



Belmont Creek Flood Management Plan

COMMUNITY WORKSHOP

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Agenda

1. Welcome and Introductions
2. Presentation
3. Group Activity
4. Group Feedback
5. Wrap-Up and Next Steps



Project Overview



Why We Are Here

Identify Problem

Frequent flooding
Erosion and bank stability issues
Impacted riparian ecosystem

Review

Fixes have been studied in the past but no specific projects selected

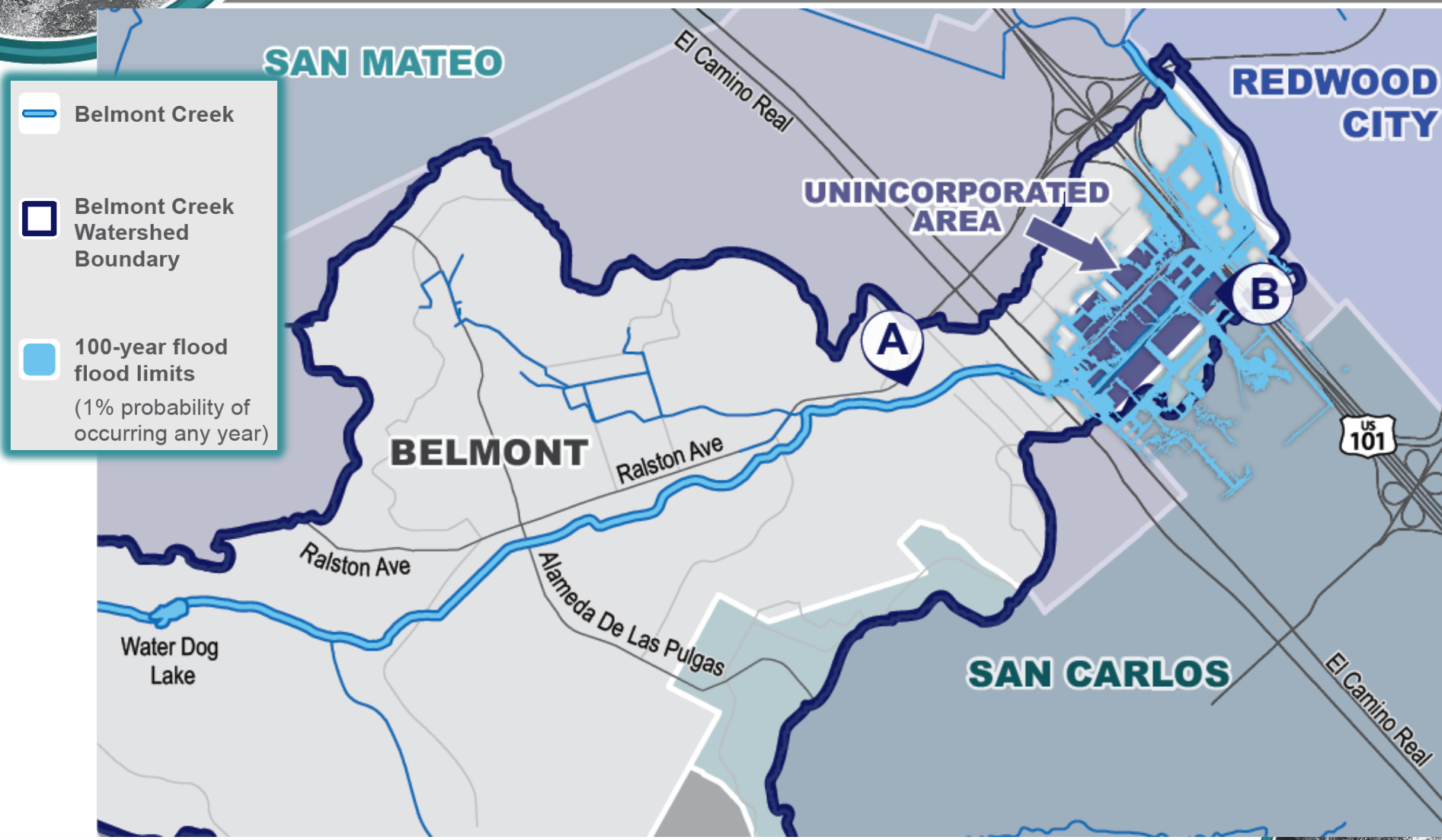
Make a Plan

In 2018, the County and Cities determine the need to develop a unified approach

Identify Projects

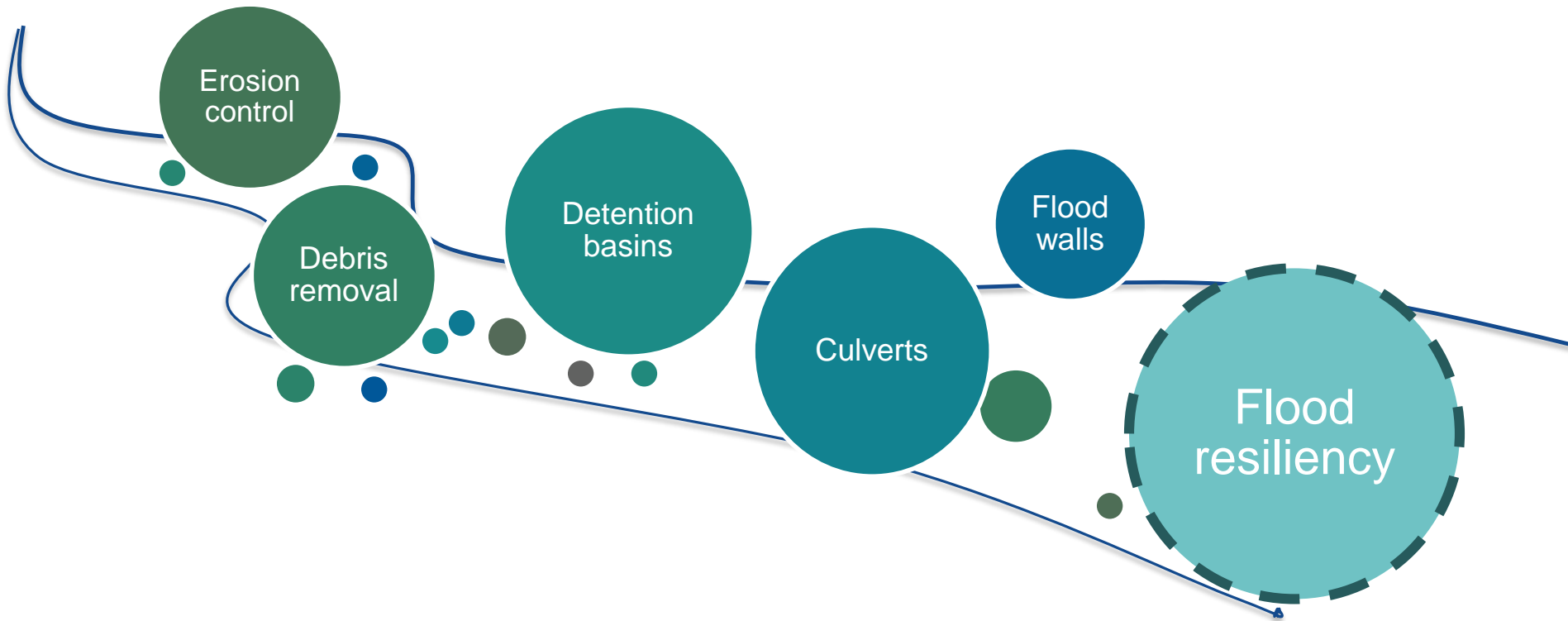
Identify specific project alternatives to implement for the plan

