

# Flood Zone 9

MARIN COUNTY FLOOD CONTROL AND WATER  
CONSERVATION DISTRICT

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ADVISORY BOARD MEETING

JUNE 26, 2023



**Berenice Davidson, PE**  
Public Works Assistant Director  
Floodplain Administrator

# Agenda

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- Officer Elections
- Approval of Meeting Minutes
- Flood District Website
- Project Updates:
  - San Anselmo Flood Risk Reduction Project
  - Corte Madera Creek Flood Risk Management Project
- Historic Revenue and Expense Summary
- Open Time for Items Not on the Agenda
- Next Meeting



# Item 1. Officer Elections

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Article VI of the Advisory Board's bylaws stipulate that officers of the Advisory Board be elected to a two-year term by a majority vote of the Advisory Board. There are two officers – chair and vice-chair. The advisory board will nominate and vote for officers.

**Recommended Action:** Elect chairperson and elect vice-chairperson.



## Item 2. Approval of Meeting Minutes

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<https://marinflooddistrict.org/meetings/zone-9-advisory-board-meeting-april-25-2022/>

<https://marinflooddistrict.org/meetings/special-zone-9-advisory-board-meeting-june-14-2023/>

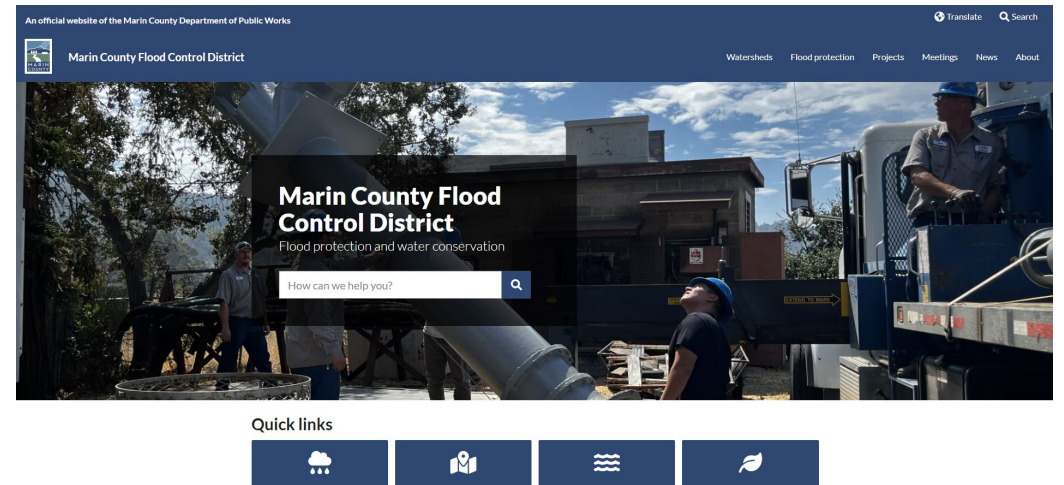
<https://marinflooddistrict.org/meetings/zone-9-advisory-board-meeting-march-31-2022/>

**Recommended Action:** Approve the minutes



# Item 3. Flood District Website

The Flood District has a new website. Former sites [marinwatersheds.org](http://marinwatersheds.org) and [rossvalleywatershed.org](http://rossvalleywatershed.org) will be decommissioned.



Screen capture of new Flood District website

Please visit [marinflooddistrict.org](http://marinflooddistrict.org) for information on flood zones and projects.



# Item 3. Flood District Website

## Zone 9 Advisory Board Meeting: April 25, 2022

Apr  
**25**  
2022

6:30 pm ▶ Larkspur City Council Chambers

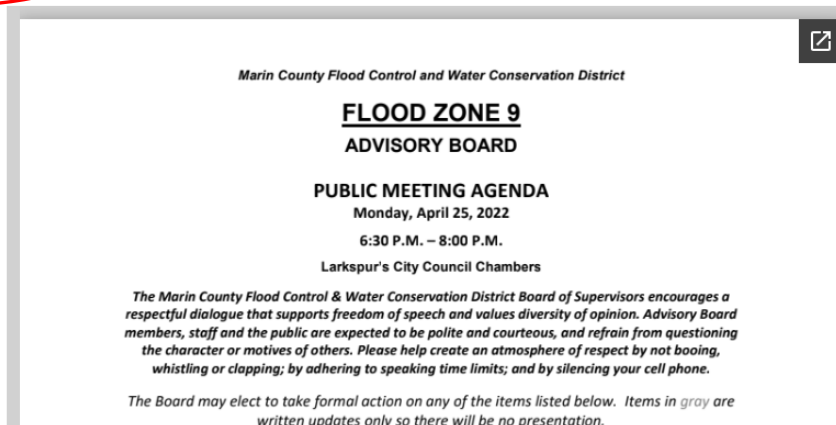
400 Magnolia Ave, Millbrae 94030

Share

- Agenda
- Agenda Packet**
- Minutes

Flood-Zone-9-Advisory-Board-Meeting-Agenda-April-25-2022.pdf  
PDF · 0.2MB

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*Marin County Flood Control and Water Conservation District*

**FLOOD ZONE 9  
ADVISORY BOARD**

**PUBLIC MEETING AGENDA**  
Monday, April 25, 2022  
6:30 P.M. – 8:00 P.M.  
Larkspur's City Council Chambers

*The Marin County Flood Control & Water Conservation District Board of Supervisors encourages a respectful dialogue that supports freedom of speech and values diversity of opinion. Advisory Board members, staff and the public are expected to be polite and courteous, and refrain from questioning the character or motives of others. Please help create an atmosphere of respect by not booing, whistling or clapping; by adhering to speaking time limits; and by silencing your cell phone.*

