



NOTICE OF THE BOARD OF DIRECTORS' REGULAR BI-MONTHLY MEETING

Tuesday, April 30, 2024 at 6:30 PM

AGENDA

LOCATIONS:

Open Session to start at or after 6:30 p.m.

Marin Water Board Room – 220 Nellen Avenue, Corte Madera, CA 94925

Outside location for Director Larry Russell - Contractors State License Board, First Floor Lobby, 9821 Business Park Drive, Sacramento, CA 95827

Closed Session to immediately follow

Marin Water Mt. Tam Conference Room, 220 Nellen Avenue, Corte Madera, CA 94925

Public Participation:

The public may attend this meeting in-person or remotely using one of the following methods:

On a computer or smart device, go to: <https://marinwater.zoom.us/j/88134852296>

By phone, dial: **1-669-444-9171** and use Webinar ID: **881 3485 2296**

HOW TO PROVIDE PUBLIC COMMENT:

During the Meeting: Typically, you will have 3 minutes to make your public comment, however, the board president may shorten the amount of time for public comment due to a large number of attendees. Furthermore, pursuant to Government Code, section 54954.2 (the Brown Act), the Board may not take action or discuss any item that does not appear on the agenda.

-- **In-Person Attendee:** Fill out a speaker card and provide to the board secretary. List the number/letter (ex: 6a) of the agenda item(s), for which you would like to provide a comment. Once you're called, proceed to the lectern to make your comment.

-- **Remote Attendee:** Use the "raise hand" button on the bottom of the Zoom screen. If you are joining by phone and would like to comment, press *9. The board secretary will use the last four digits of your phone number to call on you (dial *6 to mute/unmute).

In Advance of the Meeting: Submit your comments by email in advance of the meeting to boardcomment@marinwater.org. To ensure that your comment is provided to the Board of Directors prior to the meeting, please email your comment 24 hours in advance of the meeting start time. Comments received after this cut off time will be sent to the Board after the meeting. Please do not include personal information in your comment such as phone numbers and home addresses.

AGENDA ITEMS:

- 1. Call to Order and Roll Call**
- 2. Adoption of Agenda**
- 3. Announcement of Closed Session Item(s); Public Comments on Closed Session Item(s) - None.**
- 4. Reconvene to Open Session; Closed Session Report Out - Not applicable.**
- 5. Public Comment on Non-Agenda Matters**

This is the time when any person may address the Board of Directors on matters not listed on this agenda, but which are within the subject matter jurisdiction of the Board.

- 6. Directors' and General Manager's Announcements (6:40 p.m. – Time Approximate)**

- 7. Board Committee Reports**

Each Committee Chair or Vice Chair will provide a report on recent committee meetings. Directors may ask questions or provide brief comments or requests for additional information on an item.

- 8. Consent Items (6:50 p.m. – Time Approximate)**

All Consent Items will be enacted by a single action of the Board, unless specific items are pulled from Consent by the Board during adoption of the agenda for separate discussion and action.

- a.** Minutes of the Board Directors' Regular Bi-Monthly Meeting on April 16, 2024

RECOMMENDATION: Approve the meeting minutes

- b.** Emergency Contracting Provisions West Peak Power Pole Removal

RECOMMENDATION: Adopt a resolution approving the continuing use of the District's emergency contracting procedures for West Peak Emergency Power Pole Removal, to Pinnacle Power Services as executed by the General Manager to ensure prompt removal of downed and partially downed power poles and associated infrastructure at West Peak

- c.** Request to Fill Supervising Land Surveyor in the Engineering Division

RECOMMENDATION: Authorize the General Manager to recruit and hire one Supervising Land Surveyor in the Engineering Division

- 9. Regular Items (6:55 p.m. – Time Approximate)**

- a.** Edwards Avenue Pipeline Replacement Project (D24028)

RECOMMENDATION: Authorize the General Manager to execute a reimbursement agreement between the City of Sausalito and Marin Municipal Water District for the Edwards Avenue Pipeline Replacement Project in an amount not-to-exceed of \$556,794

- b.** Spillway Capacity and Sub-Surface Condition Assessment

RECOMMENDATION: Authorize the General Manager to execute a professional services agreement with Black and Veatch in the amount of \$926,525 with a staff requested contingency of \$138,979, for a total not to exceed amount of \$1,065,504, for the Spillway Capacity and Sub-Surface Condition Assessment

- c. Update on the Water Supply Roadmap – Local Storage Alternatives

RECOMMENDATION: Receive an update on Water Supply Roadmap Local Storage Alternatives

10. Future Board and Committee Meetings and Upcoming Agenda Items

This schedule lists upcoming board and committee meetings as well as upcoming agenda items for the next month, which may include Board interest in adding future meeting items. The schedule is tentative and subject to change pending final publication and posting of the meeting agendas.

- a. Upcoming Meetings

11. Announcement of Closed Session Item(s); Public Comments on Closed Session Item(s)

Following announcement of Closed Session items and prior to recess into Closed Session, the public may speak up to three minutes on items to be addressed in Closed Session. The Board will convene to Closed Session in the Mt. Tam Conference Room after public comment.

- a. **Liability Claim**
(Government Code §54956.9 (d)(2) and (e)(3))
Claimants: Dr. Esther Kim and Dr. Xavier Perez
- b. **Liability Claim**
(Government Code §54956.9 (d)(2) and (e)(3))
Claimant: Sentinel Insurance Company
- c. **Liability Claim**
(Government Code §54956.9 (d)(2) and (e)(3))
Claimant: The Hartford Casualty Insurance Company

Adjourn closed session and reconvene to open session in the Board Room and via Zoom.

12. Reconvene to Open Session; Closed Session Report Out

13. Adjournment (9:00 p.m. – Time Approximate)

ADA NOTICE AND HEARING-IMPAIRED PROVISIONS

In accordance with the Americans with Disabilities Act (ADA) and California Law, it is Marin Water’s policy to offer its public programs, services, and meetings in a manner that is readily accessible to everyone, including those with disabilities. If you are an individual with a disability and require a copy of a public hearing notice, an agenda, and/or agenda packet in an appropriate alternative format, or if you require other accommodations, please contact the Board Secretary/ADA Coordinator at 415.945.1448, at least two business days in advance of the meeting. Advance notification will enable Marin Water to make reasonable arrangements to ensure accessibility.

Information agendas are available for review at the Civic Center Library, Corte Madera Library, Fairfax Library, Mill Valley Library, Marin Water Administration Building, and marinwater.org.

Posted: 04-26-2024



NOTICE OF THE BOARD OF DIRECTORS' REGULAR BI-MONTHLY MEETING

Tuesday, April 16, 2024 at 6:30 PM

MINUTES

LOCATIONS:

Open Session to start at or after 6:30 p.m.

Marin Water Board Room – 220 Nellen Avenue, Corte Madera, CA 94925

Public Participation:

The public attended this meeting either in-person or remotely using one of the following methods: on a computer or smart device: <https://marinwater.zoom.us/j/88134852296> or by phone, 1-669-444-9171, using Webinar ID No. 881 3485 2296.

AGENDA ITEMS:

1. Call to Order and Roll Call

President Ranjiv Khush called the meeting to order at 6:30 p.m.

DIRECTORS PRESENT

Larry Russell
Monty Schmitt
Jed Smith
Matt Samson
Ranjiv Khush

2. Adoption of Agenda

A motion was made by Director Schmitt and seconded by Vice President Samson to adopt the agenda.

There were no public comments.

Voting Yea: Directors Russell, Schmitt, Smith, Samson, and Khush

- 3. **Announcement of Closed Session Item(s); Public Comments on Closed Session Item(s) - None.**
- 4. **Reconvene to Open Session; Closed Session Report Out - Not applicable.**
- 5. **Public Comment on Non-Agenda Matters**

There were two (2) public comments on items not on the agenda.

6. **Directors’ and General Manager’s Announcements**

- President Khush reported that he and General Manager Ben Horenstein met with Professor David Sedlak at U.C. Berkeley and Chair of the Research Advisory Council, National Alliance for Water Innovation (NAWI) to discuss possible partnerships with NAWI for future collaborations of treated water projects. He also mentioned that on April 8th, he and Engineering Director Alex Anaya went to East Bay Municipal Utility District to view a new technology installation, which would reduce pressure in water distribution mains and produce hydroelectricity. He further stated that this work fit with the District's strategic plan objectives to explore conduit energy production.
- Director Smith reported that he attended the Sonoma WAC Meeting on April 8 and provided highlights from that meeting including the Sonoma County Water Agency’s rate setting process and an update on the Potter Valley Project along the Eel River
- Director Russell reported a water leak this past Sunday that was fixed today, and commented on Sonoma County Water Agency’s budget presentation.

7. **Board Committee Reports**

- Director Russell provided highlights from the District’s Operations Committee Meeting on Friday, April 5th.

8. **Consent Items**

- a. Minutes of the Board Directors’ Regular Bi-Monthly Meeting on April 2, 2024

RECOMMENDATION: Approve the meeting minutes

- b. General Manager's Report March 2024

RECOMMENDATION: Approve Report

- c. Emergency Contracting Provisions West Peak Power Pole Removal

RECOMMENDATION: Adopt a resolution approving the continuing use of the District’s emergency contracting procedures for West Peak Emergency Power Pole Removal, to Pinnacle Power Services as executed by the General Manager to ensure prompt removal of downed and partially downed power poles and associated infrastructure at West Peak

- d. Award of Contract No. 2007 Granada Drive Pipeline Replacement Project (D23020) to Maggiora & Ghilotti, Inc.

RECOMMENDATION: Approve a resolution authorizing award of Contract No. 2007, Granada Drive Pipeline Replacement Project, to Maggiora & Ghilotti, Inc. in the amount of \$4,384,384; and, approve a cooperative reimbursement agreement with the Town of Corte Madera and authorize the General Manger to execute the agreement

- e. Award of Contract No. 1996 2024 Sir Francis Drake Boulevard Pipeline Replacement Project (D23009) to Maggiora & Ghilotti, Inc.

RECOMMENDATION: Approve a resolution authorizing award of Contract No. 1996, 2024 Sir Francis Drake Boulevard Pipeline Replacement Project, to Maggiora & Ghilotti, Inc. in the amount of \$2,864,400

- f. Professional Services Agreement with Stantec Consulting Services, Inc. for Engineering Design Services

RECOMMENDATION: Authorize the General Manager to execute a professional services agreement with Stantec Consulting Services for design engineering services in the amount of \$248,620 with a staff requested contingency of \$25,000, for a total not to exceed amount of \$273,620, which will utilize the available \$200,000 of in-kind services

A motion was made by Director Smith and seconded by Vice President Samson to adopt the Consent Calendar.

There were no public comments.

Voting Yea: Directors Russell, Schmitt, Smith, Samson, and Khush

9. Regular Items

- a. Watershed Recreation Management Planning Feasibility Study

RECOMMENDATION: Staff with the Watershed Committee recommendations is requesting the Board of Directors approve the final Watershed Recreation Management Planning Feasibility Study.

Watershed Resources Director Shaun Horne provided a presentation on the proposed Feasibility Study. Discussion ensued.

There were 16 public comments.

A motion was made by Vice President Samson and seconded by Director Smith to adopt the Watershed Recreation Management Planning Feasibility Study.

Voting Yea: Directors Russell, Schmitt, Smith, Samson, and Khush

b. Grant Program Update

RECOMMENDATION: Receive a staff update on the District’s recent grant activities

Watershed Resources Director Horne and Grant Program Coordinator Jaime Hailer provided the Board with the latest information pertaining to state and federal grants that could impact several of the District's programs. Discussion ensued.

There was one (1) public comment.

Since this was an information item, the Board did not take any formal action.

c. Dual Noticing of Committee Meetings

RECOMMENDATION: Approve revising the District’s current practice of dually noticing the committee meetings as special board meetings

General Counsel Molly MacLean presented a proposal that would revise the District’s current practice of dual noticing committee meetings as special board meetings, . Discussion ensued.

Vice President Samson made the motion to do a trial run of the general counsel's proposal for three months, but the motion failed due to a lack of a second motion.

There were two (2) public comments.

After much deliberation, President Khush directed staff to table the item.

10. Future Board and Committee Meetings and Upcoming Agenda Items

a. Upcoming Meetings

The Board Secretary announced upcoming internal meetings and external meetings.

The directors did not provide any items to be included for discussion at future meetings.

There were no public comments.

11. Announcement of Closed Session Item(s); Public Comments on Closed Session Item(s) - None.

12. Reconvene to Open Session; Closed Session Report Out - Not applicable.

13. Adjournment

There being no further business, the Board of Directors' Regular Bi-Monthly Meeting adjourned at 9:21 p.m.

Board Secretary

Emergency Contracting Provisions

West Peak Emergency Power Pole Removal must occur on an emergency basis because:

1. A significant emergency exists with downed power poles, compromised poles, and the associated power line infrastructure at West Peak.
2. Immediate removal of downed power line infrastructure is necessary to remove the hazardous conditions and restore safe public access to the site.

District Code Section 2.90.055 (a) allows construction contracts to be awarded upon obtaining informal quotations without advertisement in significant emergencies or when repairs or replacements are necessary to permit continued operation or services by the District upon the approval of a four-fifths vote of the Board of Directors. This action is based on a finding that the emergency will not permit the delay, which would result from a competitive solicitation for bids, and that the action is necessary to respond to the emergency.

District Code Section 2.90.055 (b) allows the General Manager to award a contract for emergency services in order to respond to the exigent circumstances in a timely manner, and provided that the General Manager shall timely inform the Board. The Board shall determine by a four-fifths vote at every regularly scheduled meeting thereafter whether there is a need to continue the action. The Board shall terminate the action at the earliest possible date that permits the remainder of the emergency work to be completed pursuant to a contract awarded after competitive bidding.

