstem Eel River approximately 30 river miles downstream of Cape Horn Dam. Although critical coho habitat is present in the project area, Coho have been reported only four times at Van Arsdale Fisheries Station (located at PG&E's Cape Horn dam), 47 fish in 1946/47, one fish 1984/85, one fish in 2000 and four in 2001 (NMFS report issued November 26, 2002).

Adult steelhead trout migrate into the upper Eel River watershed to spawn primarily from January through April. Under the proposed long-term flow regime, it is expected that flows in the Eel River for adult steelhead trout migration and spawning would not be reduced below the license-prescribed flows.

Juvenile Chinook salmon remain in the river for several weeks after hatching and then migrate to the ocean during spring (typically April–June), as flows decline, and water temperatures increase. Juvenile steelhead trout, which typically spend 1 or more years in the river before migrating to the ocean during late winter and spring (typically February–June), require suitable habitat conditions throughout the summer. Under the variance proposal, available spring rearing habitat in the Eel River between Scott Dam and Cape Horn Dam could be reduced after May 15, although an increase in spring flows followed by a decrease to summer levels, as prescribed by the license flows, would still occur under the variance proposal, thus providing important migration cues for downstream migrating fish.

The proposed variance would reduce minimum flows in the Eel River between Scott Dam and Cape Horn Dam to preserve storage in Lake Pillsbury. Anticipated impacts to Chinook salmon and steelhead trout would be similar to those experienced during drought conditions in 2020–2022 when the Project operated under FERC-approved temporary flow variances. These impacts include a reduced cool-water pool in the reservoir, which could cause increased water temperatures in the reach between Scott Dam and Cape Horn Dam and decreased available habitat between the dams because of lower flows and higher water temperatures. Although available summer rearing habitat for steelhead trout would be reduced under the proposed variance, minimum flows between the dams would remain above the E-2 “Critical” classification prescribed by the license. Summertime flow requirements in the Eel River below Cape Horn Dam under the proposed variance would remain unchanged from the license flows, unless modified in consultation and agreement with the Agencies.

Transitioning into fall and winter, the proposed flow variance is the prudent action, given reduced storage capacity in Lake Pillsbury and the unpredictability of future storm activity and inflow conditions. Implementation of the proposed flow variance will conserve water in Lake Pillsbury and support suitable water quality conditions for aquatic resources below Scott Dam. It will also reduce the risk of reservoir bank erosion and sloughing at low reservoir storage levels that could limit PG&E's ability to make releases at Scott Dam, which could in turn impact downstream aquatic resources (including Chinook salmon and steelhead trout) because of changes in flow, high levels of turbidity, and sedimentation.

Overall, the ability to increase winter diversions to the Russian River when Scott Dam is spilling, combined with reduced flow releases based on springtime reservoir storage, would allow PG&E to support Russian River water needs to the extent possible, and protect Project facilities that provide suitable flow and water temperatures for Eel River fisheries.

East Branch Russian River

The primary fish species of interest in the EBRR downstream of the powerhouse is resident rainbow trout (*O. mykiss*). Both natural origin and hatchery rainbow trout inhabit this stream reach. CDFW historically planted catchable resident rainbow trout to support the local sport fishery; however, planting activities have been reduced in recent years because of persisting drought conditions and lower flows. Under the variance, flows in the EBRR would be reduced from a Normal to either a Dry or Critical classification (25 cfs to 5 cfs), resulting in a reduction in habitat for rainbow trout and other aquatic species. In turn, this would likely result in the continuation of reduced sport fishing opportunities for the duration of the long-term flow regime.

Interim Protective Measures

PG&E met with NMFS to discuss their recommended Interim Protective Measures (IPMs) on April 5, 2023, and April 11, 2023, and CDFW on May 31, 2023, followed by a joint Agency meeting on June 12, 2023, and July 14, 2023. In partnership with the Agencies, PG&E developed this longer-term variance approach to address the reservoir restriction and minimize or avoid impacts to ESA-listed salmonids by implementing NMFS' recommended IPMs (as described in NMFS March 16, 2022, letter to FERC) while PG&E prepares and implements the surrender application and Decommissioning Plan for the Project. Water temperature data and previous scenarios will inform this long-term variance based on Lake Pillsbury storage and inflow, escapement/abundance of Chinook salmon and steelhead, and water temperature.

Below is the outline of the IPMs PG&E will implement in coordination with the Agencies under the long-term variance as part of mitigation for the reservoir restriction:

- PG&E will complete and use the Lake Pillsbury CE-QUAL water temperature model in coordination with the Agencies to implement a flexible management approach to reservoir releases during the July through September period. The approach will support the goal of achieving cooler temperatures for ESA-listed salmonids rearing in the reach of Eel River between Scott Dam and Cape Horn Dam.
- PG&E will fund, through a partnership agreement with the Pacific States Marine Fisheries Commission (PSMFC) or mutually agreed upon equivalent, the replacement of CDFW's DIDSON device with a new ARIS system for the monitoring site located on the mainstem Eel River above the confluence with South Fork Eel River, see table 2.
- In partnership with CDFW, and RVIT, PG&E will contribute funding for sonar monitoring for up to 7 months a year at the mainstem Eel River above the confluence with the South Fork Eel River, and the Middle Fork Eel River just upstream of the confluence of the mainstem Eel River at Dos Rios. The contribution amount will be evaluated on an annual basis in coordination with the Agencies to ensure the data are available to inform Project water management decisions.
- PG&E will contribute funding for the RVIT stream gaging program to monitor flow conditions in the main stem of the Eel River and the Rice Fork above Lake Pillsbury and Tomki Creek. The contribution amount will be evaluated on an annual basis in coordination with the Agencies to ensure the data are available to inform Project water management decisions.
- This contribution also includes funding to RVIT for a temperature probe to be installed and monitored at the U.S. Geological Survey gaging station at Fort Seward or a nearby site.

PG&E, in coordination with the Agencies, will review the above mitigation measures annually to ensure the work provides information useful to Project operations. If review of mitigation measures show they are insufficient, not beneficial or unrelated to Project operations, PG&E, in coordination with the Agencies, will reevaluate the IPMs and revise

mitigation measures as needed. PG&E will inform FERC of mitigation measure changes within 30 days of agreement with the Agencies, and no later than the May 1 notification. A simplified cost table for annual funding can be found in Table 1 below. Funding will be evaluated annually at the Agency meeting and adjusted appropriately to ensure the IPMs mitigate impacts related to the reservoir storage restriction and provide valuable data for Project management. The amount of payment may be adjusted, if necessary, annually based actual increases or decreases in Salaries, Benefits, Services, Supplies, Equipment, Capital Outlay, Overhead, or Administration, which will be discussed annually during the Agency Meeting.

Table 1: Annual IPM costs beginning in 2024.

Item	Entity	Annual Cost
Sonar Monitoring- mainstem Eel River below Fort Seward	CDFW/PSMFC	**$**96,894
Sonar Monitoring- Middle Fork Eel River	RVIT	**$**50,300
Stream Gauge Monitoring and Fort Seward water temperature monitoring	RVIT	**$**80,000
CE-QUAL Reservoir model annual maintenance	PG&E/Stantec	**$**20,000
Total		**$247,194**

Table 2: One-time expenditures.