*The Board may elect to take formal action on any of the items listed below. Items in gray are written updates only so there will be no presentation.*



# Item 4. Project Updates

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# San Anselmo Flood Risk Reduction (SAFRR) Project

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# SAFRR Project Elements

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- Sunnyside Nursery Flood Diversion and Storage Basin & Creek Improvements
- Building Bridge 2 Removal & Creek Improvements

# Sunnyside Nursery Flood Diversion and Storage Basin

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**Purpose:** Detain creek flow during five year event to reduce flood risk downstream (downtown Fairfax)

**Status:**

- Fully operational & creek improvements constructed.
- Off-site environmental mitigation plantings planned along San Geronimo Creek
- Winter 2022/23 storms did not require or result in detention
- Starts to fill after Fairfax alarm



Location: 3000 Sir Francis Drake Blvd, Fairfax

# Building Bridge 2 Removal

**Purpose:** Remove obstruction from creek and reduce localized flooding, eliminate structural hazard

**Status:**

- Upper building removed in 2019
- Completed 90% plans
- Certified CEQA EIR (Update needed)
- Acquired permits (Update needed)
- Met with FEMA HQ



# Options

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## PLAN A – REMOVE BB2 & MITIGATE PRIVATE PROPERTIES

- Preferred Option
- Full benefits of project achieved at completion of construction
- Implement mitigations required by FEMA & CEQA before beginning with BB2 removal
- Timing of Winship Bridge Project by Ross influences CEQA and mitigations required

## PLAN B - REMOVE BB2 & INSTALL BAFFLE

- Back up plan
- Baffle alternative creates a restriction that keeps the flow in the creek the same as the bridge did before its removal
- This creates a “no rise” condition, meaning no change in water surface elevation
- The baffle alternative would give us time to implement mitigations for down stream private properties while removing the structurally compromised bridge and meeting grant deadlines.



# Building Bridge 2 Removal: Next Steps

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## Private Property Mitigation – June 2023 to October 2024

- H&H Modeling
- Topographic Survey
- Determine Mitigation Requirements
- Work with Property Owners to Mitigate

## Permits and Environmental – June 2023 to March 2024

- CEQA Addendum
- Update Natural Resources Permits
- Building Permits – San Anselmo

## Design and Construction – March 2023 to October 2024

- Finalize Design
- Bidding and Contract Award
- Construction (Summer 2024)

# Private Property Mitigation Measures

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## **COMPLETED:**

### **New H&H Modeling Runs**

- Solitary impact of removing BB2
- Updated channel design

### **Mapped Model Results**

- Show changes in Water Surface Elevation (WSE) on a map

## **NEXT STEPS:**

### **Survey**

- Survey properties where WSE rises to determine if it occurs within the building footprint.
- Notify affected property owners of up coming survey
- Begin site surveys in early July.

### **Mitigation Measures**

- Rise w/in building footprint, determine mitigation measures and work with the property owners to implement.

*Once mitigation requirements are determined in early August, a final decision to go forward with the baffle or not will be made.*

# FEMA Coordination

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- Document FEMA requirements are met at a local level
- Remove Building Bridge 2 and mitigate as required
- After construction of all SAFRR and Lower CMC project elements are complete submit a Letter of Map Revision to update hydraulic model which better represent flood risk and document changes in creek and floodway.

# Private Property Mitigations

- Types of Mitigations being considered:
  - Home elevation
  - Flood proofing
  - Raise mechanical equipment