On March 13, 2024, the District General Manager awarded an emergency general services agreement to Pinnacle Power based on the informal quote listed below in order to commence the prompt removal of the compromised power poles and ancillary equipment. The General Manager reported to this Board at the March 19th meeting and the Board ratified the emergency contract and approved continue use of the emergency contracting provisions to quickly restore the site and protect public safety. Work began on March 21st and is expected to continue through April due to weather delays. This item seeks a determination by the Board, by a four-fifths vote, that there is a continuing emergency requiring the emergency services as set forth in the contract.

Informal Quote for Transformer Disposal:

Item #	Description	Qty	Rate	Total
1	Transformer Testing	18	\$962	\$17,316
2	Lump Sum Transpiration	1	\$8,000	\$8,000
3	Wood poles disposal	1	\$30	\$540
	Grand Total		-	\$25,865


ENVIRONMENTAL REVIEW: The Project is categorically exempt under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15301(b) "Existing Facilities" in that the

Project performs minor repairs and alterations to an existing facility involving no expansion or use. Application of the categorical exemption is not barred by any of the exceptions set forth in 14 CCR Section 15300.2. The Project is also statutorily exempt under CEQA Guidelines section 15269(c) in that the prompt removal of the compromised power poles and ancillary equipment is necessary to mitigate the risk to public safety in the near term.

FISCAL IMPACT: Funds budgeted in the District’s Watershed Capital Budget A1E05 will be used to cover the emergency removal costs and transformer disposal.

ATTACHMENT(S):

- 1. Proposed Resolution Approving the Continued Use of the District’s Emergency Contracting Provisions

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Watershed	 Shaun Horne Watershed Resources Director	 Ben Horenstein General Manager

Attachment 1

MARIN MUNICIPAL WATER DISTRICT

RESOLUTION NO.

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE MARIN MUNICIPAL WATER DISTRICT APPROVING THE CONTINUED USE OF THE DISTRICT'S EMERGENCY CONTRACTING PROCEDURES FOR THE WEST PEAK POWER POLE REMOVAL PROJECT

WHEREAS, on February 5, 2024, severe winter storms impacted Marin County and wind speeds on top of Mt. Tamalpais reached over 100 mph; and

WHEREAS, severe wind conditions on Mt. Tamalpais compromised 49 power poles at the Old Mill Valley Air Force Station at West Peak; and

WHEREAS, the District closed West Peak to all public access due to hazardous conditions and worked with PG&E to secure the site; and

WHEREAS, the District, a special purpose municipal corporation, is authorized by District Code Section 2.90.055 to award construction contracts after waiving competitive bidding requirements in certain limited emergency situations; and

WHEREAS, the delay resulting from a formal competitive solicitation of bids will reduce the District's ability to complete the project in a timely manner to protect public safety and address the hazardous conditions, and

WHEREAS, on February 26, 2024, the District informally advertised Contract No. 2021, West Peak Power Pole Removal conducted a site visit with a qualified contractor; and

WHEREAS, on February 28, 2024, District Staff received one bid for the West Peak Power Pole Removal Project, which project will remove 49 compromised power poles and associated infrastructure; and

WHEREAS, Pinnacle Power Services, Inc. submitted a bid with their contract price of \$126,822 to perform the needed emergency services; and

WHEREAS, on April 15, 2024, District Staff received one bid for the West Peak Power Pole Transformer Removal Project, which project will remove 18 transformers and associated infrastructure; and

WHEREAS, Clean Management Environmental Group, Inc. submitted a bid with their not to exceed contract price of \$25,865 to perform the needed emergency services.

NOW, THEREFORE, THE BOARD OF DIRECTORS RESOLVES AS FOLLOWS:

- A. The Board of Directors find as follows:
 - 1. The above recitals are true and accurate and are incorporated herein by this reference.
 - 2. A significant emergency exists due storm damage that occurred as a result of extreme wind conditions in Marin County.
 - 3. The removal of the power poles and associated infrastructure is critical to ensuring public safety and reducing hazardous conditions at West Peak.
 - 4. If formal bidding procedures were used to solicit bids for the West Peak Power Pole Removal Project, this process would take approximately 3 to 4 months, which would impair the District’s ability to protect life, health, and property, and exacerbates the impacts of the storm damage.
 - 5. Failure to expedite the solicitation process by obtaining informal quotations as permitted by District Code Section 2.90.055, for the removal of the compromised power poles and associated infrastructure poses a significant hazard to the public and visitors to the Mt. Tamalpais Watershed.
 - 6. The emergency created by the severe winter storms will not permit the delay that would result from a competitive solicitation for bids for the West Peak Power Pole Removal Project, and Continuation of the emergency contract award procedure of District Code Section 2.90.055(c) is required to respond to the emergency and to assure the District is able to continue ensure safe conditions on the Mt. Tamalpais Watershed.
 - 7. Until the compromised power poles are safety removed from the site, the emergency conditions will continue and therefore continuing use of the emergency contracting procedures is necessary.
- B. Competitive bidding requirements are waived for the rehabilitation of the West Peak Power Pole Removal Project pursuant to District Code Section 2.90.055.
- C. The Board of Directors directs the General Manager to negotiate and execute all contracts and agreements including professional services and construction services, in order to complete the emergency work associated with the West Peak Power Pole Removal Project and to procure the necessary equipment, services and supplies, to

complete this work in a prompt manner in accordance with District Code Section 2.90.055.

PASSED AND ADOPTED this 30th day of April, 2024, by the following vote of the Board of Directors.

AYES:

NOES:

ABSENT:

Ranjiv Kush
President, Board of Directors


ATTEST:

Terrie Gillen
Board Secretary

ENVIRONMENTAL REVIEW: Not applicable.

FISCAL IMPACT: This reclassification of the Land Surveyor position to a consolidated position of Supervising Land Surveyor will provide a financial benefit of “freeing up” one position that can be considered to be reclassified to augment the resources in the CIP delivery team.

ATTACHMENT(S): None.

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Engineering	 Alex Anaya Engineering Director	 Ben Horenstein General Manager

services on 51 year old, leak prone, cast iron pipe is considered a risk due to the probability of mainline cracking failure during the service lateral tapping installation process. Therefore staff recommends to install a new mainline pipe due to the seismic reliability and longevity of welded steel pipe. Staff proposed this solution to the City of Sausalito. The City was able to negotiate a contract amendment for the proposal to replace both the water main and services as part of the City’s existing roadway and sewer replacement project and has worked with District staff to prepare a reimbursement agreement in order to proceed with the work in a timely and efficient manner with the least amount of disruption to the residents.

The scope of work for the Edwards Avenue Pipeline Replacement Project includes the installation of approximately 920 linear feet of new 8-inch welded steel pipe with new service laterals, valves and appurtenances, all within the City’s roadway project. The City obtained a proposal to incorporate the work into the City’s existing roadway and sewer line replacement project in the amount of \$481,794 from the City’s contractor. District staff has evaluated the proposal and determined the costs to be in line with similar projects and of good value to the District.

Staff recommends working jointly with the City to complete this pipeline replacement and entering into a reimbursement agreement for the work. The City will continue to administer the construction contract with District staff inspecting and managing the pipeline portion of the Project. The mechanism of payment for this joint Project is a reimbursement agreement between the City of Sausalito and the District in which the District will reimburse the City for all District pipeline installation costs. District staff, has worked collaboratively with City staff to develop a reimbursement agreement that will meet the needs of the District and the City regarding administration and allocation of project costs. The proposed reimbursement agreement is included at Attachment 1. Staff recommends that the Board of Directors authorize the General Manager to execute a reimbursement agreement, in substantially the form attached at Attachment 1, between the City of Sausalito and Marin Municipal Water District for the Edwards Avenue Pipeline Replacement Project for \$481,794.00 with a contingency of \$72,000, to include up to \$3,000 for City’s legal fees incurred in the negotiation and drafting of the necessary contract documents, for a total not-to-exceed amount of \$556,794.

<u>Budget:</u>	
Pipeline Project Proposal:	\$481,794
Pipeline Project Contingency (15%):	\$72,000
City Legal Fees	\$3,000
Total MA Budget	\$556,794
Materials Fees:	\$45,000
District Labor/Inspection:	\$70,000
Total Budget:	\$671,794
Budget Category:	A1A02A

ENVIRONMENTAL REVIEW: The Director of Engineering has found that the Project is Categorically Exempt pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15302(c), Replacement or Reconstruction and statutorily exempt under 21080.21 Pipelines less than one mile. The Project qualifies for exempt pursuant to Section 15302(c) inasmuch as it is the replacement of existing water pipeline involving negligible or no expansion of capacity and statutorily exempt pursuant to Section 21080.21 since this pipeline replaces less than one mile of pipe.

FISCAL IMPACT: The total cost to complete the Edwards Avenue Pipeline Replacement Project is estimated at \$671,794. This project is not identified in the District’s Fiscal Year 2023/24 and 2024/25 Adopted Budget and will require a transfer of funds from the Tiburon Pipeline Replacement Project and Service Laterals Renewals within Fund Center A1A02A – Distribution Pipelines.

ATTACHMENT(S):

- 1. Proposed Reimbursement Agreement with the City of Sausalito
- 2. Site Map
- 3. Draft Notice of Exemption

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Engineering	 Alex Anaya Engineering Director	 Ben Horenstein General Manager

MISCELLANEOUS AGREEMENT 6308
REIMBURSEMENT AGREEMENT BETWEEN
THE CITY OF SAUSALITO AND MARIN MUNICIPAL WATER DISTRICT
FOR CONSTRUCTION OF THE EDWARDS AVENUE PIPELINE REPLACEMENT
PROJECT

THIS AGREEMENT is made and entered into this ____ day of _____ 2024, by and between the CITY OF SAUSALITO, hereinafter referred to as “CITY”, and the MARIN MUNICIPAL WATER DISTRICT, hereinafter referred to as “MMWD”, both located in the State of California, individually referred to as a “PARTY” and collectively referred to as the “PARTIES.”

For good and valuable consideration, the PARTIES agree as follows:

SECTION 1: RECITALS.

- A. CITY plans to conduct road improvements along Edwards Avenue starting at Alexander Avenue and continuing to the intersection with Marion Avenue, hereinafter the “ROADWAY PROJECT.”
- B. As part of the ROADWAY PROJECT the CITY will resurface the roadway along this identified portion of Edwards Avenue.
- C. MMWD currently has an eight-inch cast iron water main approximately 1,150 feet long on Edwards Avenue with 32 plastic water service laterals within the identified portion of the ROADWAY PROJECT.
- D. The plastic service laterals have a history of leaking, Edwards Avenue is a very steep road, and the cast iron main should be replaced.
- E. For the mutual benefit of the PARTIES, MMWD is requesting that the replacement of the water main and service laterals be added to the scope of work for the existing construction contract for the CITY’s ROADWAY PROJECT. As the ROADWAY PROJECT is already underway, the PARTIES hereto agree that having MMWD procure a contractor for the PIPELINE PROJECT would lead to delays in the ROADWAY PROJECT and would result in increased costs for both involved public agencies, and that that further competitive bidding would be incongruous or would not result in any advantage to either public entity in its efforts to contract for the greatest public benefit.
- F. The PARTIES wish to enter into this AGREEMENT to install a new water main and water services, hereinafter the “PIPELINE PROJECT” under the CITY’s current construction contract for the ROADWAY PROJECT. MMWD agrees to reimburse the CITY for all of the costs of the PIPELINE PROJECT.
- G. MMWD has provided the CITY with engineered stamped plans and specifications depicted in Exhibit A, attached hereto and incorporated herein by this reference, which shall be included as part of the ROADWAY PROJECT construction contract. The CITY

shall work with the construction contractor to amend said contract to incorporate the additional work of the PIPELINE PROJECT in accordance with Exhibit A.

SECTION 2: PROJECT COORDINATION

- A.** All notices and other communications required or permitted to be given under this AGREEMENT to a PARTY shall be in writing and given by personal delivery, or deposited with the United States Postal Service, postage prepaid, as addressed in this Section. Notice shall be deemed given as of the date of personal delivery, or if mailed, upon the date of deposit with the United States Postal Service.

To: MMWD
 Alex Anaya
 Marin Municipal Water District
 220 Nellen Avenue
 Corte Madera, CA 94925

To: CITY
 Andrew Davidson
 City of Sausalito
 420 Litho St.
 Sausalito, CA 94965

- B.** MMWD. The General Manager shall be the representative of MMWD for all purposes under this AGREEMENT. Alex Anaya is hereby designated as the Project Director for MMWD. MMWD's Project Director shall be responsible for all aspects of the progress and execution of this AGREEMENT on behalf of MMWD.
- C.** CITY. The Public Works Director shall be the representative of CITY for all purposes under this AGREEMENT. Kevin McGowan, the Public Works Director, is hereby designated as the Project Director for CITY. CITY's Project Director shall be responsible for all aspects of the progress and execution of this AGREEMENT on behalf of CITY.
- D.** Either Party may change its designated representative by providing written notice of the same to the other PARTY.

SECTION 3: SCOPE OF AGREEMENT

- A.** The PARTIES acknowledge and agree that the sole purpose of this AGREEMENT is to set forth the PARTIES' responsibilities regarding the construction of the PIPELINE PROJECT portion of the ROADWAY PROJECT and to set forth the amount that MMWD will reimburse the CITY for the costs associated with the construction of the PIPELINE PROJECT up to the amount of \$481,794.00 based on the bid estimate in Exhibit B with a contingency for change orders and additional work up to \$72,000, for a total not-to-exceed amount of \$553,794 for the PIPELINE PROJECT, unless the PARTIES mutually agree to an amendment in writing. In the event that the costs of the PIPELINE PROJECT exceed the amounts set forth in this section, the PARTIES agree to work diligently and in good faith towards the execution of a mutually agreeable amendment, and during such period the CITY shall have the right to unilaterally require the construction contractor, hereinafter "CONTRACTOR," to suspend work (within any costs or expenses of such suspension and remobilization to be paid by MMWD), and in the event the PARTIES are unable to agree to an amendment, the CITY may issue the CONTRACTOR a deductive change order removing any further work on the PIPELINE PROJECT or issue the CONTRACTOR a termination for convenience with respect to the

PIPELINE PROJECT, in addition to any rights the CITY may have at law or in equity against MMWD with respect to seeking reimbursement of additional costs incurred by the CITY with respect to the PIPELINE PROJECT.