Item	Entity	Total purchase price
ARIS Sonar Monitoring System	CDFW	**$93,095**

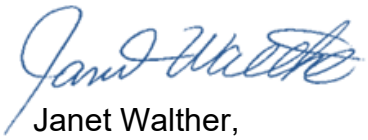
Providing Project license-required flows with the reduced reservoir level has a risk of drawdown rates that could cause destabilization of hillslopes adjacent to the dam outlet works and, in the worst case, causing Lake Pillsbury to reach critical minimum pool levels. PG&E's coordination with the Agencies during the development of this long-term flow regime proposal and the Agencies input provided to PG&E is intended to address and avoid this risk.

PG&E requests that FERC amend the license to incorporate this proposed flow regime developed in consultation with the Agencies.

Enclosed with this request is the correspondence record. Responses were received from CDFW, NMFS, USFWS, and RVIT and are provided in Enclosure 1.

If you have questions, concerns, or comments, please do not hesitate to contact Jackie Pope, license coordinator at (530) 254-4007.

Sincerely,



Janet Walther,
Senior Manager, Hydro Licensing

Enclosure:
1. Agency Responses

NOVATO

Council appoints interim manager for public works

BY WILL HOUSTON

WHOUSTON@MARINIJ.COM

Novato has appointed an interim public works director — a familiar face around the city — as it prepares to search for a longer-term replacement.

The City Council voted unanimously this month to confirm the appointment of Chris DeGabriele, a former North Marin Water District general manager, as interim director for at least the next six months.

DeGabriele will replace Chris Blunk, who stepped down in June after being hired to head the engineering division at the Marin County Department of Public Works. Blunk is set to begin the job in August, according to public works spokesman Julian Kaelon.

DeGabriele headed the North Marin Water District for 22 years before retiring in 2017. He has also worked two stints as interim general manager for the Las Gallinas Valley Sanitary District in San Rafael. Novato plans to pay him $97.46 an hour, with costs not to exceed $101,358, according to a city staff report.

City Manager Adam McGill said it is premature to state whether the city will search for a longer-term replacement internally or as part of a nationwide recruitment.

“I don’t expect us to formally launch until late August at the earliest as summer time is difficult to recruit in,” McGill wrote in an email on Friday. “We should have someone on board by the end of the year.”

Blunk was public works director for four years. He previously worked as a deputy public works director for Novato for two years and as a Caltrans engineer for 10 years.

During his tenure, Blunk oversaw several large projects, including upgrades to Rowland Boulevard near the Vintage Oaks Shopping Center, the completion of the Hill Recreation Area upgrades and the construction of a city-sanctioned camp for homeless residents in Lee Gerner Park, among other projects.

At his last City Council meeting in June, council members praised Blunk for his abilities in public outreach, maneuvering amid budget constraints and clearly explaining complex projects.

“There’s not a person in the community who couldn’t say that he is top drawer and done an amazing job,” Mayor Susan Wernick told Blunk during the meeting.

“Chris has been the best public works director the city has had since I’ve been on the City Council, even before the City Council when I was on the Planning Commission,” Councilmember Pat Eklund said.

DICK SPOTSWOOD

Marin needs to solve issue of confusing, varied ADU fees

Every California county, including Marin, is under the state Legislature's gun to build thousands of new units of housing. The Regional Housing Needs Allocation numbers imposed on each county and municipality must be satisfied or draconian penalties will be imposed.

The state's mandates include requirements for market-rate million-dollar homes as well as workforce housing. The latter is the category that California truly needs to create economically diverse communities.

Marin County's Civil Grand Jury just issued a first-class report entitled, "Build More ADUs — An Rx to Increase Marin's Housing Supply." Accessory dwelling units can either be detached from the main home or be "junior ADUs," which are built within the walls of an existing detached structure. They form the most economically productive and least intrusive way to construct affordable homes.

The report is an analysis of ADUs and positive steps that the state has taken to encourage their construction. It also included a list of bureaucratic inhibitors that Marin communities have — usually due to a "we've always done it this way" process.

Some assert that any new housing including ADUs adds to traffic congestion and will burden overextended schools, police and fire services. While likely true, it's irrelevant since the state will compel localities to build more housing. It's better to encourage affordable housing with the "gentle density" approach of ADUs than going with high-density multi-unit structures. Unless they are exceptionally well designed, those buildings can obliterate any neighborhood's character.

According to a Association of Bay Area Government survey, "When accounting for ADUs rented at market rates, and ADUs rented at discounted rates to families and friends, 29 percent are affordable to very low income households, 44 percent to low income households, 26 percent to moderate income households, and 7 percent to above moderate income households."

Adding an ADU to a Marin home should be much easier. Despite the state's intentions, gaining approval for an ADU is a cumbersome procedure. Despite state law, it's a needlessly cumbersome procedure in Marin.

Almost all governmental entities levy mitigation and impact fees on construction of ADUs. The grand jury uses Novato as an example. There, fees charged on a new ADU total $18,446 when the unit is 700 square feet and jumps to $34,307 when it's 800 square feet. In addition

to those charged by the city, additional fees include Novato Sanitary District ($12,000 per dwelling unit), North Marin Water ($8,675), Novato Unified School District (a 700-square-foot unit is exempt, but an 800-square-foot ADU costs $3,264). Novato's fire district admirably exempts ADUs. In central and southern Marin, Marin Municipal Water District charges no ADU impact fee.

At least Novato residents know what it costs. I went to Corte Madera's Building Department and inquired about costs if I added an ADU to a single-family home. The reply was "we can't tell you until you bring in plans." That's because the town's charges are based on how much time it takes to analyze the plan. Without details they can't compute the fees. Few homeowners will retain an architect without knowing the basic question of what fees they'll pay.

As the report explains, local governments and school districts have "turned to development fees … to generate revenue. Given that California (governments) have tightly restricted funding sources, fees are one of the few ways cities can pay for the indirect costs of growth. If adding low impact affordable housing is the goal, then the model should be the Novato Fire District's feeless process.

Currently, all 11 Marin municipalities and our county government set different guidelines for allowing ADUs. A better approach is for them to expand their ADU coordination efforts by creating uniform practices and standards applicable throughout Marin.

Columnist Dick Spotswood of Mill Valley writes on local issues Sundays and Wednesdays. Email him at spotswood@comcast.net.

How 'poor' Inverness got its water system

...BY THE WAY
BY WADE HOLLAND

This month marks the 75th anniversary of the formation of the Inverness Public Utility District in 1948. An open house is slated at the Inverness firehouse on Aug. 11 from 3 to 6 p.m. (all welcome!). The next day, Saturday, during the Inverness Fair, the Jack Mason Museum will unveil an exhibit honoring IPUD. The summer issue of the museum's quarterly publication, "Under the Gables," features an historical overview of the district written by yours truly. For a PDF of the article, email admin@invernesspud.org.