The Why *(challenges in the watershed)*



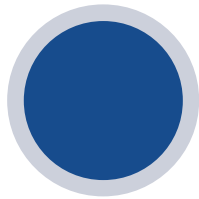
The How *(upcoming process)*

Identified flood resiliency measures

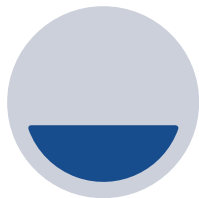




Flood Resiliency Measures



High Effectiveness for Flood Resiliency and Protection



Moderate Effectiveness for Flood Resiliency and Protection



Flood Resiliency Measures



Erosion control

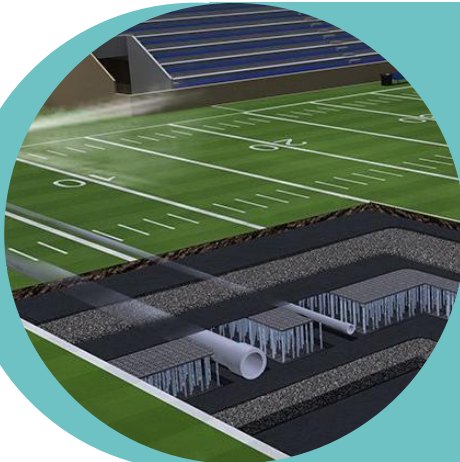


Debris removal

Flood Resiliency Measures



Surface detention basins



Underground detention basins

Flood Resiliency Measures



Culverts

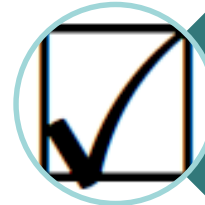


Flood walls

Project Objectives



Flood protection



Permitting requirements



Water quality



Resilience to climate change



Green Infrastructure



Construction/maintenance costs



Groundwater Recharge



Grants/Funding Partnerships



Effects on Community

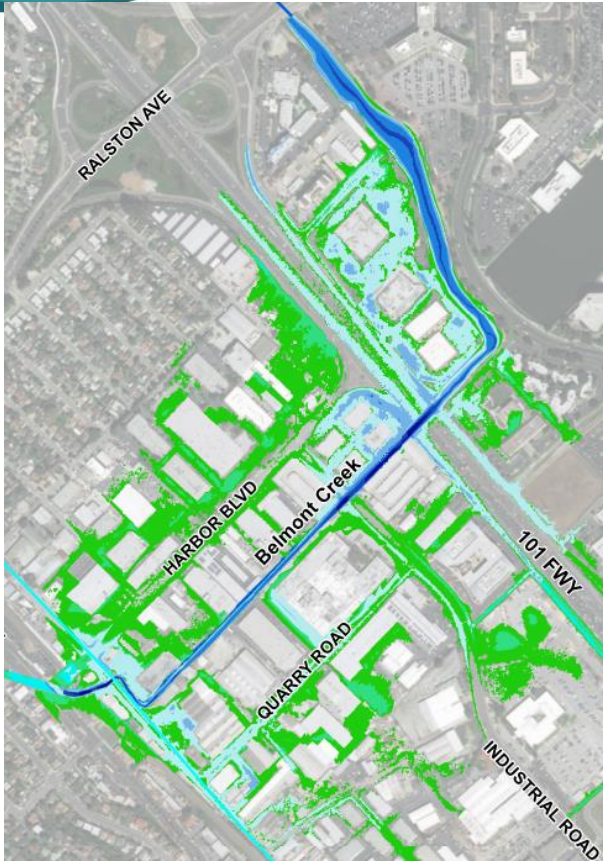
Long-term Benefits:

- ✓ Ensuring creekside properties are not subject to erosion
- ✓ Decreased flood risk to businesses and roadways in the Harbor Industrial Business Area (no flooding in a 50-year storm)
- ✓ Saving local taxpayer dollars by avoiding costly flood-related damage
- ✓ Improved natural habitat along Belmont Creek
- ✓ Resilience to a changing environment

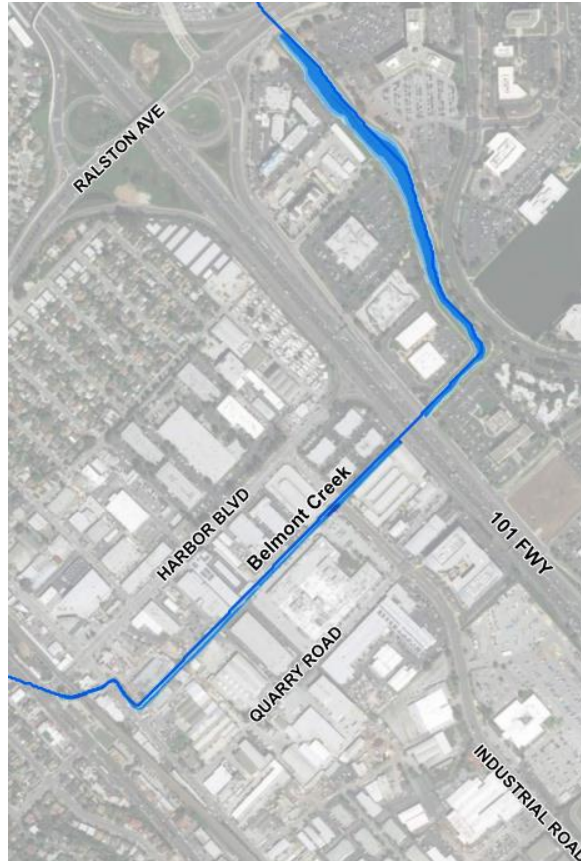
Short-term Costs:

- ✓ Detention basins built into parking lots or recreational fields of local universities, schools, and parks, requiring construction work
- ✓ Construction on roadways in the Harbor Industrial Business Area



