Marin City Stormwater Plan



TASK FORCE MEETING 5

SEPTEMBER 24, 2024

NOON - 2PM



Project Team



Judd Goodman Project Manager County of Marin





June Farmer Community Coordinator Marin City Resident





Robin J. Lee Project Manager Schaaf & Wheeler



Susan Harden Meeting Facilitator Circlepoint

Hybrid Meeting Format

- Reminder that this is a Task Force meeting and input from Task Force members will be prioritized. If others are present, they can listen in, but won't be invited to provide direct input.
- There will be three specific points in the meeting for questions/comments.
- How to provide input and ask questions in person? (Tony facilitates)
 - Raise hand and microphone will be shared for comment/question.
 - Write comments/questions on the comment form.
- How to provide input and ask questions online? (Susan facilitates)
 - Raise virtual hand and you will be unmuted.
 - Write comments/questions in the chat.

Ground Rules for Task Force Meeting

- Strive to create a **problem-solving** environment;
- Use common conversational courtesy;
- All ideas and points of view have unique value;
- Strive to be **concise**;
- Think **innovatively** and welcome new ideas;
- Conversations should be forward focused;
- Equal opportunities for participation will be given;
- Avoid ascribing motives for the opinions expressed by others;
- Avoid adopting right-wrong paradigms.

Meeting Purpose

- Share updated report cards
- Review recommended projects
- Hold open discussion on projects
- Provide overview of Draft Executive Summary
- Seek feedback on Executive Summary

Agenda

- Project Recap
- Ongoing Work
- Updated Criteria and Report Cards
- Recommended Projects
 - Upper Watershed
 - Lower Watershed
- Executive Summary
- Project Schedule for Completion

Project Recap

Stormwater Plan Purpose

- Identify flood and drainage issues
- Recommend and prioritize improvements to reduce flood risk with community input
- Improve effectiveness of flood management operations
- Integrate with Caltrans Planning
- Attract funding











Work Plan

- Collect Ideas/Data TF #1
- Modify model
- Analyze TF #2
- Recommend TF #3
- Prioritize TF #4
- <u>Document</u> TF #5







EXISTING CONDITION RAINFALL 10YR STORM MHHW TIDE

DRAINAGE Channel Pipe Basemap Buildings Flood Depth (Ft) 0.1 - 0.5 0.5 - 1 > 1



PROPOSED BASELINE PROJECTS

RAINFALL 10YR STORM MHHW TIDE

DRAINAGE Channel Pipe Basemap Buildings Flood Depth (Ft) 0.1 - 0.5 0.5 - 1 >



RECOMMENDED PROJECTS RAINFALL 10YR STORM MHW TIDE

DRAINAGE Channel Pipe Basemap Buildings Flood Depth (Ft) 0.1 - 0.5 0.5 - 1 >

Ongoing Work



Baseline – Proposed Projects



- 1. Install Permanent Floodwall
- 2. Upsize pipe
- 3. Permanent Pump Station







Temporary Portable Pump







US Army Corps of Engineers (USACE)

- Continuing Authority Program (CAP) Pilot
 - Feasibility
 - Design
 - Construction
- Emergency Action Plan





US Army Corps of Engineers®



Selection of Marin City – 165(A) Pilot Program

- Pilot program authorized within Section 165(a) of the Water Resources Development Act (WRDA) 2020.
- Program leverages the Army Corps' Continuing Authorities Program (CAP) to pursue small civil works projects, which would normally require local cost sharing, at 100% federal funding.
- CAP authorities help communities address a range of water resources issues, from aquatic ecosystem restoration, to flood risk management, to commercial navigation.
- Call for proposals went in the FRN in June 2023; 192 proposals were submitted by Oct 2023
- On 29 August 2024, Secretary Connor selected 12 studies/communities
- Funding is being provided by the Bipartisan Infrastructure Law signed into law by President Joe Biden.

 \rightarrow Funds feasibility/planning, engineering design, and construction

 \rightarrow Funding could provide up to approximately \$14.6M

Press Releases/News Articles:

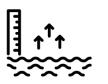
- Army announces civil works investments in small, disadvantaged communities | Article | The United States Army
- Marin City Has Long Felt Its Flooding Woes Were Neglected. That's About to Change

Updated Weighting and Report Cards

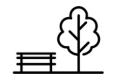
Initial 9 Criteria



Flood management



Climate Change



Recreational Access



Structure inundation



Community Health



Green Infrastructure



Exit/Entrance



Environmental health



Construction Impacts

Criteria Weight

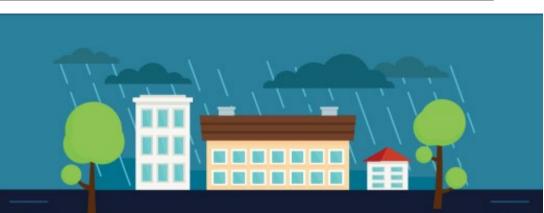
Online Survey - 25
Community Meeting Voting Exercise - 15