- B. The PARTIES agree that the services to be provided by the CITY for the construction of the PIPELINE PROJECT within the ROADWAY PROJECT include the tasks set forth below:
1. Advance payment to the CONTRACTOR for the PIPELINE PROJECT.
 2. Issuance of invoices for PIPELINE PROJECT to MMWD for reimbursement.
- C. The PARTIES agree that the services to be provided by MMWD for the construction of the PIPELINE PROJECT within the ROADWAY PROJECT include the tasks set forth below:
1. Submittal review of pipeline trench backfill material;
 2. Construction inspection of the PIPELINE PROJECT;
 3. Construction Management and coordination with the CITY associated with all aspects of the PIPELINE PROJECT;
 4. Material testing of pipeline trench backfill material and documentation to the CITY for its records; and
 5. Reimbursement to the CITY for PIPELINE PROJECT work, as described in Section 3A.

SECTION 4: DUTIES OF THE CITY

- A. The CITY shall administer the ROADWAY PROJECT and direct its CONTRACTOR to construct the PIPELINE PROJECT in accordance with Exhibit A as part of the CITY's ROADWAY PROJECT.
- B. The CITY shall initially pay the CONTRACTOR for the costs of the PIPELINE PROJECT as described in Section 3A. No extra work on the PIPELINE PROJECT shall be authorized by the CITY or CONTRACTOR without prior written approval by MMWD, which shall not be unreasonably withheld or delayed. The CITY will pay CONTRACTOR for MMWD's approved extra work at the unit bid prices. Where unit bid prices cannot be applied to the MMWD approved extra work, the CITY will execute a change order with the CONTRACTOR subject to the reasonable approval of MMWD and notification of such change order work shall be paid in accordance with the terms of this Agreement.
- C. The CITY shall require CONTRACTOR to name MMWD, as an additional insured on all insurance required to be obtained including but not limited to CONTRACTOR general liability and automobile policies and shall require that CONTRACTOR indemnify and defend MMWD to the same extent as the CITY under the ROADWAY PROJECT construction contract.
- D. The CITY shall be responsible for the project administration of the ROADWAY PROJECT and PIPELINE PROJECT, and the construction management of the ROADWAY PROJECT. With respect to the PIPELINE PROJECT, the CITY's responsibility for project

administration shall only be limited to payment of CONTRACTOR and issuance of monthly invoices to MMWD for reimbursement.

- E. In order to bear all costs associated with PIPELINE PROJECT, MMWD shall reimburse the CITY all of the CONTRACTORS costs for the PIPELINE PROJECT. The CITY shall prepare and submit monthly invoices for the progression of work through that month for MMWD's portion of the PIPELINE PROJECT, which shall be paid within 21 calendar days of receipt by MMWD. In addition, MMWD shall reimburse the CITY'S actual legal costs of preparing this reimbursement agreement, not to exceed \$3,000, to be paid within 30 days of invoice from the CITY.

SECTION 5: DUTIES OF MMWD

- A. MMWD shall reimburse CITY for the PIPELINE PROJECT construction costs as described in Section 3A. MMWD shall reimburse CITY for any extra or changed work authorized by advanced written notice from MMWD's Project Manager, Alex Anaya. MMWD shall review CITY progress payment estimates and provide CITY written notice approving or disapproving each progress payment estimate related to the PIPELINE PROJECT within 5 business days of MMWD receiving each progress payment estimate from CITY. MMWD will remit payment to CITY within 21 calendar days following its approval of a PIPELINE PROJECT progress payment.
- B. MMWD shall review CONTRACTOR change orders for extra work on the PIPELINE PROJECT and provide CITY a written notice of approval or disapproval of extra work within three (3) days of receiving each request. MMWD shall be responsible for all costs and expenses of CONTRACTOR claims arising from MMWD's failure to timely approve or disapprove CONTRACTOR change orders for extra work, including any additional payments under prompt pay statutes. MMWD shall be responsible for the inspection and construction management of the PIPELINE PROJECT. The CITY shall bear no responsibility for the CONTRACTOR's quality or performance of work related to the PIPELINE PROJECT. To the fullest extent permissible by law, MMWD shall indemnify, defend with counsel selected by the CITY, and hold harmless the CITY and its officials, officers, employees, agents, and volunteers ("CITY PARTIES") from and against any and all losses, liability, claims, suits, actions, damages, and causes of action arising out of the PIPELINE PROJECT, including but not limited to the quality or character of CONTRACTOR's work on the PIPELINE PROJECT, and third-party claims under public contract code, environmental, or labor laws for the PIPELINE PROJECT (excluding any claims solely arising out of the City's compliance with such laws for the ROADWAY PROJECT). The indemnity requirements of this section shall not apply to claims arising out of the sole or active negligence, willful misconduct, or unlawful acts of the CITY PARTIES.
- C. MMWD shall be responsible for delays to the ROADWAY PROJECT which are a direct result of unforeseen delays of the PIPELINE PROJECT. Unavoidable delays in the work prosecution or completion shall mean all delays resulting from causes beyond the CONTRACTOR'S control, which CONTRACTOR could not reasonably have anticipated and mitigated or avoided by the exercise of care, prudence, foresight, and diligence and which actually and necessarily causes a delay in the completion of the whole ROADWAY

PROJECT, including the PIPELINE PROJECT. MMWD shall be responsible for any costs due to a delay which results from MMWD changes in the amount of work to be done or the quantity of material to be furnished, which are beyond those set forth in the specifications provided and attached at Exhibit A. Right-of-way delays will be considered unavoidable, and the financial responsibility of MMWD, to the extent that they actually and necessarily delay the CONTRACTOR'S completion of the whole ROADWAY PROJECT, including the PIPELINE PROJECT. Unavoidable delays do not include delays caused directly or indirectly by the default, holdup, or other breach of the CONTRACTOR or any subcontractor of CONTRACTOR. Delays due to adverse weather conditions will be regarded as unavoidable only to the extent that they actually and necessarily cause a delay in completion of the whole ROADWAY PROJECT and to the extent that such condition could not reasonably have been anticipated and mitigated or avoided by the exercise of care, prudence, foresight, and diligence of the CONTRACTOR.

- D. MMWD shall be responsible for addressing change order preparation and negotiation, scheduling review, claims negotiation, meeting attendance, project reports, labor and wage compliance, utility coordination, project documentation, and as-built plans for the PIPELINE PROJECT.
- E. With respect to any construction defect or warranty claims that may arise related to CONTRACTOR's work on the PIPELINE PROJECT, the CITY agrees to execute any necessary documents as may be needed for the CITY to assign the rights to prosecute claims under its construction contract with CONTRACTOR to MMWD, including any rights under applicable warranties and bonds. MMWD shall be solely responsible for the prosecution of any construction defect or warranty claims related to the PIPELINE PROJECT at its sole cost and expense, and MMWD hereby releases, discharges, and covenants not to sue the CITY with respect to such claims.

SECTION 6: MISCELLANEOUS TERMS

- A. Term of AGREEMENT: This AGREEMENT shall terminate upon MMWD acceptance of the completed PIPELINE PROJECT, provided that MMWD reimbursement, assignment of rights under any CONTRACTOR maintenance bond in favor of MMWD and CITY and MMWD indemnification duties shall continue following the end of such term.
- B. Termination: This AGREEMENT may be terminated with cause, by either PARTY, upon thirty (30) calendar days' advance written notice to the other PARTY following the notified PARTY's failure to cure or correct the cause of the termination notice within thirty (30) calendar days' receipt of that notice. Payment obligations for the PIPELINE PROJECT following such termination for work performed up to the date of termination, and any contractual obligations for the PIPELINE PROJECT that CONTRACTOR refuses to release, shall be the responsibility of MMWD in accordance with the terms of this AGREEMENT.
- C. Amendment and Merger: This AGREEMENT contains all the terms and conditions made between the PARTIES to this AGREEMENT and may only be modified by written

AGREEMENT signed by all the PARTIES to this AGREEMENT or their respective successors-in-interest. This writing is intended both as a final expression of the AGREEMENT between the PARTIES hereto with respect to the included terms and as a complete and exclusive statement of the terms of this AGREEMENT. No modification of this AGREEMENT shall be effective unless and until such modification is evidenced by a writing signed by both PARTIES.

- D. Agreement Binding:** The terms and provisions of this AGREEMENT shall extend to and be binding upon and inure to the benefit of the heirs, executors, and administrators or to any approved successor, as well as to any assignee or legal successor to any PARTY to this AGREEMENT. Any term of this AGREEMENT that by its nature extends beyond the term (or termination) of this AGREEMENT shall remain in effect until fulfilled and shall apply to both PARTIES' respective successors and assigns.
- E. Cooperation:** The PARTIES pledge cooperation during the term of this AGREEMENT.
- F. No Third-Party Beneficiaries:** Nothing contained in this AGREEMENT shall be construed to create, and the PARTIES do not intend to create, any rights in third parties.
- G. Severability:** If any term, covenant or condition of this AGREEMENT or the application thereof to any person or circumstance is determined to be invalid or unenforceable, the remainder of this AGREEMENT or the application of such term, covenant or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term, covenant and condition of this AGREEMENT shall be valid and enforceable to the fullest extent permitted by law.
- H. No Waiver:** The waiver by either of the PARTIES of any default under this AGREEMENT shall not operate as a waiver of any subsequent breach of the same or any other provision of this AGREEMENT.
- I. Time is of the Essence:** Time is of the essence with respect to the performance of every provision of this AGREEMENT for which time or performance is a factor.
- J. Mediation:** Any dispute or claim in law or equity between the CITY and MMWD arising out of this AGREEMENT, if not resolved by informal negotiation between the PARTIES, shall be mediated. The mediation process shall continue until the case is resolved or until such time as the mediator makes a finding that there is no possibility of resolution. If mediation is unsuccessful, the PARTIES may avail themselves of any other remedies authorized by law.
- K. Applicable Law:** This AGREEMENT shall be construed and enforced in accordance with the laws of the State of California.
- L. No Presumption Regarding Drafter:** The PARTIES acknowledge and agree that the terms and provisions of this AGREEMENT have been negotiated and discussed between the PARTIES and their attorneys, and this AGREEMENT reflects their mutual AGREEMENT regarding the same. Because of the nature of the negotiations, and

discussions it would be inappropriate to deem any Party to be the drafter of this AGREEMENT. Therefore, no presumption for or against validity, or as to any interpretation hereof, based upon the identity of the drafter, shall be applicable in interpreting or enforcing this AGREEMENT.

M. Assistance of Counsel: Each PARTY to this AGREEMENT warrants as follows:

- a. That each PARTY had the assistance of counsel in the negotiation for, and the execution of, this AGREEMENT and all related documents; and
- b. That each PARTY has lawfully authorized the execution of this AGREEMENT.

N. Section Headings: The section headings contained in this AGREEMENT are for convenience and identification only and shall not be deemed to limit or define the contents of the sections to which they relate.

O. Counterparts and Electronic Signatures: This AGREEMENT may be executed by electronic signature and in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one document. Counterpart signature pages may be delivered by email or other means of electronic transmission.

IN WITNESS WHEREOF, the PARTIES hereto have executed this AGREEMENT by their duly authorized officers as of the day and year first above written.

CITY OF SAUSALITO

MARIN MUNICIPAL WATER DISTRICT

Chris Zapata, City Manager

Ben Horenstein, General Manager

ATTEST:

ATTEST:

By: _____
Walfred Solorzano, City Clerk

Terrie Gillen, Board Secretary

APPROVED AS TO FORM:

APPROVED AS TO FORM:

By: _____
Sergio Rudin, City Attorney

Molly MacLean, General Counsel

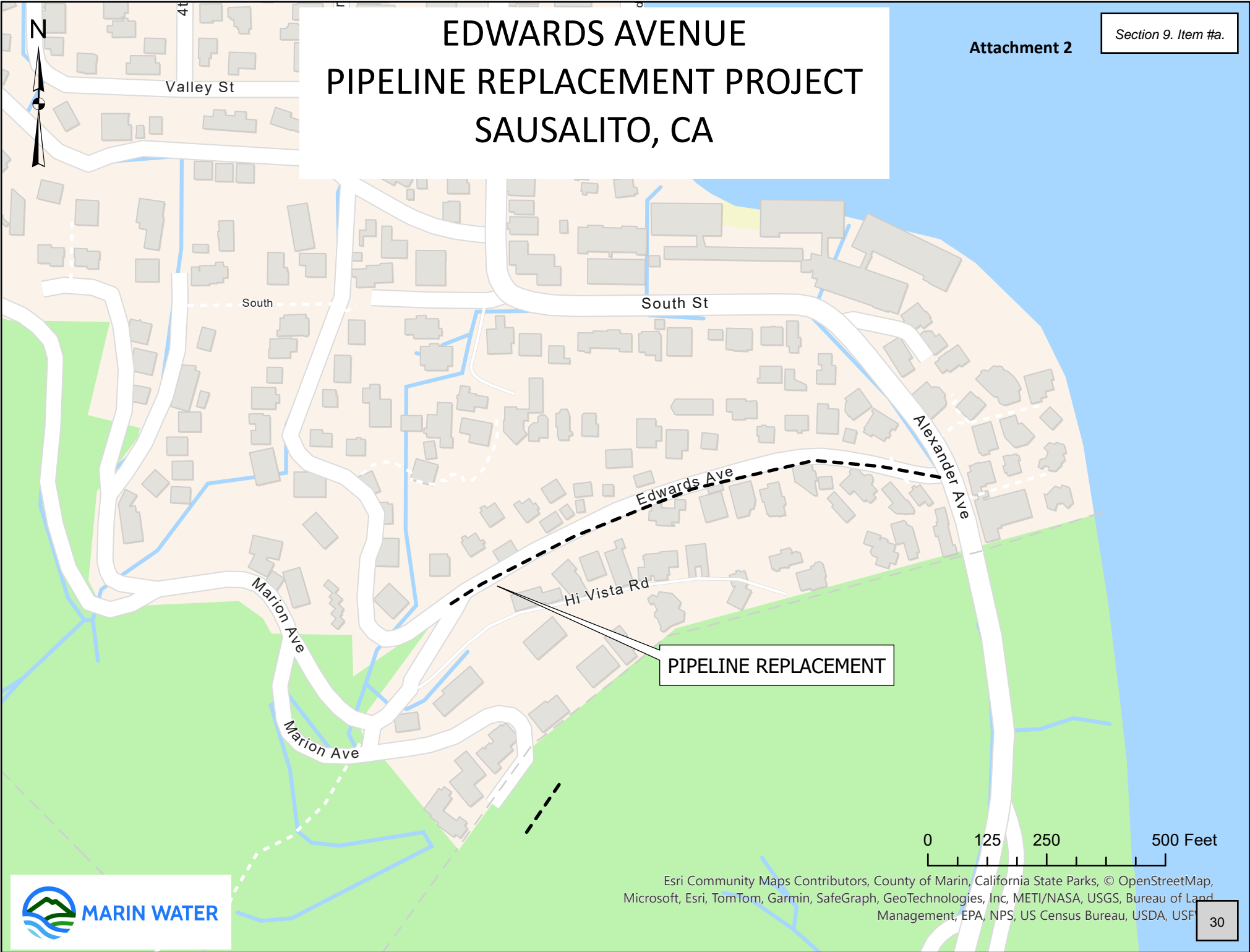
Exhibit A
Plans and Specifications

Exhibit B
Bid Estimate

EDWARDS AVENUE PIPELINE REPLACEMENT PROJECT SAUSALITO, CA

Attachment 2

Section 9. Item #a.