I'd like to expand on the lead-up to IPUD taking over the water system on Jan. 1, 1980. First, I need to go back to 1948. The intent in forming the district had been to buy the Inverness Water Company, which was available for just $20,000. But each of three attempts to secure voter approval of bonds to finance the purchase fell short of the required two-thirds majority by one or two votes. IPUD ceased to function. The district was revived in 1951 for a different purpose, to provide tax-based support for the volunteer fire brigade that had formed in 1948.

In 1960, the Inverness Water Company was sold to a nationwide conglomerate, Citizens Utilities. By the 1970s, many in Inverness were upset with Citizens over what they perceived as poor customer service and water of questionable quality and reliability. A committee to study public acquisition of the system formed under the leadership of David Plant.

The committee made a startling discovery when the results of the 1970 national census were released: Inverness was designated as a poverty pocket. How so, you ask? The town had become a magnet in the late '60s for a certain socioeconomic class of young folks who had sojourned to the Bay Area for the 1967 Summer of Love and tended to have not much in the way of documentable income to report. Statistically, their numbers and their meagre earnings showed that the town was so "poor" that it was eligible for low-interest loans and copious grant funds to rehabilitate such infrastructure as the water system.

The committee approached IPUD's three-member board of directors in early 1975 about taking advantage of the possible cornucopia of federal assistance to acquire the water company. The seats of two longtime directors, George Ludy and Stewart Purcell, were up for re-election in November. The third member, architect Sim Van der Ryn, was resigning because he was moving to Sacramento to accept his appointment by newly elected Governor Jerry Brown as state architect. That meant all three IPUD seats would be on the ballot.

Ludy had been a stalwart on the board for many years, except for a four-year hiatus after he was elected in 1960 as the county supervisor for West Marin. Notably for the history books, Ludy was part of a renegade faction that successfully ran for supervisor seats on a pledge to stop construction of the Frank Lloyd Wright-designed Civic Center and to repurpose the partially completed structure as, perhaps, a county hospital. When the divisive issue came to a decisive vote, Ludy surprised everyone by changing course and casting the tie-breaking vote in favor of finishing the project as the seat of Marin County's government.

Ludy and Purcell endorsed the Inverness committee's proposal for pursuing public ownership of the water system but asked that others take it on, and they declined to run for re-election in 1975. Thus an entirely new board was elected in November. It consisted of Alan Johnstone, whose father, Bruce, had been the driving force behind the formation of the IPUD in 1948; Richard Plant, a teacher and contractor who is retired today at his home on Vision Road; and Kate Worsley, who resigned a year later after opening the pioneering Papermill organic foods store where Bovine Bakery is today (she was replaced by Arnold Durlacher). The new board voted to increase its size to five members, adding Marjorie Drath, whose late husband, Phil, had stood for Congress on the then-popular Peace & Freedom Party ticket, and Dick Hayes, a popular Little League coach who defiantly welcomed girls on his teams, a move that eventually broke the national Little League's ban on allowing girls to play.

The board also pursued the annexation of Seahaven and the neighborhoods north of Second Valley in preparation for acquiring the two Citizens-owned water systems, Inverness Water Company and Seahaven Water Company. In June 1979, the voters approved, by a 4-1 margin, a bond issue of up to $750,000 for the purchase and rehabilitation of the water systems.

A problem arose when IPUD opened negotiations with Citizens Utilities. To maximize tax benefits, Citizens insisted on gifting the watershed parcels to the Trust for Public Land. IPUD was opposed, because it was virtually assured that T.P.L. would eventually turn the property over to the Point Reyes National Seashore, and IPUD did not want its watershed lands subject to control from Washington. IPUD proposed the land be given to a local conservation organization, such as the Marin Conservation League, but Citizens refused. Neither side would budge, and by the fall negotiations had come to an end.

In mid-December, with an end-of-year deadline to make a deal looming, Citizens signaled that it would give IPUD one last chance to accept its sale offer. IPUD again declined. On Dec. 28, Citizens caved, agreeing to deed the watershed parcels to the Marin Conservation League, which transferred them to IPUD just a few years later.

Thus with only three days' notice and no employees, no office, not even a district phone, IPUD found itself on New Year's Day in the water utility business. George Zigounakis, a Seahaven resident, stepped in to operate the water system, the five directors split up the office and administrative tasks, and the water kept flowing without interruption. It still flows reliably 43 years later.

Wade Holland has been associated with the Inverness Public Utility District since 1975. He was a board member, a board president and the district's first general manager; he currently fills in part-time as the customer services manager.

Rodoni aide departs office

By Sam Mondros

One of Marin County Supervisor Dennis Rodoni's two aides stepped down from the role this summer.

Rhonda Kutter, a Point Reyes Station resident who served as an administrative aide to Supervisor Rodoni since he was elected in 2017, said she planned to leave the position in September but said the move was expedited by a heavy workload and what she called a need for change.

"Things did happen more rapidly than expected and so that's been a bit of a challenge," she said. "I did plan for more time to allow for a transition, but it didn't quite go as smoothly as I hoped."

She added, "[Dennis] is very strategic and has done a good job selecting his aides in serving District Four, but I feel like we have outgrown each other."

Ms. Kutter said she made a concerted effort to amplify West Marin voices during her time in the supervisor's office, inspired by her predecessors and the community she has lived in for over two decades. She helped organize and support projects like the Cleaner California Coast initiative—a partnership between Marin, Mendocino and Sonoma Counties to reduce trash on the coast through education—and the county's reusable foodware ordinance.

Ms. Kutter's lasting impact on Point Reyes Station can be seen in her work with the Point Reyes Station Vil-

Continued on **page 6**

Rodoni aide departs office

Continued from **page 1**

lage Association to create a Dark Sky community, and with Safe Routes to Schools to ensure the pathways to West Marin School are safe for students.

Her dedication to sustainability and keeping the community informed left a mark on her colleagues and those she served. "Rhonda was very special in her understanding of the matters that impacted the community from the lens of the community," said Fernando Barreto, who began working as an aide to Supervisor Rodoni last year. "It was pretty much my inspiration."

Before moving to Point Reyes Station in 2001, Ms. Kutter earned a degree in linguistics from the University of California, Berkeley, and then pivoted to the restaurant industry before spending 15 years working as a massage therapist. While living in San Rafael, she volunteered as a concierge for the City of San Rafael. There she directed citizens, arranged meetings for city officials, assisted officials in revising the massage ordinance and worked on updating the Canal Resource Guide.

"That's really where a lot of my government experience started—as an advocate for different organizations," Ms. Kutter said. "Working as a concierge, whether people wanted to complain about their bosses or a parking ticket they shouldn't have gotten, I was there to listen and tell them where to go."

Supervisor Rodoni said his office is currently interviewing for the position, which he hopes to fill this fall. He will prioritize an aide who lives in District Four, and specifically in West Marin, along with bilingual candidates.

"[Ms. Kutter] always reminded me to reach out to the community," Supervisor Rodoni said. "We are so happy with the work she did, but we understand when time comes for change, and we support that."