In-Person Surveys at Community Events - 193



June Community Outreach

- 3 Saturday Events
- Increased community input from 31 to ~200 surveys



-Stormwater is a community wide issue Where it flows...everything goes





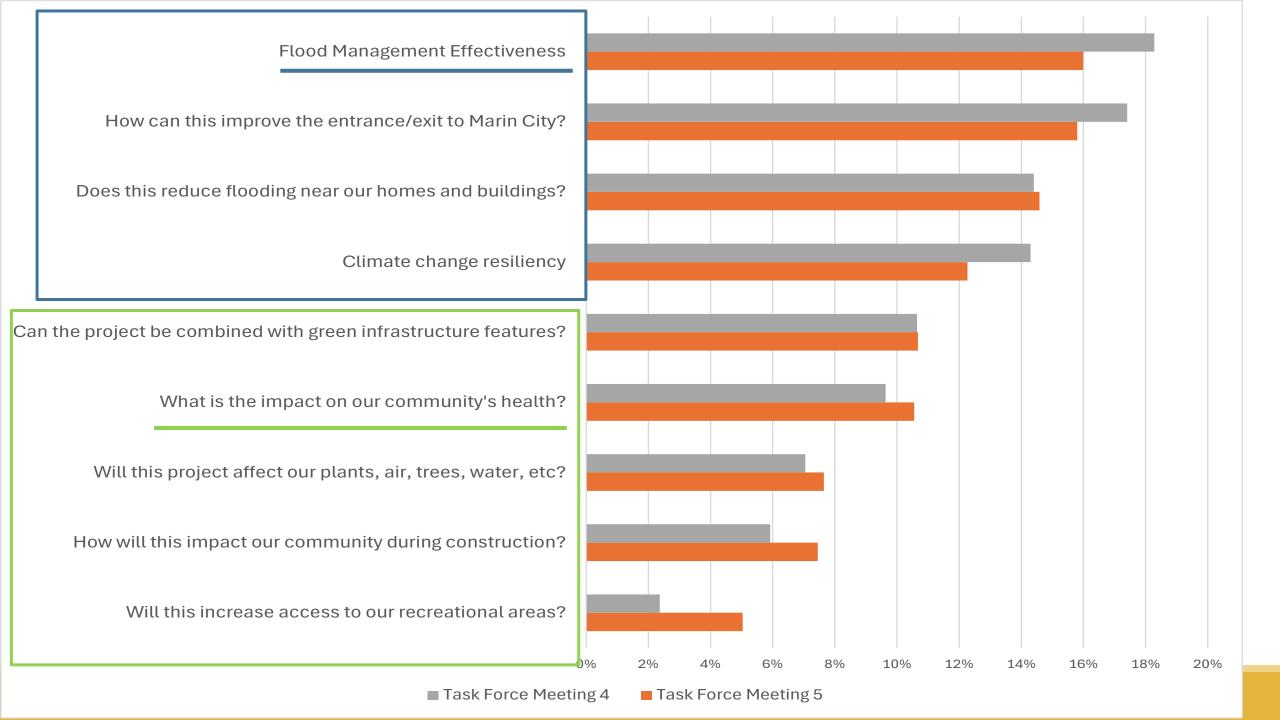












Criteria Categories

Flood management effectiveness



Community's health







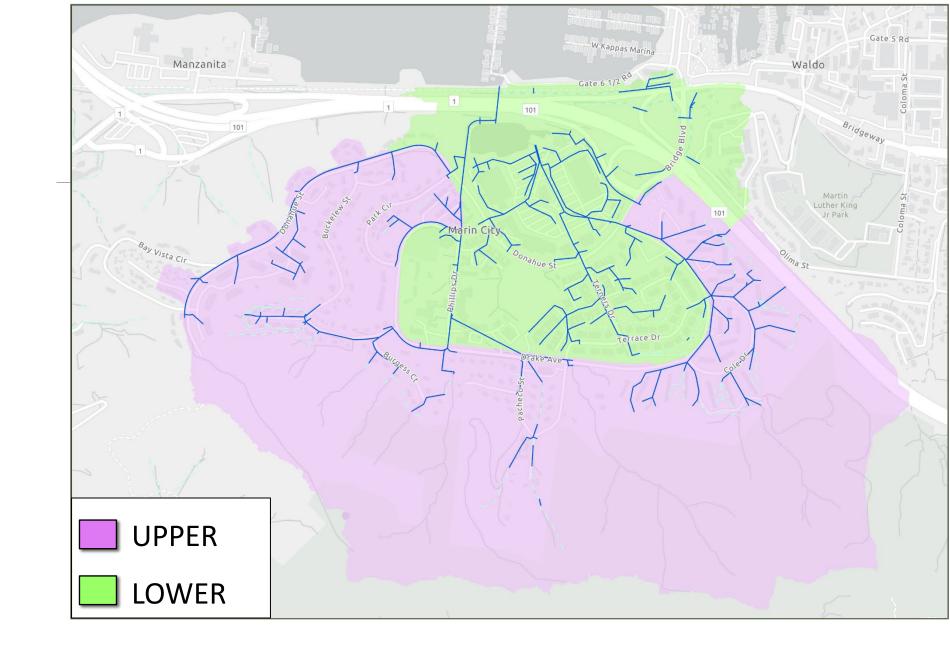


Criteria Categories

Flood management effectiveness

- How can this improve the entrance/exit to Marin City?
- Does this reduce flooding near our homes and buildings?
- Climate change resiliency
- What is the impact on our community's health?
- Will this project affect our plants, air, trees, water, etc.?
- Will this increase access to our recreational areas?
- Can the project be combined with green infrastructure features?
- How will this impact our community during construction?