Esri Community Maps Contributors, County of Marin, California State Parks, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USF

Notice of Exemption

Attachment 3



Filing Requested By and When Filed Return To:

Marin Municipal Water District
220 Nellen Ave
Corte Madera, CA 94925
Attn: Alex Anaya, Director of Engineering

Project Title: Edwards Avenue - Pipeline Replacement Project (D24028)

Project Location: City of Sausalito

Project Location – County: Marin

Project Description: This Project will install approximately 920 feet of new 8-inch welded steel pipe to replace the old, leak prone, piping as part of the District’s Capital Improvement Program.

The roads involved are shown in Figure 1 and described in the table below:

Street	Length (Ft)	Installation Date	Existing Size & Type
Edwards Avenue	920	1973	8” CIP

*CIP = cast iron pipe

Public Agency Approving Project: Marin Municipal Water District

Name of Person or Agency Carrying Out Project: Marin Municipal Water District

CEQA Exemption Status: Categorical Exemption Section 15302(c), Replacement or Reconstruction and California Public Resource Code Division 13 Environmental Quality Section 21080.21, less than one mile of pipeline.

Reason for Exemption: This project qualifies for exemption pursuant to Section 15302(c) of the CEQA Guidelines inasmuch as it is the replacement of existing water pipelines involving negligible or no expansion of capacity. This project is also statutorily exempt pursuant to the California Public Resource Code Division 13 Environmental Quality Section 21080.21 inasmuch as the project involves the replacement of less than one mile of pipeline.

Project Approval: The Marin Municipal Water District Board of Directors approved the award of a contract for project construction, which represents project approval as defined by Section 15352 of the Guidelines for Implementation of the California Environmental Quality Act, at their regularly scheduled meeting on April 30, 2024.

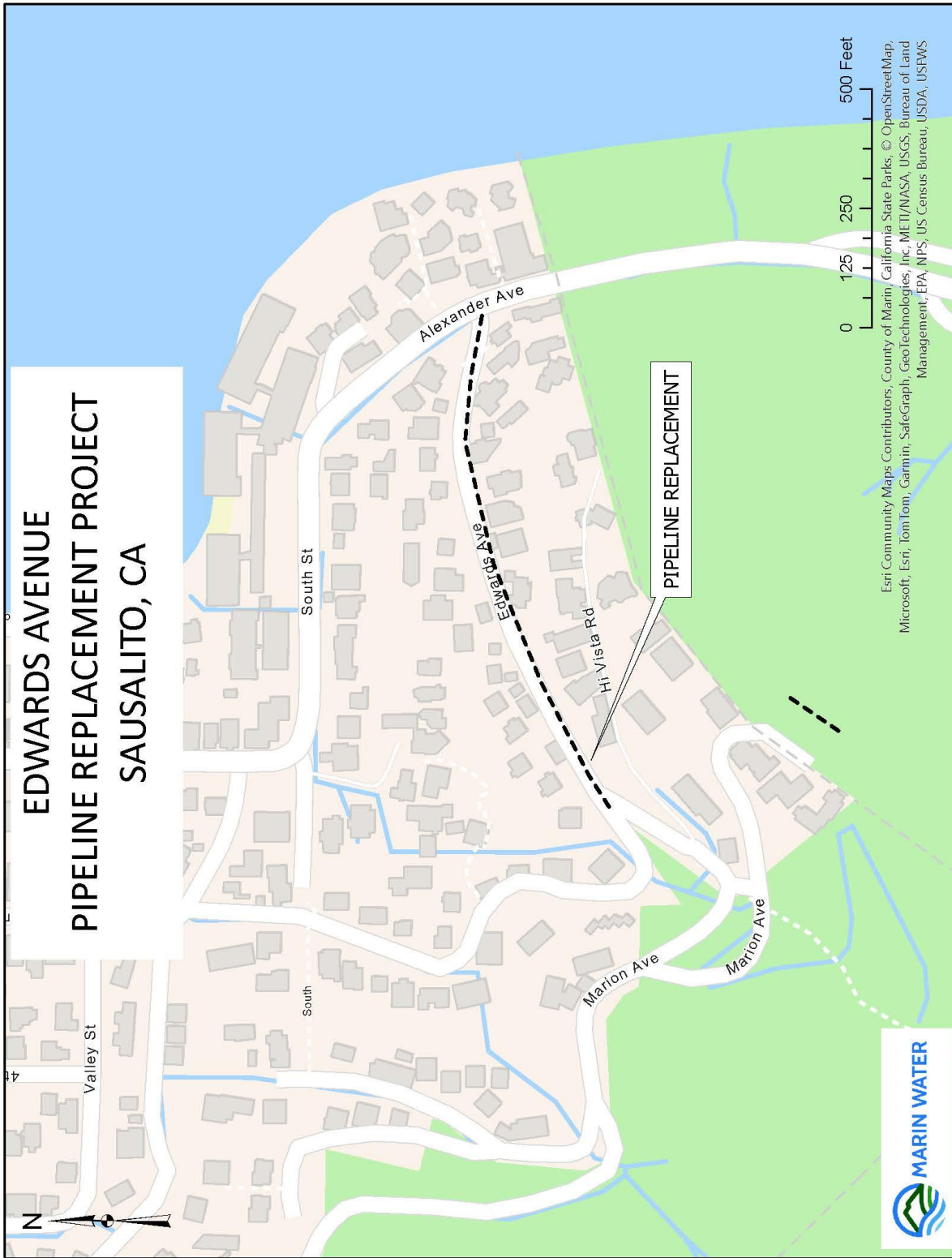
Lead Agency Contact Person: Alex Anaya, Marin Municipal Water District

Telephone: (415) 945-1588

Alex Anaya, Director of Engineering

Date

Figure 1: Edwards Avenue Pipeline Replacement Project



California Division of Safety of Dams (DSOD), as per DSOD mandate. Since original construction in 1949, Bon Tempe Dam’s concrete spillway has had various minor repairs, and more recent findings warrant a similar sub-surface condition assessment.

In addition to the spillway assessment there are optional services in the contract for coring, borehole investigation, and concrete compressive strength testing to continue the DSOD approved Phase II Condition Assessment Workplan for Peters (Kent), Seeger (Nicasio), and Soulajule spillways. DSOD alteration permits have been obtained for this work.

On January 9, 2024, the District solicited engineering consultant firms specializing in dam safety and assessment through a Request For Proposals (RFP). On February 13th 2024, District staff received five proposals that were evaluated by a District Review Committee according to criteria outlined in the Request for Proposal. The Review Committee consisting of District staff compared and evaluated the proposals submitted by each firm. The proposals were evaluated using the following criteria: Project Understanding, Project Team, Project Approach, Qualification, Experience, and Budget.

After reviewing and evaluating the proposals, and conducting interviews with a subset of the firms, the Review Committee unanimously concluded that the proposal submitted by Black and Veatch provided the best comprehensive approach based on their subject matter expertise, familiarity with the District’s system, and attention to detail. District staff recommends the District select Black and Veatch to proceed with the Spillway Capacity and Sub-Surface Condition Assessment.

Budget:

Professional Services Agreement Fees: \$926,525

Contingency (15%): \$138,979

Total Budget: \$1,065,504

Budget Category: A1A05

The assessment is scheduled to be completed in spring 2025.

ENVIRONMENTAL REVIEW: Not Applicable.

FISCAL IMPACT: The Spillway Capacity and Sub-Surface Condition Assessment is funded in Fiscal Year 2023/2024 and 2024/2025 Adopted Capital Budget. As shown in the table below, the total cost for the agreement with Black and Veatch is \$926,525 with a staff requested contingency of \$138,979, for a total not to exceed amount of \$1,065,504.

Task Description	Budget
Task 1 – Project Management and Coordination: This task includes project management activities including day-to-day administration, progress meetings, and technical reviews throughout the duration of the contract.	\$39,956
Task 2 – Assessment of Changing Climate Conditions: This task includes work with Applied Weather Associate (AWA) to develop evaluate Global Climate Change projections and model output using Regional Downscaled Projections relevant for Northern California and specifically over areas of Marin Water’s dams	\$41,649

Task 2 – Spillway Hydraulic Capacity Evaluation: This task includes data collection and records research, development of design storm hyetographs, development of hydrologic model, downstream hazard potential assessment, spillway hydraulic capacity assessment and report, and HEC-RAS model development.	\$269,900
Task 3 – Bon Tempe Condition Assessment: This task includes site investigation, data collection, records research, condition assessment, spillway hydraulic assessment, and report preparation.	\$115,304
Task 4 (Optional) – Phase II Condition Assessment Workplan for Peters, Seeger, Soulajule: This task includes site investigation, data collection, records research, condition assessment, spillway cleaning and underdrain investigation, concrete coring, spillway hydraulic assessment, report preparation, and regulatory coordination.	\$459,716
Professional Services Agreement Total	\$926,525
Contingency (15%)	\$138,979
Total Authorized Amount	\$1,065,504

Staff is requesting the Board authorize the General Manager to execute a professional services agreement with Black and Veatch in the amount of \$926,525 with a staff requested contingency of \$138,979, for a total not to exceed \$1,065,504, for the Spillway Capacity and Sub-Surface Condition Assessment.

ATTACHMENT(S): None.

DEPARTMENT OR DIVISION	DIVISION MANAGER	APPROVED
Engineering	 <hr/> Alex Anaya Engineering Director	 <hr/> Ben Horenstein General Manager



STAFF REPORT

Meeting Type: Board of Directors
Title: Update on the Water Supply Roadmap – Local Storage Alternatives
From: Paul Sellier, Water Resources Director
Through: Ben Horenstein, General Manager
Meeting Date: April 30, 2024

TYPE OF ACTION: Action X Information Review and Refer

RECOMMENDATION: Receive an update on Water Supply Roadmap Local Storage Alternatives

SUMMARY: On February 28, 2023, the Board selected the Integrated Roadmap for improved water supply resiliency (Roadmap); and since that time, staff has been implementing the early action projects, while in parallel working to advance the longer term, more complex projects. The project team has refined and added to the alternatives described in the Strategic Water Supply Assessment and will describe the screening process leading to a proposed shortlist of projects. The team intends to analyze the shortlisted projects in more detail to allow the Board to select a preferred project. Staff will provide a presentation illustrating the process leading to the proposed shortlist.

DISCUSSION: The team has developed the Local Storage alternatives to allow a screening process to occur that narrows the options from 11 to a potential shortlist of three. These remaining shortlist projects can then be considered in greater detail before a preferred project alternative is identified and designed to a level that can support the necessary environmental review. The project team has completed the initial screening process and developed a proposed shortlist for consideration. During the meeting project team members will review the alternatives, screening process and criteria used to arrive at the proposed shortlist.

The process of screening from 11 alternatives to a shortlist of three involves weighing each alternative against the project goal which is supported by a set of criteria. Each criterion aids in the assessment of specific aspects of an alternative including its performance relative to project goals, and its feasibility.

SCREENING PROCESS:

The overall project goal is to enhance the reliability, flexibility and resiliency of the water system to improve service to Marin Water customers. In order to provide a basis for comparison between storage alternatives during the screening process, each alternative (with the exception of the spillway modifications) was sized to provide an additional 20,000 AF of new storage. Conceptual layouts were established for each alternative in order to understand key aspects such as constructability and cost. That information provided a basis for evaluation against these criteria: Water Reliability and Sustainability, Flexibility and Resiliency, Schedule and Implementation, Water Quality, Environmental and Social Stewardship and Economic-Financial. The criteria evaluation shows that several of the alternatives are infeasible and/or do not meet the project goals. A number of alternatives were found to be economically or financially infeasible to the extent that regardless of how they may score in other criteria categories the project would remain infeasible. Economic feasibility requires that the alternative would provide benefits commensurate with its costs, while financial feasibility requires that the alternative be within the District's means.

Spillway Modifications alternatives, while not infeasible, do not meet the project goal. However, these alternatives could provide some additional permanent or temporary storage and can be constructed more quickly than any of the alternatives that require raising existing dams or constructing new dams. In particular, Nicasio dam is different from the other three dams in this category because potential spillway gates were considered in the original design of the dam and spillway and as such the project is both economically and financially feasible. For this reason, staff is proposing to transition the Spillway Modification projects to the short term category of Roadmap projects and begin work to further evaluate these alternatives as soon as possible. This approach reduces the number of remaining alternatives to eight, as summarized below.