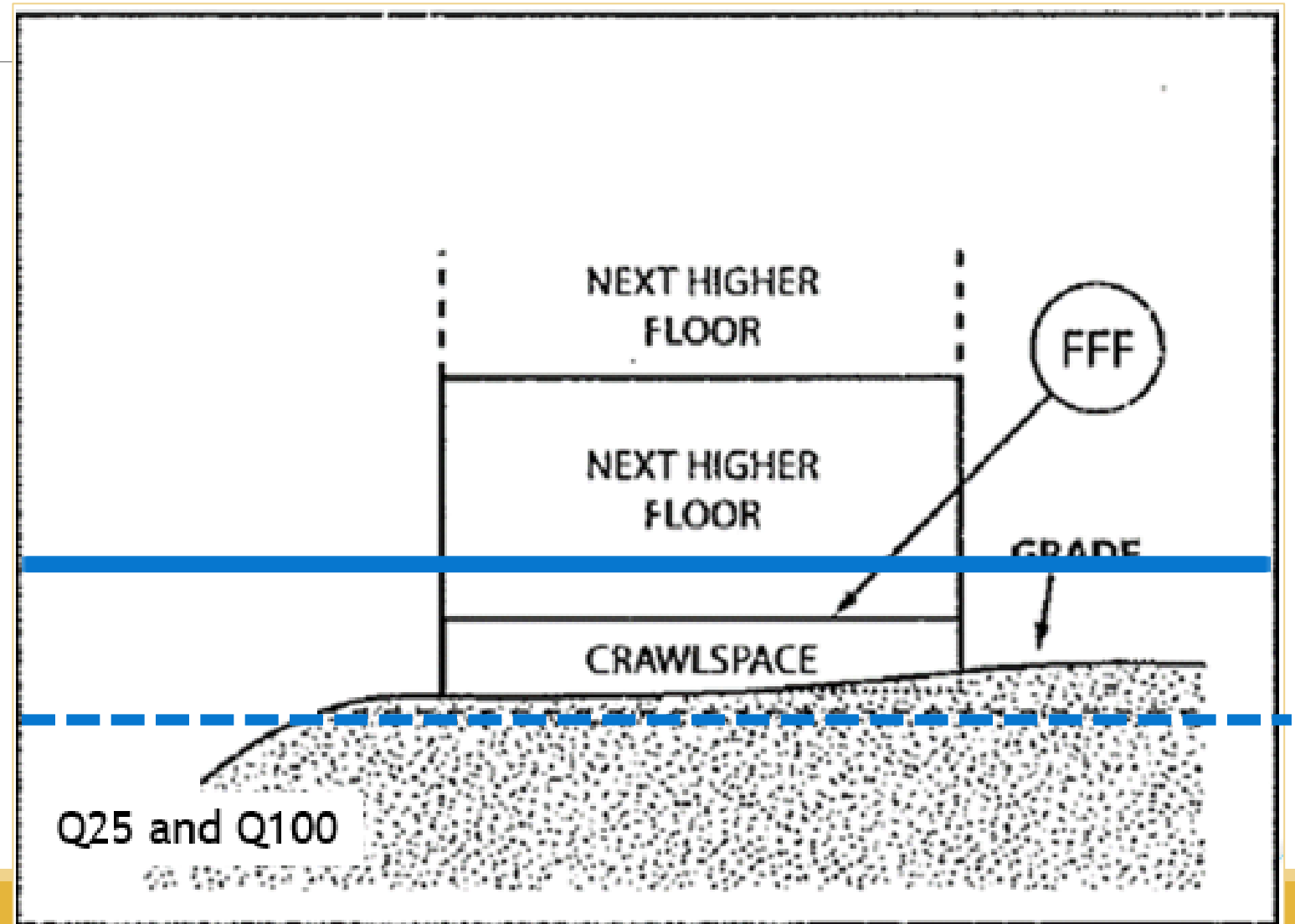


# Mitigation: Elevate Home

After Project WSE



Before Project WSE

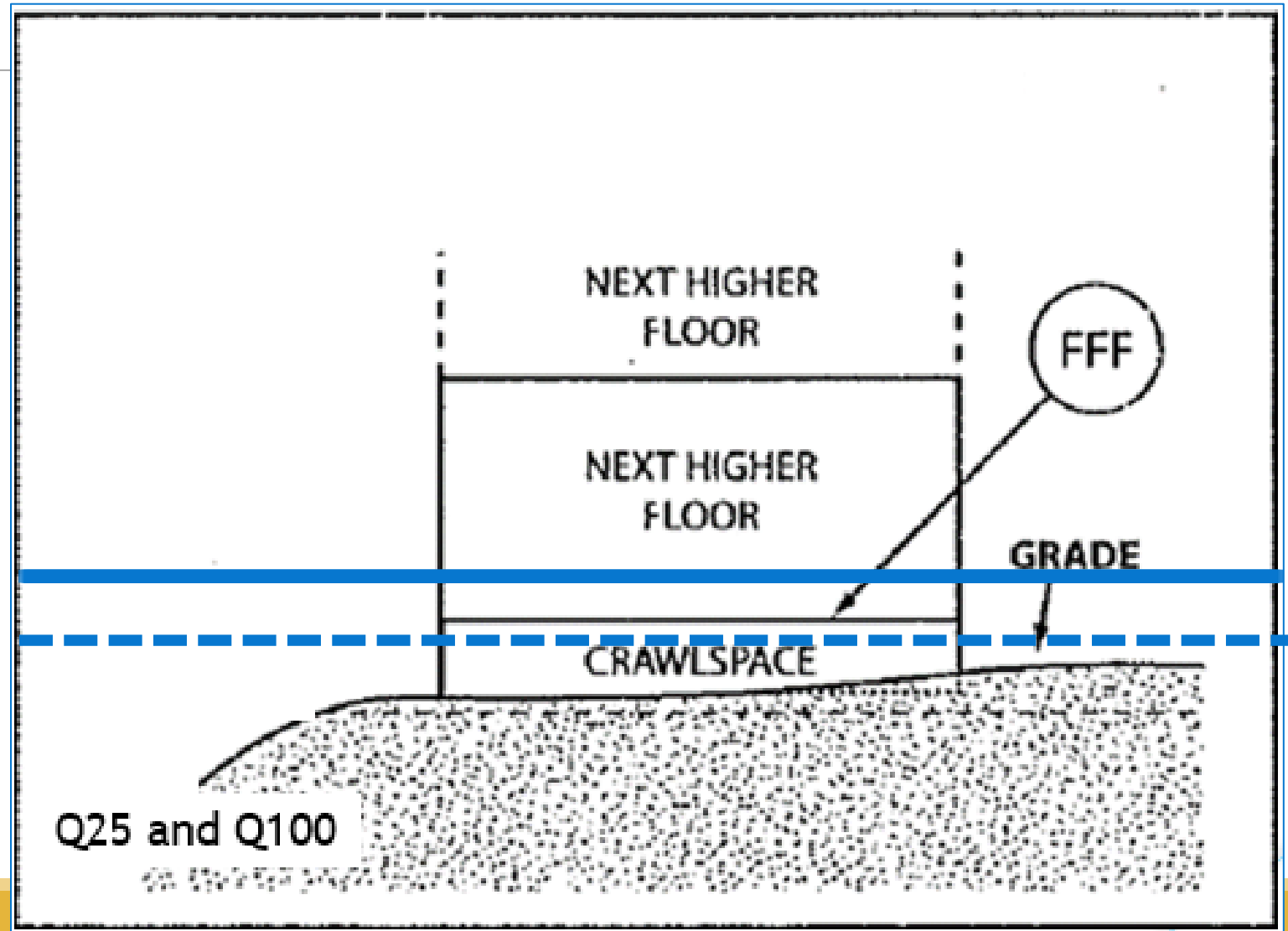


# Mitigation: Elevate Home

After Project WSE



Before Project WSE

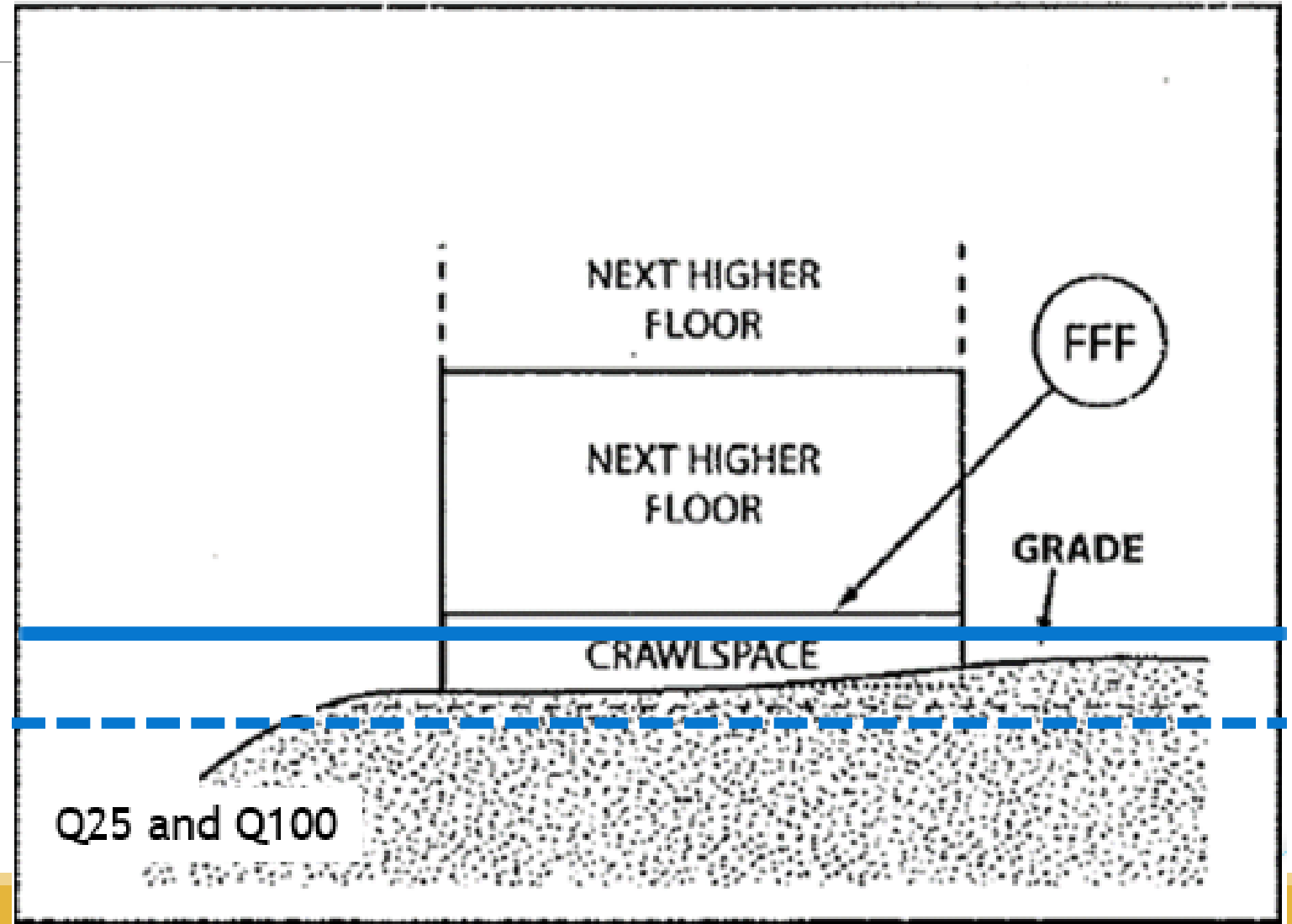


# Mitigation: Move Mechanicals

After Project WSE



Before Project WSE

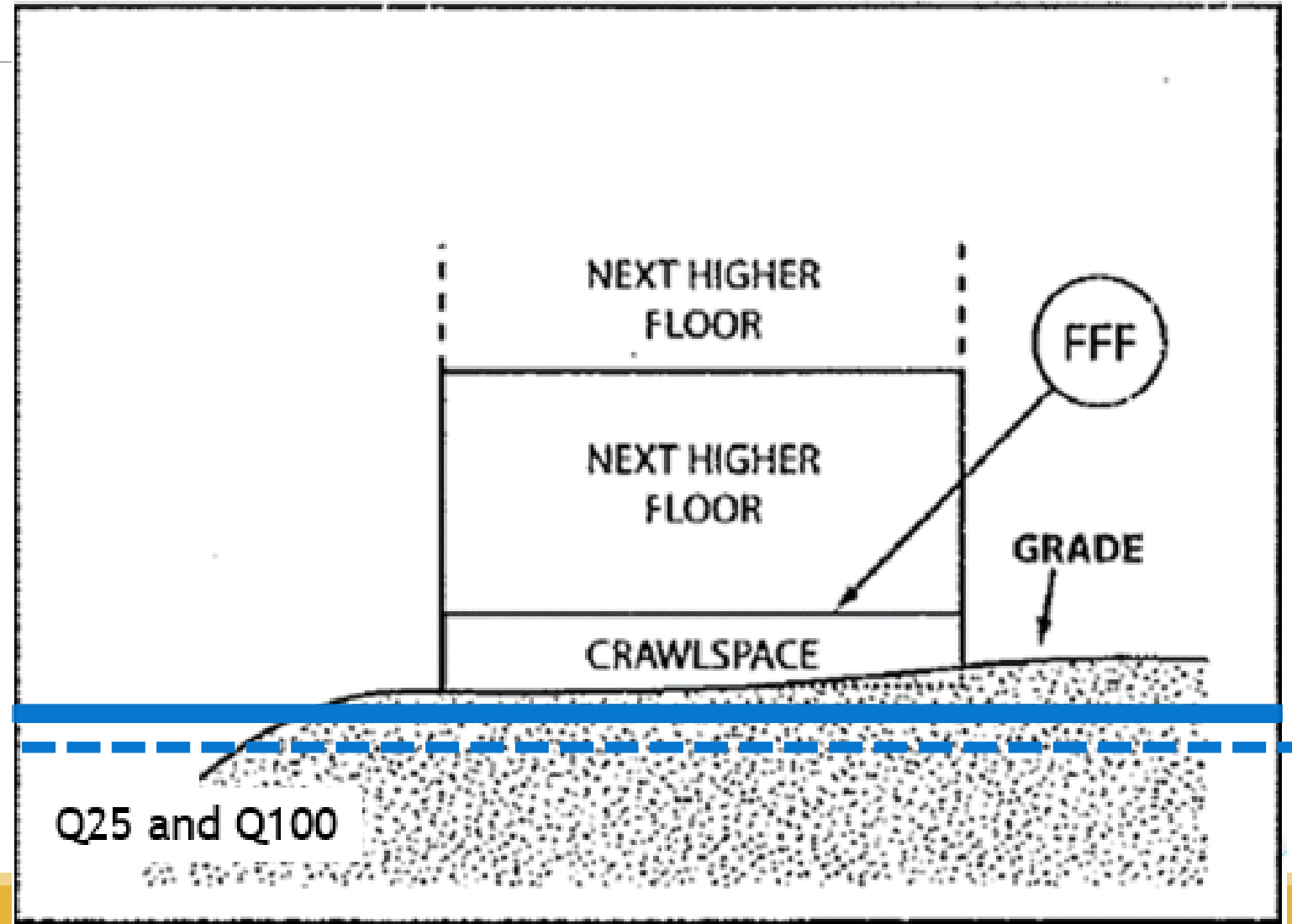


# Mitigation: No Mitigation

After Project WSE



Before Project WSE

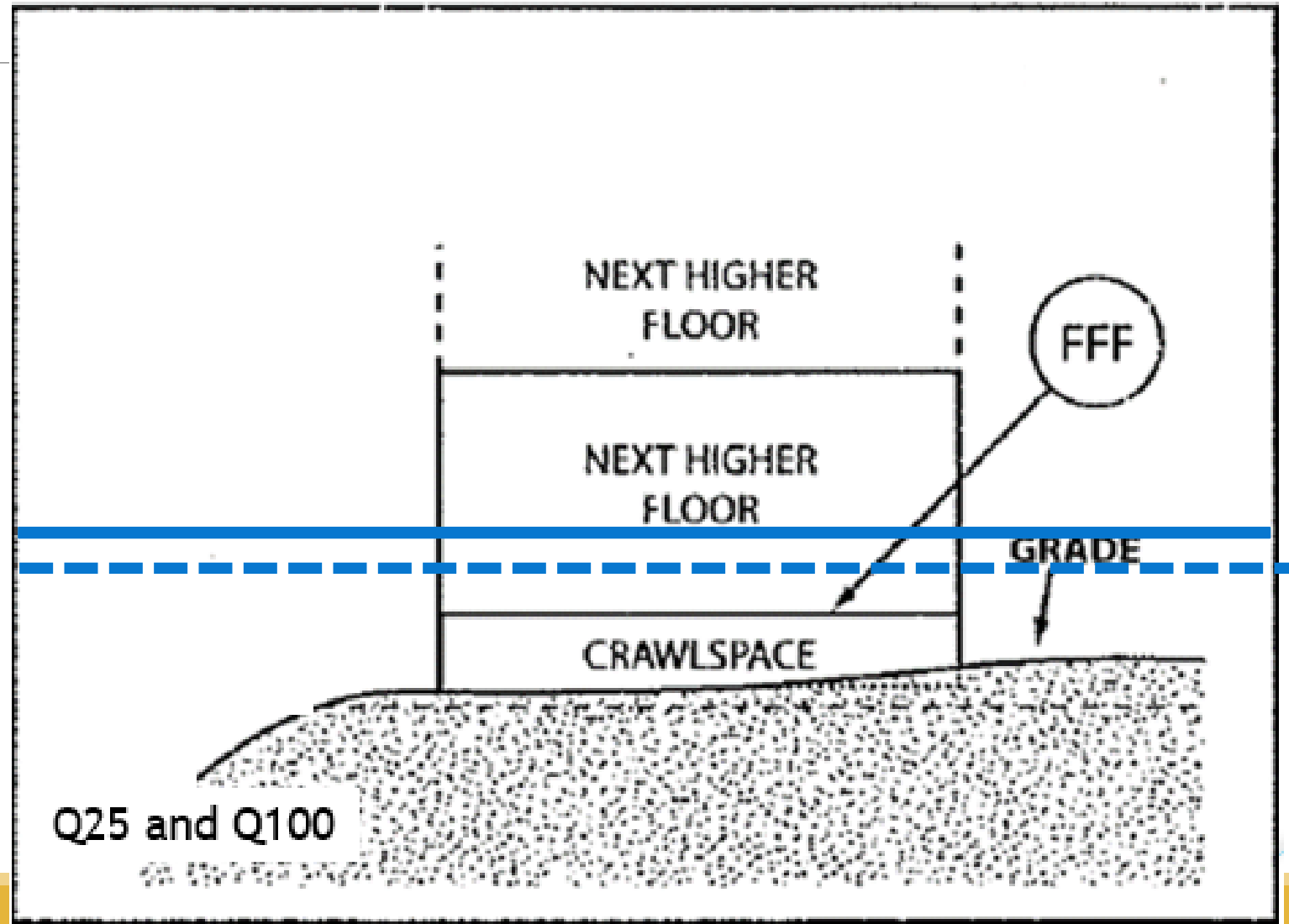