Upper vs Lower Watershed





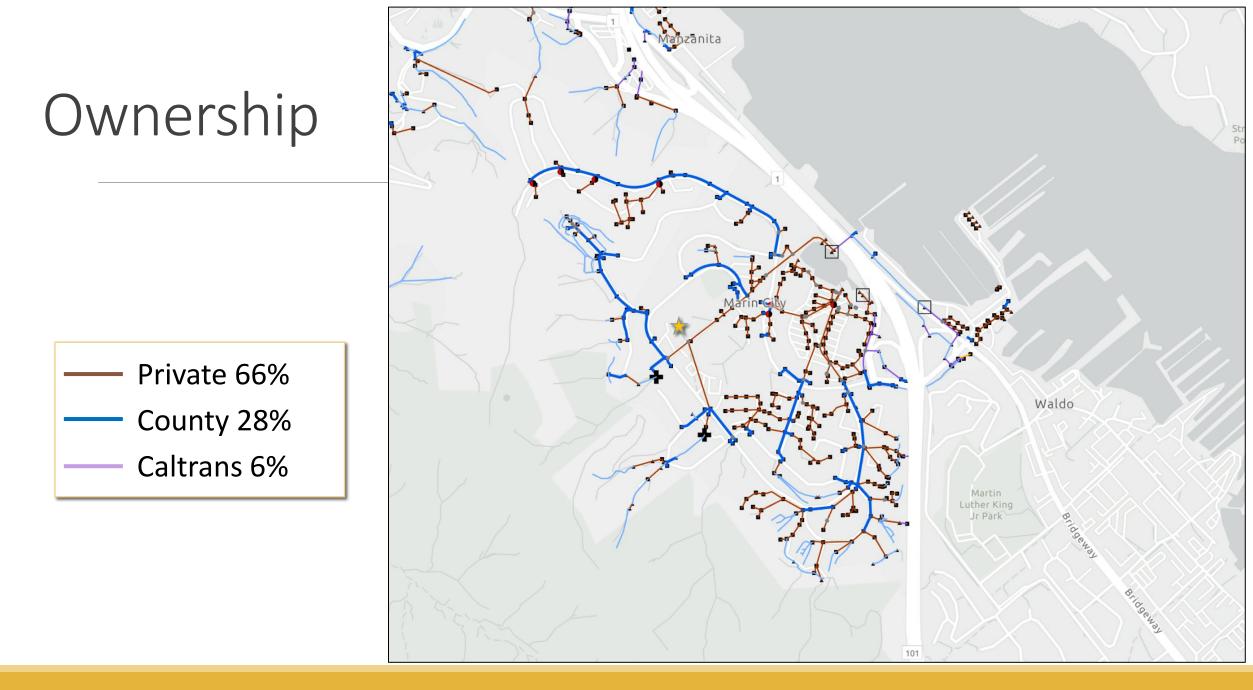
UPPER WATERSHED Project Concept	Flood Effectiveness	Community Health	GPA	Overall Grade
Weight	63	37	100	
Maintenance and Repair	Α	В	3.4	A-
Connect Pipes on Hillside	Α	В	3.4	A-
Upsize Inlets at Waldo Court	Α	В	3.4	A-
Upsize Inlets Behind Housing	Α	В	3.4	Α-
Trash Rack and Sed Basin - Phillips	B+	B+	3.3	B+
Trash Rack and Sed Basin - Pacheco	B+	В	3.2	B+
Landslide Repair - Cole	B+	В	3.2	B+
Hillside Trail and Fire Road BMPs	В	Α-	3.2	B+
Vegetated Channel – Pacheco	B-	A	3.1	B+
Re-Reroute Caltrans Drainage	B+	C+	2.9	В
Trash Rack and Sed Basin - Cole	В	В	2.9	В
Trash Rack and Sed Basin - Eureka/Drake	B-	В	2.7	B- 31

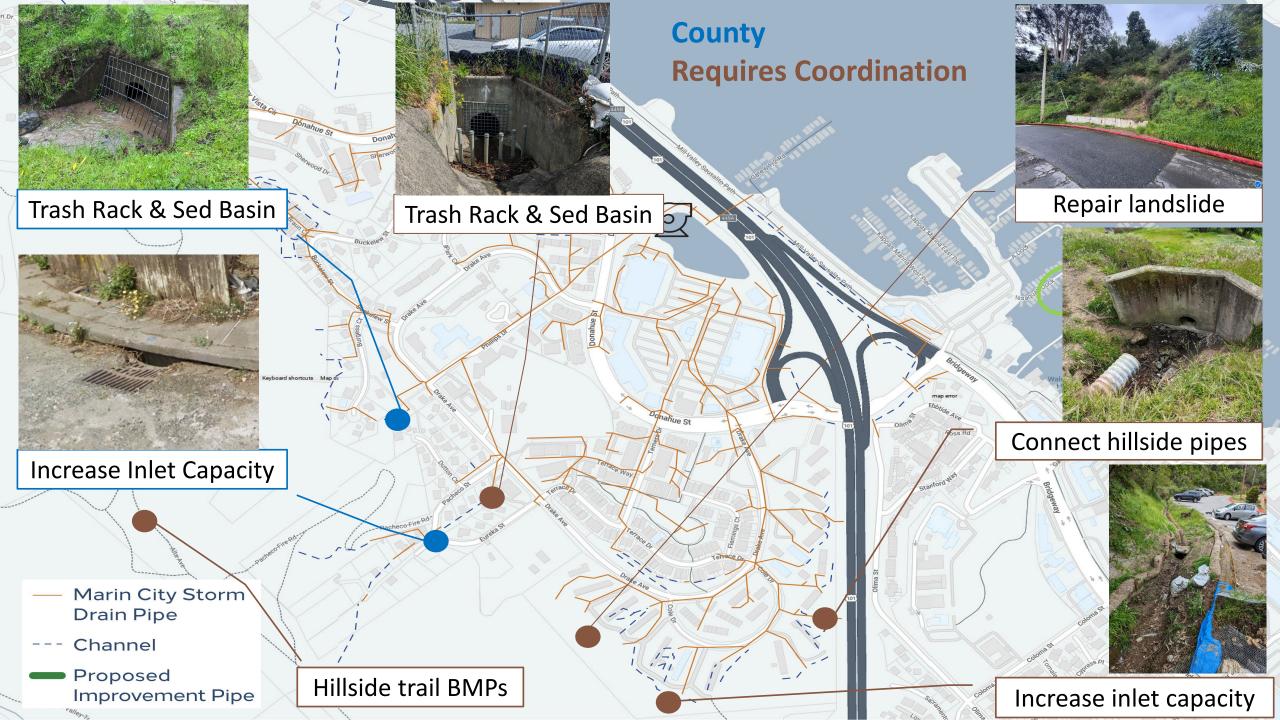
LOWER WATERSHED Concept	Flood Effectiveness	Community Health	GPA	Overall Grade
Weight	63	37	100	
Do Nothing	D-	С	1.1	D+
Proposed Baseline Projects	С	B-	2.2	C+
Phillips Drive Bypass to New Bay Outfall	B+	В	3.1	B+
Drake Partial Bypass to New Bay Outfall	B+	C+	2.9	В
Drake Watershed Detention	B-	В	2.8	В
Donahue Full Bypass	B-	C+	2.6	B-
Pond New Outfall	C+	В	2.5	B-
Drake Pipe Upsize and Increase Inlets	C+	В-	2.4	B -
Drake Partial Bypass to Pond	C+	B-	2.4	B-
Drake and Donahue Street Raising	С	C+	2.1	C+