Dredging of Reservoirs

The team reviewed the dredging of Nicasio Reservoir as a representative example of reservoir dredging, as many of the same challenges at Nicasio would need to be addressed at any other reservoir. The dredging of Nicasio Reservoir would require removal of 32.3 million cubic yards of material from the reservoir in order to increase the storage capacity by 20,000 AF. The years-long large-scale dredging, dewatering, off-hauling, and disposal of dredged materials would pose substantial construction challenges that would greatly affect the project's cost. During that long construction period, measures would need to be taken to manage released water quality and avoid adverse water quality downstream in Lagunitas creek. At an estimated cost in excess of \$1,000 M, dredging Nicasio, and by extension dredging of any of the District's reservoirs, is not economically or financially feasible due to extreme cost and complexity.

Devil's Gulch

The Devil's Gulch reservoir and dam site is in a narrow canyon off Sir Francis Drake Boulevard, about 3 miles north of Kent Reservoir. The site is within state and federally owned land that is part of Samuel P. Taylor State Park and the Golden Gate National Recreation Area. The area is forested open space used for recreation. A 270-foot-high, 1,400-foot-long zoned earth and rock fill dam on Devil's Gulch Creek, a tributary to Lagunitas Creek, would impound a 20,000-acre-foot reservoir. Construction of this new dam would require about 3.6 M cubic yards of fill and necessitate work in a very space-constrained area in the vicinity of Sir Francis Drake Boulevard. Devils Gulch was found to be infeasible as it is highly

unlikely that the District would be able to acquire the land since it is situated in Samuel P. Taylor State Park and the Golden Gate National Recreation Area (federal land).

Halleck Reservoir

The new Halleck Reservoir would be located on Halleck Creek, in unincorporated Marin County east of the town of Nicasio and about 3 miles east of Nicasio Reservoir. The Halleck dam and reservoir site is within the Nicasio Reservoir watershed off Old Rancheria Road and current land uses include agricultural, forest (mostly hardwood) land, and residential. A 278-foot-high, 2,200-foot-long zoned earth and rock fill dam would impound a 20,000-acre-foot reservoir. Construction of this new dam would require about 10.4 M cubic yards of fill. At an estimated cost of \$753M, a reservoir located at Halleck Creek was found to be economically and financially infeasible due to the size of the dam needed and technical risks arising from unfavorable geologic conditions.

Upper Nicasio Reservoir

The Upper Nicasio Reservoir would be in the northwestern portion of the existing Nicasio Reservoir watershed, to the north of Point Reyes-Petaluma Road. Existing land uses include agricultural (ranch) land, several building complexes including residences, and private access roads. The new 20,000-acre-foot upper reservoir would be impounded by a 103-foot-high, 3,900-foot-long zoned earth and rock fill dam. The new dam would be constructed immediately north of Point Reyes-Petaluma Road. Construction of this new dam would require about 4.8 M cubic yards of fill. The reservoir is unlikely to be entirely self-filling and would require conveyance of water either from Nicasio or Soulajule Reservoirs. At an estimated construction cost of \$606M, the alternative is potentially economically feasible and potentially financially feasible. Should this alternative move forward, the team would look in greater detail to understand the optimum capacity that maximizes water supply while minimizing other issues at this location.

Alpine Reservoir

Alpine Reservoir is unincorporated Marin County located on Lagunitas Creek in the Mount Tamalpais Watershed, immediately downstream of Bon Tempe Reservoir. Alpine Dam is a concrete arch gravity dam that was originally completed in 1919 and then raised in 1941. The dam is approximately 137 feet high with a crest length of 700 feet. The dam impounds Alpine Reservoir which has a maximum storage capacity of approximately 8,891 acre-feet. Most of the land surrounding the existing reservoir and dam is forested (mostly conifer). There are numerous publicly accessible roads and trails nearby, including the Fairfax-Bolinas Road which crosses Alpine Dam. Steps were left in the downstream face of the dam when it was raised in 1941 to allow another raise of the dam at a later date. Raising the dam by 75 feet and bringing the maximum operating level to match that of Bon Tempe Reservoir would provide an additional 23,000 acre-feet of storage. Bon Tempe Dam would be breached and the two reservoirs would be operated as one. The raise would also require the construction of a small saddle dam in a canyon to the north to protect the Meadow Club Golf Course from flooding. Also, the spillway would have to be rebuilt as part of the dam raise. Of special concern is a large, ancient landslide on the eastern side of the reservoir that requires additional consideration if the alternative is further advanced. The amount of new material required for the raise would be 240,000 cubic yards of concrete for the dam and 200,000 cubic yards of fill for the new saddle dam. The 23,000-AF size of this alternative is based on an identified threshold point that protects the toe of Bon Tempe dam from wave action. The team examined lesser capacities and they tended to either pose concerns for the safe operation of Bon Tempe, or require substantially the same engineering and permitting complexity as

the larger project but with significantly less water supply benefit. At a construction cost of \$1,295M, the raise of Alpine dam is both economically and financially infeasible.

Soulajule Dam

Soulajule Dam is located on Arroyo Sausal Creek in unincorporated western Marin County north of the town of Point Reyes Station. The dam, built in 1979, is a zoned earth fill dam, approximately 122 feet high and 700 feet long. The dam impounds Soulajule Reservoir, which has a normal maximum storage capacity of approximately 10,300 acre-feet. The reservoir expansion area includes land owned by Marin Water and privately owned land. The existing reservoir and dam are surrounded by forest land (hardwood with patches of conifer) and agricultural land (typically used for grazing). Raising the dam nominally 39 feet would provide an additional storage of about 20,000 acre-feet. The volume of material needed to complete the raise of Soulajule is approximately 1.2 M cubic yards of fill. At a cost of \$291M, this alternative appears economically and financially feasible.

Nicasio Reservoir

Nicasio reservoir is in western Marin County located near the town of Nicasio and is impounded by Seeger Dam. The dam is a zoned earth and rock fill dam that was completed in 1961. The dam is approximately 115 feet high with a crest length of 400 feet. Nicasio Reservoir has a maximum storage capacity of approximately 22,430 acre-feet. The reservoir expansion area includes land owned by Marin Water and privately owned land. The existing reservoir and dam are surrounded by agricultural land with relatively few structures and limited forest land; affected infrastructure includes Pt. Reyes - Petaluma Road, Nicasio Valley Road, and private roads. Raising the dam by 18 feet would provide an additional storage of about 20,000 acre-feet. The raise would require building a new spillway in the left abutment but would only require about 180,000 cubic yards of new fill. Protecting the town from flooding would necessitate a 40-foot-high, 900-foot-long dike and a 2.6-mile diversion of Nicasio and Halleck Creeks around the eastern portion of the reservoir. A diversion of inflow from 3 drainage channels flowing from the north would also be required. Construction of these diversions, each with its own diversion dam, intake, and flood pool area, is likely to be very complicated given the existing infrastructure. The alternative would also require reconstruction of almost 8 miles of roads. The complexity of protecting the town increases the cost of the project to over \$1,242 million and it is not economically or financially feasible.

Kent Reservoir

Kent Reservoir is in unincorporated Marin County near the communities towns of Lagunitas and Forest Knolls and is impounded by Peters Dam. The dam is a zoned earth and rock fill dam that was originally completed in 1953. The dam was raised during 1980 and 1981. The raise was also a zoned embankment dam. The dam is approximately 230 feet high with a crest length of 700 feet. The dam retains Kent Reservoir, which has a maximum storage capacity of approximately 33,300 acre-feet. Kent Reservoir is within watershed land managed by Marin Water. Most of the land surrounding the existing reservoir and dam is forested (a mix of conifer and hardwood). There are numerous publicly accessible roads and trails in the area. Raising the dam about 37 feet would provide additional storage of about 20,000 acre-feet. The raise would require removal of a substantial portion of the existing embankment to expose the various zones that need to be extended in the new embankment in a way that maintains their integrity. The crest of the new dam would be moved downstream, and a curved embankment would be necessary to tie into the left abutment while avoiding a side valley. The raise would also require building a new spillway in the left abutment that may have to be curved. The amount of new fill required for the raise is about 2.9 M cubic yards. The enlarged Kent Lake would be self-filling.

However, the alternative is technically challenging, and environmental factors such as Northern Spotted Owls would substantially increase the duration of construction. At an approximate cost of \$613M, the project may be economically feasible and is potentially financially feasible.

SUMMARY: The results of the alternatives screening indicate that many of the alternatives are infeasible:

- None of the spillway modifications can satisfy the goal of providing substantial additional local storage on their own. However, the addition of permanent gates at Nicasio Reservoir, although only providing 3,000 acre-feet of additional storage, is economically and financially feasible. Construction costs of spillway modifications at Nicasio Reservoir are estimated to be \$3M and could be carried forward as a near-term project because it can be constructed relatively quickly and economically. Implementation of spillway modifications at Nicasio Reservoir could incrementally reduce the capacity needed from another storage project(s).
- The dredging of Nicasio is not economically or financially feasible because of its construction complexity and extreme cost.
- Devil’s Gulch is infeasible because it is entirely located on State and Federal Land: Samuel P. Taylor State Park and the Golden Gate National Recreation Area
- Halleck Reservoir is not economically or financially feasible because of the large size of the embankment required, technical challenges and the resulting construction cost.
- Alpine dam raise is not considered financially or economically feasible because of construction complexity and cost.
- Nicasio dam raise is not considered feasible due to cost and complexity.
- Kent dam raise is technically feasible but has constructability and cost challenges that will require further investigation if this alternative is advanced.

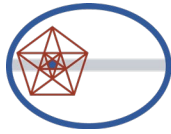
At this point in the evaluation, the team is considering the SoulaJule dam raise, Kent dam raise, and Upper Nicasio reservoir for further study. The next phase of work will begin immediately and staff will provide progress updates along the way. Additionally, Staff will begin work on the Nicasio spillway modifications which will move forward as its own shorter term project on a separate track to the longer term Local Storage projects.

ENVIRONMENTAL REVIEW: Not Applicable.

FISCAL IMPACT: None.

ATTACHMENT(S):

1. Draft Screening of Alternatives for Local Storage Improvements Memo



TERRA / GeoPentech
a Joint Venture

Technical Memorandum

Date: April 5, 2024
To: Paul Sellier, PE, Water Resources Director - MMWD
From: Guilaine Roussel, PE, Project Manager - TGP
Subject: *Results of Alternatives Screening
Water Supply Storage Improvements*

DRAFT

This technical memorandum summarizes the results of the development and screening of alternatives associated with investigation of storage improvements for Marin Municipal Water District (Marin Water).

1.0 INTRODUCTION AND BACKGROUND

The joint venture team of TERRA Engineers, Inc. and GeoPentech, Inc. (TGP) was selected by Marin Water to evaluate alternatives to increase water storage and facilitate the identification of one or more projects for further study. The TGP Team subconsultants include InfraTerra, Integrated Engineering & Construction, Panorama Environmental, COWI North America, Water Resources Engineering, and Cinquini & Passarino.

Marin Water's goal is to develop additional storage to enhance the reliability, flexibility and resiliency of the water system, consistent with the Strategic Water Supply Assessment (SWSA, May 2023). Prepared in response to recent drought conditions that severely threatened water supply reliability, the SWSA included an assessment of current and future hydrological conditions, performance of the Marin Water system under these conditions, consideration of strategies and concepts, and development of a water supply resiliency roadmap. The roadmap includes development of an additional 20,000 acre-feet (AF)¹ of local storage.

The alternatives evaluation summarized in this memo builds on the investigations completed for the SWSA and focuses on further development and evaluation of solutions that capture and store surface water within Marin County. Ten (10) storage alternatives were identified and briefly described in the SWSA and served as a starting point for work by TGP.

The first element of work by TGP consisted of the systematic development of the ten identified alternatives, and the formulation of additional alternatives and/or combinations of solutions, as appropriate. The team developed information on various aspects of each alternative including storage volume, reliability, approximate volumes of earthwork and other major construction items, geotechnical and geologic considerations, constructability, incremental inundation area, land use compatibility and environmental considerations, Rough Order of Magnitude (ROM) costs, and time for implementation. This information was reviewed in a collaborative workshop which used the information about each alternative to evaluate the alternatives against the following screening criteria: (a) water reliability and sustainability; (b) flexibility and resiliency; (c) schedule and implementation; (d) water quality; (e) environmental and social stewardship; and (f) economic and financial feasibility.

¹ Marin Water will confirm the amount of storage capacity needed as planning and design progress.

The following three sections of this memorandum provide a brief description of the alternatives considered, evaluation of each alternative against the above screening criteria, and a summary and the identification of the top alternatives to be further evaluated.

2.0 DESCRIPTION OF ALTERNATIVES

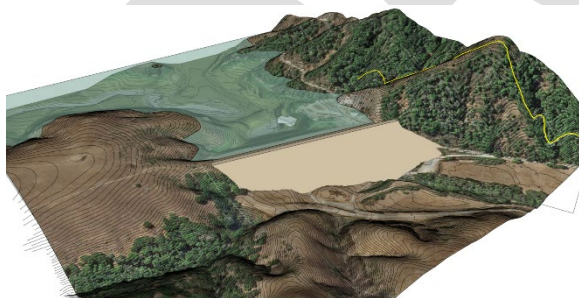
Twelve alternatives were specifically considered by TGP: the ten (10) that were included in the SWSA and two (2) new alternatives that were developed during the course of the work. The categories and names of the alternatives considered are as follows and each is briefly described in this section.