Flood Protection



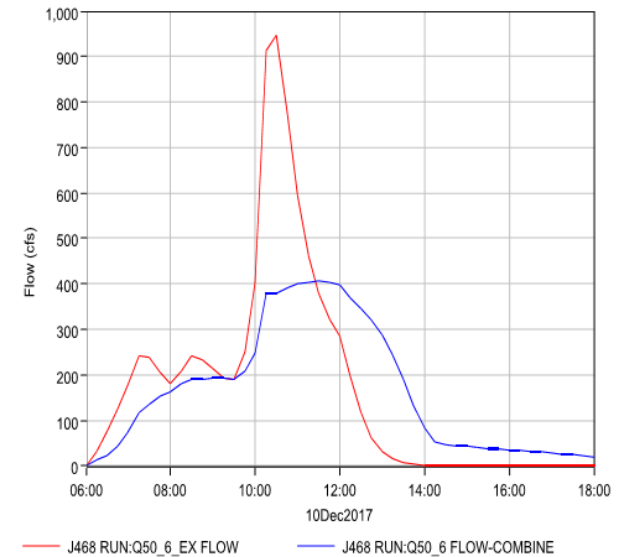
Before



After

-  50-year storm flood limits
-  100-year storm flood limits

ALTERNATIVE 2 HYDROGRAPH (ALL DETENTION BASINS)
50 YEAR, 6 HOUR STORM



Implement:

- Conveyance improvements
- or
- Multiple detention basins
- or
- A combination

Schedule





Group Activity

Ground Rules

- Respect opinions you may not share
- Show common conversational courtesy
- Speak up, but share the time we have together with other voices
- Have fun!



Direction

- In groups, discuss and decide how much you value each of the Project Objectives.
- When it's your group's turn, place stickers in up to three boxes to indicate your top three preferences for a Project Objectives
- Use the post-its to write:
 - What you *like* about Belmont Creek amenities
 - *Concerns* or *questions* about the objectives
 - Place post-it note in the appropriate objective column when it's your group's turn