# Mitigation: No Mitigation

After Project WSE



Before Project WSE

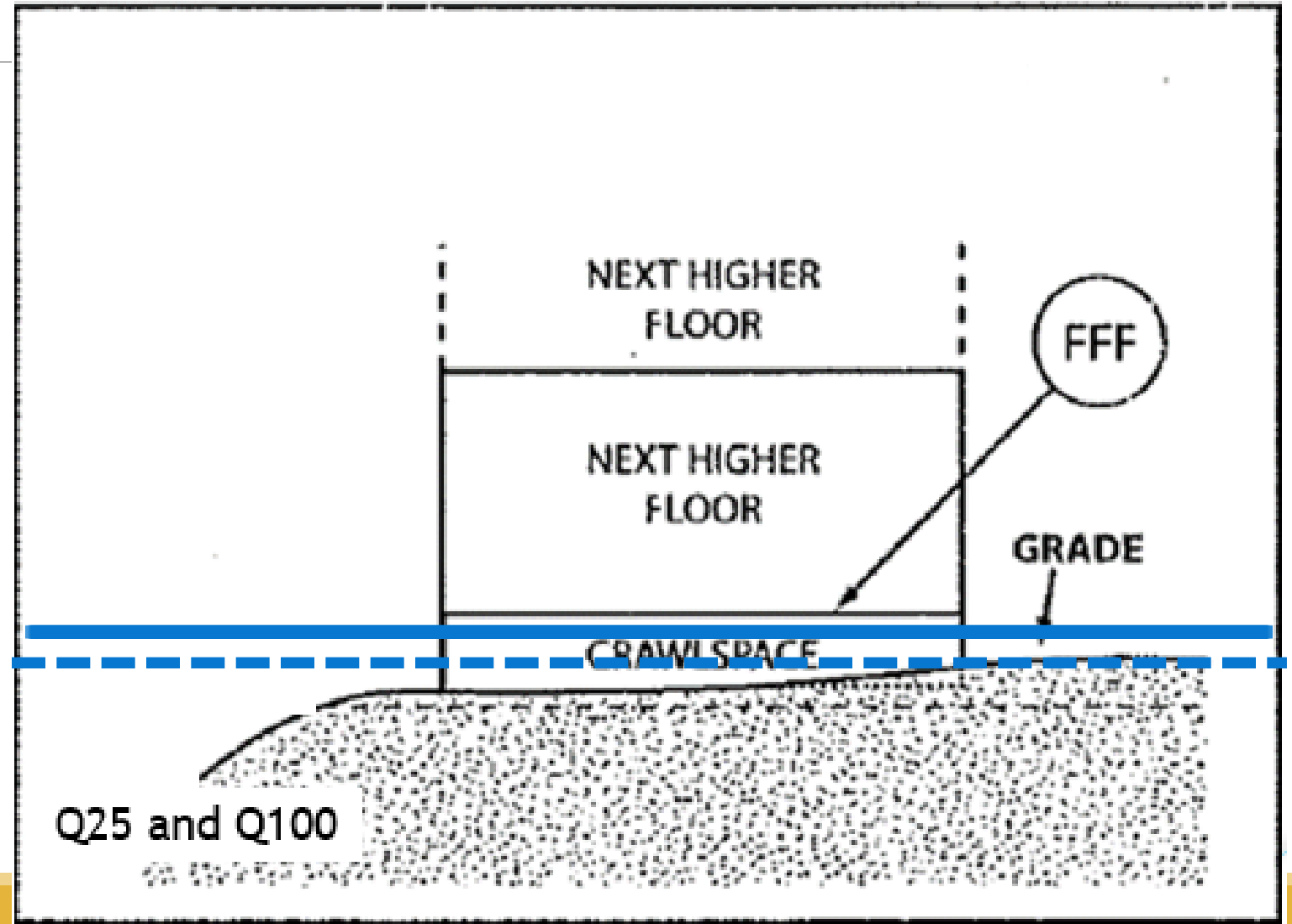


# Mitigation: No Mitigation

After Project WSE



Before Project WSE



# SAFRR Project Budget: Cost

Description	Encumbered and/or Spent	Estimated Remaining	Total
Detention Basin Design Costs	\$2,700,000	-	\$2,700,000
Detention Basin Construction	\$6,400,000	-	\$6,400,000
BB2 Design Costs	\$1,000,000	-	\$1,000,000
BB2 Construction	\$100,000	\$3,200,000	\$3,300,000
SAFRR Real Estate Cost	\$5,600,000	\$400,000	\$6,000,000