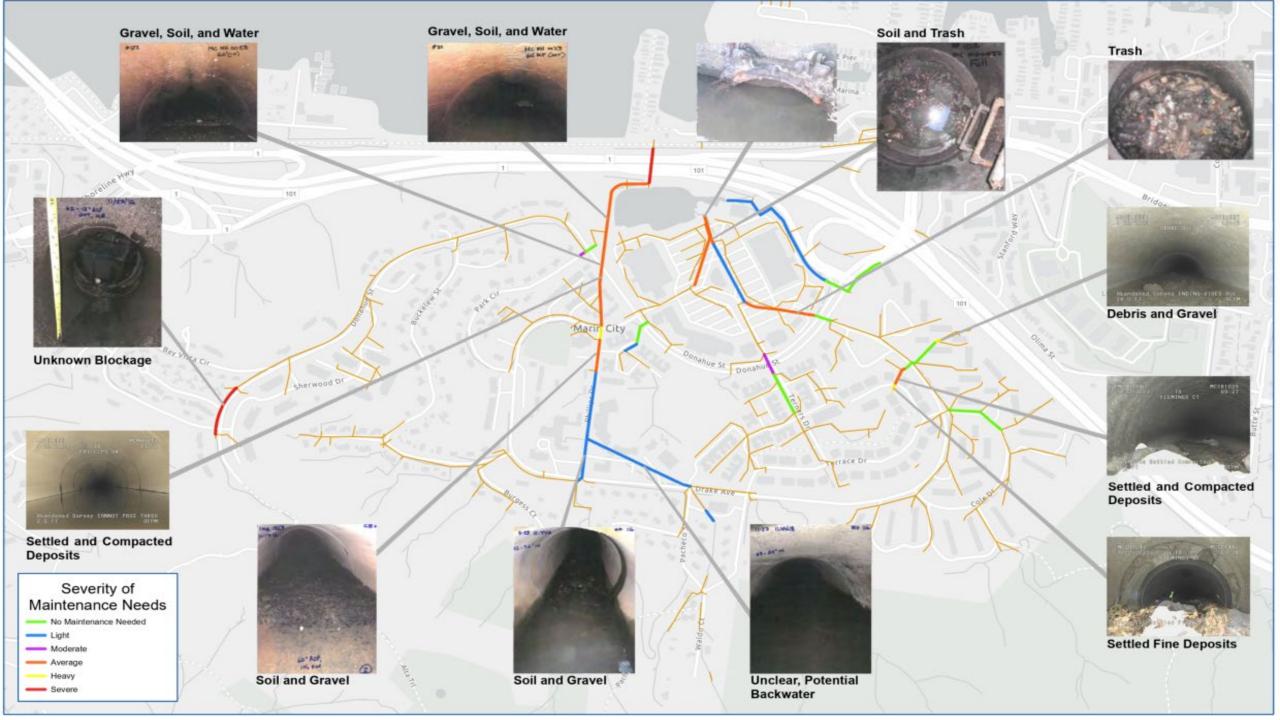
Upper Watershed Recommended Projects

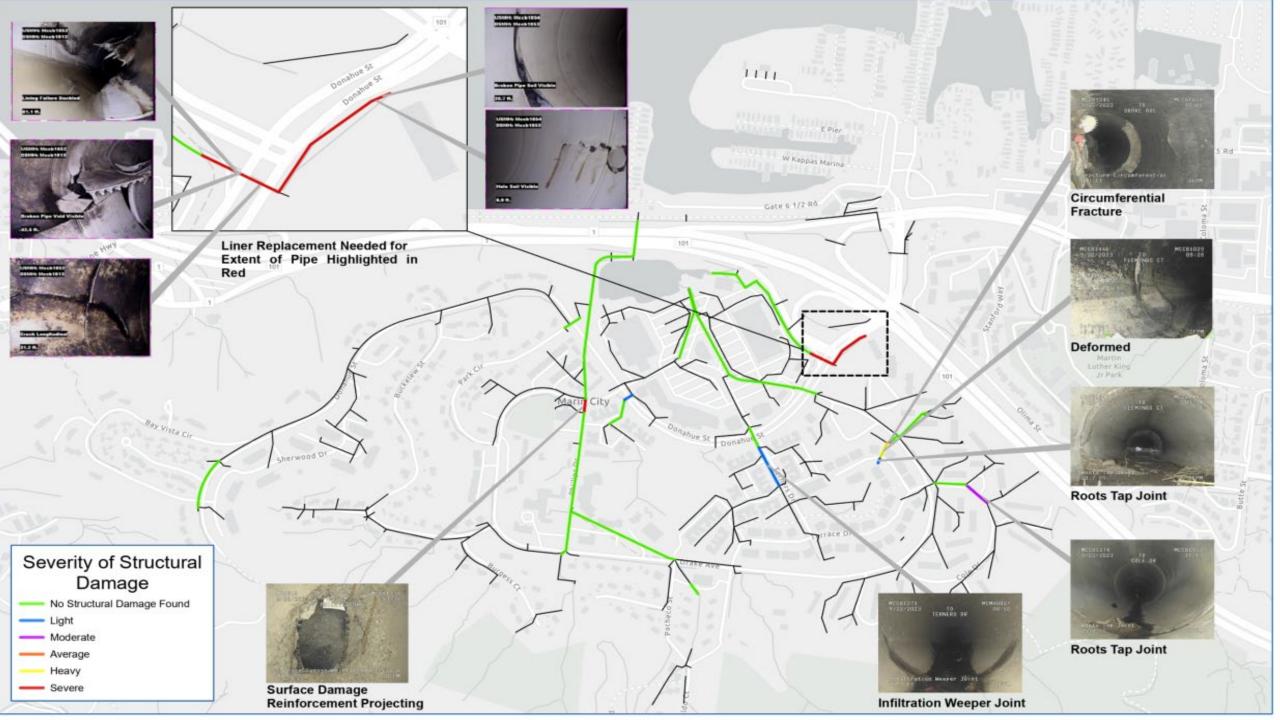
Upper Watershed Projects

- Maintenance and Repair
- Connect Pipes on Hillside
- Upsize Inlets at Waldo Court
- Upsize Inlets Behind Housing
- Trash Rack and Sed Basin Phillips
- Trask Rack and Sed Basin Pacheco
- Landslide Repair Cole
- Hillside Trail and Fire Road BMPs