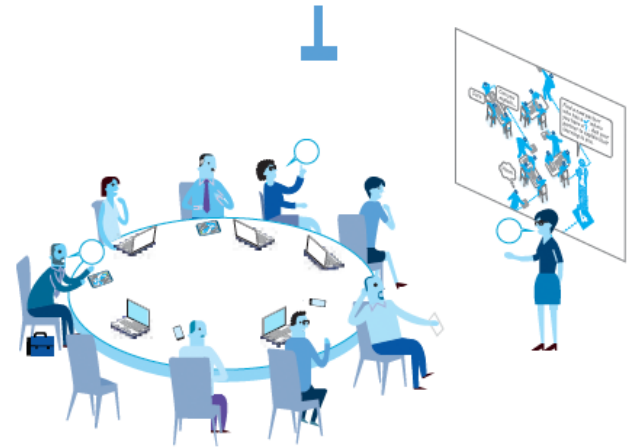




Group Activity

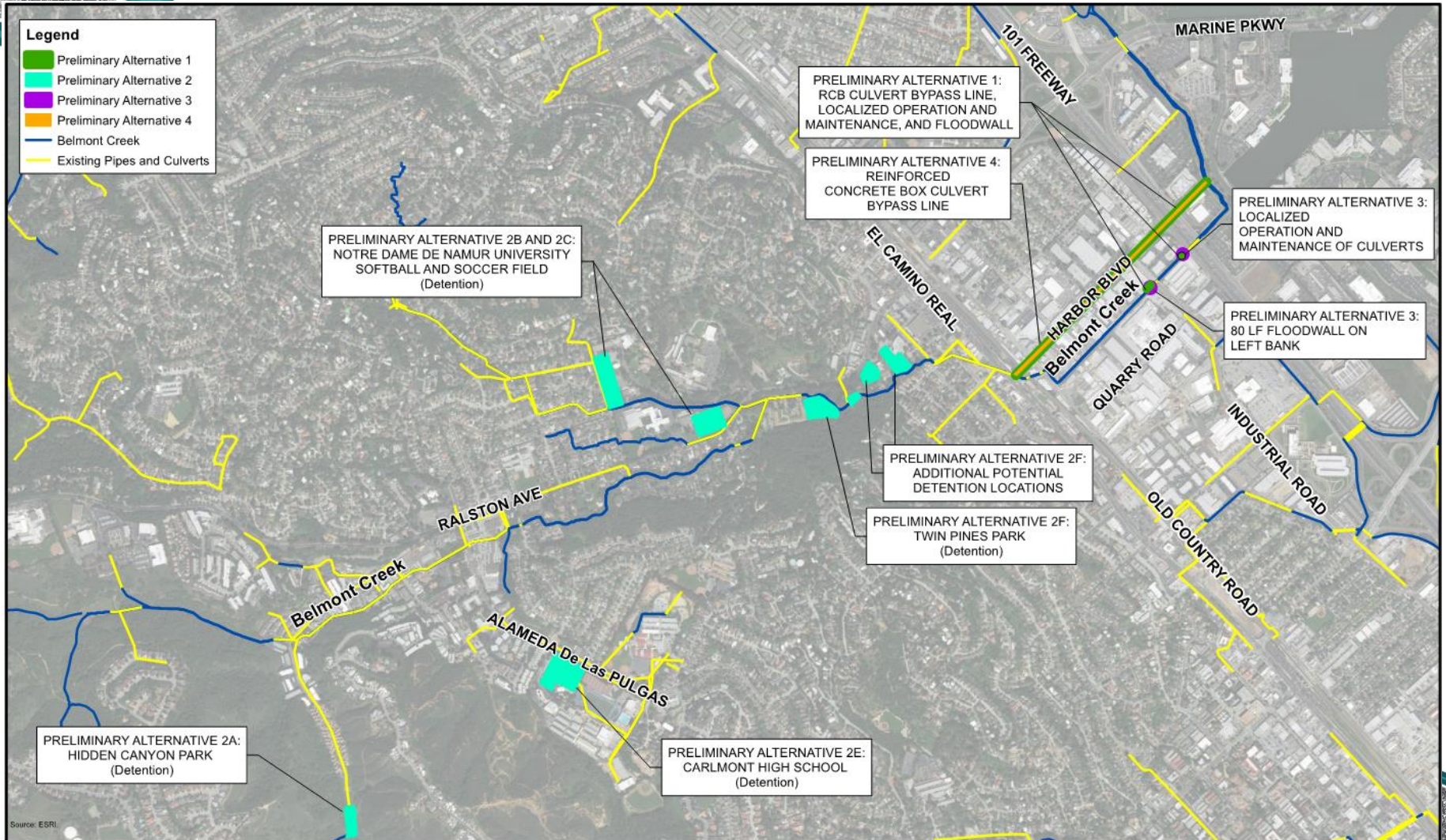
Project Objectives								
Flood Protection	Groundwater Recharge	Protect and Enhance Water Quality	Green Infrastructure	Resiliency to Climate Change	Construction Cost	Operation and Maintenance	Grants/Funding Partnerships	Constructability






















Group Report Out

Project Alternatives



Project Alternatives

Alternatives	Project Objectives									Local Impacts
	Flood Protection	Groundwater Recharge	Protect and Enhance Water Quality	Green Infrastructure	Resiliency to Climate Change	Construction Cost	Operation and Maintenance	Grants/Funding Partnerships	Constructability	
Alternative 1: Conveyance Improvements (Bypass RCB, Floodwalls, O&M)						\$	\$\$	\$		Close portions of Harbor Blvd and construction nuisance for extended period of time.
Alternative 2: Detention Basins						\$\$	\$	\$\$\$\$		Unable to use portions of facility for a few months
Alternative 3: Detention Basins + Floodwalls + O&M						\$\$\$	\$\$\$	\$\$\$\$		Unable to use portions of facility for a few months
Alternative 4: Conveyance Improvements + Detention Basins						\$\$\$\$	\$\$\$\$	\$\$\$\$		All of the above



Cost-Benefit Comparison

PRELIMINARY ALTERNATIVE	COST OF PRELIMINARY ALTERNATIVE	PROPERTIES PROTECTED	TOTAL VALUE OF PROPERTIES PROTECTED**	PRELIMINARY BENEFIT/COST RATIO
1 - 50 year, 6 hour storm protection*	\$7,234,988	41	\$206,531,482	28.5
2 - 50 year, 6 hour storm protection*	\$59,824,809	41	\$206,531,482	3.5
3 (Includes Alternative 2) - 50year, 12 hour storm protection*	\$60,564,187	57	\$300,386,710	5.0
4 (Includes Alternative 3) - 100 year, 12 hour storm protection*	\$67,157,920	102	\$633,777,056	9.4





Discussion



Next Steps



Next Steps

- Additional meetings with affected landowners and the community → share additional feedback
- Selection of a final alternative—a combination of flood resiliency measures—based on community input and performance on selected criteria
- Development of preliminary and final designs



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THANK YOU!