Dam Raises	New Dams	Spillway Modifications	Others
Soulajule	Halleck	Soulajule	Nicasio Dredging
Nicasio	Devil's Gulch	Nicasio	
Kent	Upper Nicasio (New)	Kent	
Alpine (New)		Alpine	

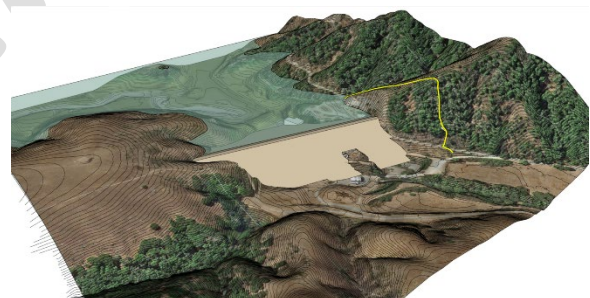
2.1 Soulajule Raise

Soulajule Dam is located on Arroyo Sausal Creek in unincorporated western Marin County north of the town of Point Reyes Station. The dam, built in 1979, is a zoned earth fill dam, approximately 122 feet high and 700 feet long. The dam impounds Soulajule Reservoir, which has a normal maximum storage capacity of approximately 10,300 acre-feet.

Raising the dam nominally 39 feet would provide an additional storage of about 20,000 acre-feet. Two options were considered for the raise: one placing the additional fill on the downstream side of the existing dam, the other placing the new fill symmetrically on both the upstream and downstream sides. Both options would require rebuilding the spillway into the left abutment and each has advantages and disadvantages. The two options are shown below.

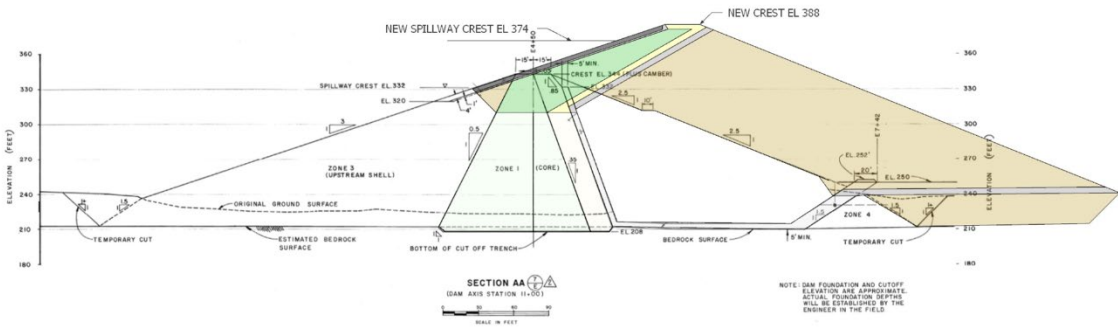


Downstream Raise

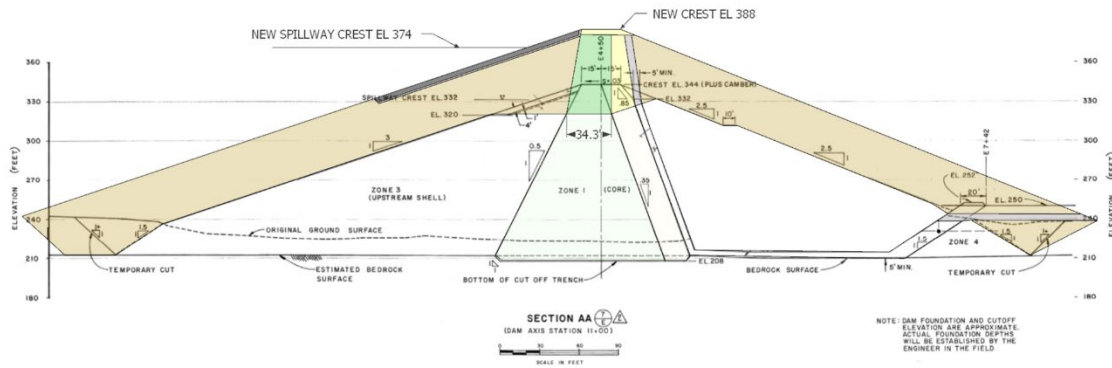


Upstream and Downstream Raise

The downstream raise moves the axis of the dam significantly downstream and would require a somewhat complicated zoning and the rebuilding of the pump station. This option might not require draining the reservoir during construction. The upstream/downstream raise option maintains the axis of the dam at its current location but may require alteration or replacement of the upstream intake structure. It would also require draining the reservoir during construction. Schematic cross sections for the two options are shown on Page 3. Quantities of required new fill are 1.7 million cubic yards (M cy) and 1.2 M cy for the downstream and upstream/downstream raise, respectively.



Downstream Raise



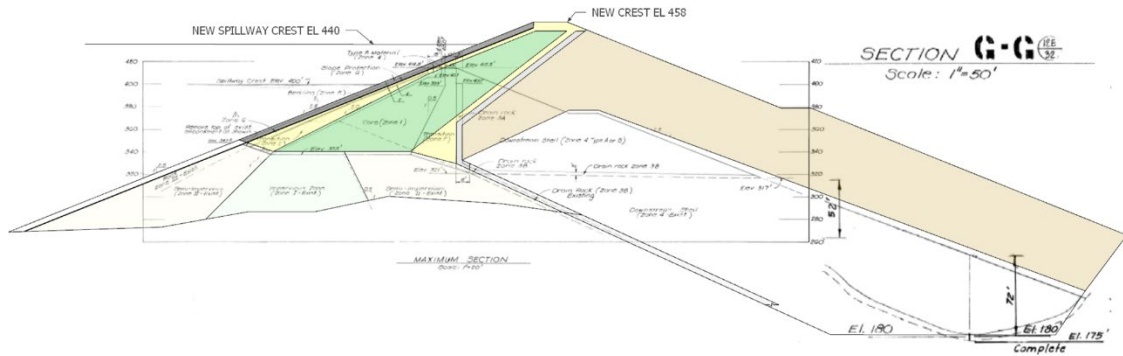
Upstream and Downstream Raise

The potential reservoir expansion area includes land owned by Marin Water and privately owned land. The existing reservoir and dam are surrounded by agricultural land (typically used for grazing) and forest land (hardwood with patches of conifer). There are six or more building complexes within the new spill crest elevation, some of which include residences. Affected infrastructure includes Arroyo Sausal Road and private roads.

2.2 Nicasio Raise

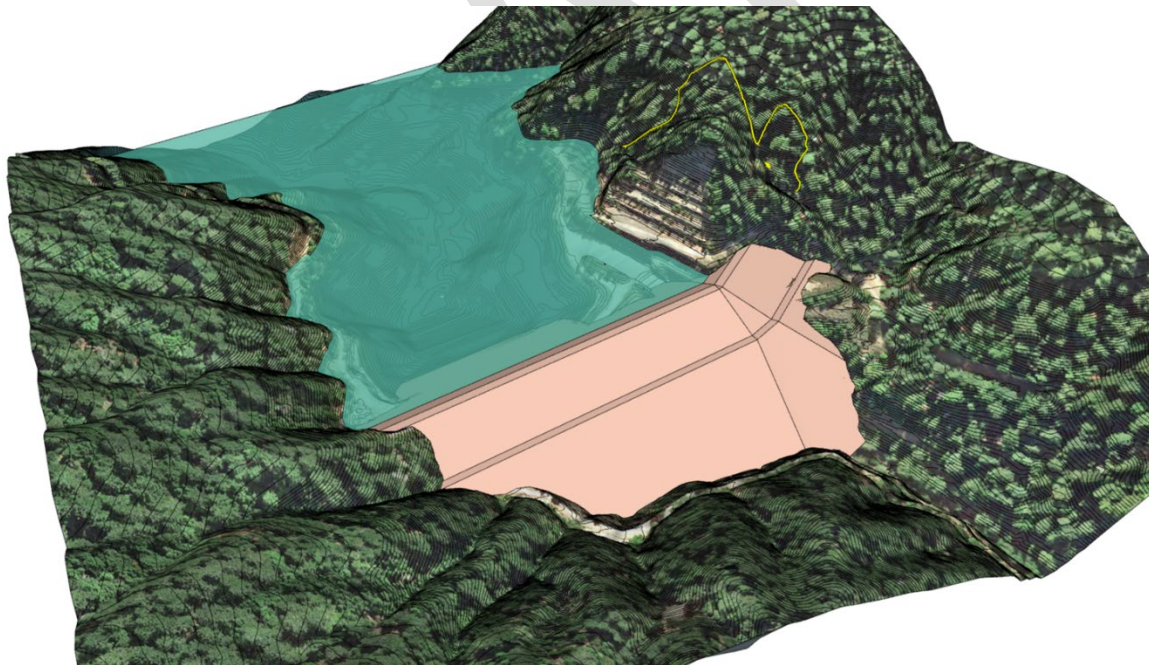
Nicasio reservoir is in unincorporated Marin County near the town of Nicasio and is impounded by Seeger Dam. The dam is a zoned earth and rockfill dam that was completed in 1961. The dam is approximately 115 feet high with a crest length of 400 feet. Nicasio Reservoir has a maximum storage capacity of approximately 20,700 acre-feet. –

Raising the dam about 37 feet would provide additional storage of about 20,000 acre-feet. The raise would require removal of a substantial portion of the existing embankment to expose the various zones that need to be extended in the new embankment in a way that maintains their integrity.



The crest of the new dam would be moved downstream, and a curved embankment would be necessary to tie into the left abutment while avoiding a side valley. The raise would also require building a new spillway in the left abutment that may have to be curved.

The amount of new fill required for the raise is about 2.9 M cy.



2.4 Alpine Raise

Alpine Reservoir is in unincorporated Marin County on Lagunitas Creek in the Mount Tamalpais Watershed, immediately downstream of Bon Tempe Reservoir. Alpine Dam is a concrete arch gravity dam that was originally completed in 1919 and then raised in 1941. The dam is approximately 137 feet high with a crest length of 700 feet. The dam impounds Alpine Reservoir which has a maximum storage capacity of approximately 8,891 acre-feet. Most of the land surrounding the existing reservoir and dam is forested (mostly conifer). There are numerous publicly accessible roads and trails nearby, including the Fairfax-Bolinas Road which crosses Alpine Dam.

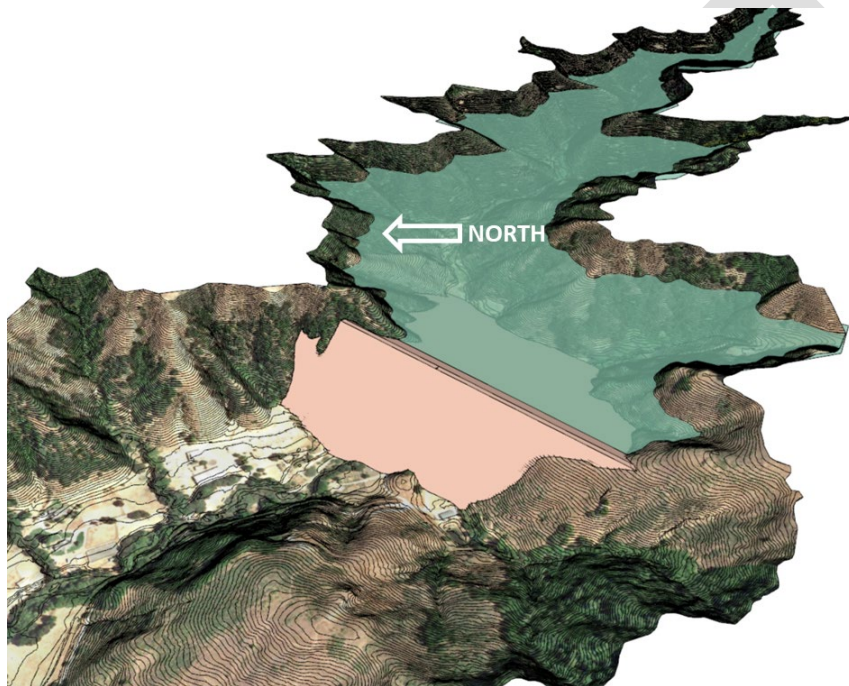
Steps were left in the downstream face of the dam when it was raised in 1941 to allow another raise of the dam at a later date. Raising the dam by about 78 feet and bringing the maximum operating level to match that of Bon Tempe Reservoir would provide an additional 24,000 acre-feet of storage. Bon Tempe Dam would be breached, and the two reservoirs would be operated as one. The raise would also require the construction of a small saddle dam in a canyon to the north to protect the Meadow Club from flooding. Also, the spillway would have to be rebuilt as part of the dam raise. Of special concern is a large ancient landslide on the eastern side of the reservoir that would have to be considered if the alternative is further advanced.



The amount of new material required for the raise would be 246,000 cy of concrete for the dam and 200,000 cy of fill for the new saddle dam.

2.5 Halleck Reservoir

The new Halleck Reservoir would be located on Halleck Creek in unincorporated Marin County east of the town of Nicasio and about 3 miles east of Nicasio Reservoir. The Halleck dam and reservoir site is within the Nicasio Reservoir watershed off Old Rancheria Road; land uses include agricultural and forest (mostly hardwood) land. There are numerous structures associated with an equestrian facility, at least one residence, and private roads within the potential dam and reservoir site. A 278-foot-high, 2,200-foot-long zoned earth and rockfill dam would impound a 20,000-acre-foot reservoir.