SAFRR Staff Labor Costs	\$1,400,000	\$600,000	\$2,000,000
SAFRR Environmental Costs	\$1,400,000	-	\$1,400,000
SAFRR Offsite Environmental Mitigation Costs	-	\$ 200,000	\$200,000
Other Costs (1)	\$100,000	-	\$100,000
SAFRR Structural Mitigation ( <i>Place Holder</i> )	-	\$3,000,000	\$3,000,000
<b>Total SAFRR Project Costs</b>	<b>\$18,700,000</b>	<b>\$7,400,000</b>	<b>\$26,100,000</b>
<b>NOTES: 1. e.g. permits, utilities</b>			



# SAFRR Project Budget: Revenue

Revenue Source	Amount
State Department of Water Resources Grant	\$8,720,500
Flood Zone 9 Fee (Required DWR Grant Match)	\$8,720,500
Additional Zone 9 contribution (2)	\$6,000,000
<b>Total Revenue Available for SAFRR</b>	<b>\$23,441,000</b>

## NOTES:

2. Approximately half of fee revenue FY 2023-2027, the rest needed for Corte Madera Creek Flood Risk Management Project contribution

### **Anticipated Additional Revenue Needs: \$2.7M**

District staff are working on a grant application for the FEMA Hazard Mitigation Grant Program to close the funding gap.