For now, Mr. Barreto is the liaison for West Marin residents seeking to communicate with county representatives or learn about social services and opportunities. He has been familiarizing himself with Ms. Kutter's projects for the past year, which he said allowed for a smooth transition.

Mr. Barreto, who worked in international business before moving to Marin from Venezuela in 2016, said his bilingualism has made him especially useful in District Four, with the county's largest Spanish-speaking population. Before he was tapped to replace former aide Lorenzo Cordova, he worked for the Canal Alliance, acting as a liaison for District Four residents during the census and vaccination efforts.

In Bolinas, he has become a familiar face, attending the monthly Bolinas Civic Group meetings. But his presence in Point Reyes Station has also grown. He spends every Monday at the West Marin Multi-Services Center, where he is available for appointments and on a walk-in basis.

Sonoma County's water supply on the line: the implications of PG&E's spin-off proposal

Scott Dam. PG&E photo.

ROGER CORYELL
THE SONOMA COUNTY GAZETTE
July 21, 2023, 11:46AM

PG&E's proposal to reduce the flow of the Russian River and transfer the Potter Valley Project to a spin-off, Pacific Generation, has raised concerns about the potential consequences for life in Sonoma County. The company aims to decrease the river's flow from 75 cubic feet per second to 25, possibly as low as five. This decision comes from the realization that Scott Dam, a component of the Potter Valley Project, is more susceptible to earthquakes than previously believed. The objective is also to safeguard the salmon population, which relies on cold water.

Beyond the ecological implications, the East Fork of the Russian River, which relies on water from Lake Pillsbury, plays a crucial role in local fisheries and serves as a water source for the entire community. The Potter Valley Irrigation District, which holds a contract with PG&E for up to 50 cubic feet per second, could be affected, although PG&E's current proposal does not address this concern explicitly.

Sonoma Water, responsible for Sonoma County's drinking water, is heavily reliant on Lake Mendocino for its water supply and is grappling with the challenge of maintaining water flow without these dams.

Sonoma Water's General Manager, Grant Davis, describes a plan known as the "two basin solution." Davis explains, "We are actively pursuing funding from the state and collaborating with the Department of Water Resources to explore up to three alternative options. These alternatives would allow for continued water diversion from the Eel River to the Russian River while facilitating upstream and downstream fish passage." Experts are assessing the most effective approach to establishing a new facility on the Eel River.

However, there is a complicating factor. PG&E intends to transfer its non-nuclear generating assets, including the Potter Valley Project, to Pacific Generation. This proposed transfer could impede or disrupt the decommissioning process, increasing environmental and safety risks.

Davis closely monitors the situation, noting, "PG&E is currently undergoing a FERC surrender process, and they will not take any action that might hinder that process." In July of last year, the Federal Energy Regulatory Commission (FERC) granted PG&E a 30-month period to submit a surrender application and decommissioning plan for the Potter Valley Project. With a deadline set for Jan. 2025, time is of the essence.

PG&E intends to dismantle Scott Dam and Cape Horn Dam. The estimated cost of this endeavor ranges between $118 million and $236 million, a bill that ratepayers will ultimately be responsible for.

The California Hydropower Reform Coalition has expressed dissatisfaction with the proposed spin-off, as it would constitute the most significant transfer of licenses issued by the Federal Energy Regulatory Commission

in California's history. To allow for increased public input, they have requested an additional 30-day period for comment.

The stakes are high. Our water supply, the well-being of the Russian River, the vitality of our fish population, river recreation, and the local tourism industry are all on the line. Ideally, the defunct hydro plant will be replaced by a facility that benefits the fish population while maintaining water flow. However, the potential environmental and safety risks associated with dam decommissioning and the transfer of the Potter Valley Project to Pacific Generation further complicate matters. The public comment period represents an opportunity to voice our opinions on these proposals.

The deadline for submitting comments on PG&E's proposal to reduce flows into the East Fork of the Russian River is Aug. 4. The deadline for commenting on PG&E's proposal to transfer the licenses to its subsidiary, Pacific Generation, is Aug. 12. Comments can be made to the Federal Energy Regulation Commission using the Commission's eFiling system at http://www.ferc.gov/docs-filing/efiling.asp. You must include your name and contact information at the end of your comments. Comments may also be sent via U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852. The first page of any filing should include the docket number P-77-313. Comments emailed to Commission staff are not considered part of the Commission record.

Sonoma, Mendocino county water managers propose pathway for continued Eel River diversions

Water managers in Sonoma and Mendocino counties seek to preserve water transfer infrastructure as part of PG&E license surrender for Potter Valley power plant. | 11

SLIDE 1 OF 3

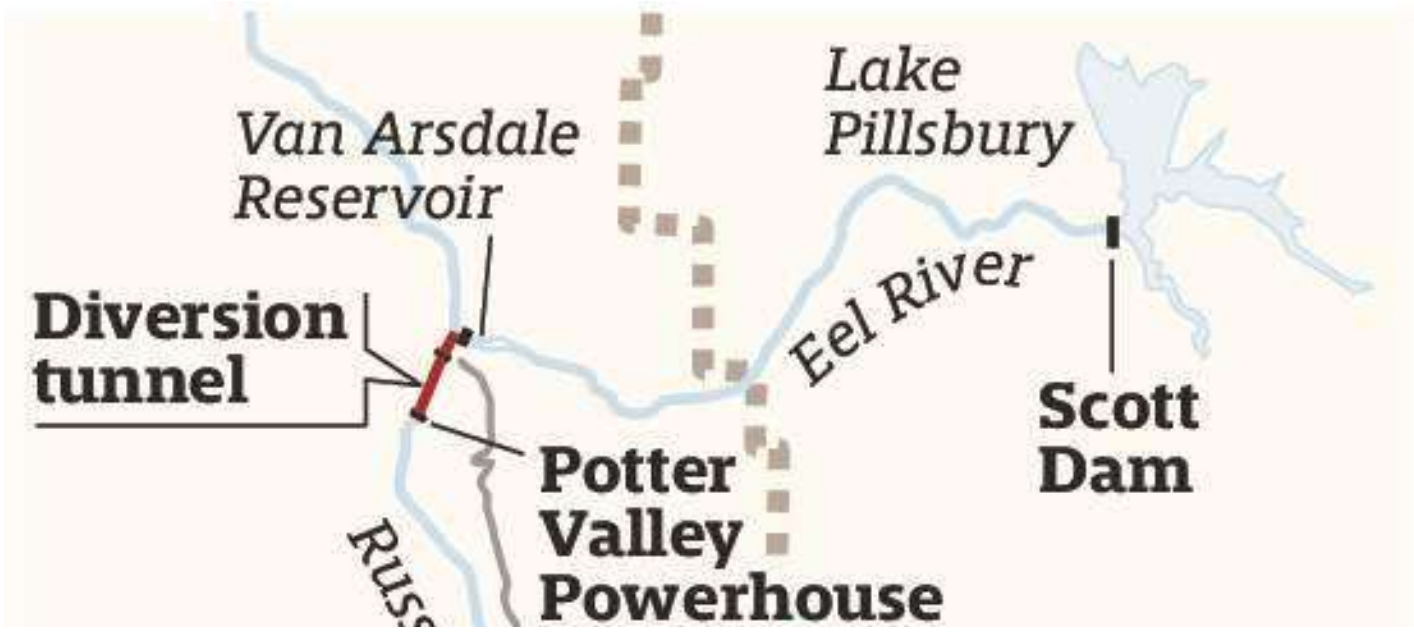
Cape Horn Dam and Van Arsdale Reservoir on the Eel River, part of the Potter Valley power plant. (Kyle Schwartz/Cal Trout)

MARY CALLAHAN
THE PRESS DEMOCRAT
August 7, 2023, 5:31PM | Updated 46 minutes ago

Water managers in Sonoma and Mendocino counties have submitted a conceptual proposal to PG&E to buy and maintain portions of the utility's defunct Potter Valley power plant to enable future water transfers.