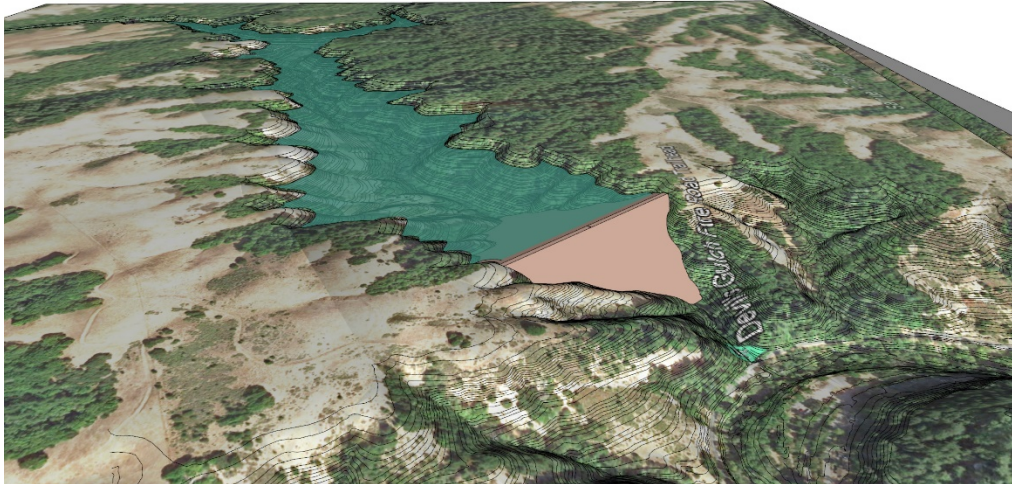


Construction of this new dam would require about 10.4 M cy of fill.

2.6 Devil's Gulch Reservoir

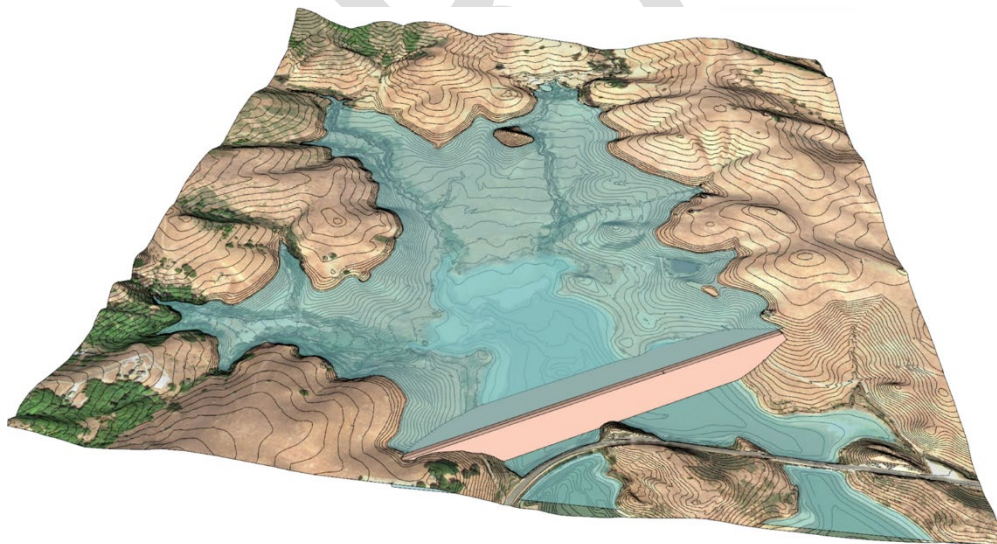
The Devil's Gulch reservoir and dam site is in a narrow canyon off Sir Francis Drake Boulevard, about 3 miles north of Kent Reservoir. The site is within state- and federally-owned land that is part of Samuel P. Taylor State Park and the Golden Gate National Recreation Area. The area is forested open space used for recreation (trails, campground). A 270-foot-high, 1,400-foot-long zoned earth and rockfill dam on Devil's Gulch Creek, a tributary to Lagunitas Creek, would impound a 20,000-acre-foot reservoir.

Construction of this new dam would require about 3.6 M cy of fill and necessitate work in a space-constrained area in the vicinity of Sir Francis Drake Boulevard.



2.7 Upper Nicasio Reservoir

The Upper Nicasio Reservoir would be in the northwestern portion of the existing Nicasio Reservoir watershed, to the north of Point Reyes-Petaluma Road. Existing uses include agricultural (ranch) land, several building complexes including residences, and private roads. The new 20,000-acre-foot upper reservoir would be impounded by a 103-foot-high, 3,900-foot-long zoned earth and rockfill dam. The new dam would be constructed immediately north of Point Reyes-Petaluma Road to allow continued use of the road during construction. Construction of the new dam would require about 4.8 M cy of fill.



2.8 Spillway Modifications

Spillway modifications considered for this investigation consist of installing either moveable gates or fixed “flashboards” to incrementally raise the reservoir storage elevation without modifying the dam. None of the

spillway modifications on its own could achieve Marin Water's goal of providing substantial additional storage. However, the spillway modifications could provide additional temporary or permanent storage and can be constructed faster than any of the alternatives that require raising an existing dam or building a new dam.

2.8.1 Nicasio (Seeger) Dam

Nicasio (Seeger) dam is different from the other three existing dams because potential spillway gates were considered in the original design of the dam and spillway when the dam was designed in the late 1950's. The dam was built with enough freeboard to allow the addition of 3-foot-high flashboards, thereby permanently raising the spillway level without having to modify the dam or construct additional flood protection features near the town of Nicasio. This modification to the existing spillway would provide an additional 3,000 acre-feet of permanent storage to Nicasio Reservoir.

2.8.2 Soulajule and Kent (Peters) Dams

Soulajule and Peters Dams have spillways that could accommodate gates along their weirs. however, freeboard is relatively limited and would preclude installation of fixed gates.

Moveable gates could be bladder gates that would be raised after the winter months to capture additional inflow from April through October. However, these gates would have to be lowered in advance of storms when the reservoir level is at the top of the raised gates.

The addition of moveable gates at Soulajule and Kent could provide 1,200 and 1,800 acre-feet of temporary additional storage, respectively.

2.8.3 Alpine Dam

The spillway system at Alpine Dam has 8 self-priming siphons built inside the concrete dam that release water on the downstream face of the dam. Moveable gates on this dam could be knife gates installed in front of the opening of each of the siphon spillways. This installation would require the use of a barge in the reservoir after lowering the reservoir level below the bottom of the siphon openings. As with the spillway modifications for Soulajule and Peters Dams described above, the gates at Alpine Dam would be closed after the winter season to capture additional inflow from April through October and raised in advance of summer storms to open the siphon spillways.

The addition of moveable gates at Alpine Dam may provide 900 acre-feet of additional temporary storage.

2.9 Dredging of Nicasio Reservoir

The dredging of 32.3 M cy of materials from Nicasio Reservoir would provide an additional 20,000 acre-feet of additional storage within the reservoir. This approach would require the use of barge(s) on the reservoir and the excavated materials would have to be temporarily stored on site, dewatered, loaded into trucks, and transported off-site for disposal. Marin Water's use of the reservoir would be impaired during the dredging operation and the natural inflow into the reservoir would have to be somehow diverted so the reservoir did not spill and cause adverse water quality downstream.

3.0 ALTERNATIVE SCREENING

The following criteria were used in the screening of the alternatives: (a) water reliability and sustainability; (b) flexibility and resiliency; (c) schedule and implementation; (d) water quality; (e) environmental and social stewardship; and (f) economic and financial feasibility. The following considerations were qualitatively assessed during the screening exercise.

Water Reliability and Sustainability	<p>Does the alternative meet the goal to develop additional storage? What is the yield in acre-feet?</p> <p>Are there substantial technical risks that threaten the alternative’s technical or economic feasibility?</p>
Flexibility and Resiliency	<p>Does the alternative integrate well with Marin Water’s operations? Is the alternative flexible to work over a range of future scenarios?</p> <p>Is the alternative’s performance relatively insensitive to future uncertainty?</p>
Schedule and Implementation	<p>Are there substantial concerns regarding constructability or compatibility with existing land uses?</p>
Water Quality	<p>Would managing water quality of downstream releases during construction pose challenges?</p>
Environmental and Social Stewardship	<p>Alternatives not screened out at this stage will receive detailed study in the next phase of work.</p>
Economic and Financial	<p>Is the alternative cost-effective, i.e., economically feasible considering its benefits relative to its likely costs?</p> <p>Is the alternative affordable, i.e., financially feasible?</p>

The screening process culminated in a cooperative workshop with input from representatives of Marin Water, Woodard & Curran, Environmental Science Associates, and the TGP Team. The results of the screening are summarized in Table 1.

TABLE 1 – SCREENING OF ALTERNATIVES

Alternative	Screening Criteria					
	Water Reliability and Sustainability	Flexibility and Resiliency	Schedule and Implementation	Water Quality	Environmental and Social Stewardship ²	Economic and Financial Feasibility
Soulajule Raise	<p>The alternative can meet the goal of adding substantial local storage.</p> <p>Technical risks are low and this alternative is relatively favorable from a geotechnical standpoint, and a water reliability and sustainability perspective.</p>	<p>The alternative integrates well with the current operations of Marin Water.</p> <p>Based on the largely passive capture of surface water and large watershed, the performance of this alternative is relatively insensitive to future uncertainty.</p> <p>The reservoir could reasonably serve as an endpoint for imported water should the Water Conveyance Improvements Project be implemented.³</p>	<p>Constructability is favorable compared to other alternatives and there are no clear obstacles to developing a typical construction schedule.</p> <p>The expanded reservoir would inundate parcels with agricultural land and structures including residences and roads. If this alternative moves forward, measures to reduce inundation or otherwise protect structures would be evaluated.</p>	<p>There appear to be no major concerns regarding water quality from water captured passively at this reservoir.</p> <p>Water quality for downstream releases during construction must be considered.</p>	<p>There would be effects on biological resources including steelhead, coho salmon, and California red-legged frog and their critical habitat and Baker’s larkspur; wetland and riverine features, forested riparian, and sensitive natural communities would be lost/inundated.</p> <p>The alternative would adversely affect architectural resources and would require detailed study.</p>	<p>The alternative is potentially economically feasible.</p> <p>The alternative appears financially feasible.</p>
Nicasio Raise	<p>The alternative can meet the goal of adding substantial local storage.</p> <p>Technical risks for a dam raise are low and the alternative is relatively favorable from a geotechnical standpoint. However, technical risks for protecting the town of Nicasio from inundation are high because of the complexity and extent of the required measures given the existing infrastructure.</p>	<p>The alternative integrates well with the current operations of Marin Water.</p> <p>Based on the largely passive capture of surface water and large watershed, the benefits afforded by this alternative appear relatively insensitive to future uncertainty.</p> <p>The reservoir could reasonably serve as an endpoint for imported water should the Water Conveyance Improvements Project be implemented.</p>	<p>Constructability is favorable compared to other alternatives and there are no clear obstacles to developing a typical construction schedule.</p> <p>The expanded reservoir would inundate parcels with agricultural land, few structures, and roads. This alternative includes extensive dikes to protect the town of Nicasio, and channelization of Halleck and Nicasio creeks to passively direct water around the town and into the reservoir. Design and permitting would likely hinder timely implementation.</p>	<p>There appear to be no major concerns regarding water quality from water captured passively at this reservoir.</p> <p>Water quality for downstream releases during construction must be considered.</p>	<p>There would be effects on biological resources including coho salmon and their associated critical habitat, Steelhead, Western bumblebee and Western pond turtle; wetlands and riverine features, forested riparian, and sensitive natural communities would be lost/inundated.</p> <p>The alternative would likely adversely affect archaeological (e.g., multiple habitation sites) and architectural resources and would require detailed study.</p>	<p>The alternative is not economically or financially feasible because of the protection measures required to avoid flooding the town of Nicasio.</p>

² Indicates list of initial environmental and social issues to be investigated for alternatives that are not screened out during this phase. Refer also to Schedule and Implementation information regarding future evaluation of areas that would be inundated.

³ Marin Water is currently investigating the feasibility of a project to convey additional water from Sonoma County Water Agency (SCWA), consistent with the SWSA roadmap. One of the constraints to use of the SCWA contracted water supply is the inability to convey water to storage. Marin Water is investigating construction of a pipeline(s) to convey water from SCWA to Soulajule and/or Nicasio reservoir.

TABLE 1 – SCREENING OF ALTERNATIVES

Alternative	Screening Criteria					
	Water Reliability and Sustainability	Flexibility and Resiliency	Schedule and Implementation	Water Quality	Environmental and Social Stewardship ²	Economic and Financial Feasibility
Kent Raise	<p>The alternative can meet the goal of adding substantial local storage.</p> <p>Technical risks are high: the dam zoning is complex, and a new spillway would be a relatively difficult undertaking and fill availability is unbalanced with clay core material needing to be imported and requiring a long haul.</p> <p>Water reliability is lower than similar alternatives and sustainability is adequate.</p>	<p>The alternative integrates well with the current operations of Marin Water.</p> <p>Based on the passive capture of surface water and large watershed the alternative should have some flexibility to fit in the range of future scenarios.</p> <p>The reservoir would not be able to receive imported water, should the Water Conveyance Improvements Project as it is currently contemplated be implemented. Consequently, the resilience of this alternative would be incrementally less than other alternatives.</p>	<p>Northern spotted owls (NSOs) nest near Peters Dam; construction of the earth and rockfill dam would be limited during nesting season. Loss of habitat for listed species would likely require replacement. These factors would prolong the construction duration and increase cost and implementation complexity. Environmental permitting would likely hinder timely implementation.</p> <p>Marin Water owns the area that would be inundated by the future reservoir, which includes trails and publicly accessible roads.</p>	<p>There appear to be no major concerns regarding water quality from water captured passively at this reservoir.</p> <p>Water quality for downstream releases during construction must be considered.</p>	<p>There would be effects on biological resources, including Northern Spotted Owls (NSO) which nest in mature conifer forests; and steelhead, coho salmon, and their critical habitat. NSO nest sites occur near the dam construction area and areas to be inundated. Several other special-status species known to occur in the immediate vicinity could also be affected. Wetland and riverine features, forested riparian, and sensitive natural communities (including mature conifer forest) would be lost/inundated.</p> <p>The potential to encounter important cultural resources is considered low (there are no undocumented buildings, complexes or structures and no recorded archaeological resources).</p>	<p>The alternative may be economically infeasible due to construction limitations and increased cost associated with habitat replacement.</p> <p>The alternative is otherwise considered potentially financially feasible.</p>
Alpine Raise	<p>The alternative can meet the goal of adding substantial local storage.</p> <p>Technical risks are moderate, the dam and dike construction are straightforward, but the new reservoir level would interact with a very large historic landslide which would require special study.</p> <p>Water reliability is lower than similar alternatives and sustainability is adequate.</p>	<p>The alternative integrates well with the current operations of Marin Water but would require some special considerations for taking Bon Tempe reservoir out of service while keeping the pump station active.</p> <p>Based on the passive capture of surface water and relatively large watershed this alternative should have flexibility to fit in the range of future scenarios but may require upstream pumping of surplus water from Kent Reservoir.</p> <p>The reservoir would not be able to receive imported water, should the Water Conveyance Improvements Project as it is currently contemplated be implemented. Consequently, the resilience of this alternative would be incrementally less than other alternatives.</p>	<p>NSOs nest near the dam; construction would be limited during nesting season. Loss of habitat for listed species would likely require replacement. These factors would prolong the construction duration, increase construction cost and increase implementation complexity. Environmental permitting would likely hinder timely implementation.</p> <p>Constructability is straightforward assuming that aggregate can be obtained locally. The dike construction may require a long-haul of fill material and there may be other environmental obstacles that could complicate the construction process from a scheduling standpoint.</p> <p>Marin Water owns the area that would be inundated by the reservoir expansion, which includes trails and publicly accessible roads.</p>	<p>There appear to be no major concerns regarding water quality from water captured passively at this reservoir.</p> <p>Water quality for downstream releases during construction must be considered.</p>	<p>There would be effects on biological resources, including NSO and their critical habitat; nest sites occur near the dam construction area. Suitable habitat for Western pond turtle could also be affected. Several other special-status species that occur in the immediate vicinity could also be affected. Wetland and riverine features, forested riparian, and sensitive natural communities (including mature conifer forest) would be lost/inundated.</p> <p>The potential to encounter important cultural resources is considered low (there are undocumented buildings, complexes and structures in the area but no recorded archaeological resources).</p>	<p>The alternative is not economically feasible even though it has somewhat lower uncertainty than others because land acquisition is not a factor. The mass concrete driving the overall cost to an unreasonable range and lower-cost alternatives (e.g., roller-compacted concrete) are not considered constructable given the limited construction window and there is increased cost associated with habitat replacement.</p> <p>The alternative is not financially feasible.</p>