# Corte Madera Creek Flood Risk Management (CMC FRM) Project

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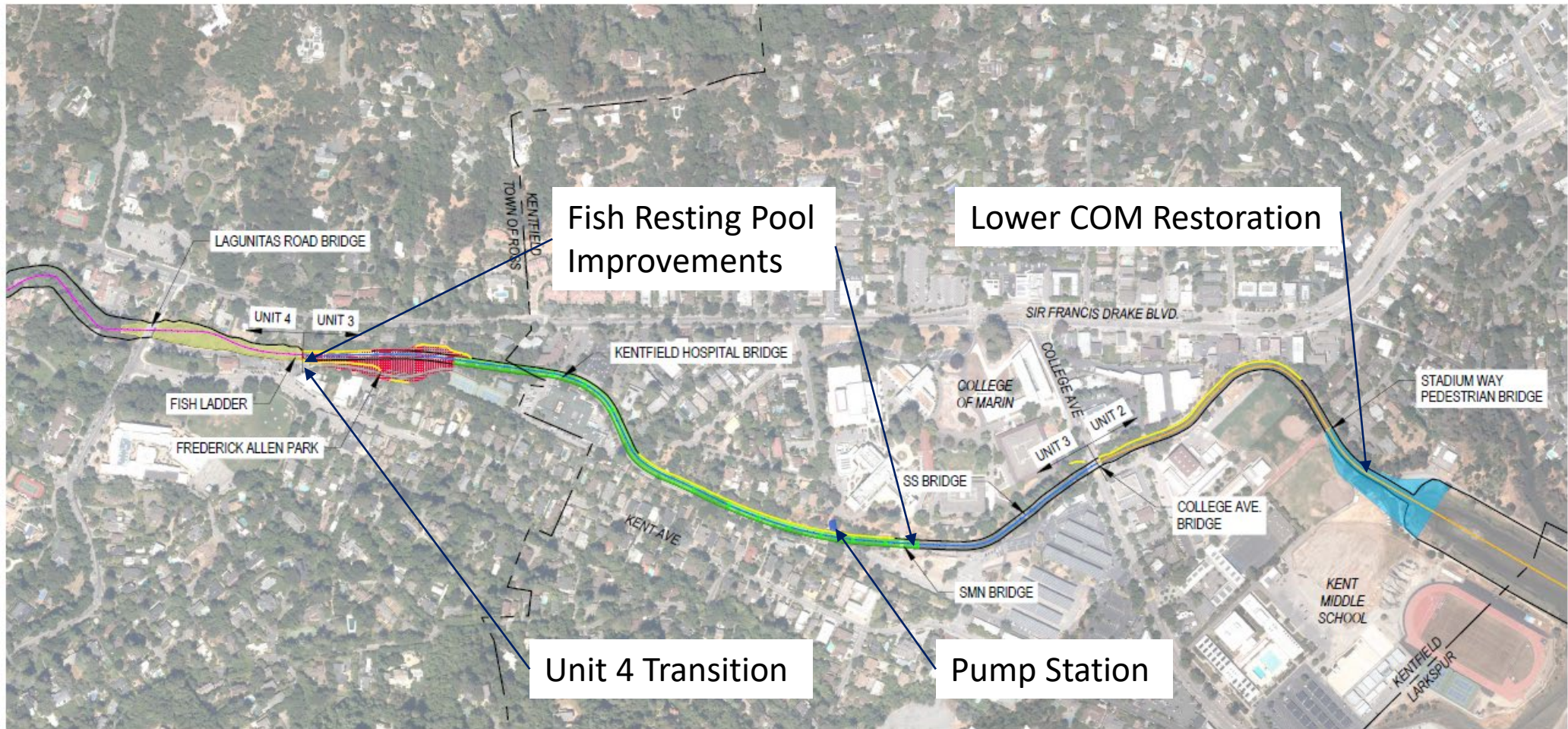


# CMC FRM Project Elements

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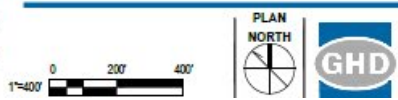
- Stormwater Pump Station
  - Install a stormwater Pump station to control flooding in the Granton Park Neighborhood
- Unit 4 Transition into Natural Channel
  - Remove fish ladder and lower channel in Unit 4 to increase flow capacity
  - Install taller and/or new floodwalls in Units 2 and 3 to control flood flows
- Fish Resting Pool Improvements
  - Create larger fish resting pools within the concrete channel in Unit 3 to improve fish passage
- Lower College of Marin Restoration
  - Remove the concrete channel from Stadium Way downstream to the natural earthen channel to improve fish and wildlife habitat





**\*\*These are project components evaluated in the EIR. Not all elements are proceeding to construction.\*\***

- |                                 |                          |                      |
|---------------------------------|--------------------------|----------------------|
| FISH PASSAGE TRANSITION GRADING | STORM DRAIN PUMP STATION | USACE PROJECT UNIT 2 |
| ALLEN PARK RIPARIAN CORRIDOR    | (E) RVSD SAN. SEWER      | USACE PROJECT UNIT 3 |
| NEW FISH POOLS                  | FLOOD WALL               | USACE PROJECT UNIT 4 |
| LOW CHANNEL CONCRETE REMOVAL    |                          | CHANNEL BANK         |