The move would be a critical step toward preserving seasonal diversions of Eel River water to supplement supplies in Lake Mendocino and the Russian River.

Working with the Mendocino County Inland Water and Power Commission and the Round Valley Indian Tribes, the Sonoma County Water Agency is seeking to preserve elements of the power plant through which water is channeled from the Eel River to the East Fork Russian River. No electricity would be generated as a part of the plan.



Potter Valley Powerhouse map

Pacific Gas & Electric has planned to surrender its license for the 1908 plant with the intent of decommissioning it. Without a proposal to save it, the diversion infrastructure would eventually be removed, leaving upper Russian River communities and agriculture users without sufficient water.

Studies using 110 years of hydrologic data show Lake Mendocino would go dry in roughly two of every 10 years without continued Eel River contributions, Assistant Sonoma Water General Manager Mike Thompson said. In eight out of 10, the reservoir would be unable to satisfy demands on it.

There has long been tension over the diversion of Eel River water, given declining fish stocks and existing water needs in Humboldt County. Fishery interests say Scott Dam, which impounds Lake Pillsbury, is a particular impediment to fish recovery, preventing access to what the California Trout conservation organization calls “prime habitat in the headwaters of the Eel.”

Featured Comment

OceanHarbor

I hate to see the end of lake pillsbury, it's truly a beautiful lake. But, this new proposal will keep water flowing to the Russian river which is a necessity.

REPLY 2 REPLIES 4 1

Read All 11 Comments ↓

A coalition of fisheries groups — Friends of the Eel River, Pacific coast Federation of Fishermen’s Associations, the Institute for Fisheries Resources, California Trout, and Trout Unlimited — has a federal lawsuit pending against PG&E, saying its operation of the project and the dams violate the Endangered Species Act.

And they greeted Monday’s announced proposal skeptically.

Fisheries groups, said Alicia Hamann, executive director of the Friends of the Eel River, were excluded from the proposal's development. But "more importantly, the needs of the Eel River fish were excluded," in that they still bear the burden of diversions if something goes wrong, she said.

"It's good to see these parties put forward a proposal, but it remains to be seen how much it actually changes anything," said Matt Clifford, California Director of Law and Policy for Trout Unlimited. "The high-level goals — ensuring unobstructed fish passage past the former dam sites while allowing for continued water diversion at levels consistent with fish recovery on the Eel — are things we have supported for years.

"The hard part has always been coming to agreement on the specifics — how much water will be diverted, and when, and using what infrastructure, and who pays for it. This proposal punts resolution of those issues to the future."

Scott Dam also has been deemed to be at greater seismic risk than previously believed, so PG&E has opened the gates to the dam permanently, preventing the lake from holding as much water as it used to. The utility said the dam eventually will come down as the plant is decommissioned.

Sonoma Water officials say the new proposal would still allow for removal of Scott and Cape Horn dams, leaving only the infrastructure necessary to funnel river water through the mile-long tunnel that leads to the East Fork Russian River.

Additional infrastructure would be added to improve fish passage and aid restoration of salmon and steelhead trout populations in the Eel River, as sought by tribes and conservation groups, while still channeling water into the diversion tunnel, Sonoma Water officials said.

"Our goals are to restore the Eel River watershed from its degraded condition and to restore our salmon fishery to sustainable and harvestable populations," Round Valley Indian Tribes Tribal Council President Bill Whipple said in a news release. "We join this proposal because it is one pathway to achieving these goals."

The diversion of Eel River water through what's being called the New Eel-Russian Facility also would occur only during wet months, when flows are sufficiently high to support salmon and steelhead trout in the Eel while still contributing to Russian River water supplies on which thousands of consumers depend.

"We are going to dramatically reduce the window in which water can be diverted off the Eel River to times it's very available and won't do harm," Sonoma Water General Manager Grant Davis said. "We really want to see both river basins come out better as a result of this solution."

But conservation efforts over the last decade show consumers can get by with less water, officials said.

Sonoma Water, for instance, provided its contractors with 66,000 acre-feet of water in 2004. Last year, it sold 36,000 acre-feet, Thompson said.

Proponents of the new plan include the county of Mendocino, the city of Ukiah, the Redwood Valley County Water District, the Potter Valley Irrigation District and the Mendocino County Flood Control and Water Conservation Improvement District — all members of the Mendocino County Inland Water and Power Commission.

Commission Chairwoman Janet Pauli said those dependent on Lake Mendocino water — and who will bear the brunt of financing the project — have become increasingly aware of their reliance on contributions from the Eel River in recent years, owing in large part to the uncertainty created by Pacific Gas & Electric's deliberations over re-licensing the power plant, which is more than a century old.

Sonoma and Mendocino County water providers, as well as stakeholders from Humboldt County and California Trout, initially had hoped to acquire the power plant license to ensure diversions continued.

Continued conversations resulted in the recent proposal, which was submitted in time to meet a July 31 deadline set by Pacific Gas & Electric to review and consider including it as part of the company's plan for surrendering its license for the aging Potter Valley project.

PG&E plans to issue a draft surrender plan in November, so stakeholders and interested parties can review and comment on it. A final surrender plan is to be submitted in May to the Federal Energy Regulatory Commission, which must approve it.

The entities behind the proposal also must create a regional entity in short order, likely a joint powers authority, to govern and finance the project, which would require stakeholders to cover operating costs.

"There's a lot more work that will need to be done moving forward," Pauli said. "We have a pretty aggressive timeline for attaining goals in this effort."

"We look forward to working with our partners in both the Eel River watershed and Russian River watershed and the environmental community to ensure that the decommissioning plan fully protects our Eel River fish and respects our federal fishing rights and water rights," Whipple said.