TABLE 1 – SCREENING OF ALTERNATIVES

Alternative	Screening Criteria					
	Water Reliability and Sustainability	Flexibility and Resiliency	Schedule and Implementation	Water Quality	Environmental and Social Stewardship ²	Economic and Financial Feasibility
Halleck Reservoir	<p>The alternative can meet the goal of adding substantial local storage.</p> <p>Technical risks are high, and the alternative is relatively unfavorable from a geotechnical standpoint due to questionable foundation conditions, geologic hazards, and the height of the dam (278 feet).</p>	<p>The alternative integrates well with the current operations of Marin Water.</p> <p>It is unlikely that the reservoir could be operated as a self-filling, passive system. However, flexibility could be achieved with pump stations or conveyance systems to utilize the storage capacity.</p> <p>The reservoir storage would serve as a reasonable endpoint for imported water should the Water Conveyance Improvements Project be implemented or surplus surface water within the Marin Water system.</p>	<p>Constructability is favorable compared to other alternatives and there are no clear obstacles to developing a typical construction schedule.</p> <p>The expanded reservoir would inundate parcels with agricultural land, structures associated with an equestrian facility, and at least one residence.</p>	<p>There appear to be no major concerns regarding water quality from water captured passively at this reservoir.</p> <p>Water quality for downstream releases during construction must be considered.</p>	<p>There would be effects on biological resources including wetlands and riverine features, forested riparian, and sensitive natural communities that would be inundated. Little information is publicly available regarding the presence of special-status species.</p> <p>The potential to encounter important cultural resources is considered low (there are undocumented buildings, complexes and structures in the area but no recorded archaeological resources).</p>	<p>The alternative is not economically feasible based on the very large embankment required and subsequent extreme construction costs.</p> <p>The alternative is not financially feasible.</p>
Devil's Gulch Reservoir	<p>The alternative can meet the goal of adding substantial local storage.</p> <p>Technical risks are low, and the alternative is relatively favorable from a geotechnical standpoint.</p>	<p>The alternative integrates well with the current operations of Marin Water, although substantial conveyance facilities would be needed.</p> <p>It is unlikely that this reservoir could be operated as a self-filling, passive system. However, flexibility could be achieved with pump stations or conveyance systems to utilize the storage capacity.</p> <p>The reservoir would not be able to receive imported water, should the Water Conveyance Improvements Project as it is currently contemplated be implemented. Consequently, the resilience of this alternative would be incrementally less than other alternatives.</p>	<p>This alternative would require acquisition and conversion of state- and federally-owned land within Samuel P. Taylor State Park and the Golden Gate National Recreation Area.</p> <p>Acquisition and conversion of state and federally owned land to reservoir storage, given the existence of other viable alternatives, is considered infeasible.</p>	<p>There appear to be no major concerns regarding water quality from water captured passively at this reservoir.</p> <p>Water quality for downstream releases during construction must be considered.</p>	<p>There would be effects on biological resources including marbled murrelet, coho salmon, and steelhead, and their associated critical habitat. Wetland and riverine features (including habitat for anadromous fish), forested riparian, and sensitive natural communities would be inundated.</p>	<p>The alternative is potentially economically infeasible.</p> <p>The alternative is potentially financially infeasible.</p>

TABLE 1 – SCREENING OF ALTERNATIVES

Alternative	Screening Criteria					
	Water Reliability and Sustainability	Flexibility and Resiliency	Schedule and Implementation	Water Quality	Environmental and Social Stewardship ²	Economic and Financial Feasibility
Upper Nicasio Reservoir	The alternative can meet the goal of adding substantial local storage. Technical risks are moderate, and the alternative is relatively favorable from a geotechnical standpoint, and from a water reliability and sustainability perspective.	The alternative integrates well with the current operations of Marin Water. It is unlikely that this reservoir could be operated as a self-filling, passive system. However, flexibility could be achieved with pump stations or conveyance systems to utilize the storage capacity. The reservoir could reasonably serve as an endpoint for imported water should the Water Conveyance Improvements Project be implemented.	Constructability is favorable compared to other alternatives: there are no clear obstacles to developing a typical construction schedule. The reservoir would inundate parcels with agricultural land and structures including residences and roads. If this alternative moves forward, measures to reduce inundation or otherwise protect structures would be evaluated.	There appear to be no major concerns regarding water quality from water captured passively at this reservoir. Water quality for downstream releases during construction must be considered.	There would be effects on biological resources including wetlands and riverine features, forested riparian, and sensitive natural communities that would be lost/flooded. Few special-status species have been recorded in the dam/reservoir footprint (historic records of Western bumblebee). No critical habitat is present. The potential to encounter important cultural resources is considered low (there are undocumented buildings, complexes and structures in the area but no recorded archaeological resources).	The alternative is potentially economically feasible pending exploration of land acquisition. The alternative appears potentially financially feasible , conditional on land acquisition.
Nicasio Spillway Fixed Gates	As a standalone endeavor, the alternative cannot meet the goal of adding substantial local storage. Technical risks are low.	The alternative integrates well with the current operations of Marin Water. Based on the largely passive capture of surface water and large watershed the alternative has flexibility to fit in the range of future scenarios.	Constructability is favorable compared to other alternatives; there are no clear obstacles to developing a typical construction schedule. Marin Water owns the spillway and surrounding area.	There appear to be no major concerns regarding water quality from water captured passively at this reservoir.	Effects on resources (e.g., biological resources) to be evaluated in the future. It is unlikely that this alternative would adversely affect important cultural resources.	The alternative is economically feasible . The alternative is financially feasible .
Soulajule Spillway Moveable Gates	As a standalone endeavor, the alternative cannot meet the goal of adding substantial local storage. Technical risks are low.	The alternative integrates well with the current operations of Marin Water. Based on the largely passive capture of surface water and large watershed this alternative has flexibility to fit in the range of future scenarios. Resilience is relatively low since the need to lower gates ahead of impending storms would likely compromise the value of the alternative and increase its costs.	Constructability is favorable compared to other alternatives; there are no clear obstacles to developing a typical construction schedule. Marin Water owns the spillway and surrounding area.	There appear to be no major concerns regarding water quality from water captured passively at this reservoir.	Effects on resources (e.g., biological resources) should be evaluated in the future if this alternative advances. It is unlikely that this alternative would adversely affect important cultural resources.	The alternative is likely not economically feasible , but it is financially feasible .

TABLE 1 – SCREENING OF ALTERNATIVES

Alternative	Screening Criteria					
	Water Reliability and Sustainability	Flexibility and Resiliency	Schedule and Implementation	Water Quality	Environmental and Social Stewardship ²	Economic and Financial Feasibility
Kent Spillway Moveable Gates	As a standalone endeavor, the alternative cannot meet the goal of adding substantial local storage. Technical risks are low.	The alternative does integrate well with the current operations of Marin Water. Based on the largely passive capture of surface water and large watershed this alternative has flexibility to fit in the range of future scenarios. Resilience is relatively low since the need to lower gates ahead of impending storms would likely compromise the value of the alternative and increase its costs.	Constructability is favorable compared to other alternatives; there are no clear obstacles to developing a typical construction schedule. Marin Water owns the spillway and surrounding area.	There appear to be no major concerns regarding water quality from water captured passively at this reservoir.	Effects on resources (e.g., biological resources) should be evaluated in the future. It is unlikely that this alternative would adversely affect important cultural resources.	The alternative is likely not economically feasible , but it is financially feasible .
Alpine Spillway Moveable Gates	As a standalone endeavor, the alternative cannot meet the goal of adding substantial local storage. Technical risks are low.	The alternative integrates well with the current operations of Marin Water. Based on the largely passive capture of surface water this alternative does have flexibility to fit in the range of future scenarios. Resilience is relatively low since the need to lower gates ahead of impending storms would likely compromise the value of the alternative and increase its costs.	Constructability is favorable compared to other alternatives: there are no clear obstacles to developing a typical construction schedule. Marin Water owns the spillway and surrounding area.	There appear to be no major concerns regarding water quality from water captured passively at this reservoir.	Effects on resources (e.g., biological resources) should be evaluated in the future. It is unlikely that this alternative would adversely affect important cultural resources.	The alternative is likely not economically feasible but it is financially feasible .
Dredging of Nicasio Reservoir	The alternative can meet the goal of adding substantial local storage.	The alternative would ultimately integrate well with the current operations of Marin Water. However, Marin Water could lose the use of the reservoir during the many-year-long dredging operation. Based on the largely passive capture of surface water and large watershed the alternative has flexibility to fit in the range of future scenarios.	There are constructability challenges associated with the years-long, large-scale dredging, dewatering, off-hauling, and disposal of dredged materials. These challenges would greatly affect the project's cost. Marin Water owns Nicasio Reservoir.	Maintaining water quality of released water would require careful management and environmental controls during construction.	Effects on resources (e.g., biological resources) would be evaluated in the future. The alternative would likely adversely affect archaeological and architectural resources and would require detailed study.	The alternative is not economically or financially feasible .

4.0 SUMMARY AND CONCLUSIONS

The results of the alternatives screening indicate that many of the alternatives are infeasible:

- Alpine dam raise is not considered financially or economically feasible because of construction complexity and cost.
- Nicasio dam raise is not considered feasible due to cost and complexity.
- Kent dam raise is technically feasible but has constructability and cost challenges that will require further investigation if this alternative is advanced.
- Devil's Gulch is fatally flawed because it is entirely located on State and Federal Land: Samuel P. Taylor State Park and the Golden Gate National Recreation Area.
- Halleck Reservoir is not economically or financially feasible because of the large size of the embankment required and the resulting construction cost.
- The dredging of Nicasio is not economically or financially feasible because of its construction complexity and extreme cost.
- None of the spillway modifications on its own can satisfy the goal of providing substantial additional local storage on their own. However, the addition of permanent gates at Nicasio Reservoir, although only providing 3,000 acre-feet of additional storage, is economically and financially feasible. Spillway modifications at Nicasio Reservoir could be carried forward as a near-term project because it can be constructed relatively quickly and economically. Implementation of spillway modifications at Nicasio Reservoir could incrementally reduce the capacity needed from another storage project(s).

Thus, it appears that Soulajule dam raise, Kent dam raise, and Upper Nicasio reservoir should move forward to the next phase of the evaluation. Spillway modifications may also be further investigated as potential near-term storage improvements.



UPCOMING MEETINGS

This schedule lists upcoming board and committee meetings as well as upcoming agenda items for the next month, which may include Board interest in adding future meeting items. The schedule is tentative and subject to change pending final publication and posting of each meeting agenda.

Internal Meetings		
Meeting Date	Meeting Type	Key Item(s)
Wednesday, May 1, 2024 5:00 p.m.	Board of Directors' Special Meeting	Water Efficiency Master Plan
Monday, May 6, 2024 5:00 p.m. (Rescheduled to a Date TBD)	Board of Directors Special Meeting (Closed Session)	
Wednesday, May 15, 2024 9:30 a.m.	Communications & Water Efficiency Committee Meeting/Special Meeting of the Board of Directors	Water Efficiency Master Plan
Friday, May 17, 2024 9:30 a.m.	Operations Committee Meeting/Special Meeting of the Board of Directors	
Tuesday, May 21, 2024 6:30 p.m.	Board of Directors' Regular Meeting	Roadmap Update
Thursday, May 23, 2024 9:30 a.m.	Finance & Administration Committee Meeting/Special Meeting of the Board of Directors	Board Handbook Review Part I

External Meetings	
Meeting Date	Meeting Type
Friday, May 3, 2024 9:30 a.m.	North Bay Watershed Association Conference

Monday, May 6, 2024
9:00 a.m.

Sonoma WAC/TAC Meeting

Section 10. Item #a.

Tuesday, May 7, 2024 thru
Thursday, May 9, 2024

Association of California Water Agencies Spring Conference