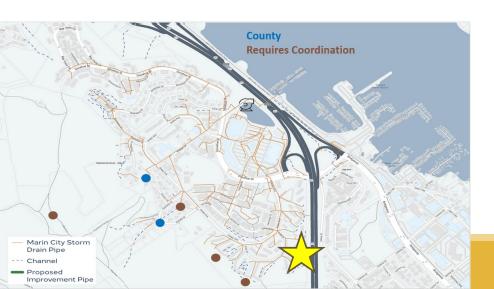


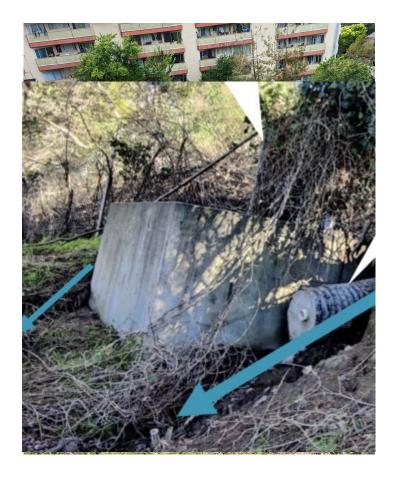
Recommended O&M Program

- Clean catch basins every 5 years
- Clean pipes every 5 years
- CCTV pipes every 10 years

Connect Pipes on Hillside

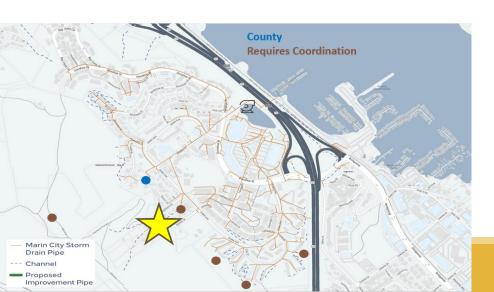
- Connect pipes with structure
- Minimize water down hillside
- Protects hillside

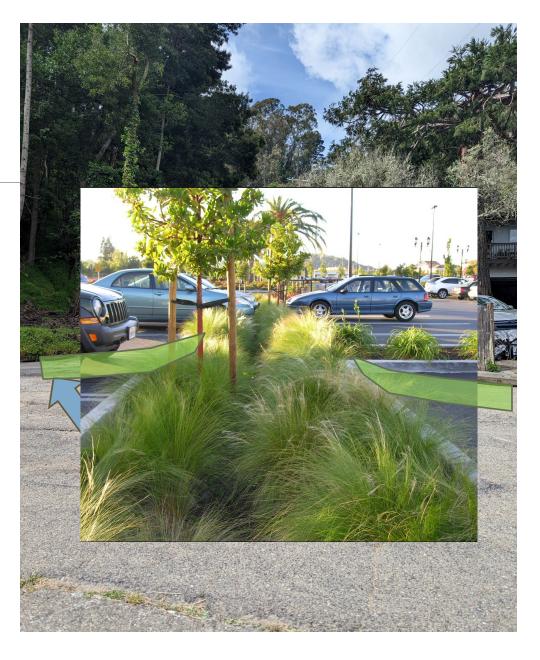




Upsize Inlets at Waldo Court

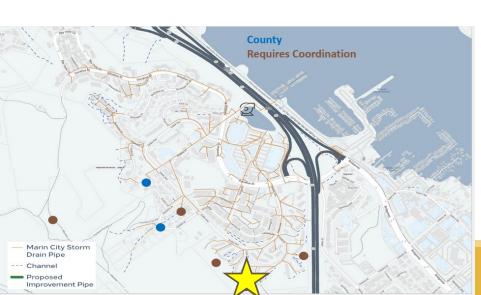
- Increase two inlets
- Add a bioretention areas to capture sediments





Upsize Inlets Behind Housing

- Stabilize ditches
- Larger inlets
- Sedimentation basins





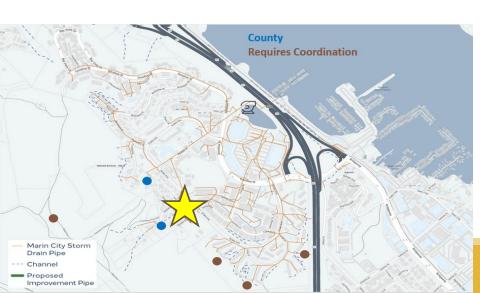


Trash Rack and Sed Basin - Phillips



Trash Rack and Sed Basin - Pacheco

- Replace sandbags with headwall
- Replace trash rack
- Add sedimentation basin







Landslide Repair - Cole

- Replace K-Rail with permanent wall
- Excavate material
- Planting and erosion control





Hillside Trail and Fire Road BMPs

- Trail and fire road BMPs
- Consider trail turn outs (waterbars)
- Re-excavate private drainage ditches
- Routine maintenance
 - mow the grass
 - trim the soil edges back
 - erosion control mats down along edge of ditch
 - clean the ditch out before the rainy season





Hillside Trail and Fire Road BMPs





Example Trail Turn Outs (waterbars)





https://awwatersheds.org/waterbars-do-it-yourself-conservation-practices/

Upper Watershed Discussion

Lower Watershed Recommended Projects

Lower Watershed Recommendations

- Drake Pipe Upsize and Increase Inlets
- Phillips Drive Bypass to New Bay Outfall
- Drake Partial Bypass to New Bay

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Lower Watershed Green Strategies