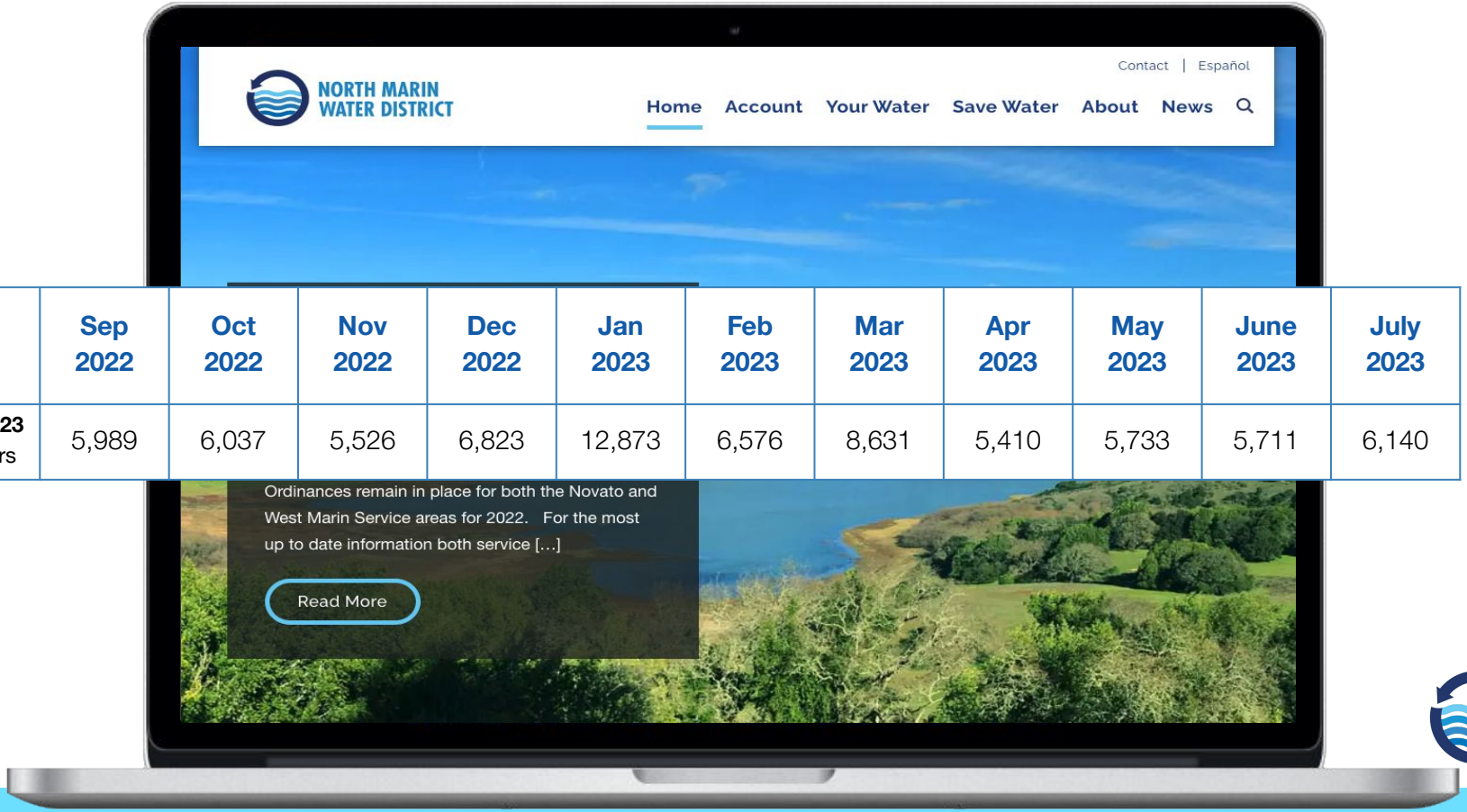
You can reach Staff Writer Mary Callahan (she/her) at 707-521-5249 or mary.callahan@pressdemocrat.com. On Twitter @MaryCallahanB.

NORTH MARIN
WATER DISTRICT

Web & Social Media Report

July 2023

Website Statistics



	Sep 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	June 2023	July 2023
2022/ 23 Visitors	5,989	6,037	5,526	6,823	12,873	6,576	8,631	5,410	5,733	5,711	6,140

Social Media Followers

	Sep-2022	Oct-2022	Nov-2022	Dec-2022	Jan-2023	Feb-2023	Mar-2023	Apr-2023	May-2023	Jun-2023	Jul-2023
 Facebook Followers	1,964	2,005	2,042	2,095	2,172	2,202	2,243	2,300	2,322	2,363	2,390
 Twitter Followers	75	74	71	76	110	112	113	120	121	122	122
 Instagram Followers	693	709	722	735	748	759	774	794	808	822	835

NMWD Most Visited Pages

Pages	Event Count
Home	5,822
Online Billing	2,585
My Water Usage (WaterSmart Portal)	1,322
What Is An Acre Foot?	290
Contact	280
Water Quality	221
Novato Water	184
Human Resources	165
Employment Opportunities	161