MARIN COUNTY FLOOD CONTROL  
 Corte Madera Creek  
 Flood Risk Management Project - Phase 1  
 Project Components Overview

Job Number | 11188581  
 Revision  
 Date | Aug. 2020  
 Figure 01a





# CMC FRM Project Timeline

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## Access Ramp and Pump Station Construction

- Access Ramp – Completed 2022
- Pump Station – to be completed 2023

## In-Creek Elements

- CEQA and Permits Complete (may need renewal later)
- Design – 90 % Complete
- FEMA – In progress
- Seeking additional funding
- Construction – Summer 2025

# CMC FRM Project Budget: Cost

Description	Encumbered and/or Spent	Estimated Remaining	Total
Maintenance Access Ramp & Stormwater Pump Station Construction Cost	\$4,100,000	-	\$4,100,000
Unit 4 Transition into Natural Channel (Fish Ladder Removal) Construction Cost	-	\$3,800,000	\$3,800,000
Fish Resting Pool Improvements Construction Cost	-	\$1,700,000	\$1,700,000
Lower College of Marin (COM) Restoration Construction Cost	-	\$3,500,000	\$3,500,000
Design Costs	\$2,200,000	\$100,000	\$2,300,000
Environmental <sup>1</sup> Costs	\$940,000	\$360,000	\$1,300,000
Real Estate Costs	\$180,000	-	\$180,000
Staff Labor Costs	\$415,000	\$ 800,000	\$1,200,000
<b>Total CMC FRM Project Costs</b>	<b>\$7,900,000</b>	<b>\$10,200,000</b>	<b>\$18,100,000</b>

**NOTES: 1. includes CEQA, permitting, and Lower COM Restoration Design**



# CMC FRM Project Budget: Revenue

Revenue Source	Amount
State Department of Water Resources Grant	\$7,030,377
Flood Zone 9 Fee (Required DWR Grant Match)	\$7,030,377
SF Bay Restoration Authority Round 6 (Managed by Coastal Conservancy)	\$1,410,600
County Sea Level Rise Funds (for Lower COM Restoration construction)	\$750,000
<b>Total Revenue Available for CMC FRM</b>	<b>\$16,221,354</b>

## **Anticipated Additional Revenue Needs: \$2M**

District staff are working on a grant application for the FEMA Hazard Mitigation Grant Program to close the funding gap.



# CMC FRM Project: Status

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Easement acquisition substantially complete

Access Ramp Constructed and Pump Station Install Underway

Completed 90% plans, final updates underway for in-creek

Certified CEQA EIR

Acquired permits (DFW 1600, RWQCB 401, USACE 404, 408, BCDC)

# CMC FRM In-Creek Elements: Next Steps

## Right of Way – through March 2025

- Negotiate final private property easement needs
- Finalize State Lands lease renewal

## Permits – through March 2025

- Building Permit from Town of Ross
- Renew environmental permits if they expire before construction

## Design and Construction – through October 2025

- Finalize Design
- Bidding and Contract Award
- Construction (Summer 2025)



# Item 5. Historic Revenue and Expense Summary

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# Program History and Background

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- Severe flooding occurred in 2005
- Voters approved an annual Storm Drainage Fee in 2007 to provide funding for flood protection in Ross Valley
- In the 16 years since program initiation, the District has worked with the community to develop and implement flood reduction projects in the Ross Valley



# Program Expenditures

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- Watershed-wide flood risk identification and reduction studies
- Public outreach and administration
- Engineering and feasibility studies
- Capital improvement projects
- Coordination with the Cities and Towns on joint projects to enhance creeks and remove obstructions like bridges

***Expenditures for the program total approximately \$47M to date***



# Watershed Planning, Outreach & Admin

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Title	Approx. Zone 9 Expenditures to date
Ross Valley Watershed Program	\$2M
Outreach and Administration	\$3M

# Engineering & Feasibility Studies

Title	Approx. Zone 9 Expenditures to date
Sleepy Hollow Creek/Morningside Feasibility Study (within Town of San Anselmo)	\$100k
Lower Corte Madera Creek Project (includes Local Levee Evaluation and dredging studies in Larkspur)	\$4.3M



# Engineering & Feasibility Studies

Title	Approx. Zone 9 Expenditures to date
Corte Madera Creek Units, 2, 3, & 4 U.S. Army Corps of Engineers	\$2M
Phoenix Lake IRWM Project	\$3.3M
Detention Basin Studies (Lefty Gomez, Loma Alta Preserve, Deer Park, and Memorial Park)	\$1M

# Capital Improvement Projects

Title	Approx. Zone 9 Expenditures to date
San Anselmo Flood Risk Reduction	\$18.7M
Corte Madera Creek Flood Risk Management	\$7.9M
Hillview Pump Station and Storm Drain Project (within City of Larkspur)	\$1M

# Coordination and Maintenance

Title	Approx. Zone 9 Expenditures to date
Creek Maintenance	\$1.5M
Culvert Inspections, Replacements, and Repairs	\$250K
Bridge Projects with City and Town Partners	\$2M
Flood Preparedness Pilot Program	\$100k



# Item 6. Open Time

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- Comments will be heard for items not on the agenda.
- Limited to three minutes per speaker.
- When written testimony is presented, it is not necessary to read the entire text; it will automatically become part of the minutes.
- All are expected to be polite and courteous, and refrain from questioning the character or motives of others. Please help create an atmosphere of respect.

# Item 7. Next Meeting

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- Additional special meetings may be held for other project needs like budget adjustments

END

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