Bioretention

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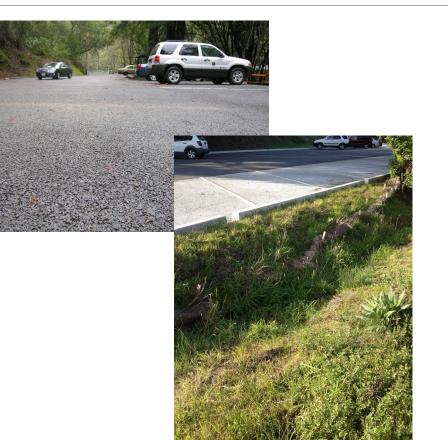
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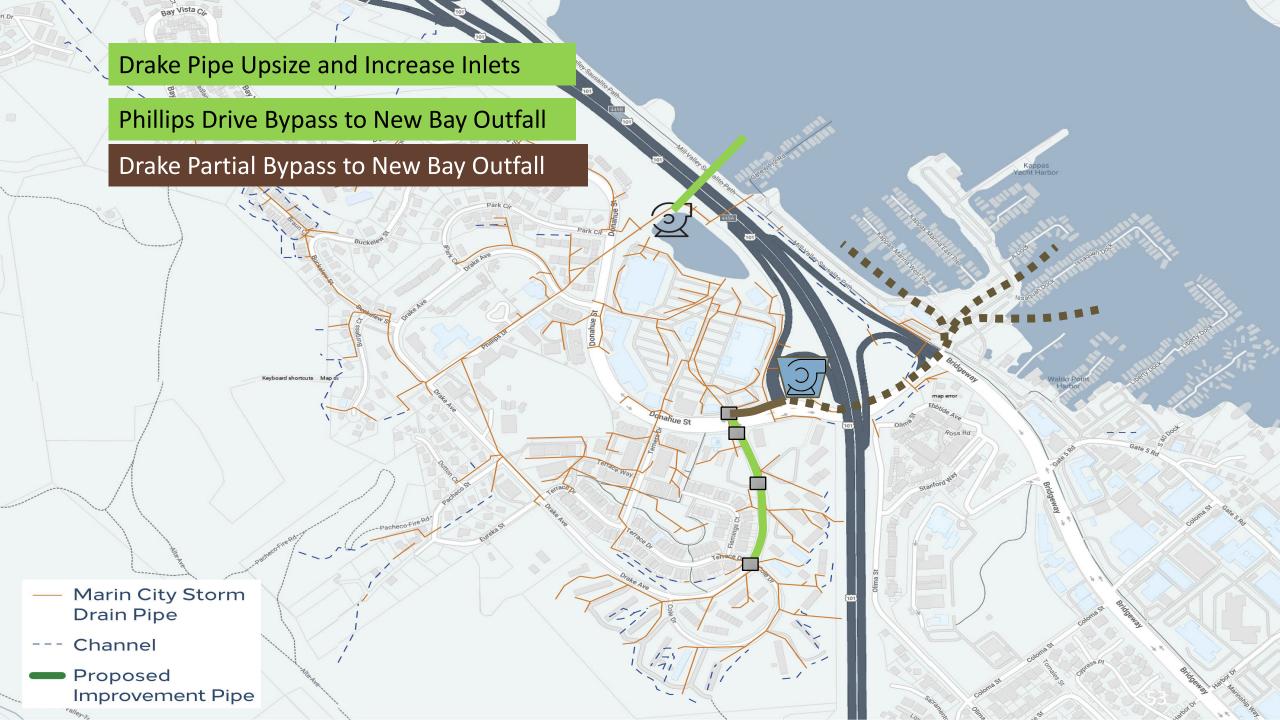
- Rain Gardens
- Tree boxes
- Pervious Pavement
 - Curb cuts



Images from MCSTOPPP







Drake Pipe Upsize and Increase Inlet Capacity

Marin City Pond Flood Reduction Project (under design, construction 2026)

Bay Vista CA



New inlets with increased capacity Keyboard shortcuts



- Marin City Storm **Drain Pipe**
- Channel

Proposed Improvement Pipe



New Outfall to Bay

5'

New Bay outfall with flap gate (Caltrans)

Marin City Pond Flood Reduction Project (under design, construction 2026)

Bay Vista Ci

Donah

Park C/r

С

1-5



New inlets with increased capacity



- Marin City Storm **Drain Pipe**
- Channel
- Proposed Improvement Pipe
- Alternate Alignments for Improvement Pipe



Bay Vista Ci Drake Partial Bypass to Bay Marin City Pond **New** Bay Outfall ~1.600 feet of **new** Flood Reduction 5-foot by 3-foot box Project pipe to Bay outfall Dona (under design, Park Cir 0 Phased pumping for future resilience 0 Stormwater curb extension, HOBOKEN New upsized pipe 3.5' 4 5' Existing Proposed

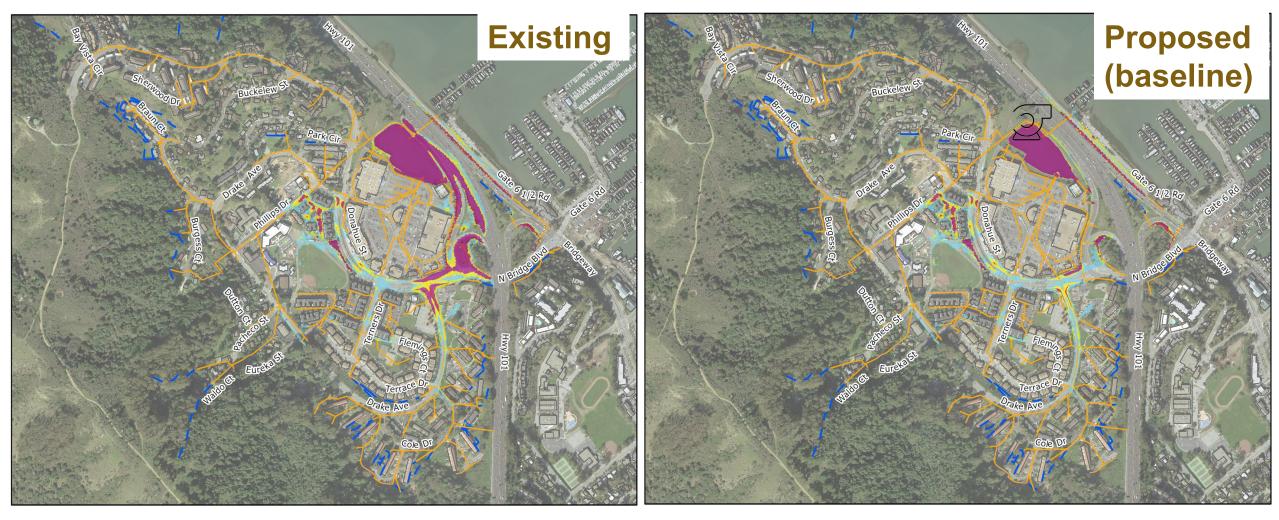
construction 2026)