July Social Media Highlights | Facebook

1,145 people reached | 112 engagements

224 people reached | 8 engagements

Engagements include likes, reactions, clicks and comments

July Social Media Highlights | Facebook

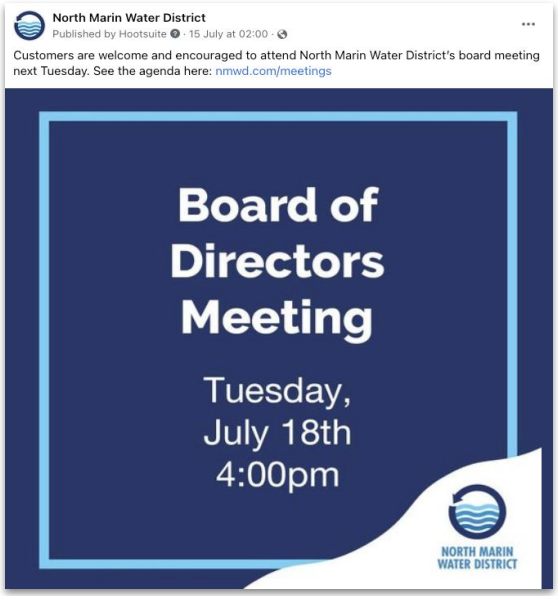
801 people reached | 34 engagements

164 people reached | 6 engagements

Engagements include likes, reactions, clicks and comments

July Social Media Highlights | Facebook

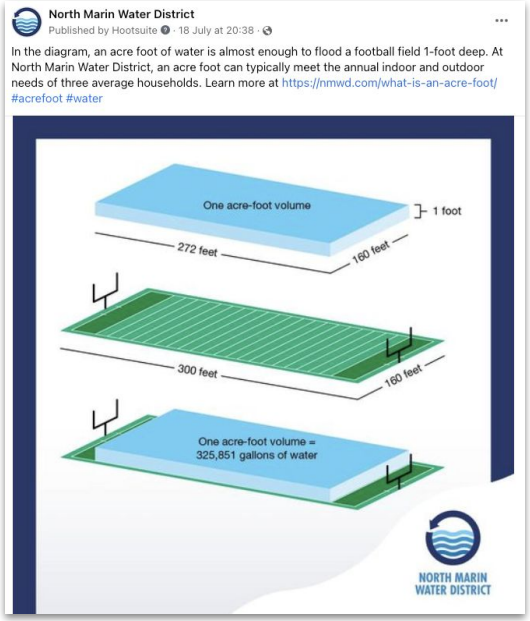
82 people reached | 2 engagements



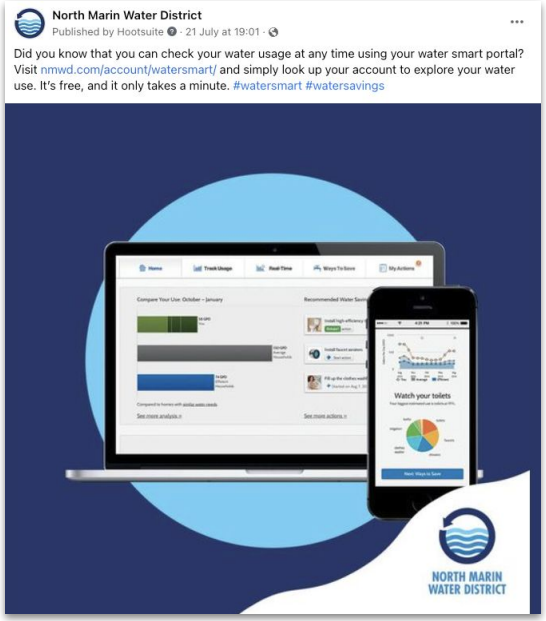
284 people reached | 2 engagements

Engagements include likes, reactions, clicks and comments

July Social Media Highlights | Facebook



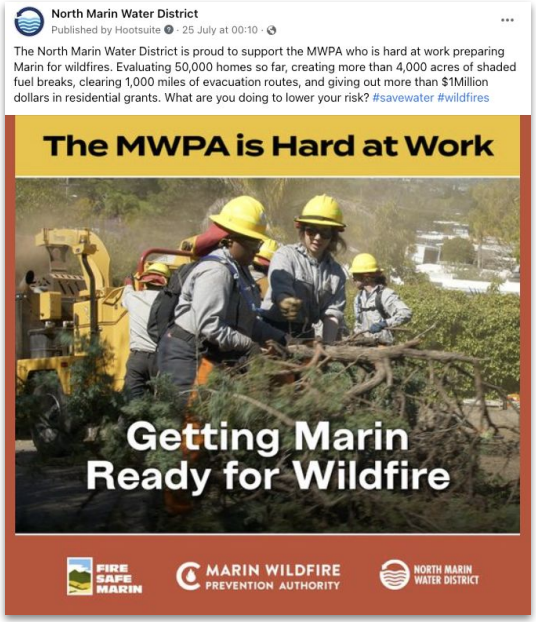
163 people reached | 6 engagements



195 people reached | 9 engagements

Engagements include likes, reactions, clicks and comments

July Social Media Highlights | Facebook



85 people reached | 1 engagement

50 people reached | 1 engagement

Engagements include likes, reactions, clicks and comments

July Social Media Highlights | Facebook

440 people reached | 18 engagements

Engagements include likes, reactions, clicks and comments

July Social Media Highlights | Twitter

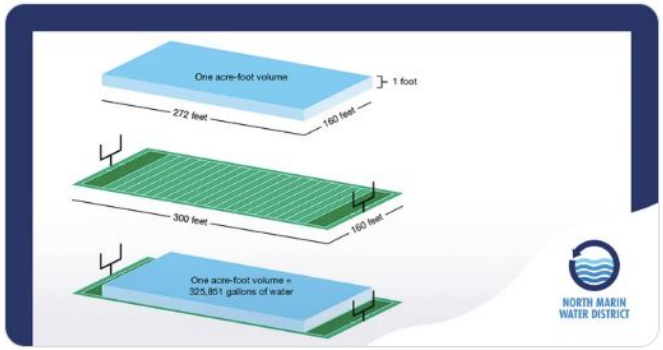
July Social Media Highlights | Twitter

July Social Media Highlights | Twitter

July Social Media Highlights | Twitter

North Marin Water District @NorthMarinWater · Jul 18

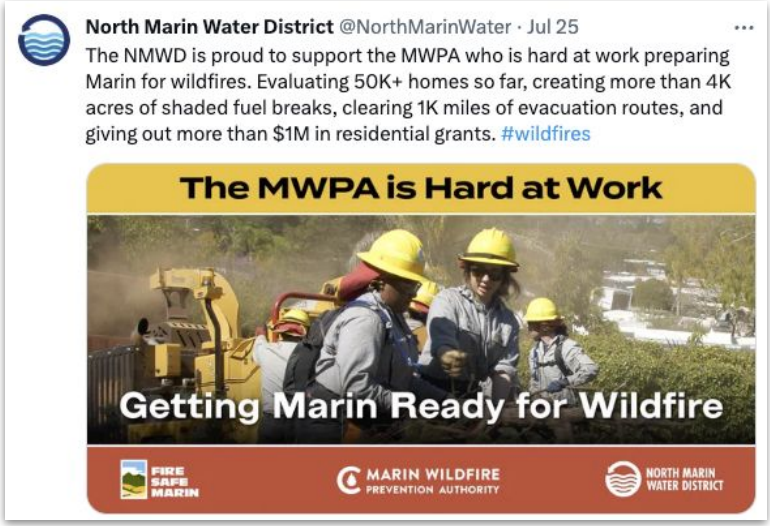
In the diagram, an acre foot of water is almost enough to flood a football field 1-foot deep. At North Marin Water District, an acre foot can typically meet the annual indoor and outdoor needs of three average households. Learn more at nmwd.com/what-is-an-acr... #acrefoot #water



North Marin Water District @NorthMarinWater · Jul 21

Did you know that you can check your water usage at any time using your water smart portal? Visit nmwd.com/account/waters... and simply look up your account to explore your water use. It's free, and it only takes a minute. #watersmart #watersavings