New inlets with increased capacity

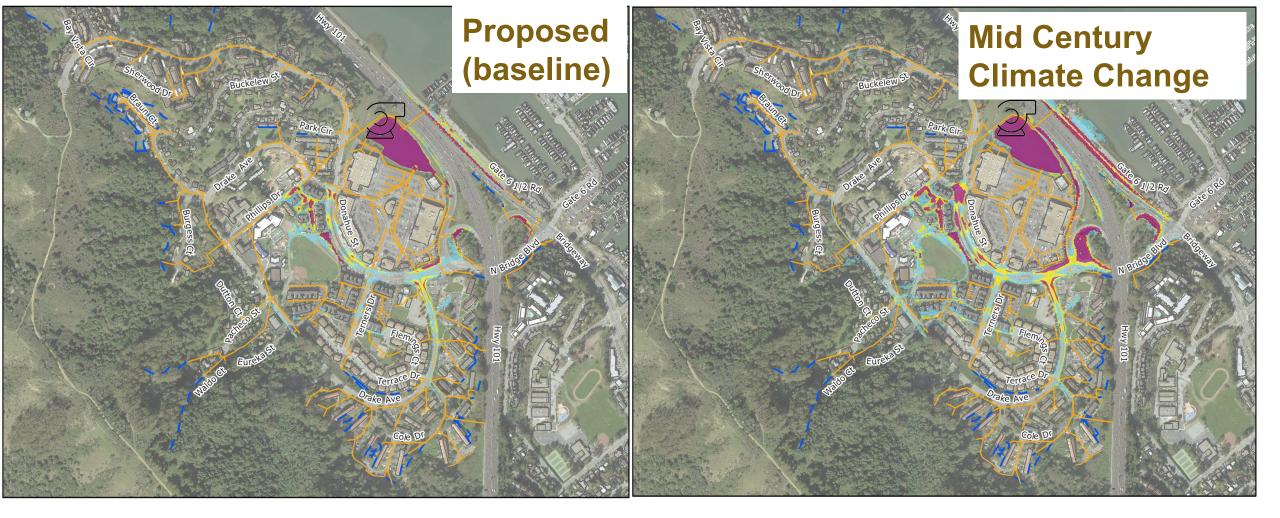


- Marin City Storm **Drain Pipe**
- Channel
- Proposed Improvement Pipe

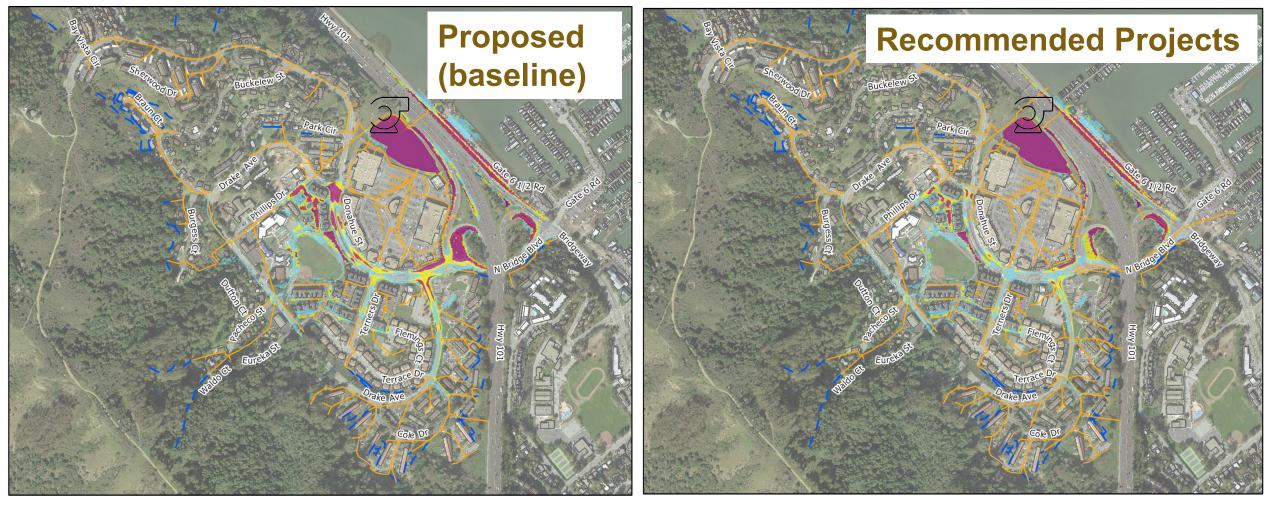
Alternate Alignments for Improvement Pipe



Flood Risk Reduction 10yr, MHHW, 24-hr Flood Depth (Ft) 0.1 - 0.5 - Channel 0.5 - 1 - Pipe



Flood Risk Reduction 10yr, MHHW, 24-hr Flood Depth (Ft) 0.1 - 0.5 - Channel 0.5 - 1 - Pipe



Mid Century Climate Change 10yr, MHHW

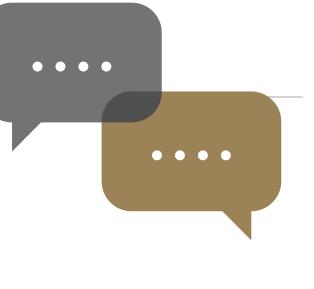
Flood Depth (Ft) 0.1 - 0.5 - Channel 0.5 - 1 - Pipe



Recommended Projects RAINFALL **10YR STORM** MHW TIDE DRAINAGE Channel Pipe Basemap Buildings

Flood Depth (Ft) 0.1 - 0.5 0.5 - 1 > 1

Lower Watershed Discussion



Executive Summary



Overview

- Stand alone document
- Provides necessary information
- Relevant figures
- Recommended projects
- Rough order of magnitude costs

Table of Contents

- Overview
- Background
- Data Collection
- Community Engagement
- Evaluation of Existing Condition
- Proposed Baseline Project
- Improvement Concepts
 - Upper Watershed
 - Lower Watershed

- Concept Weighting and Scoring
- Project Grading
- Recommendations
- Funding

Table of Contents (cont)

- Concept Weighting and Scoring
- Project Grading
- Recommendations
- Funding

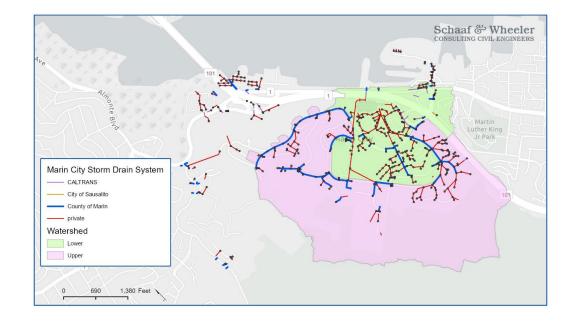
Overview

- Continuation of previous work
- Goals
- Collaboration



Background

- Watershed characteristics
- History of flooding
- Upper vs lower watershed distinction
- Drainage vs flooding issues



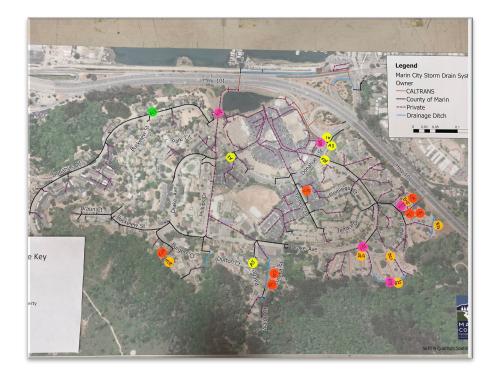
Data Collection

- Previous reports
- Community input
- Hydrologic model
- Hydraulic model
- Storm drain infrastructure



Community Engagement

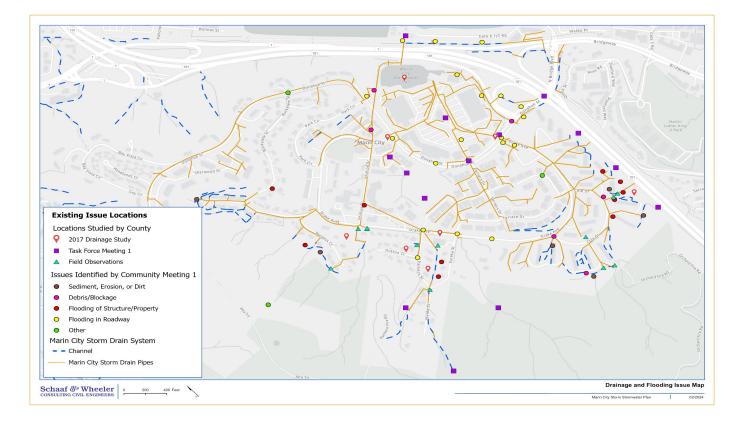
- 5 Task Force Meetings
- 3 Community Meetings
- Pop up events
- CSD presentations
- Flood Board updates



Task Force Meeting #1, 2 Community Meeting #1 Pop Ups

Evaluation of Existing Conditions

- Field visit
- Community input
- Issue map



Proposed Baseline Project

- Project developed by Drainage Study (2017)
- County awarded grant funding
- In Design
- Proposed projects used as Baseline for Analysis
- Importance of lowering pond water surface
- How project relates to Stormwater Plan analysis

Upper Watershed Improvement Concepts

Sub Watershed	Improvement Concept	Coordinating Agencies
Burgess and Drake/Phillips	Update trash rack and install sedimentation basin	County
	Replace crushed pipe	GGNRA, private resident
	Maintain Open Channel	County
Eureka/Pacheco Ditch	Increase inlet capacity and install bioretention	County
	Replace concrete channel with vegetated channel	Private residents
	Replace trash rack and headwall and install sedimentation basin	
Hillside Drainage/Cole Drive	Increase inlet capacity	Golden Gate Village
	Connect hillside pipes with structure	Golen Gate Village, Caltrans
	Manage trail erosion with BMPs	GGNRA, Golden Gate Village
	Hillside Management	GGNRA, Golden Gate Village

Lower Watershed Improvement Concepts

- Drake pipe upsize and increase inlet capacity;
- Donahue bypass pipe from library to new bay outfall;
- Drake partial bypass to new bay outfall;
- Drake bypass pipe to pond;
- Drake pipe and detention; and
- New bay outfall from pond or Phillips Drive pipe.

Concept Weighting and Scoring

Community ———		Importance	3	2	2	Total
Task Force		Criteria	Criteria 1	Criteria 2	Criteria 3	Weighted Score
Technical Team and Task Force		Concept 1	2	3	1	14
		Concept 2	3	2	2	17
		Concept 3	3	1	1	13
		Concept 4	1	2	2	11



Task Force Meeting #4 Community Meeting #3

Project Grading

- Upper watershed report card
- Lower watershed report card

GRADING PERIOD	1	2	3	4		
READING	A					
WRITTEN COMMUNICATION	A					
MATHEMATICS	С					
SCIENCE/HEALTH	B					
SOCIAL STUDIES	B					
ART	A					
MUSIC	A					
PHYSICAL EDUCATION	С					
Grade Average	B					
Attendance: Present Absent Tardy	40	_	=	\equiv		
A = Excellent • B = Good • C = Satisfactory • N = Needs Improvement U = Unsatisfactory • I = Insufficient / Incomplete						

Lower Watershed Recommendations

	CRITERIA GRADES		Overall /	OTHER FACTORS	
PROJECT CONCEPT	Flood Control	Community Health	Grade Point Average	\$	County Ownership
Community Weight	63	37	100		Ownership
Phillips Outfall	B+	В	3.1	13M	N
Drake Upsize	C+	B-	2.4	1M	Y
Drake Partial Bypass	B+	C+	2.9	18M	N



Task Force Meeting #5 Community Meeting #3

Upper Watershed Recommendations **DRAFT**

	CRITERIA GRADES		Overall /	OTHER FACTORS	
PROJECT CONCEPT	Flood Control	Communit y Health	Grade Point Average	\$	County Ownership
Community Weight	63	37	100		
Maintenance and Repair*	А	В	3.4	400k*	Ν
Connect Pipes on Hillside	А	В	3.4	80k	Ν
Upsize Inlets at Waldo Court	Α	В	3.4	90k	Y
Upsize Inlets Behind Housing	Α	В	3.4	140k	Ν
Trash Rack and Sed Basin - Phillips	B+	B+	3.3	250k	Y
Trash Rack and Sed Basin - Pacheco	B+	В	3.2	190k	Ν
Landslide Repair - Cole	B+	В	3.2	360k	N

Funding

- Grants
- Development Impact Fees
- Benefit-Assessment District
- Property-Related Fee
- Special Tax
- Regulatory Fees

Executive Summary Discussion



Next Steps

Next Steps

- Send Executive Summary to Task Force
- Revise Based on Feedback
- Draft Report (in progress)
- Community Meeting October
- Final Report November
- Seek Funding
- Develop regional O&M Program
- Get projects in ground