July Social Media Highlights | Twitter



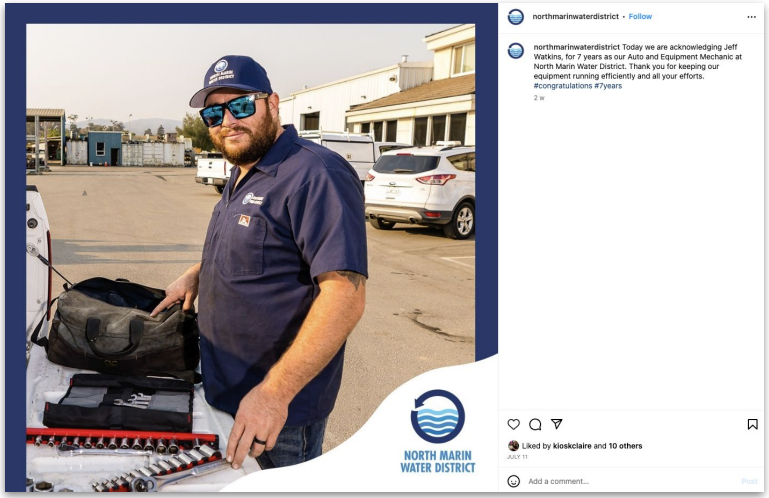
July Social Media Highlights | Twitter

July Social Media Highlights | Instagram

26 likes

7 likes

July Social Media Highlights | Instagram



11 likes

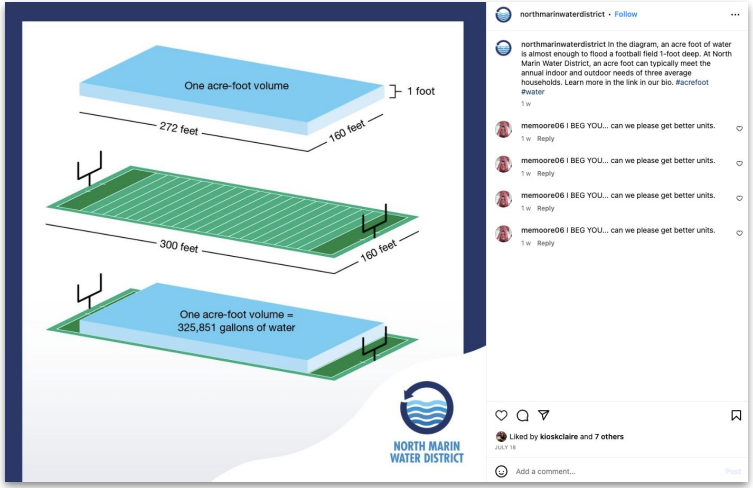
6 likes

July Social Media Highlights | Instagram

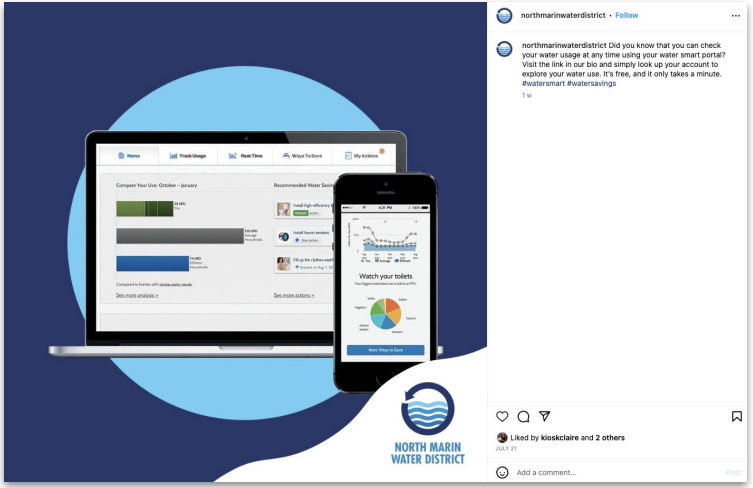
5 likes

3 likes

July Social Media Highlights | Instagram



8 likes



3 likes

July Social Media Highlights | Instagram

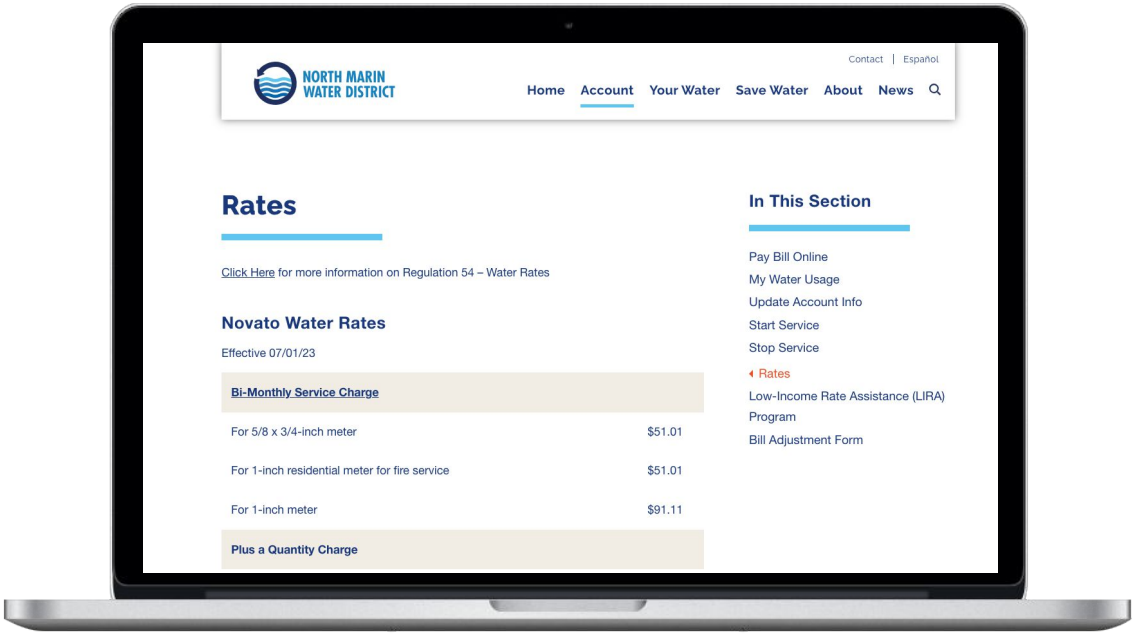
4 likes

6 likes

July Social Media Highlights | Instagram

3 likes

July Web Updates



- Kiosk updated the Rates Comparison Chart on the Rates page.

Stafford Dam Factsheet

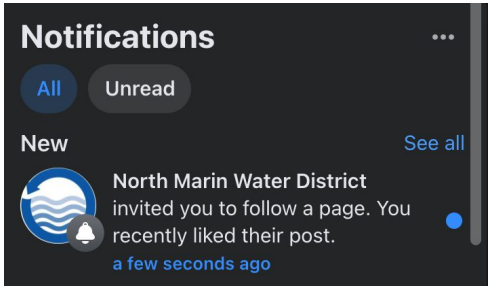
Kiosk redesigned the Stafford Dam Factsheet

Water Quality Reports

Kiosk updated and published the Novato and West Marin Water Quality reports in English

Facebook Likes Campaign - July Report

We are running an evergreen ad which encourages customers in the NMWD service areas to ‘like’ (follow) the NMWD Facebook page.



Spend in July 2023	**Reach** (Number of people who saw the ad)	**Impressions**	**Results** (New Page Likes)	**Cost Per New Page Like**
$46.53	3,002	5,264	26	$1.79

*This month, we were able to reach over **3,002** people with the Likes Campaign*

What's Next?

- Kiosk to work through Water Quality Report updates for Novato and West Marin in Spanish
- Kiosk and NMWD to finalize the updated cover design of the Master Plan
- Continuation of social posts to highlight employees on their work anniversaries
- NMWD social posts will continue to highlight a 'plant of the month' in partnership with Home Ground Habitats
- Kiosk to continue working with staff to get photos of construction and maintenance projects throughout Novato and West Marin
- Kiosk and NMWD to schedule new photoshoot of board members and staff
- Kiosk to create a new webpage for the Stafford Dam

Thank You